UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al., Plaintiffs, v. **ROBERT F. KENNEDY, JR.**, in his official capacity as Secretary of Health and Human Services, U.S. Department of Health and Human Services, and **MEHMET OZ**, in his official capacity as Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064 **ORAL HEARING REQUESTED**

JOINT APPENDIX

The parties submit this Joint Appendix pursuant to the Amended Scheduling Order, which requires the filing of a Joint Appendix by April 22, 2025. ECF No. 35.[1]

Dated: April 22, 2025 Respectfully submitted,

[1] Defendants filed a motion for leave to file a supplemental appendix to support Defendants' summary judgment reply on April 21, 2025. ECF No. 45. Plaintiffs plan to timely file an opposition to Defendants' motion. Defendants further filed a supplement to the Administrative Record on April 21, 2025. ECF No. 46. The parties disagree over whether the supplemental document should be included in the Administrative Record and Plaintiffs plan to file a motion to strike the supplemental document. The parties agree to file an amended Joint Appendix, as necessary, following the Court's decision on the motions.

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CERTIFICATE OF SERVICE

I hereby certify that on April 22, 2025, I electronically filed the foregoing document with the Clerk of the Court using the CM/ECF system, which will send notification of this filing to the attorneys of record and all registered participants.

/s/ Meredith W. Knudsen
Meredith W. Knudsen

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al. Plaintiffs, v. ROBERT F. KENNEDY, JR. in his official capacity as Secretary of Health and Human Services, U.S. Department of Health and Human Services, and JEFF WU, in his official capacity as Acting Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064

DECLARATION OF J. MARK ABERNATHY

I, J. Mark Abernathy, declare the following to be true and correct:

1. I am over twenty-one years of age, of sound mind, and fully competent to make this declaration.

2. I am a Managing Director with Berkeley Research Group ("BRG") and was retained by Reed Smith LLP ("Counsel") on behalf of Elevance Health Inc. ("Elevance Health") and its affiliated entities ("Elevance Health") to provide my opinions on certain aspects of the Centers for Medicare and Medicaid Services' ("CMS") calculation of the 2025 Medicare Advantage Stars Ratings ("Star Ratings").

3. BRG is a global consulting firm that helps leading organizations advance in three key areas: disputes and investigations, corporate finance, and performance improvement and

advisory. For more than a decade, BRG has been a trusted advisor to clients on operations, compliance, and strategic issues in the Medicare Advantage ("MA") arena.

4. I am a leading expert in the managed care industry. I am a Certified Public Accountant, Certified in Financial Forensics, a Certified Valuation Analyst, and have held positions in health plans and managed care organizations as CEO, COO, CFO/VP Finance. My work includes financial and operational consulting to managed care regulators and health plans, as well as litigation support and expert testimony in internal investigations, state and federal investigations, and numerous litigation and arbitration matters. I have been appointed by state and federal judges to provide operational and financial oversight of managed care plans, including both Medicaid and Medicare plans. As state appointed Conservator, I have overseen the collection and reporting of survey and statistical data to state and federal agencies for both Medicare and Medicaid programs. I have also had responsibility for oversight of member call centers, member services, claims adjudication, medical management, and grievances and appeals. I have assisted with developing and providing oversight of corrective action plans and reporting to regulators. My curriculum vitae is included herewith.

5. I have been asked by Counsel to review CMS's methodology for the determination of individual Star Ratings for Consumer Assessment of Healthcare Providers and Systems ("CAHPS") survey measures for the 2025 Star Ratings, especially as it relates to CMS's use of: 1) a case-mix adjustment and 2) a weighted national average in its test of significant difference from the mean.[1] Counsel also asked me to recalculate the CAHPS measures for the 2025 Star Ratings without use of the case-mix adjustment, as well as to recalculate the CAHPS measures for the 2025 Star Ratings using a comparison to the simple or non-weighted national average (instead of a weighted national average). I have also been asked to opine on any resulting impacts to plaintiffs' (Elevance Health contracts H2593, H3655, H5427, H6078, and H8849) CAHPS measures from changes to either of the above methodologies, as well as any impact to plaintiffs' overall Star Ratings from these changes.

[1] The applicable regulation uses the term "national average." 42 C.F.R. §§ 422.166(a)(3). The terms "average" and "mean" are used interchangeably by CMS and at times throughout my Declaration.

Medicare Star Ratings Program

6. CMS has been publishing Medicare Star Ratings for Medicare Advantage Organizations ("MAOs") since 2008. The purpose of the Star Ratings program is to "measure the quality of health and prescription drug services received by consumers enrolled in MA and Part D prescription drug plans" and "to provide people with Medicare and their caregivers with meaningful information about quality, alongside information about benefits and costs, to assist them in comparing plans and choosing the Medicare coverage option that best fits their health needs."[2] An MAO's annual Star Rating is calculated for each of its contracts with CMS using the weighted average of its Star Ratings across several quality and performance measures (up to 40 for Medicare Advantage Part C and Prescription Drug Part D plans ("MA-PD"), up to 30 for Part C only plans, and up to 12 for Part D only plans).[3]

7. Each individual Star measure is derived from data identified by CMS for that particular measure, including data collected from MAOs, enrollee surveys, CMS contractors, and CMS. For measures that are based on the CAHPS surveys (nine Star Rating measures that are based on CAHPS patient satisfaction survey data, including seven Part C and two Part D measures), CMS uses a methodology that evaluates the relative distribution of all plans' scores with significance testing (comparing each plan's score against a national average weighted by the survey-eligible contract enrollment assessed at the time of sample design) and accounts for the reliability of the scores to translate the scores into measure Star Ratings levels ranging from 1 to 5, with 1 being the worst and 5 being the best.[4]

8. As part of this process, CMS makes case-mix adjustments to each plan's individual CAHPS raw measure scores in various circumstances (except for measure C03: "Annual Flu

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[2] CMS, "2025 Medicare Advantage and Part D Star Ratings," October 10, 2024, available at: https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings, accessed January 29, 2025.

[3] A maximum of 30 Part C measures are grouped to calculate a Part C Rating and a maximum of 12 Part D measures are grouped to calculate a Part D Rating. Summary ratings are calculated from the weighted average Star Ratings of the included measures. (CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.).

[4] CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.

Vaccine"). According to the Agency for Healthcare Research and Quality, which administers CAHPS, the adjustments are meant, "to account for different patient characteristics within each entity that might affect scores" and, "make[] it more likely that reported differences are due to real differences in performance, rather than differences in the characteristics of enrollees or patients."[5] The Instructions for Analyzing Data from CAHPS Surveys in SAS acknowledges that a user of the CAHPS data may or may not execute the CAHPS analysis using a case-mix adjustment as one can "specify an unlimited number of [case-mix] adjuster variables or choose not to [case-mix] adjust the data."[6]

9. The overall Star Rating assigned to an MAO is critically important to the MAO and the beneficiaries enrolled in its contracts as it has a direct impact upon the total payments that CMS makes to the MAO through additional rebates and quality bonus payments, as well as a direct impact on the premiums and benefits that the MAO is able to offer to enrollees, thereby influencing a Medicare beneficiary's choice to enroll in an MAO plan. MAO contracts that receive at least 4 out of 5 Stars qualify for a quality bonus. Additionally, MAOs that achieve an overall 5-Star Rating are allowed to market to and enroll beneficiaries throughout the year, rather than only during annual Medicare open enrollment periods.[7] For more information on the benefits to MAOs of higher Star Ratings see Appendix A.

CAHPS Survey Measures

10. As noted above, in determining the Star Ratings for the CAHPS measures, CMS makes case-mix adjustments to each plan's individual CAHPS raw measure scores in various circumstances. These case-mix adjusted CAHPS measure scores are then classified into "Base

[5] AHRQ, "Preparing Data from CAHPS® Surveys for Analysis," Updated May 15, 2017, available at: https://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/helpful-resources/analysis/preparing-data-for-analysis.pdf, accessed on January 23, 2025.

[6] AHRQ, "Instructions for Analyzing Data from CAHPS® Surveys in SAS: Using the CAHPS Analysis Program Version 5.0," Updated August 2020, available at: https://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/helpful-resources/analysis/2020-instructions-for-analyzing-data.pdf, accessed on January 23, 2025.

[7] The annual Medicare open enrollment period lasts from October 15th through December 7th each year. Beneficiaries already enrolled in Medicare Advantage also have an open enrollment period from January 1st through March 31st each year. (*See* https://www.medicare.gov/basics/get-started-with-medicare/get-more-coverage/joining-a-plan, accessed January 29, 2025 and https://www.cms.gov/files/document/medicare-communications-marketing-guidelines-2-9-2022.pdf, accessed January 29, 2025.)

Groups" (which are also reported as "Cut Points" by CMS each year[8]). These are "percentile cut points defined by the current-year distribution of case-mix adjusted contract means." See 83 Fed. Reg. at 16568. These percentile cut points are defined as the 15th, 30th, 60th, and 80th percentiles. See 42 C.F.R. §§ 422.166(a)(3), 423.186(a)(3). However, as further covered in the applicable regulations, the Base Groups do not necessarily reflect the final CAHPS Star Rating for each applicable measure for the contract. CMS implements two additional factors to the percentile Base Group before finalizing the CAHPS Star Rating measures. These factors are: 1) an assessment of reliability and 2) a comparison of each plan's average CAHPS measure score to the national average. For purposes of the second additional factor, CMS interprets the national average to be the national "weighted" average.[9] This application is defined by CMS in the 2025 Technical Notes Table K-9, as presented below.[10]

Table K-9: CAHPS Star Assignment Alternate Representation

Mean Score	Base Group	Signif. below avg., low reliability	Signif. below avg., not low reliability	Not signif. diff. from avg., low reliability	Not signif. diff. from avg., not low reliability	Signif. above avg., low reliability	Signif. above avg., not low reliability
< 15th percentile by > 1 SE	1	1	1	2	2	2	2
< 15th percentile by ≤ 1 SE		2	1	2	2	2	2
≥ 15th to < 30th percentile	2	2	2	3	2	3	2
≥ 30th to < 60th percentile	3	2	2	3	3	4	4
≥ 60th to < 80th percentile	4	3	4	3	4	4	4
≥ 80th percentile by ≤ 1 SE	5	4	4	4	4	4	5
≥ 80th percentile by > 1 SE		4	4	4	4	5	5

Notes: If reliability is very low (<0.60), the contract does not receive a Star Rating. Low reliability scores are defined as those with at least 11 respondents and reliability ≥0.60 but <0.75 and also in the lowest 12% of contracts ordered by reliability. The SE is considered when the measure score is below the 15th percentile (in base group 1), significantly below average, and has low reliability: in this case, 1 star is assigned if and only if the measure score is at least 1 SE below the unrounded base group 1/2 cut point. Similarly, the SE is considered when the measure score is at or above the 80th percentile (in base group 5), significantly above average, and has low reliability: in this case, 5 stars are assigned if and only if the measure score is at least 1 SE above the unrounded base group 4/5 cut point.
For example, a contract in base group 4 that was not significantly different from average and had low reliability would receive 3 final stars.

[8] CMS, "Part C and D Performance Data," Updated December 2, 2024, available at: https://www.cms.gov/medicare/health-drug-plans/part-c-d-performance-data, accessed January 25, 2025
[9] CMS guidance states that the weighted average is used. CAHPS, "Summary of analyses for reporting, MA & PDP CAHPS," Updated August 2024, available at: https://ma-pdpcahps.org/globalassets/ma-pdp/scoring-and-star-ratings/2024/analysis_of_reported_measures.pdf, accessed February 5, 2025 ("the national mean (the weighted mean of all contract scores) for each measure, weight[ed] by the survey-eligible contract enrollment assessed at the time of sample design.").
[10] CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.

11. Once the ratings of 1 to 5 for all individual Star measures are assigned, including the final CAHPS measures, the measures are weighted by type of measure and then averaged to arrive at an MAO's overall Star Rating for a given contract in the given year.[11]

Opinion 1:

CMS's Use of the Case-Mix Adjustment for CAHPS Measures Resulted in Lower Star Ratings for Several of Elevance Health's CAHPS Measures for Contracts H2593, H3655, H5427, H6078, and H8849, as well as a Lower Overall Star Rating for Contracts H3655 and H6078.

12. I have been asked by Counsel to recalculate the CAHPS measures for the 2025 Star Ratings without use of the case-mix adjustment and opine on any resulting impact to plaintiffs' (Elevance Health contracts H2593, H3655, H5427, H6078, and H8849) CAHPS measures, as well as any impact to plaintiffs' overall Star Ratings.

13. To assess the potential effect of the case-mix adjustment, I used the "Means Tests" files for Elevance's contracts (e.g., "H3655_Means_Tests_CAHPS_2024.xlsx") that CMS shares with plans each year and allows plans to see, for each applicable CAHPS measure, the components of its Star Rating per measure reliant on the Base Group classification, statistical test of distance from the weighted national average, and reliability score. A.R. 814, H2593 Means Tests CAHPS 2024; A.R. 816, H3655 Means Tests CAHPS 2024; A.R. 818, H5427 Means Tests CAHPS 2024; A.R. 820, H6078 Means Tests CAHPS 2024; A.R. 822, H8849 Means Tests CAHPS 2024. In order to determine whether and how the case-mix adjustment may have impacted Elevance Health's H2593, H3655, H5427, H6078, and H8849 contracts' CAHPS measures, I reassessed where each of the contracts' raw measure scores (i.e., prior to the case-mix adjustment) would have been categorized in terms of a Base Group, and then applied the 2025 Technical Notes Table K-9 translation as required under 42 C.F.R. § 422.186.

14. First, I used the unadjusted raw measure scores reported in CMS's Means Tests files to re-classify each contract's CAHPS measures in the applicable Base Group using the Base

[11] For 2025, CMS assigned the highest weights to improvement measures, the next highest to patient experience/complaints and access measures, then by outcome and intermediate outcome measures, and finally by process measures. (CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.)

Group cut points also found in the Means Tests file. As an example, for contract H3655, measure D05 ("Rate Prescription Drug Plan"), the unadjusted score is 86.854220. Due to the reported cut points (84, 86, 87, 89),[12] this unadjusted value would fall into Base Group 4 (e.g., 86.854220 rounds[13] up to 87 – see Table 1 below). CMS had adjusted this value through a negative case-mix adjustment of -0.381398 to 86.472822. Due to the reported cut points, the rounded lower adjusted value falls into Base Group 3 (e.g., 86.472822 rounds down to 86 – see Table 1 below).

Table 1: Measure D05 ("Rate Prescription Drug Plan")

Base Group	Qualifying Rounded Values
1	< 84
2	84 – 85
3	86
4	87 – 88
5	> 89

15. The next step in the analysis to assess the effect of the case-mix adjustment on the final Star Rating was to test whether or not the unadjusted score is significantly different from the weighted national average. For example, per CMS's methodology for translating a CAHPS measure Base Group to Star Rating laid out in Table K-9 of the 2025 Technical Notes (provided above), in cases like contract H3655 and measure D05 where the first factor, reliability, is not low, a Base Group 3 value could result in a Star Rating of 2, 3, or 4 depending on if the second factor, the plan's distance from the weighted national average, is significantly lower, not significantly different, or significantly higher than the weighted national average, respectively.

[12] While the reported cut points are calculated using the various plan adjusted scores, the adjustments are meant to maintain a net effect so that, "the national mean of contract means for any rating…is unchanged by case-mix adjustment." (see Quality Assurance Protocols & Technical Specifications Version 15.0 November 2024 – page 80: https://ma-pdpcahps.org/globalassets/ma-pdp/quality-assurance/2025/ma-pdp-cahps-qapts-v15.0.pdf, accessed January 30, 2025). Without the ability to recalculate the percentiles and cut points for the spread of unadjusted values, one must rely on the reported cut points shown below and the assumption that these would not move materially based on unadjusted scores (i.e., the overall population spread would remain consistent despite certain contracts/plans moving up or down).

[13] CMS indicates that, "each base group includes those contracts whose rounded mean score is at or above the lower limit and below the upper limit." (CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.)

Conversely, in cases where a plan's reliability is not low, a Base Group of 4 will result in a Star Rating of 4 no matter the outcome of the statistical test against the weighted national average.

16. To continue with the current example for contract H3655, one can see that H3655's D05 measure case-mix adjusted score has a distance from the weighted national average that is deemed significantly lower in the Means Test file. CMS uses a t-statistic value less than -1.96 to make that determination. The t-statistic value is calculated by dividing the difference between the measure value and the weighted national average by the standard error of estimated difference between the contract's score and weighted national average score (on 0-100 scale) reported in the Means Tests file (e.g., the adjusted score of 86.472822 minus the weighted national average of 88.071180 or -1.598358 divided by the standard error or 0.785889[14] = -2.03, which is less than -1.96).

$$\frac{Adjusted\ Measure\ Score - Weighted\ National\ Average}{Standard\ Error}$$

$$\frac{86.472822 - 88.071180}{0.785889} = -2.03$$

17. Notably, when using the unadjusted measure score of 86.854220 the difference away from the weighted national average falls to -1.216960 resulting in a t-statistic of -1.548514, which is greater than -1.96. Therefore, under the reported cut points for the Base Groups and the reported standard error for contract H3655, the unadjusted score would not result in a statistical difference from the weighted national average. Therefore, CMS's current methodology utilizing the case-mix adjustment for this particular contract (H3655) and measure (D05), results in a final Star Rating of 2 compared to a final Star Rating of 4 if no adjustments were applied.

[14] CMS currently does not release all underlying CAHPS-related data, thereby preventing plans from auditing, replicating, or validating CMS's calculations. Without such data, plans cannot replicate or validate all elements of the methodology.

$$\frac{Unadjusted\ Measure\ Score - Weighted\ National\ Average}{Standard\ Error}$$

$$\frac{86.854220 - 88.071180}{0.785889} = -1.55$$

Table K-9: CAHPS Star Assignment Alternate Representation

Mean Score	Base Group	Signif. below avg., low reliability	Signif. below avg., not low reliability	Not signif. diff. from avg., low reliability	Not signif. diff. from avg., not low reliability	Signif. above avg., low reliability	Signif. above avg., not low reliability
< 15th percentile by > 1 SE	1	1	1	2	2	2	2
< 15th percentile by ≤ 1 SE		2	1	2	2	2	2
≥ 15th to < 30th percentile	2	2	2	3	2	3	2
≥ 30th to < 60th percentile	3	2	2	3	3	4	4
≥ 60th to < 80th percentile	4	3	4	3	4	4	4
≥ 80th percentile by ≤ 1 SE	5	4	4	4	4	4	5
≥ 80th percentile by > 1 SE		4	4	4	4	5	5

18. From this analysis, I concluded that because CMS compares a plan's case-mix adjusted score to the weighted national average *and* adjusts a plan's measure Star Rating from the Base Group if the adjusted score for the measure exceeds a certain statistical distance from the weighted national average, CMS is effectively double-penalizing a plan (H3655). In other words, by applying *both* a negative case-mix adjustment to reduce the measure score *and* a further reduction to the Star Rating related to that score when the lower adjusted score is also statistically significantly lower than the weighted national average for that measure, CMS is penalizing a plan two times under the same adjustment. Moreover, upon analyzing the 27 reported and applicable CAHPS measures that were case-mix adjusted, more than half, or 16 total, CAHPS measures experienced a detrimental reduction in Star Rating for that measure due to the case-mix adjustment for the five Elevance contracts. No measure within these five contracts benefited from a positive case-mix adjustment that resulted in an increased Star Rating per my analysis.

19. Further, when replacing H3655's current Star Rating for measure D05 of 2-Star with a 4-Star results in a change in overall Star Rating from 3.5 to 4. This demonstrates that minor case-mix adjustments in CAHPS measure scores can have significant impacts, causing a measure to achieve a lower Star Rating and, in some cases (Elevance Health's H3655), a lower overall Star Rating. See Table 2 below for the results of each of the five Elevance Health contracts. The

rows shaded in grey represent the contracts and CAHPS measure scores that experience a detrimental reduction in Star Ratings for that measure due to the case-mix adjustment. The rows shaded in blue represent the contracts and CAHPS measure scores that experience a double detrimental reduction in the Star Rating for that measure due to the case-mix adjustment (i.e., without the case-mix adjustment the measure would begin in a Base Group two integers above the actual Star Rating received with the case-mix adjustment).

Table 2: 2025 CAHPS Measure Star Ratings

Contract	CAHPS Measure	Case-Mix Adj.	Low Reliab.	Base Group		Statistical Difference from Weighted National Average		Star Rating	
				Current	Updated w/No Case-Mix Adj.	Current	Updated w/No Case-Mix Adj.	Current	Updated w/No Case-Mix Adj.
H2593	C23	-0.84	Yes	1	2	Lower	No	**2**	**3**
H3655	C19	-0.79	No	5	5	No	Higher	**4**	**5**
H3655	C20	-0.48	No	4	4	No	No	**4**	**4**
H3655	C21	-0.24	No	3	3	No	No	**3**	**3**
H3655	C22	-0.62	No	5	5	No	Higher	**4**	**5**
H3655	C23	-0.46	No	4	4	No	No	**4**	**4**
H3655	C24	-0.47	No	4	5	No	No	**4**	**4**
H3655	**D05**	**-0.38**	**No**	**3**	**4**	**Lower**	**No**	**2**	**4**
H3655	D06	-0.51	No	3	4	No	No	**3**	**4**
H5427	C19	-0.46	No	2	3	Lower	No	**2**	**3**
H5427	C20	-0.40	No	5	5	No	No	**4**	**4**
H5427	C21	-0.29	No	2	3	No	No	**2**	**3**
H5427	C22	-0.21	No	2	3	Lower	Lower	**2**	**2**
H5427	C23	-0.34	No	3	4	No	No	**3**	**4**
H5427	C24	-0.27	No	3	3	No	No	**3**	**3**
H5427	D05	-0.27	No	5	5	No	No	**4**	**4**
H5427	D06	-0.21	No	3	4	No	No	**3**	**4**
H6078	C19	-1.03	No	3	4	No	No	**3**	**4**
H6078	C20	-0.68	No	3	4	No	No	**3**	**4**
H6078	C21	-0.46	No	3	4	No	No	**3**	**4**
H6078	C22	-0.78	No	4	5	No	Higher	**4**	**5**
H6078	C23	-0.36	No	5	5	Higher	Higher	**5**	**5**
H6078	C24	-0.56	No	3	4	No	No	**3**	**4**
H6078	D05	0.40	No	3	2	Lower	Lower	**2**	**2**
H6078	D06	-0.38	No	2	3	Lower	No	**2**	**3**
H8849	C23	-1.06	Yes	1	1	Lower	Lower	**1**	**1**
H8849	**D05**	**-1.95**	**Yes**	**4**	**5**	**No**	**No**	**3**	**4**

20. In total, as demonstrated in Table 3 below, the overall Star Rating for two of the five Elevance Health contracts increase based solely on the removal of the case-mix adjustment. These contracts, H3655 and H6078, cross a threshold of moving up from 3.5 to 4 Stars and from 3 to 3.5 Stars, respectively. This change is material in that it would result in Elevance Health being eligible to receive quality bonus payments and/or increased rebates from CMS based on 2025 Star Ratings for these contracts, allowing Elevance Health to offer enhanced benefits to its enrollees.

Table 3: 2025 Overall Star Ratings

Contract	Current 2025 Summary Score	Updated 2025 Summary Score (w/No Case-Mix Adjustment)	Current 2025 Star Rating	Updated 2025 Star Rating (w/No Case-Mix Adjustment)
H2593	3.256488	3.311282	3.5	3.5
H3655	**3.749565**	**3.945643**	**3.5**	**4.0**
H5427	3.808388	4.065251	4.0	4.0
H6078	**3.220943**	**3.500013**	**3.0**	**3.5**
H8849	3.363408	3.415356	3.5	3.5

Opinion 2:

CMS's Use of a Weighted National Average Instead of a Non-Weighted National Average for CAHPS Measures Resulted in Lower Star Ratings for Several of Elevance Health's CAHPS Measures for Contracts H3655, H5427, and H6078, as well as a Lower Overall Star Rating for Contracts H3655 and H6078.

21. I have been asked by Counsel to recalculate the CAHPS measures for the 2025 Star Ratings without use of a *weighted* national average, and instead use the national average without weighting, in the CAHPS significance testing methodology and opine on any resulting impact to plaintiffs' (Elevance Health contracts H2593, H3655, H5427, H6078, and H8849) CAHPS measures, as well as any impact to plaintiffs' overall Star Ratings.

22. Similar to the above analysis, to assess the potential effect of the use of a weighted national average, I used the "Means Tests" files for Elevance's contracts to determine whether and how the use of the *weighted* national average may have impacted Elevance Health's H2593, H3655, H5427, H6078, and H8849 contracts' CAHPS measures. Using CMS's CAHPS

methodology, I reassessed where each of the contracts' measure scores (adjusted by the case-mix adjustment) would have been categorized in terms of a Base Group, and then applied the 2025 Technical Notes Table K-9 translation using a national average without weighting (i.e., the simple average of all contract values used to determine the Base Groups where each contract is weighted equally).

23. As an example, for contract H3655, measure D05 ("Rate Prescription Drug Plan"), the case-mix adjusted score is 86.472822. Due to the reported cut points (84, 86, 87, 89), this value falls into Base Group 3 (e.g., 86.472822[15] rounds down to 86 – see Table 1 above). The next step in the analysis is to test whether or not the adjusted measure score is significantly different from the national average. For example, per CMS's methodology for translating a CAHPS measure Base Group to Star Rating laid out in Table K-9 of the 2025 Technical Notes (provided above), in cases like contract H3655 and measure D05 where the first factor, reliability, is not low, a Base Group 3 value could result in a Star Rating of 2, 3, or 4 depending on if the second factor, the plan's distance from the national average, is significantly lower than, not significantly different from, or significantly higher than the national average, respectively.

24. To continue with the current example for contract H3655, one can see that H3655's D05 measure case-mix adjusted score has a distance from the weighted national average that is deemed significantly lower in the Means Test file. CMS uses a t-statistic value less than -1.96 to make that determination. The t-statistic value is calculated by dividing the difference between the measure value and the weighted national average by the standard error of estimated difference between the contract's score and national average score (on 0-100 scale) reported in the Means Tests file (e.g., the adjusted score of 86.472822 minus the weighted national average of 88.071180, or -1.598358 divided by the standard error, or 0.785889 = -2.03, which is less than -1.96).

[15] CMS, "Medicare Part C & D Star Ratings Technical Notes," Updated October 3, 2024, available at: https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, accessed January 25, 2025.

$$\frac{Adjusted\ Measure\ Score - Weighted\ National\ Average}{Standard\ Error}$$

$$\frac{86.472822 - 88.071180}{0.785889} = -2.03$$

25. Notably, when using the non-weighted national average of all plans' D05 measure scores of 86.830481[16], the difference away from the national average falls to -0.357659, resulting in a t-statistic of -0.455101, which is greater than -1.96. Therefore, under the reported cut points for the Base Groups and the reported standard error for contract H3655, the case-mix adjusted score using a non-weighted national average would not result in a statistical difference from the national average. CMS's current methodology utilizing the weighted national average for this particular contract (H3655) and measure (D05), results in a final Star Rating of 2, compared to a final Star Rating of 3 if a non-weighted national average is used.

$$\frac{Adjusted\ Measure\ Score - Non\text{-}Weighted\ National\ Average}{Standard\ Error}$$

$$\frac{86.472822 - 86.830481}{0.785889} = -0.46$$

Table K-9: CAHPS Star Assignment Alternate Representation

Mean Score	Base Group	Signif. below avg., low reliability	Signif. below avg., not low reliability	Not signif. diff. from avg., low reliability	Not signif. diff. from avg., not low reliability	Signif. above avg., low reliability	Signif. above avg., not low reliability
< 15th percentile by > 1 SE	1	1	1	2	2	2	2
< 15th percentile by ≤ 1 SE		2	1	2	2	2	2
≥ 15th to < 30th percentile	2	2	2	3	2	3	2
≥ 30th to < 60th percentile	3	2	2	3	3	4	4
≥ 60th to < 80th percentile	4	3	4	3	4	4	4
≥ 80th percentile by ≤ 1 SE	5	4	4	4	4	4	5
≥ 80th percentile by > 1 SE		4	4	4	4	5	5

[16] The simple or non-weighted national average was calculated by taking the average across all available plan measure score values for a given CAHPS measure (assigning each plan equal value in the calculation). A.R. 1675, De-identified contract-level data.

26. From this analysis, I concluded that CMS is placing more value (or a higher weight) on the measure scores of certain plans resulting in a shift of the national average upward from what it would be if a non-weighted average was used. Therefore, because CMS compares a plan's case-mix adjusted score to a weighted national average and adjusts a plan's measure Star Rating from the Base Group if the adjusted score for the measure does or does not exceed a certain statistical distance away from the weighted national average, CMS is making it more difficult for plans to achieve higher Star Ratings, as demonstrated above in the Table K-9 assignments.[17] Moreover, upon analyzing the 32 reported and applicable CAHPS measures for the five Elevance Health contracts that were evaluated against the weighted national average, four total CAHPS measures experienced a detrimental reduction in Star Rating for that measure due to the use of a weighted national average. No measure within these contracts benefited with an increased Star Rating from CMS's use of a weighted national average when compared with the Star Rating resulting from the use of a non-weighted national average.

27. Further, when replacing H3655's current Star Rating for measure D05 of 2-Star with a 3-Star, H3655's overall Star Rating increases from 3.5 to 4. This demonstrates the significance of CMS's decision to use a weighted national average versus a non-weighted national average, causing a measure to achieve a lower Star Rating and, in some cases (Elevance Health's H3655), a lower overall Star Rating. See Table 4 below for the results of each of the five Elevance Health contracts. The rows shaded in grey represent the contracts and CAHPS measure scores that experience a detrimental reduction in Star Ratings for that measure due to the use of a weighted national average.

[17] In other words, because CMS is using a weighted national average, when comparing plan CAHPS measure scores, larger plans with more enrollees have a greater influence on the national average than smaller plans with less enrollees.

Table 4: 2025 CAHPS Measure Star Ratings

Contract	CAHPS Measure	Low Reliab.	Base Group	Statistical Difference from Non-Weighted National Average		Star Rating	
			Current	Current	Updated w/Non-Weighted National Avg	Current	Updated w/Non-Weighted National Avg
H2593	C03	Yes	4	No	No	**3**	**3**
H2593	C23	Yes	1	Lower	No	**2**	**2**
H3655	C03	No	4	No	No	**4**	**4**
H3655	**C19**	**No**	**5**	**No**	**Higher**	**4**	**5**
H3655	C20	No	4	No	No	**4**	**4**
H3655	C21	No	3	No	No	**3**	**3**
H3655	C22	No	5	No	No	**4**	**4**
H3655	C23	No	4	No	No	**4**	**4**
H3655	C24	No	4	No	No	**4**	**4**
H3655	**D05**	**No**	**3**	**Lower**	**No**	**2**	**3**
H3655	D06	No	3	No	No	**3**	**3**
H5427	C03	No	1	Lower	Lower	**1**	**1**
H5427	C19	No	2	Lower	No	**2**	**2**
H5427	C20	No	5	No	No	**4**	**4**
H5427	C21	No	2	No	No	**2**	**2**
H5427	C22	No	2	Lower	No	**2**	**2**
H5427	C23	No	3	No	No	**3**	**3**
H5427	C24	No	3	No	No	**3**	**3**
H5427	**D05**	**No**	**5**	**No**	**Higher**	**4**	**5**
H5427	D06	No	3	No	No	**3**	**3**
H6078	C03	No	4	Higher	Higher	**4**	**4**
H6078	C19	No	3	No	No	**3**	**3**
H6078	C20	No	3	No	No	**3**	**3**
H6078	C21	No	3	No	No	**3**	**3**
H6078	C22	No	4	No	Higher	**4**	**4**
H6078	C23	No	5	Higher	Higher	**5**	**5**
H6078	C24	No	3	No	No	**3**	**3**
H6078	**D05**	**No**	**3**	**Lower**	**No**	**2**	**3**
H6078	D06	No	2	Lower	No	**2**	**2**
H8849	C03	No	4	No	No	**4**	**4**
H8849	C23	Yes	1	Lower	Lower	**1**	**1**
H8849	D05	Yes	4	No	No	**3**	**3**

28. In total, as demonstrated in Table 5 below, the overall Star Rating for two of the five Elevance Health contracts increased based solely on the use of a non-weighted national

average when determining whether any of a contract's CAHPS measures had a significant difference from the national average. These contracts, H3655 and H6078, crossed a threshold of moving up from 3.5 to 4 Stars and from 3 to 3.5 Stars, respectively. This change is material in that it would result in Elevance Health being eligible to receive quality bonus payments and/or increased rebates from CMS based on 2025 Star Ratings for these contracts, allowing Elevance Health to offer enhanced benefits to its enrollees.

Table 5: 2025 Overall Star Ratings

Contract	Current 2025 Summary Score	Updated 2025 Summary Score (w/Non-Weighted National Avg)	Current 2025 Star Rating	Updated 2025 Star Rating (w/Non-Weighted National Avg)
H2593	3.256488	3.256488	3.5	3.5
H3655	**3.749565**	**3.927996**	**3.5**	**4.0**
H5427	3.808388	3.847604	4.0	4.0
H6078	**3.220943**	**3.267454**	**3.0**	**3.5**
H8849	3.363408	3.363408	3.5	3.5

Opinion 3:

CMS's Use of the Case-Mix Adjustment and a Weighted National Average Instead of a Non-Weighted National Average for CAHPS Measures Resulted in a Lower Overall Star Rating for Contracts H3655, H5427, and H6078.

29. When evaluating the combined simultaneous effects of CMS's use of the case-mix adjustment and a weighted national average when determining significant difference from the national average by removing the case-mix adjustment and replacing the weighted national average with a non-weighted national average, my analysis shows that the overall Star Rating for three of the five Elevance Health contracts would increase. As illustrated in Table 6, these contracts, H3655, H5427, and H6078, cross a threshold of moving up from 3.5 to 4 Stars, from 4 to 4.5 Stars, and from 3 to 3.5 Stars, respectively. Again, this change is material in that it would result in Elevance Health being eligible to receive quality bonus payments and/or increased rebates from CMS based on 2025 Star Ratings for these contracts, allowing Elevance Health to offer enhanced benefits to its enrollees.

Table 6: 2025 Overall Star Ratings

Contract	Current 2025 Summary Score	Updated 2025 Summary Score (w/No Case-Mix Adjustment and w/Non-Weighted National Avg)	Current 2025 Star Rating	Updated 2025 Star Rating (w/No Case-Mix Adjustment and w/Non-Weighted National Avg)
H2593	3.256488	3.311282	3.5	3.5
H3655	**3.749565**	**3.945643**	**3.5**	**4.0**
H5427	**3.808388**	**4.382898**	**4.0**	**4.5**
H6078	**3.220943**	**3.500013**	**3.0**	**3.5**
H8849	3.363408	3.415356	3.5	3.5

Appendix A:

Medicare Star Ratings Impact Payments to MAOs

30. When an MAO contracts with CMS, it does so through an annual financial bidding process. Each MAO's "bid" is based on its annual expected revenues and costs for the package of services it intends to provide. The bid is in the form of a per member per month dollar amount that represents the cost of providing services to a beneficiary with average health. The MAO also submits to CMS a detailed package on the benefits included and beneficiary cost sharing amounts for Part C services, as well as actuarial support and certification for the bid calculation. An MAO must prepare this information annually for every contract that it operates. The package of benefits must include at least all services that beneficiaries are entitled to receive under traditional (Part A and Part B) Medicare except hospice.[18]

31. During the bidding process, CMS also calculates a per member per month "benchmark" for each county in which MAOs operate. CMS calculates county-level benchmarks by determining the average spending in traditional Medicare adjusted for geography and demographics. These benchmarks act as targets against which MAOs bid to provide Part A and

[18] *See* MedPac, "Medicare Advantage Program Payment System," Revised October 2023, available at: https://www.medpac.gov/wp-content/uploads/2022/10/MedPAC_Payment_Basics_23_MA_FINAL_SEC.pdf, accessed January 30, 2025.

Part B coverage to beneficiaries. The per member per month "base rate" that CMS ultimately pays to an MAO is the lower of the MAO's bid or the CMS-set county level benchmark.[19]

32. If an MAO's bid is lower than the benchmark, the MAO receives a rebate from CMS equal to a percentage of the difference between the benchmark and the bid. A portion of these rebates are returned to plan enrollees in the form of supplemental benefits or lower premiums. If an MAO's bid is higher than the benchmark, the enrollees in that MAO pay a premium equal to the difference between the MAO's bid rate and the benchmark.[20]

33. To encourage MAOs to compete for enrollees based on quality, the Affordable Care Act established a Quality Bonus Program that increases CMS's payments to MAOs based on the number of Stars it earns under the Medicare Star Ratings program. MAO contracts that receive at least 4 out of 5 Stars qualify for a quality bonus. Quality bonuses are based upon the county-level benchmarks set by CMS during the annual Medicare Advantage bidding process. For most MAOs in bonus status, the benchmark is increased by up to five percentage points. For MAO's in "double bonus" counties, the benchmarks are increased by up to 10 percentage points.[21]

34. For MAOs with bids below the benchmark, the rebates they receive from CMS are also impacted positively by increases to the benchmarks for MAOs that receive at least 3.5 Stars.[22] These rebates are used by MAOs to enhance benefits or lower premiums for enrollees, which helps MAOs to attract and retain enrollees to remain competitive in their respective markets.

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[19] *Ibid.*
[20] *Ibid.*
[21] "Double bonus counties" are defined as urban counties with low traditional Medicare spending and historically high Medicare Advantage enrollment. Additionally, benchmarks are capped and cannot be higher than they would have been prior to the Affordable Care Act, which can result in MAOs that are eligible under the quality bonus program receiving a smaller percentage increase to their benchmark or possibly no increase at all. (Biniek, Jeannie Fugelsten, Freed, Meredith, Damico, Anthony, and Neuman, Tricia, "Medicare Advantage Quality Bonus Payments Will Total at Least $11.8 Billion in 2024," *Kaiser Family Foundation*, September 11, 2024, available at: https://www.kff.org/medicare/issue-brief/medicare-advantage-quality-bonus-payments-will-total-at-least-11-8-billion-in-2024/, accessed January 30, 2025.)
[22] All plans that bid below the benchmark receive a percentage of the difference between the bid and benchmark as a rebate, ranging from 50% to 70% of the difference between the bid and the benchmark. The amount of the rebate paid to the plan is determined by the plan's Star Rating. Plans with < 3.5 Stars get a 50% rebate, plans with 3.5 to 4 Stars get 65%, and plans with 4.5+ Stars get 70%. (CMS, "Advance Notice of Methodological Changes for Calendar Year (CY) 2025 for Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies," January 31, 2024, available at: https://www.cms.gov/files/document/2025-advance-notice.pdf, accessed January 30, 2025.).

Medicare Star Ratings Influence Enrollment in MAOs

35. As noted above, one of CMS's stated goals of the Star Ratings program is "to provide people with Medicare and their caregivers with meaningful information about quality, alongside information about benefits and costs, to assist them in comparing plans and choosing the Medicare coverage option that best fits their health needs." To help facilitate a beneficiary's plan selection, CMS maintains a "plan compare" online tool on its Medicare.gov website that Medicare beneficiaries can use to help search for Medicare plans. The plan compare tool includes the Star Rating for each plan, which could influence a beneficiary's selection of one MAO over another MAO with similar benefits and cost sharing.[23]

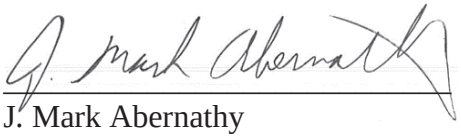
36. CMS also allows MAOs that receive a 5-Star Rating the opportunity to enroll beneficiaries throughout the year, rather than only during annual Medicare open enrollment periods. This creates a marketing advantage for 5-Star plans.

37. The influence that the Star Ratings program has on Medicare Advantage enrollment is supported by recent enrollment figures. In 2024, 72% of Medicare Advantage Enrollees were in MAOs that received a Star Rating of 4 or above and qualified for a quality bonus.[24] Further, a systematic literature review conducted in 2023 of PubMed MEDLINE, Embase, and Google attempted to identify articles that quantitatively assessed the impact of Medicare Star Ratings on health plan enrollment. The authors concluded, in part, that, "[i]ncreases in Medicare star ratings led to statistically significant increases in health plan enrollment and decreases in health plan disenrollment."[25] In other words, an MAO's overall Star Rating for any given year has a direct impact on its enrollment, which demonstrates that MAOs with higher Star Ratings are at a significant advantage in the market to attract and retain enrollees. This is in

[23] *See* https://www.medicare.gov/plan-compare/#/?year=2025&lang=en, accessed January 30, 2025.
[24] Biniek, Jeannie Fugelsten, Freed, Meredith, Damico, Anthony, and Neuman, Tricia. "Medicare Advantage Quality Bonus Payments Will Total at Least $11.8 Billion in 2024," Kaiser Family Foundation, September 11, 2024, available at: https://www.kff.org/medicare/issue-brief/medicare-advantage-quality-bonus-payments-will-total-at-least-11-8-billion-in-2024/, accessed January 30, 2025.
[25] Borrelli, Eric P et al. "Impact of star ratings on Medicare health plan enrollment: A systematic literature review," Journal of the American Pharmacists Association: JAPhA vol. 63,4 (2023): 989-997.e3, available at: https://doi.org/10.1016/j.japh.2023.03.009, accessed January 30, 2025.

addition to the impact a Star Rating can have on an MAO's revenue and ability to offer competitive benefits and cost sharing options to its enrollees.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on February 14, 2025, in Tampa, Florida.

By: 

J. Mark Abernathy
Managing Director
Berkeley Research Group

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al., Plaintiffs, v. ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services, U.S. Department of Health and Human Services, and JEFF WU, in his official capacity as Acting Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064 Hon. Mark T. Pittman

DECLARATION OF

PAUL DIVER, PH.D.

February 14, 2025

Table of Contents

1 Introduction and Scope

I, Paul Diver, Ph.D., declare the following to be true and correct:

1. I am over twenty-one years of age, of sound mind, and fully competent to make this declaration.

2. I am a Director with Berkeley Research Group, LLC ("BRG"). I was retained by Reed Smith LLP ("Counsel") on behalf of Elevance Health Inc. ("Elevance Health") and its affiliated entities ("Elevance Health") to provide my statistical opinions on certain aspects of the Centers for Medicare and Medicaid Services' ("CMS") calculation of the 2025 Medicare Advantage Star Ratings ("Star Ratings").

3. The Medicare Advantage ("MA") and Medicare Part D ("Part D") Star Ratings are published each year by CMS to "measure the quality of health and prescription drug services received by consumers enrolled in MA and Part D prescription drug plans."[1] CMS states that "[a]n important component of this effort is to provide [Medicare beneficiaries] and their caregivers with meaningful information about quality, alongside information about benefits and costs, to assist them in comparing plans and choosing the Medicare coverage option that best fits their health needs."[2]

4. Medicare Advantage contracts are each scored on a variety of quality and performance measures. There could be as many as 40 different measures considered for a single contract.[3] For each measure, CMS determines "cut points" across the spectrum of possible scores which are used to determine whether each contract's performance on that measure receives a 1-, 2-, 3-, 4-, or 5-star rating.[4] For the majority of measures, there is an element of randomness in the determination of the cut points. As a result, a contract's star ratings can fluctuate simply due to random chance alone – not based on actual performance differences.

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1 *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

2 *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

3 *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

4 *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

5. For each contract, CMS calculates a weighted average of the measure star ratings which is then used in turn to determine a contract-level Final Summary Score and Overall Star Rating.

6. Currently, the Final Summary Score for each contract is evaluated out to the sixth decimal place to determine its associated Overall Star Rating.

7. I have been asked by Counsel to opine on:

i. whether, due to CMS's methodology, there is any statistical uncertainty due to random chance associated with the calculation of the Final Summary Score;

-and, if so:

ii. could a plan's Final Summary Score and Overall Star Rating be subject to fluctuation due to random chance alone;

-and, if so:

iii. would rounding the Final Summary Score to a lower order decimal place (e.g., second decimal place), instead of the sixth decimal as is currently done, be more appropriate from a statistical perspective and reduce the chance of harm to plans caused by this statistical uncertainty due to random chance;

-and, if so:

iv. what is a more statistically appropriate decimal place to round the Final Summary Score prior to categorizing into an Overall Star Rating;

-and:

v. is the statistical uncertainty in the Final Summary Score due to random chance typically larger than the difference between Elevance contract H3655's Final Summary Score, 3.749565, and 3.750000, the threshold for a 4-star Overall Star Rating.

2 Opinion

8. The concept of statistical precision generally concerns how close results subject to random chance arising from repeated evaluations using the same methods are to one another.[5] Statistical precision is an integral consideration of statistical sampling, including analyses

[5] *See for example, "Precision" at https://www.census.gov/about/policies/quality/standards/glossary.html#p*

performed regularly by government agencies, including CMS and OIG. Based on my analysis, it is my statistical opinion that:

i. due to CMS's methodology, there is statistical uncertainty due to random chance associated with the calculation of the Final Summary Score typically on the order of 0.01 (i.e., on average the variability occurs at the second decimal place);

ii. as a result, a Medicare Advantage Organization's ("MAO's") Final Summary Score and therefore Overall Star Rating are subject to fluctuation due to random chance;

iii. it would be more statistically appropriate to round the Final Summary Score to the second decimal place rather than the sixth;

iv. rounding the Final Summary Score to the second decimal place as opposed to the sixth prior to categorizing into an Overall Star Rating would reduce the potential for harm to plans (i.e., reduce the likelihood of a plan otherwise improperly receiving a lower Star rating) due to random chance, as well as avoid other statistical concerns expressed by CMS; and

v. the published Final Summary Score of Elevance contract H3655, 3.749565, differs from 3.750000 by 0.000435 which is an amount orders of magnitude smaller than the average statistical uncertainty due to random chance inherent in CMS's methodology.

9. Evaluating the Final Summary Score at the sixth decimal place when determining an Overall Star Rating can be improperly interpreted as analyzing the Overall Star Rating at a higher level of statistical precision than what is present based upon the estimation methodology used by CMS. It is my statistical opinion that rounding the Final Summary Score to the second decimal place – as opposed to the sixth – is better reflective of the uncertainty which exists due to random chance (i.e., typically on the order of 0.01) in CMS's methodology to determine an Overall Star Rating for each contract and would remove CMS's current illusion of precision under the current approach.

10. It is also my opinion that rounding the Final Summary Score at the second decimal place, as opposed to the sixth, lessens the chance of misclassifying an MAO plan with a lower Overall Star Rating. Rounding to the Final Summary Score at the second decimal place as opposed to the sixth, would create no burden on CMS to implement statistically or computationally.

Moreover, this change would mitigate a "cliff effect" (a concern of CMS's)[6] where contracts with scores that are essentially the same (in other words that could differ by as little as *0.000001* in their observed Final Summary Scores) would otherwise receive different Overall Star Ratings.

11. Additionally, the published Final Summary Score for Elevance contract H3655 is 3.749565. This score differs from the 4-star Overall Star Rating threshold of 3.750000 by 0.000435, an amount considerably smaller and well within the range covered by the statistical uncertainty due to random chance inherent in CMS's methodology.

3 Background and Qualifications

12. I received a Ph.D. in Statistics from the University of Virginia in 2017. I also received an M.A. in Economics from the University of Virginia in 2010, an M.S. in Mathematics and Statistics from Georgetown University in 2007, and a B.S. in Mathematics from Georgetown University in 2006.

13. For over 15 years, I have applied statistical and econometric techniques in a variety of areas. My prior testimony and consulting experience spans a large variety of industries including, but not limited to, healthcare, automotive, transportation, luxury goods, waste collection and disposal, telecommunication, retail goods, and technology.

14. Prior to working at BRG, I worked at LECG, LLC, a professional litigation and economic consulting company, as well as at the U.S. Census Bureau in what was then known as the Statistical Research Division. I have served as an Adjunct Associate Professor at Georgetown University with the Department of Mathematics and Statistics on multiple occasions teaching courses in graduate-level statistics.

15. I have been engaged and have submitted expert reports as a statistical expert in cases dealing with the assessment of statistical sampling designs and statistical modeling. I have

[6] *See* https://www.federalregister.gov/documents/2018/04/16/2018-07179/medicare-program-contract-year-2019-policy-and-technical-changes-to-the-medicare-advantage-medicare*:* "The potential for misclassification is increased if the cut points result in the creation of "cliffs" between adjacent categories within the Star Ratings that could lead to the potential of different ratings between contracts with nearly identical Star Ratings that lie on the opposite sides of a fixed threshold."

also been deposed in matters at court and for arbitration, and I have provided trial and arbitration testimony.

16. My curriculum vitae is included herewith. BRG is compensated at a rate of $730 per hour for my professional services in this matter. BRG's payment in this matter, and any form of compensation provided to me, is not contingent upon my opinions or the outcome of this case.

4 Random Chance and Uncertainty Are Known Elements of the CMS Star Rating Estimation Methodology

17. The Medicare Advantage and Medicare Part D Star Ratings are published each year by CMS to "measure the quality of health and prescription drug services received by consumers enrolled in MA and Part D prescription drug plans."[7] These ratings evaluate the performance of Medicare Advantage plans based on up to 40 measures.[8] Examples of these measures include the percentage of female patients receiving breast cancer screenings, the rate of complaints per 1,000 members, and adherence to cholesterol medications.[9] These measures are used in turn to compute a Medicare Advantage Star Rating ("Star Rating") for each MAO, attempting to reflect the overall quality of their services.

18. Generally, CMS assigns each MAO a numerical score within a specified range (i.e., 0 to 100) for each of the roughly 40 considered measures (*see* "Measure Specific Numerical Scores" in Table 1). These numerical scores are then converted into measure-specific Star Ratings, taking a value of 1, 2, 3, 4, or 5 stars (*see* "Measure Specific Star Ratings" in Table 1). This conversion process uses a comparative methodology to evaluate a plan's performance against that of every other plan for each specific measure such that the star rating for a given measure is a relative ranking (i.e., in general, all plans classified as 3 stars in a given measure are supposed to have a lower score than all plans with 4 stars in that same measure).

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[7] *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

[8] *See https://www.cms.gov/newsroom/fact-sheets/2025-medicare-advantage-and-part-d-star-ratings*

[9] *See for example, https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, p. 38* ("Measure: C01 – Breast Cancer Screening"), *p. 78* ("Measure: C25 – Complaints about the Health Plan"), and *p. 106* ("Measure: D10 – Medication Adherence for Cholesterol (Statins)").

19. In general, the CMS methodology classifies the plans into 5 groups for each measure regardless of the presence of any "natural" cutoffs in the data. For instance, if the range of possible scores for all plans were 96, 97, 98, 99 or 100 in a given measure, CMS designed a methodology to classify all plans with a score lower than 97 as 1-star, all plans with score equal to 97 as 2-star, and so on.[10] If, instead, all plans had scores of either 0, 25, 50, 75, or 100, plans with a score of 0 would also get a 1-star rating, plans with a score of 25 would get a 2-star rating, and so on. Consequently, the measure-specific star rating says nothing regarding the absolute performance of a plan at a given measure, but only about how a plan compares to other plans.

[10] For the 2025 star ratings, this happened to measure "D07 – Plan Provides Accurate Drug Pricing Information for This Website," where CMS assigned 1 star to all plans with a score below 97, 2 stars to plans with a score of 97, 3 stars to plans with a score of 98, 4 stars to plans with a score of 99, and 5 stars to plans with a score of 100. *See https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf.*

Table 1: Exemplar Summary of Measure Scores and Measure Specific Star Ratings for Elevance Contract H3655[11]

Contract H3655 | Individual Measures | Measure Specific Numerical Scores | Measure Specific Star Rating

Contract: H3655 Contract Type: Local & Regional CCP with SNP Contract Name: COMMUNITY INSURANCE COMPANY				
Domain	**Primary Data Source**	**Quality Measure**	**Score**	**Star**
Part C Measures				
1 - Staying Healthy: Screenings, Tests, and Vaccines	HEDIS	**C01: Breast Cancer Screening**	71	3
	HEDIS	**C02: Colorectal Cancer Screening**	78	4
	CAHPS	**C03: Annual Flu Vaccine**	71	4
	HEDIS / HOS	**C04: Monitoring Physical Activity**	44	2
2 - Managing Chronic (Long Term) Conditions	Plan Reporting	**C05: Special Needs Plan (SNP) Care Management**	59	2
	HEDIS	**C06: Care for Older Adults – Medication Review**	99	5
	HEDIS	**C07: Care for Older Adults – Pain Assessment**	98	5
	HEDIS	**C08: Osteoporosis Management in Women who had a Fracture**	30	2
	HEDIS	**C09: Diabetes Care – Eye Exam**	72	3
	HEDIS	**C10: Diabetes Care – Blood Sugar Controlled**	83	3
	HEDIS	**C11: Controlling Blood Pressure**	72	2
	HEDIS / HOS	**C12: Reducing the Risk of Falling**	54	2
	HEDIS / HOS	**C13: Improving Bladder Control**	40	2
	HEDIS	**C14: Medication Reconciliation Post-Discharge**	86	4
	HEDIS	**C15: Plan All-Cause Readmissions**	12	3
	HEDIS	**C16: Statin Therapy for Patients with Cardiovascular Disease**	86	3
	HEDIS	**C17: Transitions of Care**	59	3
	HEDIS	**C18: Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions**	67	4
3 - Member Experience with Health Plan	CAHPS	**C19: Getting Needed Care**	83	4
	CAHPS	**C20: Getting Appointments and Care Quickly**	85	4
	CAHPS	**C21: Customer Service**	89	3
	CAHPS	**C22: Rating of Health Care Quality**	88	4
	CAHPS	**C23: Rating of Health Plan**	88	4
	CAHPS	**C24: Care Coordination**	87	4
4 - Member Complaints and Improvement in the Health Plan's Performance	CTM	**C25: Complaints about the Health Plan**	0.12	5
	MBDSS	**C26: Members Choosing to Leave the Plan**	15	4
	Star Ratings	**C27: Health Plan Quality Improvement**	Medicare only shows a star rating for this topic	4
5 - Health Plan Customer Service	IRE	**C28: Plan Makes Timely Decisions about Appeals**	97	4
	IRE	**C29: Reviewing Appeals Decisions**	99	5
	Call Center	**C30: Call Center – Foreign Language Interpreter and TTY Availability**	100	5
Part D Measures				
1 - Drug Plan Customer Service	Call Center	**D01: Call Center – Foreign Language Interpreter and TTY Availability**	100	5
2 - Member Complaints and Improvement in the Drug Plan's Performance	CTM	**D02 Complaints about the Drug Plan**	0.12	5
	MBDSS	**D03: Members Choosing to Leave the Plan**	15	4
	Star Ratings	**D04: Drug Plan Quality Improvement**	Medicare only shows a star rating for this topic	4
3 - Member Experience with Drug Plan	CAHPS	**D05: Rating of Drug Plan**	86	2
	CAHPS	**D06: Getting Needed Prescription Drugs**	89	3
4 - Drug Pricing and Patient Safety	PDE & MPF Pricing Files	**D07: MPF Price Accuracy**	98	3
	PDE data	**D08: Medication Adherence for Diabetes Medications**	85	3
	PDE data	**D09: Medication Adherence for Hypertension (RAS antagonists)**	89	3
	PDE data	**D10: Medication Adherence for Cholesterol (Statins)**	88	3
	Part D Plan Reporting	**D11: MTM Program Completion Rate for CMR**	89	4
	PDE data	**D12: Statin Use in Persons with Diabetes (SUPD)**	85	2

[11] Extracted from *H3655_2025_SR_Calculations_2024_09_04.xlsx*

20. For the majority of the individual measures, there is an element of random chance in the methodology used to convert the numerical score to a measure specific star rating.[12] For any single one of these measures, the numerical scores from across the population of MAOs are randomly divided into 10 groups (i.e., random subsets of the full list of scores from across all MAOs for that one measure). Those random groupings are determined by an arbitrary "initialization seed number" (selected year after year by CMS to be "8675309" [13] – the number referenced in Tommy Tutone's 1981 hit song "867-5309/Jenny"). Throughout the remainder of this report, I will interchangeably refer to this specific seed used by CMS as the "Jenny seed."). This seed number determines a unique set of groupings of the scores.[14] Had another initialization seed been selected (i.e., one other than "8675309"), the groupings of scores would change. Problematically, these arbitrary groupings play a role in determining which star rating each MAO receives for that measure.

21. The arbitrary groupings are used in a statistical clustering algorithm which determines a series of thresholds or "cut points" across the possible numerical scores a measure can take.[15] The clustering algorithm is applied 10 times to the data, each time removing 1 of the 10 groups.[16] CMS then takes an average of the "cut points" across those 10 iterations to determine the final thresholds.[17] An MAO's numerical score is converted to a star rating based on the value

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[12] *See "Clustering" - https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, p. 17.*

[13] *See for example "Clustering Methodology Detail" - https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf, p. 153; "Clustering Methodology Detail" - https://www.cms.gov/files/document/2024-star-ratings-technical-notes.pdf, p. 151; "Clustering Methodology Detail" - https://www.cms.gov/files/document/2023-star-ratings-technical-notes.pdf, p. 144. See* Appendix B for discussion of year-over-year randomness implications.

[14] "The random assignment of contracts into 10 groups can be produced using the SURVEYSELECT procedure in SAS as follows: proc surveyselect data=inclusterdat groups=10 seed=8675309 out=inclusterdat random; run; In the above code, the input dataset, inclusterdat, is the list of contracts without missing, flagged, excluded by disaster rules or voluntary contract scores for a particular measure. The group=10 option identifies that 10 random groupings of the data should be created. The seed=**8675309** option specifies the seed value that controls the starting point of the random sequence of numbers and allows for future replication of the randomization process." *https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf , p. 153(**emphasis added**).*

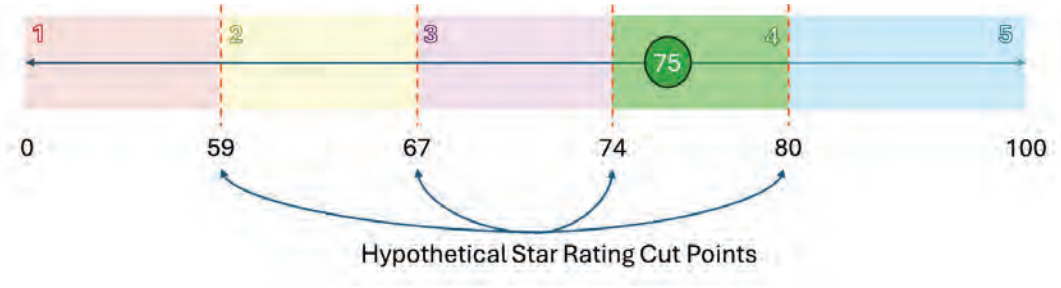
[15] *https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf , p. 153.*

[16] *https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf , p. 153.*

[17] *https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf , p. 155.* In general, a further step in which "guardrails" are implemented to determine **final** thresholds is also applied. *See https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf , p. 159 – 160:* "When applying guardrails, the difference between the current year and prior year's cut point is calculated for each of the 1 to 5 star levels. A cap value is then calculated and compared to the observed threshold difference…"

of its score relative to these determined thresholds. For example, if a threshold for distinguishing a 3- vs. a 4- star rating was a "74," a numerical score of "75" would be converted to a 4 (*see for example* Figure 1).

Figure 1: Hypothetical Cut Points Across Possible Range of Measure Numerical Scores to Determine Measure Star Rating

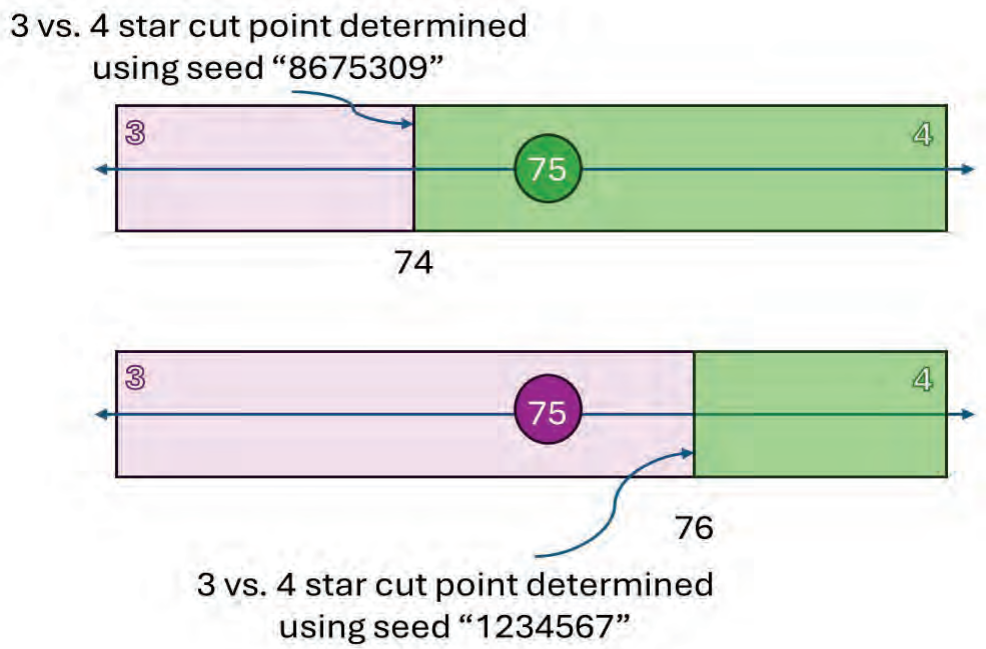


22. The cut points are subject to (and can be demonstrated to) change depending on the composition of the arbitrary groupings of scores. Since these groupings are determined by and subject to change with the arbitrary initialization seed, the cut points are subject to variation due to nothing more than the seed as well.

23. In other words, the cut points for determining a measure star rating, and thus the star ratings themselves, can change due to nothing more than random chance alone.

24. As an example, a hypothetical numerical score of "75" for one measure might be converted to a star rating of 3 or a star rating of 4 without that MAO's underlying numerical score or that of *any other* MAO changing at all, but instead entirely due to which arbitrary initialization seed is selected.

Figure 2: A Single Measure Numerical Score Can Translate to Different Star Ratings Due to Changes in the Initialization Seed (i.e., Random Chance) Alone



25. CMS has in the past modified its methodology for these measures to decrease the instability of the measure specific star ratings due to random chance, but despite these changes, CMS acknowledges that this variation due to random chance can still occur.[18]

26. For each MAO, once its measure numerical scores are converted into measure star ratings, these star ratings are collectively used to determine a weighted average star rating specific to that MAO.

[18] *See* https://www.federalregister.gov/documents/2019/04/16/2019-06822/medicare-and-medicaid-programs-policy-and-technical-changes-to-the-medicare-advantage-medicare. *See for example:* "There are two advantages of resampling. It contributes to stabilizing the cut points, which is its primary advantage over using clustering without mean resampling, and it **partially** addresses the sensitivity of the clustering approach to the ordering of the observations in the data set. First, each observation is included in only 90 percent of the cut point estimates that are averaged. This reduces the contribution of each observation, including outliers, to the final cut points. Second, pulling out a random 10 percent of the data prior to cut point calculation alters the order of the data. It **partially** accounts for the sensitivity of the clustering approach to the ordering of observations, as the tie-breaking approach of the clustering algorithm depends on the ordering of the data" and "We explained in the proposed rule that mean resampling **reduces** the sensitivity of the clustering algorithm to outliers and **reduces the random variation that contributes to fluctuations in cut points** and, therefore, improves the stability of the cut points over time." (**emphasis added**).

Table 2: Exemplar Summary of Measure Weights, Weighted Star Ratings, and Weighted Average Star Rating for Elevance Contract H3655[19]

Measure Weight ↓ **Weighted Star Rating** ↓

Contract: H3655 Contract Type: Local & Regional CCP with SNP Contract Name: COMMUNITY INSURANCE COMPANY						
Domain	**Primary Data Source**	**Quality Measure**	**Score**	**Star**	Weight	Weight * star
Part C Measures						
1 - Staying Healthy: Screenings, Tests, and Vaccines	HEDIS	**C01: Breast Cancer Screening**	71	3	1	3
	HEDIS	**C02: Colorectal Cancer Screening**	78	4	1	4
	CAHPS	**C03: Annual Flu Vaccine**	71	4	1	4
	HEDIS / HOS	**C04: Monitoring Physical Activity**	44	2	1	2
2 - Managing Chronic (Long Term) Conditions	Plan Reporting	**C05: Special Needs Plan (SNP) Care Management**	59	2	1	2
	HEDIS	**C06: Care for Older Adults – Medication Review**	99	5	1	5
	HEDIS	**C07: Care for Older Adults – Pain Assessment**	98	5	1	5
	HEDIS	**C08: Osteoporosis Management in Women who had a Fracture**	30	2	1	2
	HEDIS	**C09: Diabetes Care – Eye Exam**	72	3	1	3
	HEDIS	**C10: Diabetes Care – Blood Sugar Controlled**	83	3	3	9
	HEDIS	**C11: Controlling Blood Pressure**	72	2	3	6
	HEDIS / HOS	**C12: Reducing the Risk of Falling**	54	2	1	2
	HEDIS / HOS	**C13: Improving Bladder Control**	40	2	1	2
	HEDIS	**C14: Medication Reconciliation Post-Discharge**	86	4	1	4
	HEDIS	**C15: Plan All-Cause Readmissions**	12	3	3	9
	HEDIS	**C16: Statin Therapy for Patients with Cardiovascular Disease**	86	3	1	3
	HEDIS	**C17: Transitions of Care**	59	3	1	3
	HEDIS	**C18: Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions**	67	4	1	4
3 - Member Experience with Health Plan	CAHPS	**C19: Getting Needed Care**	83	4	4	16
	CAHPS	**C20: Getting Appointments and Care Quickly**	85	4	4	16
	CAHPS	**C21: Customer Service**	89	3	4	12
	CAHPS	**C22: Rating of Health Care Quality**	88	4	4	16
	CAHPS	**C23: Rating of Health Plan**	88	4	4	16
	CAHPS	**C24: Care Coordination**	87	4	4	16
4 - Member Complaints and Improvement in the Health Plan's Performance	CTM	**C25: Complaints about the Health Plan**	0.12	5	4	20
	MBDSS	**C26: Members Choosing to Leave the Plan**	15	4	4	16
	Star Ratings	**C27: Health Plan Quality Improvement**	Medicare only shows a star rating for this topic	4	5	20
5 - Health Plan Customer Service	IRE	**C28: Plan Makes Timely Decisions about Appeals**	97	4	4	16
	IRE	**C29: Reviewing Appeals Decisions**	99	5	4	20
	Call Center	**C30: Call Center – Foreign Language Interpreter and TTY Availability**	100	5	4	20
Part D Measures						
1 - Drug Plan Customer Service	Call Center	**D01: Call Center – Foreign Language Interpreter and TTY Availability**	100	5	4	20
2 - Member Complaints and Improvement in the Drug Plan's Performance	CTM	**D02 Complaints about the Drug Plan**	0.12	5	**Counted in Part C**	
	MBDSS	**D03: Members Choosing to Leave the Plan**	15	4	**Counted in Part C**	
	Star Ratings	**D04: Drug Plan Quality Improvement**	Medicare only shows a star rating for this topic	4	5	20
3 - Member Experience with Drug Plan	CAHPS	**D05: Rating of Drug Plan**	86	2	4	8
	CAHPS	**D06: Getting Needed Prescription Drugs**	89	3	4	12
4 - Drug Pricing and Patient Safety	PDE & MPF Pricing Files	**D07: MPF Price Accuracy**	98	3	1	3
	PDE data	**D08: Medication Adherence for Diabetes Medications**	85	3	3	9
	PDE data	**D09: Medication Adherence for Hypertension (RAS antagonists)**	89	3	3	9
	PDE data	**D10: Medication Adherence for Cholesterol (Statins)**	88	3	3	9
	Part D Plan Reporting	**D11: MTM Program Completion Rate for CMR**	89	4	1	4
	PDE data	**D12: Statin Use in Persons with Diabetes (SUPD)**	85	2	1	2
					102	**372**
					Calculated Summary Mean	**3.647059**

Sum of Weighted Star Ratings (372) ↓

Sum of Measure Weights (102) →

Weighted Average (372/102) →

[19] Extracted from *H3655_2025_SR_Calculations_2024_09_04.xlsx*

27. To perform this calculation, CMS specifies a "weight" for each measure (*see* "Measure Weight" in Table 2) and multiplies it by its respective star rating to get a weighted star rating for each measure (*see* "Weighted Star Rating" in Table 2).

28. CMS divides the sum of the weighted star ratings (see "Sum of Weighted Star Ratings" in Table 2) by the sum of the measure weights (*see* "Sum of Measure Weights" in Table 2) to obtain a weighted average (*see* "Weighted Average" in Table 2). In the exemplar provided in Table 2, the sum of the weighted star ratings is 372, and the sum of the measure weights is 102. The weighted average star rating is obtained by dividing these sums, resulting in a weighted average star rating of 3.647059 (i.e., 372/102).

29. Prior to determining a Final Summary Score, two additional augmentations – the consideration of a "Reward Factor" and a categorical adjustment index ("CAI") value – are made to the weighted average star rating (*see* Appendix A for a further discussion of the details of the Reward Factor and CAI value augmentations).

Table 3: Augmentation of the Weighted Average Star Rating to Determine a Final Summary Score and Final Overall Star Rating[20]

Weighted Average Star Rating	3.647059
Reward Factor	0.1
Interim Summary	3.747059
CAI Value	0.002506
Final Summary	3.749565
Final Overall Rating	**3.5**

30. Given that the majority of the measure-specific star ratings are subject to an element of random chance, as is the weighted average star rating, **and** those same ratings are then used in the calculation of the Final Summary Score for each MAO, the Final Summary Score is ***also*** subject to an element of random chance. For example, an MAO may receive a composite

[20] Extracted from *H3655_2025_SR_Calculations_2024_09_04.xlsx*

Final Summary Score of 3.749565 or alternatively a score of 3.769173 due to nothing more than arbitrary chance alone affecting the scoring of the individual measures feeding into its calculation.

31. CMS subsequently converts this Final Summary Score to a Final Overall Star Rating of 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, or 5 stars (*see* "Final Overall Rating" in Table 3).

32. The methodology CMS uses to categorize these Final Summary Scores, which are rounded to the sixth decimal, to an Overall Star Rating is set forth in Table 4. The Final Summary Scores are categorized at the nearest half-star level (i.e., 0.5, 1.0, 1.5, 2.0, etc.) based on the criteria defined in Table 4.

Table 4: Conversion of Final (Overall) Summary Score to Final Overall Star Rating[21]

Raw Summary / Overall Score	Final Summary / Overall Rating
≥ 0.000000 and < 0.250000	0
≥ 0.250000 and < 0.750000	0.5
≥ 0.750000 and < 1.250000	1.0
≥ 1.250000 and < 1.750000	1.5
≥ 1.750000 and < 2.250000	2.0
≥ 2.250000 and < 2.750000	2.5
≥ 2.750000 and < 3.250000	3.0
≥ 3.250000 and < 3.750000	3.5
≥ 3.750000 and < 4.250000	4.0
≥ 4.250000 and < 4.750000	4.5
≥ 4.750000 and ≤ 5.000000	5.0

33. It is critical to observe at this last step that since, as noted above, the Final Summary Score is subject to random chance, and since it is that number which is converted to the Overall Star Rating, the resulting Overall Star Rating is therefore ***also*** subject to random chance.

34. Recall that, for example, an MAO may receive one of multiple Final Summary Scores (e.g., 3.749565 vs. 3.769173) due to nothing more than random chance. By the criteria in

[21] 2025 Star Ratings Technical Notes, Table 22, p. 23. *See https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf*

Table 4, the former score would be converted to an Overall Star Rating of a 3.5, whereas the latter would be converted to an Overall Star Rating of a 4.[22]

35. Therefore, given that both the Final Summary Score and the Overall Star Rating are subject to random chance, they are more appropriately viewed as *estimates* of unknown "true" values rather than determinations of the "true" values themselves. CMS conceptually appears to agree with this notion.[23] However, CMS does not provide any allowance for the potential variability in Final Summary Scores due to random chance prior to applying the star conversion criteria in Table 4.

5 Consideration of the Relationship Between Random Chance and Uncertainty in the MA Stars Rating Estimation

36. Given that the cut points for the majority of measures considered in the MA Stars Rating calculation are sensitive to random chance, it is important to consider the potential downstream effects. Notably, it is important to consider how the measure-specific star ratings and subsequently the Final Summary Score, which is a score derived from these ratings, are impacted by the same random chance.

37. Specifically, it is essential to consider how much – if any – variability one would expect to observe if one were to repeatedly perform the CMS calculation, changing *only* the arbitrary initialization seed. This will allow an evaluation of the precision to which the final score for any MAO is estimated.

38. To evaluate this, I considered the following:

i. the smallest observable change in the weighted average star rating for any MAO which could occur due to random chance; and

ii. the overall variability in the Final Summary Score due to random chance alone.

[22] Whereas if the Final Summary Score were rounded to the second decimal place, both instances would be converted to an Overall Star Rating of a 4.

[23] *https://www.federalregister.gov/documents/2019/04/16/2019-06822/medicare-and-medicaid-programs-policy-and-technical-changes-to-the-medicare-advantage-medicare*

39. Based on my analysis, I have determined that:

i. the smallest observable change in the weighted average star rating for any MAO which could occur due to random chance is approximately 0.01; and

ii. two common measures of statistical variability, the standard deviation and the coefficient of variation, indicate that on average an MAO plan Final Summary Score can vary due to random chance at approximately the 0.01 order of magnitude.

5.1 The Smallest Observable Change in Weighted Star Rating Due to Random Chance is Approximately 0.01

40. As noted above, an MAO's weighted average star rating is the ratio of the sum of its weighted stars to the sum of their respective weights (*see* Equation 1).

Equation 1: Formula for Calculating an MAO's Weighted Average Star Rating

$$Weighted\ Average\ Star\ Rating = \frac{Sum\ of\ Weighted\ Star\ Ratings}{Sum\ of\ Measure\ Weights}$$

41. To evaluate what the smallest observable change in the weighted star rating could be due to random chance, we need to consider what the smallest change in the numerator could be, as well as the largest value possible in the denominator.

5.1.1 The Smallest Observable Change in the Numerator (the sum of Weighted Star Ratings) is 1

42. For any of the individual measures whose star rating is subject to random chance, changing the arbitrary initialization seed could potentially change the cut point thresholds used to translate numerical scores into a star rating. One of the following results will occur:

i. The cut points do not change by varying the initialization seed, so the star rating for any individual MAO does not change;

ii. The cut points change by varying the initialization seed but not by an amount sufficient to cause the star rating for any individual MAO to change; or

iii. The cut points change by varying the initialization seed and by an amount sufficient to cause the star rating for an individual MAO to change by at least one star

43. Therefore, the *smallest* observable change in unweighted star rating is a change of 1 star (e.g., a shift from 3 stars to 4 stars due to changing the arbitrary initialization seed).

44. The smallest weight any individual measure can have is also 1.[24] Therefore, the smallest weighted star rating any measure can take is 1 as well (i.e., 1 star * weight of 1 = 1).

45. The smallest change in the *sum* of weighted star ratings across all measures would occur if only a single measure with a weight of 1 changed due to changing the arbitrary initialization seed. Therefore, the smallest change in the *sum* of the weighted star ratings across all measures is equal to the smallest possible change for any single measure, 1.

5.1.2 Largest Possible Denominator (Sum of Measure Weights) is 102

46. For many MAOs, the weighted average star rating is based upon all 40 measures shown in Table 1. For others, a subset of the 40 measures is used due to certain eligibility criteria. No MAO uses more than these 40 measures in the calculation of its weighted average star rating.

47. The weight value CMS assigns to each measure is the same from MAO to MAO. In other words, though different measures can have different weights, any single measure will have the same weight value across MAOs. For example, if C01 is a measure factored into any MAO's star rating calculation, C01 will always have a weight of 1 (e.g., a weight value of 1 across MAOs regardless of the MAO, *see* "Measure Weight" for measure C01 in Table 2). Similarly, if C18 is factored into any MAO's star rating calculation, C18 will always have a weight value of 4 (*see* "Measure Weight" for C18 in Table 2).

48. The sum of the weights across all 40 measures is 102. Since the weights do not change and no MAO uses more than these 40 measures, the maximum sum across measure weights is 102 (*see* Table 2).

49. Therefore, the largest the denominator can be in the weighted star rating ratio (*see* Equation 1) is 102.

[24] 2025 Star Ratings Technical Notes, Attachment G. *See https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf*

5.1.3 The Smallest Observable Change in the Weighted Average Star Rating for Any MAO is Approximately 0.01

50. In the weighted average star rating ratio (*see* Equation 1), the denominator is unaffected by random chance – the same number of measures and therefore the same sum of measure weights will be considered regardless of any changes to the arbitrary initialization seed.

51. Since the smallest possible change in the sum of weighted star ratings due to random chance is 1 and the largest possible sum of weights is 102, the smallest possible observable change in the weighted average star rating is a change of 1/102, or 0.009804, which is approximately 0.01. It is notable that this is the case not only for measures subject to CMS's clustering methodology and its associated imprecision, but *also* to those measures not subject to CMS's clustering methodology and any additional imprecision associated with those measures.

5.2 The Variability in the Final Summary Score Due to Random Chance is Generally on the Order of 0.01

5.2.1 Simulation Methodology

52. I leveraged the statistical analysis programming code provided by CMS in its "Medicare 2025 Part C &D Star Ratings Technical Notes"[25] document to simulate the effect of random chance on the measure specific cut points for the 29[26] of the 40 measures subject to this issue.[27] I then assessed the downstream effect of those varying cut points on the measure-specific star ratings, weighted average star rating, the Final Summary Score, and the Overall Star Rating for each contract.[28]

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[25] *https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf*

[26] Measure C27 and C04 are subject to this random chance issue, but only star ratings and not the underlying numerical scores from which cut points could be determined are published. The other 11 out of 40 remaining measures, known as "CAHPS" (Consumer Assessment of Healthcare Providers and Systems) measures are not subjected to the same clustering methodology and related random chance issue discussed in this declaration.

[27] Including the application of the Tukey Fences methodology to eliminate outliers as well as the cut point guardrail protections specified in the Technical Notes document.

[28] Specifically, I analyzed the 521 contracts for which CMS provided a "2025 Overall" score in its publicly available data tables reported within 2025 Star Ratings Data Tables (ZIP) (file: "2025 Star Ratings Data Table -

53. To simulate the effect of random chance on the measure specific cut points, I initialized the "random grouping" step of the cut point determination algorithm using seeds other than CMS's fixed Jenny seed (8675309). Without loss of generality, I used 100 different seeds beginning with "10000," incrementing by 10000, and ending with 1000000 (*see* "Seed" in Figure 3). Each of these 100 initialization seeds was used to determine a set of cut points for each relevant measure.

54. Though CMS does not publish the actual data (i.e., the final set of MAO contracts) it feeds into each cut point determination for its measures, it is my understanding that it did provide, as part of this filed suit, the actual data associated with the measures evaluated using CMS's clustering methodology.

55. To validate that the cut point simulation code worked as intended, I initialized the code using CMS's Jenny seed and ran it on the actual data for the relevant measures. The code subsequently produced cut points for all measures which matched their respective official cut points published by CMS.[29] Using the methodology described above, I was then able to replicate the Final Summary Score and Overall Star Rating for each of Elevance's contracts.[30]

56. Regarding the simulations initialized with a random seed other than the Jenny Seed, after determining 100 sets of cut points across the measures subject to random grouping and clustering algorithm, I generated measure-specific star ratings for each numerical score in the data for each measure.[31] Subsequently, I then calculated for each contract in the data its respective weighted average star rating using the official measure weights. Final Summary Scores were then computed using the published contract CAI values and Reward Factor thresholds (*see* Appendix A for further discussion of this implementation).

Summary Ratings (Dec 2 2024).csv") released in December 2024 (*available at*: https://www.cms.gov/medicare/health-drug-plans/part-c-d-performance-data, accessed February 12, 2025).

[29] *See https://www.cms.gov/files/document/2025-star-ratings-technical-notes.pdf*

[30] Given that the cut points associated with the CAHPS measures are not calculated using CMS's clustering methodology and the fact that CMS did not provide the actual CAHPS measure data as part of this suit, I incorporated the published CAHPS measure scores and star ratings for each contract as given.

[31] For the remaining measures for which the respective cut points are not subject to choice of a random seed, I used the official, published, measure specific star ratings for each contract.

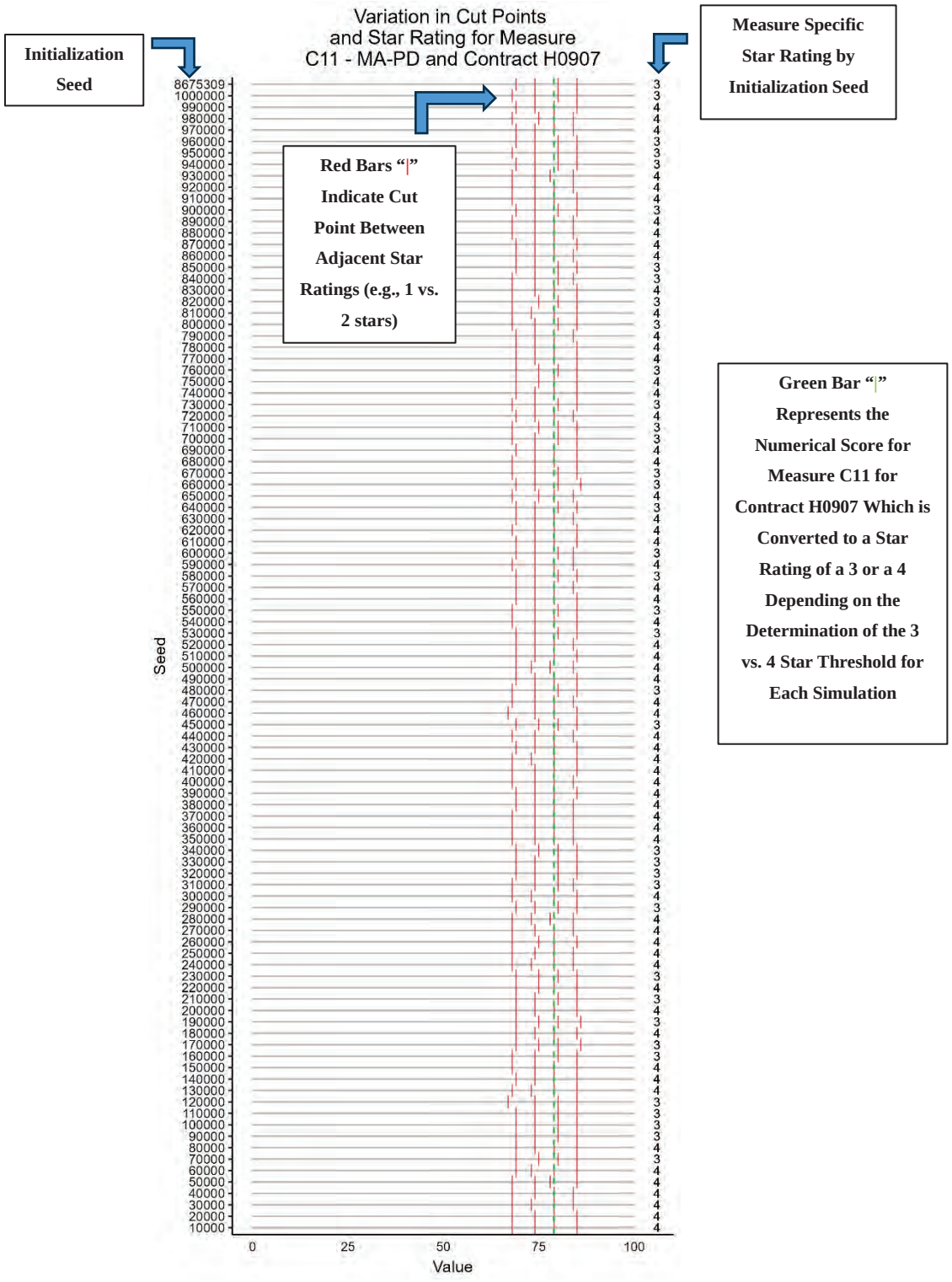
5.2.2 Results of the Simulations

5.2.2.1 Varying the Initialization Seed Frequently Results in Differences in Measure Specific Star Ratings

57. The simulations reveal, as expected, that by varying the arbitrary initialization seed there are frequent changes in the cut points for individual measures. Moreover, as a result of these changes in cut points, there are frequent changes in the measure-specific *star ratings* contracts receive due to random chance alone.

58. As an example, Figure 3 illustrates the results of 100 simulations of the cut point determination for measure C11 for contract H0907 as well as the determination using the "Jenny Seed."

Figure 3: Simulations Illustrating Cut Point and Star Rating Variation Due to Random Chance for Measure C11 for Contract H0907



5.2.2.2 The Majority of Contracts Can Have Multiple Final Summary Scores Simply by Varying the Initialization Seed

59. The results of these simulations show that, due to random chance alone, the vast majority of contracts evaluated under CMS's Star Rating analysis can have more than one Final Summary Score (*see* Figure 4).

Figure 4: The Count of Contracts by the Number of Unique Final Summary Scores Induced by Varying the Initialization Seed

Number of Unique Final Summary Scores	Number of Contracts
1	2
2	17
3	33
4	45
5	50
6	60
7	69
8	47
9	58
10	47
11	34
12	32
13	12
14	7
15	4
17	2
20	1
23	1
Total	**521**

60. In other words, without changing the numerical scores - for any measure, for any contract - and just varying the arbitrary seed used to initialize CMS's methodology, the majority

of the contracts, including for example Elevance contract H3655, can realize more than one Final Summary Score.

5.2.2.3 Over 20% of Contracts Can Have Multiple Overall Star Ratings Simply by Varying the Initialization Seed

61. Translating these varying Final Summary Scores into Overall Star Ratings indicates that this variability due to random chance can result in multiple Overall Star Ratings for a substantial number of contracts (approximately 25%), including Elevance contract H3655.

Figure 5: Simulation Results – Percentage of Contracts Obtaining Multiple Overall Star Ratings Due to Random Chance Alone

Final Star Rating Difference	Number of Contracts	Percent of Contracts
0	389	75%
0.5	132	25%
Total	**521**	**100%**

5.2.2.4 Assessment of the Variability in Final Summary Scores

62. These random simulations effectively allowed me to draw statistically valid random samples of possible Final Summary Scores for each contract in accordance with its respective possible Final Summary Score distribution.

63. Using these samples, I assessed the variation in Final Summary Scores due to random chance by well-regarded statistical metrics of variability – standard deviation and coefficient of variation.[32]

[32] The standard deviation and coefficient of determination are common statistical measures of dispersion or spread among a set of observations. Generally, the standard deviation is calculated as the square root of the average difference between individual observations and their average value. The coefficient of variation scales the standard deviation by the average to allow for comparisons of variation between measures which have different average values *see* Dodge, Y. The concise encyclopedia of statistics. Springer New York, 2008, p. 505 and p. 95, respectively.

Table 5: Simulation Results - Measures of Variability of Final Summary Scores by Exemplar Alpha-Numerically Adjacent Elevance Contracts

Contract	Standard Deviation	Coefficient of Determination
H0907	0.031	0.008
H1423	0.025	0.008
H1607	0.030	0.009
H1894	0.025	0.009
H1947	0.023	0.007
H2593	0.021	0.006
H2836	0.015	0.005
H3240	0.029	0.008
H3447	0.016	0.005
H3536	0.032	0.012

64. Across contracts, there was an average contract-level standard deviation in Final Summary Score due to random chance of approximately 0.030 and an average contract-level coefficient of variation in Overall Score of 0.008. In other words, if I were to pick a contract at random, the expected standard deviation of its Final Summary Score due to random chance alone would be approximately 0.030.

65. Stated more simply, on average there would be expected uncertainty in Final Summary Score of a magnitude substantially larger than at the sixth decimal place due to random chance alone.

6 There is a Unidirectional Impact on Contract Star Ratings by Rounding to at the Second Decimal Place as Opposed to Evaluating at the Sixth

66. Evaluating Final Summary Scores rounded to the second decimal as opposed to at the sixth would have a unidirectional impact on Overall Star Ratings. In other words, holding all else equal, evaluating a plan's Final Summary Score rounded to the second decimal, as opposed to the sixth, could only result in the Overall Star Rating either staying the same or increasing. The Overall Star Rating could not *decrease* by rounding to the second decimal place instead of the sixth.

67. A subset of the possible 4 million unique six-decimal place numbers between 1.000000 and 5.000000 would be assigned a rating a half a star higher if evaluated rounded to the second decimal place instead of evaluated at the sixth; none would receive a lower star rating (*see* Table 6).

Table 6: Comparison of the Assignment of Six-Decimal vs. Two-Decimal Values to Overall Star Ratings

CMS: Rounding to Six Decimals [A]		Alternate: Rounding to Two Decimals [B]		Overall Star Rating		Unique Possible Scores within the Six-Decimal Range [C]
Min	Max	Min	Max	CMS	Alternate	Count
1.000000	1.244999	1.00	1.24	1	1	245,000
1.245000	1.249999	1.25	1.25	1	1.5	5,000
1.250000	1.744999	1.25	1.74	1.5	1.5	495,000
1.745000	1.749999	1.75	1.75	1.5	2	5,000
1.750000	2.244999	1.75	2.24	2	2	495,000
2.245000	2.249999	2.25	2.25	2	2.5	5,000
2.250000	2.744999	2.25	2.74	2.5	2.5	495,000
2.745000	2.749999	2.75	2.75	2.5	3	5,000
2.750000	3.244999	2.75	3.24	3	3	495,000
3.245000	3.249999	3.25	3.25	3	3.5	5,000
3.250000	3.744999	3.25	3.74	3.5	3.5	495,000
3.745000	3.749999	3.75	3.75	3.5	4	5,000
3.750000	4.244999	3.75	4.24	4	4	495,000
4.245000	4.249999	4.25	4.25	4	4.5	5,000
4.250000	4.744999	4.25	4.74	4.5	4.5	495,000
4.745000	4.749999	4.75	4.75	4.5	5	5,000
4.750000	5.000000	4.75	5.00	5	5	250,001
				Total		**4,000,001**

Notes:
[A] The minimum and maximum values for CMS's method represent the range of any possible final score that a contract could achieve when rounding to 6 decimal places.
[B] The minimum and maximum values for the Alternate method represent the range of any possible final score that a contract could achieve when rounding to 2 decimal places.
[C] For example, there are 245,000 unique six-decimal numbers on the range 1.000000 to 1.244999.

68. Moreover, CMS has expressed concerns about the potential for "cliff effects" around fixed thresholds:

> *"The potential for misclassification is increased if the cut points result in the creation of "cliffs" between adjacent categories within the Star Ratings that could lead to the potential of different ratings between contracts with nearly identical Star Ratings that lie on the opposite sides of a fixed threshold."*[33]

69. The existing methodology would round a 3.749999 down to a rating of a 3.5, while a contract with a Final Summary Score just 0.000001 higher – a difference many of orders of magnitude smaller than the observable difference from the change of a single measure star rating, 0.01 – would receive a rating of a 4. In other words, two plans with *nearly identical* Final Summary Scores, differing by as little as 0.000001, could be assigned different Overall Star Ratings.

70. Rounding the Final Summary Score to the second decimal prior to assigning the Overall Star Rating would mitigate this cliff effect – ensuring that contracts would need to have Final Summary Score differences of at least 0.01 instead of 0.000001 (e.g., 3.74 would be assigned a 3.5 vs. 3.75 assigned a 4). Moreover, not only would this change dampen the cliff effect, but it can only conceptually result in *fewer* detrimental misclassifications. In other words, the rate of contracts receiving an Overall Star rating lower than they "should" have can only decrease or stay the same.

71. As a specific example, Elevance Health's contract H3655 currently has a Final Summary Score of 3.749565 and an assigned Overall Star Rating of a 3.5. This Final Summary Score evaluated at the sixth decimal place is 0.000435 below the fixed 4-star threshold of 3.750000. If H3655's Final Summary Score were rounded to the second decimal place (i.e., 3.75), it would result in an assignment of a star rating of a 4.

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[33] *See* https://www.federalregister.gov/documents/2018/04/16/2018-07179/medicare-program-contract-year-2019-policy-and-technical-changes-to-the-medicare-advantage-medicare: "The potential for misclassification is increased if the cut points result in the creation of "cliffs" between adjacent categories within the Star Ratings that could lead to the potential of different ratings between contracts with nearly identical Star Ratings that lie on the opposite sides of a fixed threshold."

7 There is No Relative Computational Burden of Evaluating Contract Star Ratings at the Final Summary Scores Rounded to the Second Decimal Place as Opposed to the Sixth

72. From a computational perspective, rounding to the second decimal place would neither require computationally burdensome simulations, nor even any re-run of any existing programs. Instead, the change simply requires rounding existing Final Summary Score numbers to a different number of decimals than at what they are being evaluated currently.

8 Additional Uncertainty Exists Within CMS's Methodology to Determine Overall Star Rating Which Provides Additional Evidence that Rounding to the Sixth Decimal Place is Improper

73. As noted above, the clustering methodology which is subject to the random group assignments discussed throughout this report is applied to the majority – but not all – of the measures considered in determining a contract's Overall Star Rating.

74. It is my understanding that the Declaration of Paul J. Lavrakas, Ph.D. (the "Lavrakas Declaration") considers *additional* sources of imprecision arising from the evaluation of these measures not subject to CMS's clustering methodology.[34] Based on my review of the Lavrakas Declaration, the additional imprecision associated with these measures flows through to the calculation of the Final Summary Score, and thus to the determination of the Overall Star Rating. This is evident by the fact that any uncertainty in the evaluation of these measures which could affect the measure specific scores or the measure specific star ratings, ultimately could affect the weighted average star rating which is an input into and thus affects the calculation of the Final Summary Score and the determination of the Overall Star Rating.

75. Moreover, based on my understanding of the imprecision associated with these measures, this uncertainty is entirely separable from the uncertainty described in this report associated with the measures subject to the uncertainty due to random chance in the clustering

[34] *See* the Declaration of Paul J. Lavrakas, Ph.D. submitted in this matter.

methodology. As noted above, the smallest observable change in the weighted average star rating is approximately 0.01 for both those measures subject to CMS's clustering methodology and those which are not.

76. Therefore, the actual imprecision associated with the Final Summary Score is at least as large and likely larger than what is otherwise characterized in this report, providing even further support for the notion that it would be more appropriate to round the Final Summary Score to the second decimal place rather than the sixth.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on February 14, 2025 in Washington, D.C.

Paul Diver, Ph.D.

9 Appendix A

9.1 Further Detail on Reward Factor and CAI Value Augmentation to Derive the Final Summary Score

77. For each MAO, once its measure numerical scores are converted into measure star ratings, these star ratings are collectively used to determine a weighted average star rating specific to that MAO.

78. To perform this calculation, CMS specifies a "weight" for each measure (see "Measure Weight" in Table 2) and multiplies it by its respective star rating to get a weighted star rating for each measure (see "Weighted Star Rating" in Table 2).

79. CMS divides the sum of the weighted star ratings (see "Sum of Weighted Star Ratings" in Table 2) by the sum of the measure weights (see "Sum of Measure Weights" in Table 2) to obtain a weighted average (see "Weighted Average" in Table 2). In the exemplar provided in Table 2, the sum of the weighted star ratings is 372, and the sum of the measure weights is 102. The weighted average star rating is obtained by dividing these sums, resulting in a weighted average star rating of 3.647059 (i.e., 372/102).

80. Prior to determining a final Overall Star Rating, two additional augmentations are made to the weighted average star rating.

81. First, for any individual MAO, depending on how (1) its weighted average star rating and (2) the consistency of its measure specific star ratings (i.e., to what extent are they all 4's or some mixture of 3's, 4's, and 5's) compare to similar metrics for all other MAOs, a "Reward Factor" of 0.0, 0.1, 0.2, 0.3, or 0.4 is added to the weighted average star rating (see "Reward Factor" in Table 7). This sum forms an "Interim Summary Score" (see "Interim Summary" in Table 7).

Table 7: Augmentation of the Weighted Average Star Rating to Determine a Final Summary Score and Final Overall Star Rating[35]

Weighted Average Star Rating	3.647059
Reward Factor	0.1
Interim Summary	3.747059
CAI Value	0.002506
Final Summary	3.749565
Final Overall Rating	**3.5**

82. Second, a categorical adjustment index ("CAI") is then added to the Interim Summary Score (*see* "CAI Value" in Table 7).[36] CAI values are a discrete set of values determined by a contract's type (e.g., Medicare Part C vs. Part D MA-PD) and the contract's categorization into a "final adjustment category." The final adjustment category is determined by a contract's proportion of LIS/DE (low income subsidy / dual eligible) beneficiaries and beneficiaries with disability status. This sum of the CAI value and the Interim Summary Score creates a "Final Summary Score" (*see* "Final Summary" in Table 7).

9.2 Implementation of the Reward Factor and CAI Value in the Calculation of the Final Summary Score for the Analysis Simulations

83. The CAI value is not subject to fluctuation due to random chance, but the Reward Factor could be.

84. The reward factor component has an added nuance in terms of its sensitivity to random chance. Not only is the reward factor earned by a contract dependent on its individual performance, but the absolute thresholds against which its performance is compared are

[35] Extracted from *H3655_2025_SR_Calculations_2024_09_04.xlsx*

[36] The Categorical Adjustment Index was introduced in 2017 to address the average within-contract disparity in performance revealed through CMS's research among beneficiaries who receive a low income subsidy, are dual eligible ("LIS/DE"), and/or disabled. CMS notes that it "developed the CAI as an interim analytical adjustment while [it] develop[s] a long-term solution." (*see https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/Downloads/Supplement-for-Categorical-Adjustment-Index-.pdf*)

themselves subject to changes in the variability and magnitude of measure star ratings across contracts.

85. The data provided by CMS in response to this suit were de-identified, notably for the non-Elevance contracts, and as such did not allow for a re-calculation of the Reward Factor thresholds for each simulation run. Accordingly, I evaluated the downstream results of the simulations by evaluating each contract's respective simulation performance against the official published Reward Factor thresholds.

86. Regarding the CAI values, these are not subject to the random chance associated with the initialization seed and are held constant across simulations for any single contract. Despite the appearance of having a continuum of possible values, the possible CAI values are a discrete set of values determined by a contract's type (e.g., Medicare Part C vs. Part D MA-PD) and the contract's categorization into a "final adjustment category" (*see* Table 8). The final adjustment category is determined by a contract's proportion of LIS/DE (low income subsidy / dual eligible) beneficiaries and beneficiaries with disability status.[37]

[37] https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/Downloads/Supplement-for-Categorical-Adjustment-Index-.pdf

Table 8: Exemplar 2025 Final Adjustment Categories and CAI Values[38]

Final Adjustment Category	LIS/DE Initial Group	Disability Quintile	CAI Value
1	L1-L2 L1	D1 D2	-0.058127
2	L1-L2 L2-L3 L3	D3 D2 D1	-0.033597
3	L4-L6 L4-L5	D1 D2	-0.014802
4	L1-L5 L3-L6 L6-L7 L7-L8	D4-D5 D3 D2 D1	0.002506
5	L6-L7 L7-L9 L8 L9-L10	D4-D5 D3 D2 D1-D2	0.045230
6	L8 L9-L10 L10	D4-D5 D4 D3	0.064707
7	L9	D5	0.112056
8	L10	D5	0.134761

10 Appendix B

87. As noted above, the clustering methodology employed by CMS is intended to determine random groupings of plans by an arbitrary "initialization seed number," and year after year, CMS chooses this initialization seed to be "8675309." Specifying a seed value allows for future replication of a randomization process. In other words, specifying the seed allows a researcher to exactly replicate which specific plans are grouped together, all else equal.

88. With that in mind, the composition of the plan groupings would therefore be predictable and not randomly different from one year to the next without changes to other external factors such as the population of plans considered or the initial ordering (e.g., alphanumerically). In other words, if the list of considered plans remained the same from one year to the next, and the same seed is used each year, the plan grouping in CMS's clustering methodology would be effectively pre-determined year over year.

[38] *See* Table 8, p. 9 at *https://www.cms.gov/files/document/2025-categorical-adjustment-index-measure-supplement.pdf*

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al., Plaintiffs, v. DOROTHY FINK, in her official capacity as Acting Secretary of Health and Human Services, U.S. Department of Health and Human Services, and JEFF WU, in his official capacity as Acting Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064 Hon. Mark T. Pittman

DECLARATION OF PAUL J. LAVRAKAS, PH.D.

I, Paul J. Lavrakas, Ph.D., declare the following to be true and correct:

1. I am over 21 years of age, of sound mind, and fully qualified and competent to make this declaration.

I. BACKGROUND

2. I am a Research Psychologist and Research Methodologist. I earned an M.A. in Experimental Social Psychology and a Ph.D. in Applied Social Psychology at Loyola University of Chicago, in 1975 and 1977, respectively. I served as a member of the faculty at Northwestern University from 1978-1996 and at The Ohio State University from 1996-2000. I held the rank of tenured Full Professor at each research institution. My primary area of teaching and research is research methods, in particular those methods used for conducting and interpreting survey

research. I worked in the private sector for the Westinghouse Electric Corporation's Evaluation Institute (1977-1978) as a Public Sector Specialist and for Nielsen Media Research (2000-2007) as Vice President and chief research methodologist during those years. Since the summer of 2007, I have been employed as an Independent Consultant for myriad public and private sector clients, including serving as an expert witness. My curriculum vitae is included herewith.

3. Throughout my still-active research career of 50+ years, I have established myself as one of the world's pre-eminent research methodologists through my publications, teaching, contributed and invited papers presented at major conferences, and service to my profession. For example, in the past two decades I have served as (a) the editor of two special issues of *Public Opinion Quarterly*, the top social science journal covering the fields of public opinion and survey research, (b) the editor of the first-ever *Encyclopedia of Survey Research Methods*, published by Sage in 2008, (c) the author/co-author, and/or editor/co-editor for seven books on various aspects of survey research methods, and (d) was elected to, and served, a three-year term (2011-2014) as Vice President/President/Past-President of the American Association for Public Opinion Research (AAPOR) by the general membership. AAPOR is the world's *oldest and most distinguished* professional organization that addresses the scientific and operational aspects of survey research methods.

4. During my career, I have completed numerous consulting projects addressing various aspects of survey research for a wide range of public sector and private sector clients. As part of this work, I (a) have been qualified in a federal court as an expert "research methodologist," as part of my testimony provided for the State of Illinois' Office of the Attorney General; (b) provided an expert report for the State of New York's Office of the Attorney General for their case against the Arbitron's Company in identifying the methodological shortcomings of their new

measurement service for radio audiences; and (c) helped plan and oversee a survey of the general public to gather data to be used as evidence for the U.S. Department of Justice in an anti-trust case and provided an expert report on that survey.

II. SCOPE OF ANALYSIS

5. I have been retained to assess whether the Medicare Advantage and Prescription Drug Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys are "fit for purpose" (Santos, 2014) when used in the calculation of Medicare Advantage Star Ratings by the Centers for Medicare and Medicaid Services (CMS). *Fit for purpose* is a widely-recognized standard in survey research to assess whether the survey being conducted, and its resulting data, are appropriate for their intended use. To assist me in various research and other tasks, I hired a graduate student, Alex Christos Gkotinakos, with whom I have been working for the past two years through my part-time faculty appointment at The University of Illinois at Chicago, and who has an excellent understanding of survey research methods. For example, Mr. Gkotinakos conducted an extensive literature review under my guidance seeking publications via the internet about CAHPS data that mention the phrasing, "nonresponse bias" and/or "differential nonresponse."

6. The information in this affidavit is based upon information that is currently available. To the extent additional information is produced or relied upon, I may supplement this affidavit. Therefore, the opinions described herein are subject to change based upon future discovery or other developments. My compensation does not depend in any way on the outcome of this litigation.

7. It is my understanding that Star Ratings purport to accurately help to measure the quality of a Medicare Advantage organization (MAO) using approximately 40 separate measures (nine of which are from the CAHPS surveying – C03, C19, C20, C21, C22, C23, C,24, D05, and D06). It is my further understanding that CMS then uses the individual scores for each measure,

that are based upon CAHPS data, to calculate the overall Star Rating for each MAO that is measured to the sixth (i.e., to the one-millionth place) decimal point.

8. CAHPS surveys are designed to, among other things, collect information about Medicare beneficiaries' experiences with, and ratings of, MAOs via sample surveys of beneficiaries.[1] CMS publishes technical details called Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS Survey Quality Assurance Protocols and Technical Specifications (Technical Notes) on its website relating to CAHPS surveys.[2] In addition, other technical details and resources about how CAHPS surveys are carried out (i.e., the methods that are used to conduct a CAHPS survey) are available[3]. The technical details made available, including in the Technical Notes, is information that explains at least some of the survey's operational methods pertaining to (a) getting access to a sampling frame (a list of the members of the target population and their contact information), (b) drawing an initially designated sample to be selected/sampled from that frame, (c) devising methods to contact members of the initial sample and gain their cooperation to complete the CAHPS questionnaire, (e) devising a questionnaire with items meant to reliably gather the *precise and unbiased* data that the survey (and the MAO's Star Rating) requires, (f) trying to contact each initially sampled member, (g) trying to recruit each sampled member to complete the survey's questionnaire, (h) deciding by what means the data will be gathered (e.g., via in-person interviewers, a self-administered mail-back questionnaire, telephone interviewers, a web-based self-administered questionnaire, etc.), (i) processing the gathered data so that they are

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1 *See* https://www.cms.gov/data-research/research/consumer-assessment-healthcare-providers-systems/medicare-advantage-and-prescription-drug-plan-cahps.

2 *See* https://www.cms.gov/data-research/research/consumer-assessment-healthcare-providers-systems/medicare-advantage-and-prescription-drug-plan-cahps.

3 *See* https://ma-pdpcahps.org/.

ready to analyze, (j) adjusting (i.e., weighting) the processed data to try to make them more representative of the target population, and (k) carrying out the required statistical analyses using the weighted final dataset. Of note, and which I address in more detail in Section II,A.18, there apparently is no publicly accessible information available from CMS that explains anything about how the investigation into the presence of *nonresponse bias* (as required by the federal Office of Management and Budget; OMB 2006) has been carried out in CAHPS surveys. I reviewed these technical details used for CAHPS where they could be found, and judged the likely accuracy (i.e., reliability and validity) of the resulting CAHPS survey data. I could not locate all the information that contains the details of the CAHPS survey methods (e.g., the specific sampling design(s) that is/are used by CMS to draw initial samples for CAHPS surveys and what are the design effects (*deffs*) associated with each CAHPS survey) and its various sources of error.

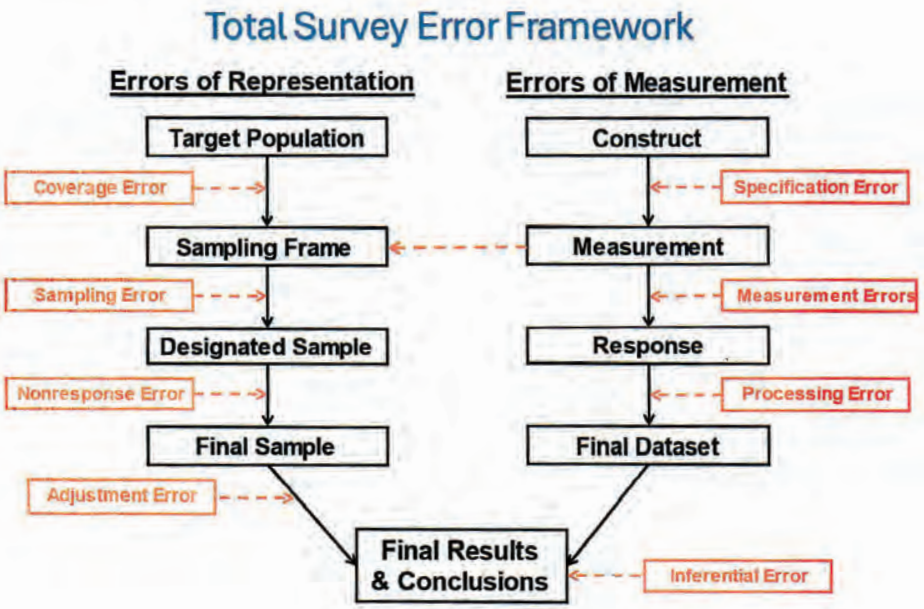
9. It is my understanding that the target population for the CAHPS surveys are plan-level groups of enrollees who are (a) 18 years of age or older, (b) who have been enrolled in an MA or PDP contract continuously for at least six months at the time the enrollees were sampled by CMS, (c) living in the United States, and (d) living in a noninstitutionalized residence. The exact demographic makeup of each group of enrollees varies by health insurance company and by plan. Although I looked at all of the technical information that I encountered about CAHPS, I did not find any aggregated nationwide statistics that included demographic and other details of all enrollees in MA or PDP contracts across the country. Thus, the target population for each CAHPS survey will likely vary, and as a result the sampling-related statistics and the associated post-survey weighting adjustments also will vary from survey to survey.

10. As a starting point, it is universally recognized in the area of survey research that (1) all sample surveys are imperfect/imprecise (i.e., fraught with "noise") by their very nature as

they are based upon a sampling, and (2) many surveys are biased in that they have the tendency to incorrectly over- or under-estimate the statistical attributes that are being measured to a nonignorable extent. It is universally recognized in the survey research profession that these issues can and do create error in surveys.

11. The Total Survey Error (TSE) framework (as shown in Figure 1) is designed to address all major sources of error in surveys (Groves 1989; Lavrakas 2013; and Lavrakas and Stec 2017). The TSE framework is the most highly regarded scientific approach for thinking about planning, conducting, analyzing, and evaluating any sample survey or census.[4] (Biemer 2010.) During the past 30 years, I have demonstrated internationally to be an expert in the applications of the TSE framework (e.g. Lavrakas, 2013; Lavrakas et al., 2022).

FIGURE 1



[4] A census has no sample as all members of the target population are invited to provide data; thus a census has no sampling error, but it is subject to several other major forms of error.

12. The TSE framework (as shown in Figure 1) is comprised of all major survey errors that can, and most often do, appear in surveys in the form of bias (directional error) and variance (imprecision error). The origins of the TSE framework stem back to the 1940s and 1950s, when revered statistical social scientists such as W. Edwards Deming (1944) and Morris Hanson (Hansen & Hurwitz, 1958) published that all sample surveys have error, if for no other reasons than a sample is drawn to be measured, the sample is not a census, and not everyone who is sampled provides data (i.e., so-called "nonrespondents" are those who are sampled initially but from whom no data are gathered for various reasons). Thus, the error associated with sampling (in the form of imprecision) must be identified and accounted for when using the results of a sample survey to make decisions. Related to this recognition, the nonresponse that occurs in essentially all surveys must also be assessed and accounted for in order to correctly interpret and accurately use the survey's findings/results (cf. OBM, 2006; Miller et al., 2020). With some types of survey errors (e.g., sampling error when using a probability-based sampling design), researchers can readily estimate the size and nature of the errors with confidence (this sampling-related error is acknowledged by the calculation and reporting of "confidence intervals," which are generated by using a survey's "margin of sampling error"), whereas with other errors (e.g., nonresponse bias), that estimation can be difficult or impractical to try to carry out statistically with confidence.

13. In assessing the CAHPS surveys, I methodically applied the TSE framework to identify any error that may occur in CAHPS survey data and whether those data are free from noise (imprecision/variance) and bias in order to be confidently and properly used as CMS uses them in calculating Star Ratings.

III. FINDINGS/OPINIONS

A. Major Sources Of Error (Bias And Imprecision) In CAHPS Surveys

14. I identified three primary damaging/serious problems with the accuracy of the CAHPS surveys that adds error to the CAHPS data, which in turn undermines the accuracy of the Star Ratings as calculated and applied by CMS. As explained below, at least some of the weighting "adjustments" that CMS makes to the CAHPS data not only fail to reduce these errors (let alone eliminate them), but in some cases the weighting adjustments are likely to increase the imprecision (error in the form of noise) of the CAHPS data.

i. Recruitment, Nonresponse, and Nonresponse Error (Bias)

15. Once an initial sample is selected, survey researchers must deploy the recruitment protocols that will be used to first make contact with members of the initial sample, and then to try to persuade those who are contacted to provide the data that the survey's questionnaire has been devised to collect. These recruitment protocols often result in low response rates, as in the case of CAHPS generally. Low response rates increase the chances that nonresponse ***bias*** occurs in the CAHPS data, as well as increasing the cost of conducting the CAHPS surveys.

16. It is generally agreed within the survey research profession that *nonresponse bias* is a significant threat to the accuracy of most surveys. Nonresponse bias is different than nonresponse and nonresponse rates, which are simply the number of people who were sampled but do not provide data via the survey questionnaire. Nonresponse bias is caused by two conditions occurring simultaneously:

(a) there are persons in initial sample who fail to provide the data (i.e., the nonrespondents) that are being gathered by the survey questionnaire, and

(b) the nonrespondents would have provided materially different data about what is being measured versus the data that the respondents provided.

17. **Nonresponse bias will only occur if both of these conditions are present.** That is, there may well be nonresponse in the survey, but that nonresponse may not have a biasing effect (Groves, 2006). For example, a survey with a 100% response rate has no nonresponse, and thereby the survey cannot have any unit[5] (e.g. household-level) nonresponse bias. It is *only when both of these two conditions are met* in a given survey that the gathered data from respondents are biased due to unit nonresponse, in part, because "differential unit nonresponse" has occurred. Differential unit nonresponse occurs when the nonrespondents would have provided different data to the questionnaire than the respondents, had the nonrespondents actually provided data if and when they were contacted to complete the questionnaire, and, when at the same time, the respondents, as a group, and the nonrespondents, as a group, are not random subsets of the initial sample.

18. As a hypothetical example, in the case of CAHPS, if the respondents, as a group, rated their satisfaction with their insurance plan more negatively than the nonrespondents, as a group, would have rated it had they provided such data, and, second, if only 30 percent, for example, of the initial responding sample provided data, the gathered data would been biased due to the *differential* nature of the data had the 70% of nonrespondents completed the questionnaire. In this case, the gathered data would have been inaccurate in portraying satisfaction in the target population of enrollees because it would have understated the amount of satisfaction among the total population of enrollees in a given plan.

19. Bias that can be, and often is, caused by differential nonresponse became such a major threat to the accuracy of surveys that in 2006, the federal Office of Management and Budget

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5 Nonresponse at the unit-level (e.g., the household level) means that a sampled unit (e.g., household) did not provide the data that were required to allow that unit e.g. (household) to be part of the survey's final dataset. Unit nonresponse is distinguished in survey research from "item-nonresponse," – the latter referring to a respondent who does not provide all of the data required of her/him, but does provide enough data to be part of the survey's final dataset.

(OMB) issued a directive (OMB, 2006), stating that any federal survey that did not expect to attain at least an 80% response rate (i.e., at least 80% of the members of the survey's initial sample would provide the data that was being sought from them) must conduct an investigation into the presence of nonresponse *bias* within the data that the survey gathered.[6] Such an investigation would include using one (or more) of several recommended methods for investigating whether nonresponse bias was present in a particular survey (Montaquila & Olsen, 2012). For example, one nonresponse bias investigation method is as follows: It is nowadays readily possible to match so-called *auxiliary data*[7], including many demographic characteristics, to residential street addresses. If a researcher were using an addressed-based sample, as is done with CAHPS surveying, one could match many of these characteristics to all the enrollees who were initially sampled for a CAHPS survey. After the survey had been conducted, the researcher would know which initially sampled enrollees became respondents and which became nonrespondents. Then the researcher would be able to compare the nonrespondents' matched characteristics to the same matched characteristics of the respondents to determine if the two groups had significantly different characteristics. Imagine the two groups differed in their educational attainment. Next, the researcher would look for evidence to learn if educational attainment correlated significantly with a health care attribute that the CAHPS survey had measured, i.e., the one on which the nonresponse bias investigation was focusing. If it did, then educational attainment would be a characteristic in this CAHPS survey that caused nonresponse bias in the final data that were provided only by respondents. In this case, educational attainment would be a characteristic that was found to correlate with

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6 https://www.fcsm.gov/resources/non-response-bias/.

7 Data that are external to a survey (e.g. census data for the local area in which some lives) that can be added to each sampled person/household/etc. in the survey's initial sample (Lavrakas, 2021).

response/nonresponse *and* to correlate with the attribute in the questionnaire that had been measured. Since both conditions that are needed to cause nonresponse bias were found to be present in this example, then educational attainment was properly identified to be a characteristic that should be used to adjust (weight) the final dataset for this survey to try to reduce or possibly eliminate the error that the nonresponse bias was causing. Had only one or neither of the conditions been met, then the educational attainment variable should not be used in the post-survey adjustments for this health care item. Were one to do so, it would not reduce the nonresponse bias, and counterproductively, may increase total survey error by adding noise (variance) to the survey, thereby making it less precise.

20. The overall aggregated CAHPS response rate is well below 80%, therefore, pursuant to OMB's 2006 directive, nonresponse bias investigations should have been routinely conducted over the years by CMS and/or its contractors. In 2020, the Nonresponse Bias Subcommittee of the U.S. Federal Committee on Statistical Methodology (Miller et al., 2020) reported that more than 100 nonresponse bias investigations had been carried out since 2006 by government agencies that conducted federal surveys where the response rate was *a priori* expected to be below 80%. However, it does not appear from the Technical Notes or any other CMS publication that CMS conducted or funded a nonresponse bias analysis for the CAHPS data at issue. It is worth noting that there has been statistical information regarding nonresponse *rates* in CAHPS released by CMS, ***but not about nonresponse bias.***

21. Two articles (Elliot et al., 2005; Elliot et al., 2009)[8] briefly addressed the topic of nonresponse bias in *hospital* CAHPS data, but hospital CAHPS data relates to the surveying of

[8] The Medicare CAHPS case-mix adjustment, which is reportedly informed by 20 years of research, reportedly accounts for factors such as age, health status, and dual eligibility and tries to ensure that contract scores are not influenced by patient-level factors beyond their control. This adjustment tries to ensure that contract-level scores fairly represent all contracts. Analyses of

hospital care and is different from the CAHPS data at issue for MAOs.[9] Furthermore, *those researchers did not report carrying out any nonresponse bias investigations in a CAHPS survey because they apparently did not assess what data nonrespondents would have produced* (cf. Montaquila and Olsen, 2012; Carson et al., 2023). What CMS apparently did is not a sufficient nonresponse bias analysis (cf. Miller et al, 2020; Carson et al., 2023). CMS's apparent failure to conduct an investigation into nonresponse bias in CAHPS surveys violates the federal OMB requirements for federal agency surveys and violates the spirit of AAPOR's professional survey data Transparency and Disclosure standards (AAPOR, 2021).

22. To further illustrate what nonresponse ***bias*** is and how it contributes to survey error, the following hypothetical example is offered:

> HYPOTHETICAL NONRESPONSE BIAS EXAMPLE: Imagine that 60 percent of the initial sample of a CAHPS survey provided the data being sought in the CAHPS questionnaire and thereby made up the respondent group for this survey. Thus, 40% of those sampled for this survey did not provide data and made up the nonrespondents for this survey. Also imagine that 70 percent of the respondents, as a group, were at least somewhat satisfied with the healthcare plan in which they were enrolled. Then imagine that a nonresponse bias investigation (e.g., a Nonresponse Bias Follow-up (NRFU) study (cf. Montaquila & Olsen, 2012)), were later conducted of the nonrespondents in the original CAHPS survey after the original survey was completed, and that that investigation found that 80 percent of nonrespondents, as a group, were at least somewhat satisfied.
>
> Thus, the original final survey sample in this example was biased in its estimate of the proportion of the enrollees in the health insurance plan who were at least somewhat satisfied. And in this example the nonresponse bias led the original survey to *underestimate* the true level of being at least somewhat satisfied among the plan enrollees. The finding about the size and direction of the nonresponse bias is determined by noting that 60% of the initial sample were respondents and 70% of them were at least somewhat satisfied. That means that ***of the entire initially designated sample*** that was chosen, .60 x .70 = .42 or 42 percent of the initial sample were respondents who were at least somewhat satisfied. In

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nonresponse in CAHPS data (Elliott et al. 2005; Elliott et al. 2009) have claimed to show no evidence of nonresponse *bias* in the presence of CAHPS case-mix adjustment at the household level.

[9] https://www.cms.gov/data-research/research/consumer-assessment-healthcare-providers-systems/hospital-cahps-hcahps.

> addition, 40% of the initial sample were nonrespondents and 80% of them had been found through the NRFU study to be at least somewhat satisfied. That means that of the entire initial sample that was chosen, .40 x .80 = .32 or 32 percent of the initial sample was nonrespondents who were at least somewhat satisfied. Adding the 42% to the 32%, one gets a finding that among the entire sample initially chosen for this survey, 74% were at least somewhat satisfied. ***And in this case, the true satisfaction level was 74% among the entire initial sample, not 70%.*** Thus, the original survey was biased due to differential nonresponse in underestimating the true level of being at least somewhat satisfied by four (4) percentage points.

23. The inability to be able to use results from nonresponse bias investigations in CAHPS is not a trivial issue when judging the accuracy of the CAHPS Star Ratings. That is because if those ratings are biased, generally accepted survey research standards require that the bias to be accounted for when calculating Star Ratings. If such bias is not accounted for then the surveys and thus the Star Ratings they are used to help create are not accurate.

24. CMS asserts (e.g., Elliot et al., 2005) that they are adjusting the CAHPS data to try to correct for the effects of nonresponse bias, but it does not appear that they are actually doing so. They apply what they call a "case mix adjustment," which purports to account for, among other things, some demographic characteristics (e.g., age, education, and general health status) and how much higher or lower people with a given characteristic tend to respond compared to otherwise similar people for each plan. But CMS does not appear to make available any information about how this calculation is done for each subgroup, including any information demonstrating that CMS conducts an appropriate and federally mandated nonresponse *bias* investigation.

25. Indeed, CMS actually may be *reducing the accuracy* of CAHPS data (in this case, by increasing the uncertainty of the accuracy of the CAHPS data) when they adjust/weight the final data from CAHPS using the case mix procedure because they appear to have no empirical evidence that the demographic characteristics that they are using in their case mix weighting adjustments are actually the ones that should be used to adjust for bias. And if they are weighting

on characteristics that are *not related* to nonresponse *bias*, then they are needlessly increasing error (in the form of noise/imprecision/variance) in their final CAHPS datasets, making the Star Ratings *even less* accurate.

26. This is a major reason that CAHPS data cannot be trusted to be accurate and thereby are not fit for the purpose for which the CAHPS data are being put in calculating Star Ratings.

ii. Sampling and Sampling Error

27. It is well established (cf. Kish, 1965) that when one draws a probability-based random sample from a sampling frame, as apparently is done by CMS for the CAHPS surveys, the resulting initial sample has certain statistical properties that allows one to calculate *confidence intervals* that allow researchers to draw conclusions about survey findings that are somewhat imprecise, but have a known degree of sampling error in the form of imprecision. These confidence intervals represent the range of uncertainty that exists in a given survey that used a probability sample design. The media often report such survey findings by saying, "43% of the public agrees with the President, plus or minus three percentage points." The latter is the confidence interval (43% ± 3 pp. equals a 40%-46% interval of uncertainty) within which the 43% "resides" as the midpoint of the interval with a known degree of confidence (typically 95% confidence). The fact that confidence intervals have been routinely reported and used in survey-related statistical analyses for nearly nine decades, is an explicit acknowledgement that even the best of sample survey findings are imprecise – that they contain error in the form of noise/imprecision. This source of imprecision is due to the use of a sample and not a census (where data are to be gathered from all in the sampling frame that represents the survey's target population, and thus there is no sample drawn from the larger population or frame).

28. To illustrate what sampling error (in the form of imprecision) is, and how it contributes to total survey error, the following hypothetical example is offered:

> HYPOTHETICAL SAMPLING VARIANCE EXAMPLE: Imagine that a CAHPS survey found that 64% of enrollee respondents in the survey were at least somewhat satisfied with their health insurance plan, and that the size of the final sample of respondents in this survey example was 1,100 enrollees who completed the CAHPS questionnaire. Then based on probability-sampling theory (Kish, 1969) *what the survey actually has found* is that the researchers and users of this survey can be 95% confident that the true proportion of sampled enrollees in the plan who are at least somewhat satisfied has a level of uncertainty (error in the form of noise/imprecision) of plus or minus approximately three percentage points when the survey's finding is applied to the target population. That is, although the survey in this example found that 64% of the *sampled* enrollees in the responding sample reported being at least somewhat satisfied with their plan, when generalizing/applying this finding to the entirety of the plan enrollees, the survey found that one can be 95% confident that the actual proportion of those enrollees in the plan who are at least somewhat satisfied is not 64% but some proportion between 61%-67% (i.e., 64% ± 3 percentage points) in light of the margin of sampling error in this survey example. Another way of understanding the confidence interval in this example, and the survey's margin of sampling error, is that with probability sampling theory, and when using a simple random sample design, if one repeated this hypothetical survey over and over and over again, ending each survey with independent final responding samples of approximately 1,100 in size, then one could expect that in 95% of the surveys the proportion of those answering the satisfaction question by reporting being at least "somewhat satisfied" would find an answer between 61% and 67%, with 64% being the most likely proportion expected.

As this example applies to the CAHPS decision-making, the margin of imprecision due to sampling error (which is similar to the size of the sampling error in many actual CAHPS surveys,given their final sample sizes) dwarfs the one-millionth decimal place.

29. *All sample surveys have sampling error*, and that in itself makes all sample surveys imprecise to at least some extent, including all CAHPS surveys. When a probability survey design is utilized (where all members of the sampling frame have a known nonzero chance of being sampled) then the range of imprecision (error) due to sampling is knowable within a level of confidence that is chosen by the researcher. These levels of confidence are typically either 95% or 99%.

30. Furthermore, there are many factors that come into play in contributing to the size of the sampling error in a particular survey, not merely the size of the responding final sample.

Unfortunately, as mentioned, some important technical details about the sampling design(s) that is (are) used for CAHPS surveys could not be found in the CAHPS Technical Notes issued by CMS. This is extremely peculiar that a publicly accessible major federal survey fails to be transparent about disclosing its sampling design in detail, which is contrary to Transparency requirements issued by AAPOR (2021), the world's oldest and most prestigious standard-setting professional organization dedicated to improving the accuracy of survey research methods. For example, nothing could be found about exactly what type of random samples are used by CMS to initially select enrollees for a given CAHPS survey. Were it to be a stratified random sample, as it likely should be, that would have a smaller "design effect" (which is a sampling error and adjustment error statistic) which in turn would reduce the size of the error (noise) due to sampling. In contrast, were it to use various other types of random sampling designs or nonprobability sampling designs, the effect of those designs would very likely increase the error/imprecision of the CAHPS surveys making them less precise. Either way, however, there is imprecision in sampled surveys.

31. Thus, this form of error/imprecision is another way in which CAHPS data are imprecise and unfit for the purpose of using them to calculate reliable and valid Star Ratings, let alone to the level of six decimals.

iii. Measurement and Measurement Error

32. Another major source of survey error, which can cause error in the form of both bias and variance, is related to the manner in which questions in the survey questionnaire are worded, ordered, and formatted (Basson, 2008). These types of errors fall under the rubric of Measurement Error, and in particular Questionnaire-related Measurement Error, within the TSE framework. There are well known and highly regarded statistical analyses such as Principal Component Analysis and the calculation of Cronbach's Alpha that often are used to examine the

psychometric properties of individual survey questions and of scales/indices that are formed by combining the data from individual questions together. These psychometric analyses ultimately help researchers decide whether a question or a set of questions is(are) reliable enough to justify their usage in the survey's questionnaire and final dataset. A perfectly reliable question, or set of questions, would score a value of 1.00 when subjected to such testing. A completely unreliable one would score 0.00. It is generally believed by quantitative social scientists (including survey researchers) that a reliability of .80 or greater is "reliable enough" to justify the usage of the question/questions to measure what it (they) are purported to measure. However, *even when absolute values of reliability metrics are as high as .80 that still indicates that the question/questions is/are less than perfect in providing data that are entirely precise and thus error free.*

33. Because of this fact, the questions that are used in the CAHPS questionnaire contribute error to the CAHPS data that are used to generate the Star Ratings, as shown by Hargraves et al. (2003). It is widely agreed among survey researchers that no survey question perfectly measures what it purports to measure, but if its reliability is "high enough" then it is accepted that the question and the small error that goes along with the question is tolerated. But even the small errors that occur with the survey questions that are used to create the Star Ratings scale bring error into the creation of the Star Ratings scores which CMS uses to "rate" health insurance plans. And the Questionnaire-related Measurement error that occurs in CAHPS data is very likely to far exceed the one-millionth decimal point level.

34. Furthermore, more evidence reported by CMS about analyses carried out in 2017 show that it investigated the psychometric properties (e.g. reliability, internal consistency, etc.) of the questions used in CAHPS survey questionnaires and found that some previously used questions

were problematic and thus these problematic questions were eliminated by CMS from inclusion in future CAHPS questionnaires. But in stating this, CMS has disclosed nothing that could be found in my search about what these specific problems were and how close the other CAHPS questions that were retained to be used in current CAHPS questionnaires were to being judged "problematic." Without access to these more detailed psychometric findings by CMS, it is impossible to be more precise in trying to quantify how much error is caused in Star Ratings due to problems in the nine CAHSP question items that are used to help generate Star Ratings and which continued to be asked in CAHPS questionnaires.

35. To illustrate what Questionnaire-related Measurement Error is, and how it contributes to total survey error, the following example is offered:

> HYPOTHETICAL QUESTIONNAIRE-RELATED MEASUREMENT ERROR EXAMPLE: In CAHPS, some data are gathered via a web-based questionnaire and other data are gathered via a telephone questionnaire. The web questionnaire is what survey researchers call "self-administered" and in contrast, the telephone questionnaire is "interviewer-administered." It has long been established that a survey question when administered via the respondent reading the question to herself/himself will bias respondents into being more likely to give an answer that comes at the beginning of the list of response options/answers. This is called a biasing Primacy Effect (Scanlan. 2008). In turn, a survey question when administered via the telephone with the respondent listening to an interviewer reading the question to the respondent will bias respondents into being more likely to give an answer that comes at the end of the list of response options/answers. This is called a biasing Recency Effect (Holbrook, 2008). These biasing errors routinely occur in surveys.
>
> To proceed with the hypothetical example, please imagine that a survey question about one's satisfaction with one's health insurance plan, when administered via the respondent reading the questions, elicited 84% of respondents reporting that they were at least somewhat satisfied with their own plan. And imagine that the response options/choices for answering the satisfaction question were 1=Strongly Agree, 2=Somewhat Agree, 3=Neither Agree nor Disagree, 4=Somewhat Disagree, and 5=Strongly Disagree. Then, it would be expected that the group of respondents being interviewed via telephone would tend to choose higher-scored answers that were later-read in the list they heard than the group of respondents that read the list of earlier-read answers to themselves. Even if these effects were extremely small, past evidence indicates that errors related to the mode via which the questions were administered will be present in the data. And, again, even if these

biasing effects were small, they very likely would dwarf in size a difference of one-millionth of a decimal place.

36. However, despite the lack of statistical details in CMS's disclosure of their psychometric analyses of the questions used for gathering CAHPS data, it is clear that the questions and data collection modes used in CAHPS surveys contribute error to the Star Ratings, and that is one more major reason that the data that the CAHPS surveys produce should not be used to make decisions that rest upon differences of one-millionth of a decimal point. This is a third major instance of why the CAHPS data used in the Star Ratings bring error into the calculation of those ratings that very likely exceed one-millionth of a decimal place.

B. Calculating Star Ratings to the Sixth Decimal is Improper When Based in Part Upon Imprecise and Possibly Biased CAHPS Data.

37. From a survey research methodology perspective, there are myriad errors in CAHPS data that are not accounted for. The largest of these errors – upon which I concentrated this affidavit – are (a) nonresponse bias, (b) sampling and weighting, and (c) the psychometric integrity of questions that are used in the CAHPS questionnaire. Each of these errors creates uncertainty (imprecision/noise) and/or bias in the CAHPS data, and that uncertainty and bias are not accounted for in the measurement scores. When attempting to measure survey scores like in CAHPS, it would be ludicrous to purport to calculate out the measure score to the sixth decimal due to the pervasive and inherent uncertainty and bias. Indeed, the vast majority of survey data based upon a sampling cannot be said to be precise to even a rounded whole integer or whole percentage point due to the uncertainty alone.

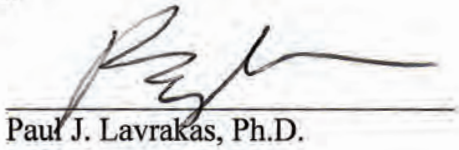
38. Using CAHPS measure D05 ("Using any number from 0 to 10, where 0 is the worst prescription drug plan possible, and 10 is the best prescription drug plan possible, what number would you use to rate your prescription drug plan?") as an example, CMS purports to calculate the

mean (average) survey response for enrollees expressed as a rounded number without any decimals (e.g., a mean of 7 for enrollees). However, in CAHPS, in almost all instances, it would be inaccurate to say that the health plan's population of enrollees (not just those surveyed) as a group, have an average score of 7 on D05 because of the inherent imprecision and bias in the CAHPS survey process. As explained above, this number could fluctuate due to nonresponse bias, margin of sampling error and weighting, and questionnaire-related measurement error, that are not accounted for by CMS.

39. Furthermore, using the imprecise CAHPS survey data in calculating Star Ratings makes the accuracy of the Star Ratings uncertain, as the imprecision is not eliminated when calculating the final Star Rating for the overall contract. In other words, it would be contrary to universally accepted survey research principles to use imprecise survey data and to purport to accurately calculate something to the one-millionth of a decimal point, let alone to a whole number/percentage, and CAHPS is no exception.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on February 13, 2025, in Evanston, Illinois.



Paul J. Lavrakas, Ph.D.

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KeyCite Yellow Flag - Negative Treatment
Proposed Regulation

Code of Federal Regulations
Title 42. Public Health
Chapter IV. Centers for Medicare & Medicaid Services, Department of Health and Human Services (Refs & Annos)
Subchapter B. Medicare Program
Part 422. Medicare Advantage Program (Refs & Annos)
Subpart D. Quality Improvement (Refs & Annos)

42 C.F.R. § 422.166

§ 422.166 Calculation of Star Ratings.

Currentness

<For applicability date(s) of amendment(s) to section, see 88 FR 22120; 89 FR 30448.>

(a) Measure Star Ratings—

(1) Cut points. CMS will determine cut points for the assignment of a Star Rating for each numeric measure score by applying either a clustering or a relative distribution and significance testing methodology. For the Part D measures, CMS will determine MA–PD and PDP cut points separately.

(2) Clustering algorithm for all measures except CAHPS measures.

(i) The method maximizes differences across the star categories and minimizes the differences within star categories using mean resampling with the hierarchal clustering of the current year's data. Effective for the Star Ratings issued in October 2023 and subsequent years, prior to applying mean resampling with hierarchal clustering, Tukey outer fence outliers are removed. Effective for the Star Ratings issued in October 2022 and subsequent years, CMS will add a guardrail so that the measure-threshold-specific cut points for non–CAHPS measures do not increase or decrease more than the value of the cap from 1 year to the next. The cap is equal to 5 percentage points for measures having a 0 to 100 scale (absolute percentage cap) or 5 percent of the restricted range for measures not having a 0 to 100 scale (restricted range cap). New measures that have been in the Part C and D Star Rating program for 3 years or less use the hierarchal clustering methodology with mean resampling with no guardrail for the first 3 years in the program.

(ii) In cases where multiple clusters have the same measure score value range, those clusters would be combined, leading to fewer than 5 clusters.

(iii) The clustering algorithm for the improvement measure scores is done in two steps to determine the cut points for the measure-level Star Ratings. Clustering is conducted separately for improvement measure scores greater than or equal to zero and those with improvement measure scores less than zero.

(A) Improvement scores of zero or greater would be assigned at least 3 stars for the improvement Star Rating.

(B) Improvement scores less than zero would be assigned either 1 or 2 stars for the improvement Star Rating.

(3) Relative distribution and significance testing for CAHPS measures. The method combines evaluating the relative percentile distribution with significance testing and accounts for the reliability of scores produced from survey data; no measure Star Rating is produced if the reliability of a CAHPS measure is less than 0.60. Low reliability scores are defined as those with at least 11 respondents, reliability greater than or equal to 0.60 but less than 0.75, and also in the lowest 12 percent of contracts ordered by reliability. The following rules apply:

(i) A contract is assigned 1 star if both of the criteria in paragraphs (a)(3)(i)(A) and (B) of this section are met plus at least one of the criteria in paragraphs (a)(3)(i)(C) or (D) of this section is met:

(A) Its average CAHPS measure score is lower than the 15th percentile; and

(B) Its average CAHPS measure score is statistically significantly lower than the national average CAHPS measure score;

(C) The reliability is not low; or

(D) Its average CAHPS measure score is more than one standard error below the 15th percentile.

(ii) A contract is assigned 2 stars if it does not meet the 1–star criteria and meets at least one of these three criteria:

(A) Its average CAHPS measure score is lower than the 30th percentile and the measure does not have low reliability; or

(B) Its average CAHPS measure score is lower than the 15th percentile and the measure has low reliability; or

(C) Its average CAHPS measure score is statistically significantly lower than the national average CAHPS measure score and below the 60th percentile.

(iii) A contract is assigned 3 stars if it meets at least one of these three criteria:

(A) Its average CAHPS measure score is at or above the 30th percentile and lower than the 60th percentile, and it is not statistically significantly different from the national average CAHPS measure score; or

(B) Its average CAHPS measure score is at or above the 15th percentile and lower than the 30th percentile, the reliability is low, and the score is not statistically significantly lower than the national average CAHPS measure score; or

(C) Its average CAHPS measure score is at or above the 60th percentile and lower than the 80th percentile, the reliability is low, and the score is not statistically significantly higher than the national average CAHPS measure score.

(iv) A contract is assigned 4 stars if it does not meet the 5–star criteria and meets at least one of these three criteria:

(A) Its average CAHPS measure score is at or above the 60th percentile and the measure does not have low reliability; or

(B) Its average CAHPS measure score is at or above the 80th percentile and the measure has low reliability; or

(C) Its average CAHPS measure score is statistically significantly higher than the national average CAHPS measure score and above the 30th percentile.

(v) A contract is assigned 5 stars if both of the following criteria in paragraphs (a)(3)(v)(A) and (B) of this section are met plus at least one of the criteria in paragraphs (a)(3)(v)(C) or (D) of this section is met:

(A) Its average CAHPS measure score is at or above the 80th percentile; and

(B) Its average CAHPS measure score is statistically significantly higher than the national average CAHPS measure score;

(C) The reliability is not low; or

(D) Its average CAHPS measure score is more than one standard error above the 80th percentile.

(4) 5–Star Scale. Measure scores are converted to a 5–star scale ranging from 1 (worst rating) to 5 (best rating), with whole star increments for the cut points.

(b) Domain Star Ratings.

(1)(i) CMS groups measures by domains solely for purposes of public reporting the data on Medicare Plan Finder. They are not used in the calculation of the summary or overall ratings. Domains are used to group measures by dimensions of care that together represent a unique and important aspect of quality and performance.

(ii) The 5 domains for the MA Star Ratings are: Staying Healthy: Screenings, Tests and Vaccines; Managing Chronic (Long Term) Conditions; Member Experience with Health Plan; Member Complaints and Changes in the Health Plan's Performance; and Health Plan Customer Service. The 4 domains for the Part D Star Ratings are: Drug Plan Customer Service; Member Complaints and Changes in the Drug Plan's Performance; Member Experience with the Drug Plan; and Drug Safety and Accuracy of Drug Pricing.

(2) CMS calculates the domain ratings as the unweighted mean of the Star Ratings of the included measures.

(i) A contract must have scores for at least 50 percent of the measures required to be reported for that contract type for that domain to have a domain rating calculated.

(ii) The domain ratings are on a 1- to 5–star scale ranging from 1 (worst rating) to 5 (best rating) in whole star increments using traditional rounding rules.

(c) Part C summary ratings.

(1) CMS will calculate the Part C summary ratings using the weighted mean of the measure-level Star Ratings for Part C, weighted in accordance with paragraph (e) of this section and with the applicable adjustments provided in paragraph (f) of this section.

(2)(i) A contract must have scores for at least 50 percent of the measures required to be reported for the contract type to have the summary rating calculated.

(ii) The Part C improvement measure is not included in the count of the minimum number of rated measures.

(3) The summary ratings are on a 1- to 5–star scale ranging from 1 (worst rating) to 5 (best rating) in half-star increments using traditional rounding rules.

(d) Overall MA–PD rating.

(1) The overall rating for a MA–PD contract will be calculated using a weighted mean of the Part C and Part D measure-level Star Ratings, weighted in accordance with paragraph (e) of this section and with the applicable adjustments provided in paragraph (f) of this section.

(2)(i) An MA–PD must have both Part C and Part D summary ratings and scores for at least 50 percent of the measures required to be reported for the contract type to have the overall rating calculated.

(ii) The Part C and D improvement measures are not included in the count of measures needed for the overall rating.

(iii) Any measures that share the same data and are included in both the Part C and Part D summary ratings will be included only once in the calculation for the overall rating.

(iv) The overall rating is on a 1- to 5–star scale ranging from 1 (worst rating) to 5 (best rating) in half-increments using traditional rounding rules.

(v) Low enrollment contracts (as defined in § 422.252) and new MA plans (as defined in § 422.252) do not receive an overall and/or summary rating. They are treated as qualifying plans for the purposes of QBPs as described in § 422.258(d)(7) and as announced through the process described for changes in and adoption of payment and risk adjustment policies in section 1853(b) of the Act.

(vi) The QBP ratings for contracts that do not have sufficient data to calculate and assign ratings and do not meet the definition of low enrollment or new MA plans at § 422.252 are assigned as follows:

(A) For a new contract under an existing parent organization that has other MA contract(s) with numeric Star Ratings in November when the preliminary QBP ratings are calculated for the contract year that begins 14 months later, the QBP rating assigned is the enrollment-weighted average highest rating of the parent organization's other MA contract(s) that are active as of the April when the final QBP ratings are released under § 422.162(b)(4). The Star Ratings used in this calculation are the rounded stars (to the whole or half star) that are publicly displayed on www.medicare.gov. The enrollment figures used in the enrollment-weighted calculations are the November enrollment in the year the Star Ratings are released.

(B) For a new contract under a parent organization that does not have other MA contract(s) with numeric Star Ratings in November when the preliminary QBP ratings are calculated for the contract year that begins 14 months later, the MA Star Ratings for the previous 3 years are used and the QBP rating is the enrollment-weighted average of the MA contract(s)'s highest ratings from the most recent year rated for that parent organization.

(1) The Star Ratings had to be publicly reported on www.medicare.gov.

(2) The Star Ratings used in this calculation are rounded to the whole or half star.

(C) The enrollment figures used in the enrollment-weighted calculations are the November enrollment in the year the Star Ratings are released.

(D) The QBP ratings are updated for any changes in a contract's parent organization that are reflected in CMS records prior to the release of the final QBP ratings in April of each year.

(E) Once the QBP ratings are finalized in April of each year for the following contract year, no additional parent organization changes are used for purposes of assigning QBP ratings.

(e) Measure weights—

(1) General rules. Subject to paragraphs (e)(2) and (3) of this section, CMS will assign weights to measures based on their categorization as follows.

(i) Improvement measures receive the highest weight of 5.

(ii) Outcome and Intermediate outcome measures receive a weight of 3.

(iii) Through the 2025 Star Ratings, patient experience and complaint measures receive a weight of 4. Starting with the 2026 Star Ratings and subsequent Star Ratings years, patient experience and complaint measures receive a weight of 2.

(iv) Through the 2025 Star Ratings, access measures receive a weight of 4. Starting with the 2026 Star Ratings and subsequent Star Ratings years, access measures receive a weight of 2.

(v) Process measures receive a weight of 1.

(2) Rules for new and substantively updated measures. New measures to the Star Ratings program will receive a weight of 1 for their first year in the Star Ratings program. Substantively updated measures will receive a weight of 1 in their first year returning to the Star Ratings after being on the display page. In subsequent years, a new or substantively updated measure will be assigned the weight associated with its category.

(3) Special rule for Puerto Rico. Contracts that have service areas that are wholly located in Puerto Rico will receive a weight of zero for the Part D adherence measures for the summary and overall rating calculations and will have a weight of 3 for the adherence measures for the improvement measure calculations.

(f) Completing the Part C summary and overall rating calculations. CMS will adjust the summary and overall rating calculations to take into account the reward factor (if applicable) and the categorical adjustment index (CAI) as provided in this paragraph (f).

(1) Reward factor. Through the 2026 Star Ratings, this rating-specific reward factor is added to both the summary and overall ratings of contracts that qualify for this reward factor based on both high and stable relative performance for the rating level.

(i) The contract's performance will be assessed using its weighted mean and its ranking relative to all rated contracts in the rating level (overall for MA–PDs; Part C summary for MA–PDs and MA–only; and Part D summary for MA–PDs and PDPs) for the same Star Ratings year. The contract's stability of performance will be assessed using the weighted variance and its ranking relative to all rated contracts in the rating type (overall for MA–PDs; Part C summary for MA–PDs and MA–only; and Part D summary for MA–PDs and PDPs). The weighted mean and weighted variance are compared separately for MA–PD and standalone Part D contracts (PDPs). The measure weights are specified in paragraph (e) of this section. Since highly-rated contracts may have the improvement measure(s) excluded in the determination of their final highest rating, each contract's weighted variance and weighted mean are calculated both with and without the improvement measures. For an MA–PD's Part C and D summary ratings, its ranking is relative to all other contracts' weighted variance

and weighted mean for the rating type (Part C summary, Part D summary) with the improvement measure. For the 2022 Star Ratings only, since all contracts may have the improvement measure(s) excluded in the determination of their highest rating and summary rating(s), each contract's weighted variance and weighted mean are calculated both with and without the improvement measures.

(ii) Relative performance of the weighted variance (or weighted variance ranking) will be categorized as being high (at or above 70th percentile), medium (between the 30th and 69th percentile) or low (below the 30th percentile). Relative performance of the weighted mean (or weighted mean ranking) will be categorized as being high (at or above the 85th percentile), relatively high (between the 65th and 84th percentiles), or other (below the 65th percentile).

(iii) The combination of the relative variance and relative mean is used to determine the value of the reward factor to be added to the contract's summary and overall ratings as follows:

(A) A contract with low variance and a high mean will have a reward factor equal to 0.4.

(B) A contract with medium variance and a high mean will have a reward factor equal to 0.3.

(C) A contract with low variance and a relatively high mean will have a reward factor equal to 0.2.

(D) A contract with medium variance and a relatively high mean will have a reward factor equal to 0.1.

(E) A contract with all other combinations of variance and relative mean will have a reward factor equal to 0.0.

(iv) The reward factor is determined and applied before application of the CAI adjustment under paragraph (f)(2) of this section; the reward factor is based on unadjusted scores.

(2) Categorical Adjustment Index. CMS applies the categorical adjustment index (CAI) as provided in this paragraph (f)(2) to adjust for the average within-contract disparity in performance associated with the percentages of beneficiaries who receive a low income subsidy or are dual eligible (LIS/DE) or have disability status. The factor is calculated as the mean difference in the adjusted and unadjusted ratings (overall, Part C, Part D for MA–PDs, Part D for PDPs) of the contracts that lie within each final adjustment category for each rating type.

(i) The CAI is added to or subtracted from the contract's overall and summary ratings and is applied after the reward factor adjustment described in paragraph (f)(1) of this section (if applicable).

(A) The adjustment factor is monotonic (that is, as the proportion of LIS/DE and disabled increases in a contract, the adjustment factor increases in at least one of the dimensions) and varies by a contract's categorization into a final adjustment category that is determined by a contract's proportion of LIS/DE and disabled beneficiaries.

(B) To determine a contract's final adjustment category, contract enrollment is determined using enrollment data for the month of December for the measurement period of the Star Ratings year.

(1) For the first 2 years following a consolidation, for the surviving contract of a contract consolidation involving two or more contracts for health or drug services of the same plan type under the same parent organization, the enrollment data for the month of December for the measurement period of the Star Ratings year are combined across the surviving and consumed contracts in the consolidation.

(2) The count of beneficiaries for a contract is restricted to beneficiaries that are alive for part or all of the month of December of the applicable measurement year.

(3) A beneficiary is categorized as LIS/DE if the beneficiary was designated as full or partially dually eligible or receiving a LIS at any time during the applicable measurement period.

(4) Disability status is determined using the variable original reason for entitlement (OREC) for Medicare using the information from the Social Security Administration and Railroad Retirement Board record systems.

(C) MA–PD contracts may be adjusted up to three times with the CAI; one for the overall Star Rating and one for each of the summary ratings (Part C and Part D).

(D) An MA–only contract may be adjusted only once for the CAI for the Part C summary rating.

(E) The CAI values are rounded and displayed with 6 decimal places.

(ii) In determining the CAI values, a measure will be excluded from adjustment if the measure meets any of the following:

(A) The measure is already case-mix adjusted for socioeconomic status.

(B) The focus of the measurement is not a beneficiary-level issue but rather a plan or provider-level issue.

(C) The measure is scheduled to be retired or revised.

(D) The measure is applicable only to SNPs.

(iii) The Star Ratings measures that remain after the exclusion criteria, paragraph (f)(2)(ii) of this section, have been applied will be adjusted for the determination of the CAI. CMS will announce the measures identified for adjustment in the calculations of the CAI under this paragraph (f)(2) through the process described for changes in and adoption of payment and risk adjustment policies in section 1853(b) of the Act.

(iv) The adjusted measures scores for the selected measures are determined using the results from regression models of beneficiary-level measure scores that adjust for the average within-contract difference in measure scores for MA or PDP contracts.

(A) A logistic regression model with contract fixed effects and beneficiary level indicators of LIS/DE and disability status is used for the adjustment.

(B) The adjusted measure scores are converted to a measure-level Star Rating using the measure thresholds for the Star Ratings year that corresponds to the measurement period of the data employed for the CAI determination.

(v) The rating-specific CAI values will be determined using the mean differences between the adjusted and unadjusted Star Ratings (overall, Part C summary, Part D summary for MA–PDs and Part D summary for PDPs) in each final adjustment category.

(A) For the annual development of the CAI, the distribution of the percentages for LIS/DE and disabled using the enrollment data that parallels the previous Star Ratings year's data would be examined to determine the number of equal-sized initial groups for each attribute (LIS/DE and disabled).

(B) The initial categories are created using all groups formed by the initial LIS/DE and disabled groups.

(C) The mean difference between the adjusted and unadjusted summary or overall ratings per initial category would be calculated and examined. The initial categories would then be collapsed to form the final adjustment categories. The collapsing of the initial categories to form the final adjustment categories would be done to enforce monotonicity in at least one dimension (LIS/DE or disabled).

(D) The mean difference within each final adjustment category by rating-type (overall, Part C, Part D for MA–PD, and Part D for PDPs) would be the CAI values for the next Star Ratings year.

(vi) CMS develops the model for the modified contract-level LIS/DE percentage for Puerto Rico using the following sources of information:

(A) The most recent data available at the time of the development of the model of both 1–year American Community Survey (ACS) estimates for the percentage of people living below the Federal Poverty Level (FPL) and the ACS 5–year estimates for the percentage of people living below 150 percent of the FPL. The data to develop the model will be limited to the 10 states, drawn from the 50 states plus the District of Columbia with the highest proportion of people living below the FPL, as identified by the 1–year ACS estimates.

(B) The Medicare enrollment data from the same measurement period as the Star Ratings' year. The Medicare enrollment data would be aggregated from MA contracts that had at least 90 percent of their enrolled beneficiaries with mailing addresses in the 10 highest poverty states.

(vii) A linear regression model is developed to estimate the percentage of LIS/DE for a contacts that solely serve the population of beneficiaries in Puerto Rico.

(A) The maximum value for the modified LIS/DE indicator value per contract would be capped at 100 percent.

(B) All estimated modified LIS/DE values for Puerto Rico would be rounded to 6 decimal places when expressed as a percentage.

(C) The model's coefficient and intercept are updated annually and published in the Technical Notes.

(3) Health equity index. Starting with the 2027 Star Ratings year and subsequent Star Ratings years, CMS applies a health equity index rating-specific factor to both the summary and overall ratings of contracts that qualify based on an assessment of contract performance on quality measures among enrollees with certain social risk factors (SRFs).

(i) The health equity index (HEI) is calculated separately for the overall rating for MA–PDs and cost contracts including the applicable Part C and D measures; Part C summary rating for MA–only, MA–PD, and cost contracts including the applicable Part C measures; Part D summary rating for MA–PDs and cost contracts including the applicable Part D measures; and Part D summary rating for PDPs including the applicable Part D measures.

(A) The SRFs included in the HEI are receipt of the low income subsidy or being dually eligible for Medicare and Medicaid (LIS/DE), or having a disability. Enrollees will be identified as LIS/DE or as having a disability as specified in paragraph (f)(2)(i)(B) of this section. If a person meets the LIS/DE criteria for only one of the two measurement years included in the HEI, the data for that person for just that year are used. Measures that are case-mix adjusted in the Star Ratings are adjusted using all standard case-mix adjustors for the measure except for those adjusters that are the SRFs of interest in the index, are strongly correlated with the SRFs of interest, or are conceptually similar to the SRFs of interest.

(B) The HEI is calculated by combining measure-level scores for the subset of enrollees with SRFs of interest included in the HEI across the two most recent measurement years using a modeling approach that includes year as an adjustor to account for potential differences in performance across years and to adjust the data to reflect performance in the second of the 2 years of data used. Measure-level scores are used for contracts that have data for only the most recent year of the 2 years, but measure-level scores are not used for contracts that have data for only the first of the 2 years.

(ii) In determining the HEI scores, a measure will be excluded from the calculation of the index if the measure meets any of the following:

(A) The focus of the measurement is not the enrollee but rather the plan or provider.

(B) The measure is retired, moved to display, or has a substantive specification change in either year of data used to construct the HEI.

(C) The measure is applicable only to SNPs.

(D) At least 25 percent of contracts are unable to meet the criteria specified in paragraph (f)(3)(iv) of this section. For Part D measures, this criterion is assessed separately for MA–PDs and cost contracts, and for PDPs.

(iii) The Star Ratings measures that remain after the exclusion criteria in paragraph (f)(3)(ii) of this section have been applied will be included in the calculation of the HEI. CMS will announce the measures being evaluated for inclusion in the calculation of the HEI under this paragraph (f)(3) through the process described for changes in and adoption of payment and risk adjustment policies in section 1853(b) of the Act.

(iv) For a measure to be included in the calculation of a contract's HEI score, the measure must meet both of the following criteria:

(A) The measure must have a reliability of at least 0.7 for the contract when calculated for the combined subset of enrollees with the SRF(s) specified in paragraph (f)(3)(i)(A) of this section across 2 years of data.

(B) The measure-specific denominator criteria must be met for the contract using only the combined subset of enrollees in the contract with the SRF(s) specified in paragraph (f)(3)(i)(A) of this section across 2 years of data.

(v) To calculate the rating-specific HEI score, the distribution of contract performance on each eligible measure for the subset of enrollees that have one or more of the specified SRFs will be assessed and separated into thirds, with the top third of contracts receiving 1 point, the middle third of contracts receiving 0 points, and the bottom third of contracts receiving -1 point. The rating-specific HEI will then be calculated as the weighted sum of points across all measures included in the index using the Star Ratings measure weight for each measure divided by the weighted sum of the number of eligible measures for the given contract. The measure weight for each measure is the weight used for the measure in the current Star Ratings year as specified in paragraph (e) of this section.

(vi) To have the HEI calculated, contracts must have at least 500 enrollees in the most recent measurement year used in the HEI and have at least half of the measures included in the HEI meet the criteria specified under paragraph (f)(3)(iv) of this section.

(vii) In order to qualify for the full HEI reward, contracts must have percentages of enrollees with the specified SRFs combined greater than or equal to the contract-level median in the most recent year of data used to calculate the HEI and a rating-specific minimum index score of greater than zero. In order to qualify for one-half of the HEI reward, contracts must have percentages of enrollees with SRFs greater than or equal to one-half of the contract-level median up to, but not including, the contract-level median percentage of enrollees with SRFs in the most recent year of data used to calculate the HEI and a rating-specific minimum index score of greater than zero. One-half of the contract-level median and the contract-level median enrollment percentages are assessed separately for contracts that offer Part C and stand-alone Part D contracts.

(A) For contracts with service areas wholly located in Puerto Rico, the percentage of enrollees that are LIS/DE or disabled is calculated by adding the number of DE/disabled enrollees to the estimated LIS percentage calculated

by taking the percentage LIS/DE as calculated at §§ 422.166(f)(2)(vi) and (vii) and 423.186(f)(2)(vi) and (vii) and subtracting the percentage of DE enrollees.

(B) Contracts with service areas wholly located in Puerto Rico are excluded from the calculation of one-half of the contract-level median and the contract-level median.

(viii) For contracts that have percentages of enrollees with SRFs greater than or equal to the contract-level median enrollment percentage, the HEI reward added to the contract's summary and overall ratings will vary from 0 to 0.4 on a linear scale, with a contract receiving 0 if the contract receives a score of 0 or less on the HEI and 0.4 if the contract receives a score of 1 on the HEI. For contracts that have percentages of enrollees with SRFs greater than or equal to one-half the median percentage of enrollees with SRFs up to, but not including, the contract-level median percentage of enrollees with SRFs, the HEI reward added to the contract's summary and overall ratings will vary from 0 to 0.2 on a linear scale, with a contract receiving 0 if the contract receives a score of 0 or less on the HEI and 0.2 if the contract receives a score of 1 on the HEI. The HEI reward is rounded and displayed with 6 decimal places. Contracts that cannot have an HEI score calculated (that is, contracts that are not scored on at least half of the measures included in the index) will not receive an HEI reward.

(A) In the case of contract consolidations involving two or more contracts for health or drug services of the same plan type under the same parent organization, CMS calculates the HEI reward for the surviving contract accounting for both the surviving and consumed contract(s). For the first year following a consolidation, the HEI reward for the surviving contract is calculated as the enrollment-weighted mean of the HEI reward of the consumed and surviving contracts using total contract enrollment from July of the most recent measurement year used in calculating the HEI reward. A reward value of zero is used in calculating the enrollment-weighted mean for contracts that do not meet the minimum percentage of enrollees with the SRF thresholds or the minimum performance threshold specified at paragraph (f)(3)(vii) of this section.

(B) For the second year following a consolidation when calculating the HEI score for the surviving contract, the patient-level data used in calculating the HEI score will be combined from the consumed and surviving contracts and used in calculating the HEI score.

(ix) The HEI reward is calculated separately for, and then added to, the overall rating, Part C rating for MA–PDs and MA–only contracts (and cost contracts), Part D rating for MA–PDs (and cost contracts), and Part D rating for PDPs after the addition of the CAI as specified in paragraph (f)(2) of this section and application of the improvement measures as specified in paragraph (g) of this section and before the final overall and Part C and D summary ratings are calculated by rounding to the nearest half star.

(g) Applying the improvement measure scores.

(1) CMS runs the calculations twice for the highest level rating for each contract-type (overall rating for MA–PD contracts and Part C summary rating for MA–only contracts), with the reward factor adjustment if applicable and the CAI adjustment, once including the improvement measure(s) and once without including the improvement measure(s). In deciding whether to include the improvement measures in a contract's final highest rating, CMS applies the following rules:

(i) If the highest rating for each contract-type is 4 stars or more without the use of the improvement measure(s) and with all applicable adjustments (CAI and the reward factor), a comparison of the highest rating with and without the improvement measure(s) is done. The higher rating is used for the rating.

(ii) If the highest rating is less than 4 stars without the use of the improvement measure(s) and with all applicable adjustments (CAI and the reward factor), the rating will be calculated with the improvement measure(s).

(2) The Part C summary rating for MA–PDs will include the Part C improvement measure and the Part D summary rating for MA–PDs will include the Part D improvement measure.

(3) For 2022 Star Ratings only, CMS runs the calculations twice for the highest rating for each contract-type (overall rating for MA–PD contracts and Part C summary rating for MA–only contracts) and Part C summary rating for MA–PDs with all applicable adjustments (CAI and the reward factor), once including the improvement measure(s) and once without including the improvement measure(s). In deciding whether to include the improvement measures in a contract's highest and summary rating(s), CMS applies the following rules:

(i) For MA–PDs and MA–only contracts, a comparison of the highest rating with and without the improvement measure is done. The higher rating is used for the highest rating.

(ii) For MA–PDs, a comparison of the Part C summary rating with and without the improvement measure is done. The higher rating is used for the summary rating.

(h) Posting and display of ratings. For all ratings at the measure, domain, summary and overall level, posting and display of the ratings is based on there being sufficient data to calculate and assign ratings. If a contract does not have sufficient data to calculate a rating, the posting and display would be the flag “Not enough data available.” If the measurement period is prior to one year past the contract's effective date, the posting and display would be the flag “Plan too new to be measured”.

(1) Medicare Plan Finder Performance icons. Icons are displayed on Medicare Plan Finder to note performance as provided in this paragraph (h)(1):

(i) High-performing icon. The high performing icon is assigned to an MA–only contract for achieving a 5–star Part C summary rating and an MA–PD contract for a 5–star overall rating.

(ii) Low-performing icon.

(A) A contract receives a low performing icon as a result of its performance on the Part C or Part D summary ratings. The low performing icon is calculated by evaluating the Part C and Part D summary ratings for the current year and the past 2 years. If the contract had any combination of Part C or Part D summary ratings of 2.5 or lower in all 3 years of data, it is marked with a low performing icon. A contract must have a rating in either Part C or Part D for all 3 years to be considered for this icon.

(B) CMS may disable the Medicare Plan Finder online enrollment function (in Medicare Plan Finder) for Medicare health and prescription drug plans with the low performing icon; beneficiaries will be directed to contact the plan directly to enroll in the low-performing plan.

(2) Plan preview of the Star Ratings. CMS will have plan preview periods before each Star Ratings release during which MA organizations can preview their Star Ratings data in HPMS prior to display on the Medicare Plan Finder.

(i) Extreme and uncontrollable circumstances. In the event of extreme and uncontrollable circumstances that may negatively impact operational and clinical systems and contracts' abilities to conduct surveys needed for accurate performance measurement, CMS calculates the Star Ratings as specified in paragraphs (i)(2) through (10) of this section for each contract that is an affected contract during the performance period for the applicable measures. We use the start date of the incident period to determine which year of Star Ratings could be affected, regardless of whether the incident period lasts until another calendar year.

(1) Identification of affected contracts. A contract that meets all of the following criteria is an affected contract:

(i) The contract's service area is within an “emergency area” during an “emergency period” as defined in section 1135(g) of the Act.

(ii) The contract's service area is within a county, parish, U.S. territory or tribal area designated in a major disaster declaration under the Stafford Act and the Secretary exercised authority under section 1135 of the Act based on the same triggering event(s).

(iii) As specified in paragraphs (i)(2) through (10) of this section, a certain minimum percentage (25 percent or 60 percent) of the enrollees under the contract must reside in a Federal Emergency Management Agency (FEMA)-designated Individual Assistance area at the time of the extreme and uncontrollable circumstance.

(2) CAHPS adjustments.

(i) A contract, even if an affected contract, must administer the CAHPS survey unless exempt under paragraph (i)(2)(ii) of this section.

(ii) An affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance is exempt from administering the CAHPS survey if the contract completes both of the following:

(A) Demonstrates to CMS that the required sample for the survey cannot be contacted because a substantial number of the contract's enrollees are displaced due to the FEMA–designated disaster identified in paragraph (i)(1)(iii) of this section in the prior calendar year.

(B) Requests and receives a CMS approved exemption.

(iii) An affected contract with an exemption described in paragraph (i)(2)(ii) of this section receives the contract's CAHPS measure stars and corresponding measure scores from the prior year.

(iv) For an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance, the contract receives the higher of the previous year's Star Rating or the current year's Star Rating (and corresponding measure score) for each CAHPS measure.

(v) When a contract is an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance with regard to separate extreme and uncontrollable circumstances that begin in successive years, it is a multiple year-affected contract. A multiple year-affected contract receives the higher of the current year's Star Rating or what the previous year's Star Rating would have been in the absence of any adjustments that took into account the effects of the previous year's disaster for each measure (using the corresponding measure score for the Star Ratings year selected).

(3) HOS adjustments.

(i) An affected contract must administer the HOS survey unless exempt under paragraph (i)(3)(ii) of this section.

(ii) An affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance is exempt from administering the HOS survey if the contract completes the following:

(A) Demonstrates to CMS that the required sample for the survey cannot be contacted because a substantial number of the contract's enrollees are displaced due to the FEMA–designated disaster identified in paragraph (i)(1)(iii) of this section during the measurement period.

(B) Requests and receives a CMS approved exemption.

(iii) Affected contracts with an exemption described in paragraph (i)(3)(ii) of this section receive the prior year's HOS and Healthcare Effectiveness Data and Information Set (HEDIS)–HOS measure stars and corresponding measure scores.

(iv) For an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance, the affected contract receives the higher of the previous year's Star Rating or the current year's Star Rating (and corresponding measure score) for each HOS and HEDIS–HOS measure. The adjustment is for 3 years after the extreme and uncontrollable circumstance.

(v) When a contract is an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance with regard to separate extreme and uncontrollable circumstances that begin in successive years, it is a multiple year-affected contract. A multiple year-affected contract receives the higher of the current year's Star Rating or what the previous year's Star Rating would have been in the

absence of any adjustments that took into account the effects of the previous year's disaster for each measure (using the corresponding measure score for the Star Ratings year selected).

(4) HEDIS adjustments.

(i) An affected contract must report HEDIS data unless exempted under paragraph (i)(4)(ii) of this section.

(ii) An affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance is exempt from reporting HEDIS data if the contract completes the following:

(A) Demonstrates an inability to obtain both administrative and medical record data that are required for reporting HEDIS measures due to a FEMA–designated disaster in the prior calendar year.

(B) Requests and receives a CMS approved exemption.

(iii) Affected contracts with an exemption described in paragraph (i)(4)(ii) of this section receive the prior year's HEDIS measure stars and corresponding measure scores.

(iv) Contracts that do not have an exemption defined in paragraph (i)(4)(ii) of this section may contact National Committee for Quality Assurance (NCQA) to request modifications to the samples for measures that require medical record review.

(v) For an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance, the affected contract receives the higher of the previous year's Star Rating or the current year's Star Rating (and corresponding measure score) for each HEDIS measure.

(vi) When a contract is an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance with regard to separate extreme and uncontrollable circumstances that begin in successive years, it is a multiple year-affected contract. A multiple year-affected contract receives the higher of the current year's Star Rating or what the previous year's Star Rating would have been in the absence of any adjustments that took into account the effects of the previous year's disaster for each measure (using the corresponding measure score for the Star Ratings year selected).

(5) New measure adjustments. For affected contracts with at least 25 percent of enrollees in a FEMA–designated Individual Assistance area at the time of the extreme and uncontrollable circumstance, CMS holds the affected contract harmless by using the higher of the contract's summary or overall rating or both with and without including all of the applicable new measures.

(6) Other Star Ratings measure adjustments.

(i) For all other measures except those measures identified in this paragraph (i)(6)(ii) of this section, affected contracts with at least 25 percent of enrollees in a FEMA–designated Individual Assistance area at the time of the extreme and

uncontrollable circumstance receive the higher of the previous or current year's measure Star Rating (and corresponding measure score).

(ii) CMS does not adjust the scores or Star Ratings for the following measures, unless the exemption in paragraph (i)(6)(iii) of this section applies.

(A) Part C Call Center—Foreign Language Interpreter and TTY Availability.

(B) Part D Call Center—Foreign Language Interpreter and TTY Availability.

(iii) CMS adjusts the measures listed in paragraph (i)(6)(ii) of this section using the adjustments listed in paragraph (i)(6)(i) of this section for contracts affected by extreme and uncontrollable circumstances where there are continuing communications issues related to loss of electricity and damage to infrastructure during the call center study.

(iv) When a contract is an affected contract with at least 25 percent of enrollees in FEMA–designated Individual Assistance areas at the time of the extreme and uncontrollable circumstance with regard to separate extreme and uncontrollable circumstances that begin in successive years, it is a multiple year-affected contract. A multiple year-affected contract receives the higher of the current year's Star Rating or what the previous year's Star Rating would have been in the absence of any adjustments that took into account the effects of the previous year's disaster for each measure (using the corresponding measure score for the Star Ratings year selected).

(7) Exclusion from improvement measures. Any measure that reverts back to the data underlying the previous year's Star Rating due to the adjustments made in paragraph (i) of this section is excluded from both the count of measures and the applicable improvement measures for the current and next year's Star Ratings for the affected contract. Contracts affected by extreme and uncontrollable circumstances do not have the option of reverting to the prior year's improvement rating.

(8) Missing data. For an affected contract that has missing data in the current or previous year, the final measure rating comes from the current year unless any of the exemptions described in paragraphs (i)(2)(ii), (i)(3)(ii), and (i)(4)(ii) of this section apply. Missing data includes data where there is a data integrity issue as defined at § 422.164(g)(1).

(9) Cut points for non–CAHPS measures.

(i) Through the 2025 Star Ratings, CMS excludes the numeric values for affected contracts with 60 percent or more of their enrollees in the FEMA–designated Individual Assistance area at the time of the extreme and uncontrollable circumstance from the clustering algorithms described in paragraph (a)(2) of this section.

(ii) The cut points calculated as described in paragraph (i)(9)(i) of this section are used to assess all affected contracts' measure Star Ratings.

(10) Reward Factor.

(i) Through the 2025 Star Ratings, CMS excludes the numeric values for affected contracts with 60 percent or more of their enrollees in the FEMA–designated Individual Assistance area at the time of the extreme and uncontrollable circumstance from the determination of the performance summary and variance thresholds for the reward factor described in paragraph (f)(1) of this section.

(ii) All affected contracts are eligible for the Reward Factor based on the calculations described in paragraph (i)(10)(i) of this section.

(11) Special rules for the 2022 Star Ratings only. For the 2022 Star Ratings only, CMS will not apply the provisions in paragraph (i)(9) or (10) of this section and CMS will not exclude the numeric values for affected contracts with 60 percent or more of their enrollees in the FEMA–designated Individual Assistance area at the time of the extreme and uncontrollable circumstance from the clustering algorithms or from the determination of the performance summary and variance thresholds for the Reward Factor.

(12) Special rules for the 2023 Star Ratings only. For the 2023 Star Ratings only, for measures derived from the Health Outcomes Survey only, CMS does not apply the provisions in paragraph (i)(9) or (10) of this section and CMS does not exclude the numeric values for affected contracts with 60 percent or more of their enrollees in the FEMA–designated Individual Assistance area at the time of the extreme and uncontrollable circumstance from the clustering algorithms or from the determination of the performance summary and variance thresholds for the Reward Factor.

(j) Special rules for 2021 and 2022 Star Ratings only.

(1) For the 2021 Star Ratings:

(i) The measures calculated based on HEDIS data are calculated based on data from the 2018 performance period.

(ii) The measures calculated based on CAHPS data are calculated based on survey data collected from March through May 2019.

(iii) The measure-level change score calculation described at § 422.164(f)(4)(i) is not applied for HEDIS and CAHPS measures and the measure-level change score used for the 2020 Star Ratings is applied in its place for all HEDIS and CAHPS–based measures.

(iv) The provisions of § 422.164(g)(1) and (2) are not applied for the failure to submit HEDIS and CAHPS–based measures.

(v) [Reserved by 87 FR 27895]

(2) [Reserved by 87 FR 27895]

Medicare 2025 Part C & D Star Ratings Technical Notes

Updated – 10/03/2024

Introduction

CMS created the Part C & D Star Ratings to provide quality and performance information to Medicare beneficiaries to assist them in choosing their health and drug services during the annual fall open enrollment period. We refer to them as the '2025 Medicare Part C & D Star Ratings' because they are posted prior to the 2025 open enrollment period.

This document describes the methodology for creating the Part C & D Star Ratings displayed on the Medicare Plan Finder (MPF) at http://www.medicare.gov/ and posted on the CMS website at http://go.cms.gov/partcanddstarratings. A Glossary of Terms used in this document can be found in Attachment R.

The Star Ratings data are also displayed in the Health Plan Management System (HPMS). In HPMS, the data can be found by selecting: "Quality and Performance," then "Performance Metrics," then "Reports," then "Star Ratings and Display Measures," then "Star Ratings" for the report type, and "2025" for the report period. See Attachment S: Health Plan Management System Module Reference for descriptions of the HPMS pages.

The Star Ratings Program is consistent with the "Meaningful Measures" framework which focuses on measures related to person-centered care, equity, safety, affordability and efficiency, chronic conditions, wellness and prevention, seamless care coordination, and behavioral health. With Meaningful Measures 2.0, CMS plans to better address health care priorities and gaps, emphasize digital quality measurement, and promote patient perspectives of care. The Star Ratings include measures applying to the following five broad categories:

- Outcomes: Outcome measures reflect improvements in a beneficiary's health and are central to assessing quality of care.
- Intermediate outcomes: Intermediate outcome measures reflect actions taken which can assist in improving a beneficiary's health status. Diabetes Care – Blood Sugar Controlled is an example of an intermediate outcome measure where the related outcome of interest would be better health status for beneficiaries with diabetes.
- Patient experience: Patient experience measures reflect beneficiaries' perspectives of the care they received.
- Access: Access measures reflect processes and issues that could create barriers to receiving needed care. Plan Makes Timely Decisions about Appeals is an example of an access measure.
- Process: Process measures capture the health care services provided to beneficiaries which can assist in maintaining, monitoring, or improving their health status.

Note on References to the 2024 Star Ratings

Throughout these technical notes, previous year and 2024 Star Ratings refer to the recalculated 2024 Star Ratings and cut points which were recalculated using the published 2023 Star Ratings cut points to determine the guardrails for 2024 Star Ratings (i.e., Tukey outliers were not removed from the 2023 Star Ratings measure scores when determining cut points).

Differences between the 2024 Star Ratings and 2025 Star Ratings

There have been several changes between the 2024 Star Ratings and the 2025 Star Ratings. This section provides a synopsis of the notable differences; the reader should examine the entire document for full details

Sources of the Star Ratings Measure Data

The 2025 Star Ratings include a maximum of 9 domains comprised of a maximum of 42 measures.

- MA-Only contracts are measured on 5 domains with a maximum of 30 measures.
- PDPs are measured on 4 domains with a maximum of 12 measures.
- MA-PD contracts are measured on all 9 domains with a maximum of 42 measures, 40 of which are unique measures. Two of the measures are shown in both Part C and Part D so that the results for a MA-PD contract can be compared to an MA-Only contract or a PDP contract. Only one instance of those two measures is used in calculating the overall rating. The two duplicated measures are Complaints about the Health/Drug Plan (CTM) and Members Choosing to Leave the Plan (MCLP).

For a health and/or drug plan to be included in the Part C & D Star Ratings, they must have an active contract with CMS to provide health and/or drug services to Medicare beneficiaries. All of the data used to rate the plans are collected through normal contractual requirements or directly from CMS systems. Information about Medicare Advantage contracting can be found at: https://www.cms.gov/Medicare/Medicare-Advantage/MedicareAdvantageApps/index.html and Prescription Drug Coverage contracting at: https://www.cms.gov/Medicare/Prescription-Drug-coverage/PrescriptionDrugCovContra/index.html. The data used in the Star Ratings come from four categories of data sources which are shown in Figure 2.

Figure 2: The Four Categories of Data Sources

Improvement Measures

Unlike the other Star Rating measures which are derived from data sources external to the Star Ratings, the Part C and Part D improvement measures are derived through comparisons of a contract's current and prior year measure scores. For a measure to be included in the improvement calculation the measure must not have had a significant specification change during those years. The Part C improvement measure includes only Part C measure scores and the Part D improvement measure includes only Part D measure scores. The measures and formulas for the improvement measure calculations are found in Attachment I. If a scaled reduction is applied to the Part C appeals measure in the previous year, the associated appeals measures will not be included in the Health Plan Quality Improvement measure.

The numeric results of these calculations are not publicly posted; only the measure ratings are reported publicly. Further, to receive a Star Rating in the improvement measures, a contract must have measure scores for both years in at least half of the required measures used to calculate the Part C improvement or Part D improvement measures. Improvement scores are not calculated for reconfigured regional contracts until data is available for the reconfigured structure from both years. Improvement scores are not calculated for consolidated contracts in their first year. Table 4 presents the minimum number of measure scores required to receive a rating for the improvement measures.

Table 4: Minimum Number of Measure Scores Required for an Improvement Measure Rating by Contract Type

Part	1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
C	11 of 22	13 of 26	15 of 29	9 of 17	13 of 25	N/A	13 of 26
D	5 of 10*	6 of 11	6 of 11	5 of 9	N/A	6 of 11	6 of 11*

* Note: Does not apply to MA-Only, 1876 Cost, and PFFS contracts which do not offer drug benefits.

For a detailed description of all Part C and Part D measures, see the section entitled “Framework and Definitions for the Domain and Measure Details.”

Contract Enrollment Data

The enrollment data used in the Part C and Part D "Complaints about the Health/Drug Plan" measures are pulled from HPMS. These data may also be accessed on the Monthly Enrollment by Contract page on CMS.gov. These enrollment files represent the number of enrolled beneficiaries the contract was paid for in a specific month. For these measures, twelve months of enrollment files are pulled (January 2023 through December 2023) and the average enrollment across those months is used in the calculations.

Enrollment data are also used when combining the plan-level data into contract-level data in the two Part C “Care for Older Adults” Healthcare Effectiveness Data and Information Set (HEDIS) measures. (“The Care for Older Adults – Functional Status Assessment” measure is currently on the display page). When there is a reported rate, the eligible population in the plan benefit package (PBP) submitted with the HEDIS data is used. If the audit designation for the PBP level HEDIS data is set to “Not Reported” (NR) or “Biased Rate” (BR) by the auditor (see following section), there is no value in the eligible population field. In these instances, twelve months of PBP-level enrollment files are pulled (January 2023 through December 2023), and the average enrollment in the plan across those months is used in calculating the combined rate.

Handling of Biased, Erroneous, and/or Not Reportable (NR) Data

The data used for CMS’s Star Ratings must be accurate and reliable. CMS has identified issues with some contracts’ data and has taken steps to protect the integrity of the data. For any measure scores CMS identifies to be based on inaccurate or biased data, CMS’s policy is to reduce a contract’s measure rating to 1 star and set the measure score to “CMS identified issues with this plan’s data.”

Inaccurate or biased data result from the mishandling of data, inappropriate processing, or implementation of incorrect practices. Examples include, but are not limited to: a contract’s failure to adhere to HEDIS, Health Outcomes Survey (HOS), or CAHPS reporting requirements; a contract’s failure to adhere to Medicare Plan Finder data requirements; a contract’s errors in processing organization determinations and appeals; compliance actions taken against the contract due to errors in operational areas that impact the data reported or processed for specific measures; or a contract’s failure to pass validation of the data reported for specific measures. For HEDIS data, CMS uses the audit designation information assigned by the HEDIS auditor. An audit designation of ‘NR’ (Not reported) is assigned when the contract chooses not to report the measure. An audit designation of ‘BR’ (Biased rate) is assigned when the individual measure score is materially biased (e.g., the auditor informs the contract the data cannot be reported to the National Committee for Quality Assurance (NCQA) or to CMS). When either a ‘BR’ or ‘NR’ designation is assigned to a HEDIS measure audit designation, the contract receives 1 star for the measure and the measure score is set to “CMS identified issues with this plan’s data.” In addition, CMS reduces contracts’ HEDIS measure ratings to 1 star if the patient-level data files are not successfully submitted and validated by the submission deadline. Also, if the HEDIS summary-level data value varies substantially from the value in the patient-level data, the measure is reduced to a rating of 1 star. If an approved CAHPS or HOS vendor does not submit a contract’s CAHPS or HOS data by

Table 20: Categorization of Contract's Members into Quartiles of Disability for the PDP Part D Summary

Disability Quartile	Percentage of Contract's Beneficiaries who are Disabled
1	0.000000 to less than 6.593595
2	6.593595 to less than 10.621062
3	10.621062 to less than 14.589481
4	14.589481 to 100.000000

Table 21 provides the description of each of the final adjustment categories for the PDP Part D summary and the associated value of the CAI per final adjustment category. Note that the CAI values for the PDP Part D summary are different from the CAI values for the MA-PD Part D summary. There are three final adjustment categories for the PDP Part D summary.

Table 21: Final Adjustment Categories and CAI Values for the PDP Part D Summary

Final Adjustment Category	LIS/DE Quartile	Disability Quartile	CAI Value
1	L1-L2	D1-D2	-0.230036
2	L1-L3 L3-L4	D3-D4 D1-D2	-0.081240
3	L4	D3-D4	0.004293

Calculation Precision

CMS and its contractors have always used software called SAS (an integrated system of software products provided by SAS Institute Inc.) to perform the calculations used in producing the Star Ratings. For all measures, except the improvement measures, the precision used in scoring the measure is indicated next to the label "Data Display" within the detailed description of each measure. The improvement measures are discussed below. The domain ratings are the unweighted average of the star measures and are rounded to the nearest integer. The improvement measures, summary, and overall ratings are calculated with at least six digits of precision after the decimal whenever the data allow it. The HEDIS measure scores have two digits of precision after the decimal. All other measures have at least six digits of precision when used in the improvement calculation.

Contracts may request a contract-specific calculation spreadsheet which emulates the actual SAS calculations from the Star Ratings mailbox during the second plan preview.

It is not possible to replicate CMS's calculations exactly due to factors including, but not limited to: using published measure data from sources other than CMS's Star Rating program which use different rounding rules, and exclusion of some contracts' ratings from publicly-posted data (e.g., terminated contracts).

Rounding Rules for Measure Scores

Measure scores are rounded to the precision indicated next to the label "Data Display" within the detailed description of each measure. Measure scores are rounded using traditional rounding rules. These are standard "round to nearest" rules prior to cut point analysis. To obtain a value with the specified level of precision, the single digit following the level of precision will be rounded. If the digit to be rounded is 0, 1, 2, 3 or 4, the value

is rounded down, with no adjustment to the preceding digit. If the digit to be rounded is 5, 6, 7, 8 or 9, the value is rounded up, and a value of one is added to the preceding digit. After rounding, all digits after the specified level of precision are removed. If rounding to a whole number, the digit to be rounded is in the first decimal place. If the digit in the first decimal place is below 5, then after rounding the whole number remains unchanged and fractional parts of the number are deleted. If the digit in the first decimal place is 5 or greater, then the whole number is rounded up by adding a value of 1 and fractional parts of the number are deleted. For example, a measure listed with a Data Display of "Percentage with no decimal point" that has a value of 83.499999 rounds down to 83, while a value of 83.500000 rounds up to 84.

Rounding Rules for Summary and Overall Ratings

The results of the summary and overall calculations are rounded to the nearest half star (i.e., 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0). Table 22 summarizes the rounding rules for converting the Part C and D summary and overall ratings into the publicly reported Star Ratings.

Table 22: Rounding Rules for Summary and Overall Ratings

Raw Summary / Overall Score	Final Summary / Overall Rating
≥ 0.000000 and < 0.250000	0
≥ 0.250000 and < 0.750000	0.5
≥ 0.750000 and < 1.250000	1.0
≥ 1.250000 and < 1.750000	1.5
≥ 1.750000 and < 2.250000	2.0
≥ 2.250000 and < 2.750000	2.5
≥ 2.750000 and < 3.250000	3.0
≥ 3.250000 and < 3.750000	3.5
≥ 3.750000 and < 4.250000	4.0
≥ 4.250000 and < 4.750000	4.5
≥ 4.750000 and ≤ 5.000000	5.0

For example, a summary or overall rating of 3.749999 rounds down to a rating of 3.5, and a rating of 3.750000 rounds up to rating of 4. That is, a score would need to be at least halfway between 3.5 and 4 (having a minimum value of 3.750000) in order to obtain the higher rating of 4.

Methodology for Calculating the High Performing Icon

A contract may receive a high performing icon as a result of its performance on the Parts C and/or D measures. The high performing icon is assigned to an MA-Only contract for achieving a 5-star Part C summary rating, a PDP contract for a 5-star Part D summary rating, and an MA-PD contract for a 5-star overall rating. Figure 3 shows the high performing icon used in the MPF:

Part C Domain and Measure Details

See Attachment C for the national averages of individual Part C measures.

Domain: 1 - Staying Healthy: Screenings, Tests and Vaccines

Measure: C01 - Breast Cancer Screening

Title	Description
Label for Stars:	Breast Cancer Screening
Label for Data:	Breast Cancer Screening
Description:	Percent of female plan members aged 52-74 who had a mammogram during the past two years.
HEDIS Label:	Breast Cancer Screening (BCS)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 606
Metric:	The percentage of women MA enrollees 50 to 74 years of age (denominator) as of December 31 of the measurement year who had a mammogram to screen for breast cancer in the past two years (numerator).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	• Members in hospice or using hospice services any time during the measurement period. • Members receiving palliative care any time during the measurement period. • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if a member had an LTI flag during the measurement year. • Members 66 years of age and older as of December 31 of the measurement year with frailty and advanced illness during the measurement year. Members must meet BOTH of the following frailty and advanced illness criteria to be excluded: – At least two indications of frailty with different dates of service during the measurement period. – At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, or nonacute inpatient encounters or nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. • Members receiving palliative care during the measurement year • Members who had a bilateral mastectomy or both right and left unilateral mastectomies any time during the member's history through December 31 of the measurement year. Any of the following meet criteria for bilateral mastectomy: – Bilateral mastectomy. – Unilateral mastectomy with a bilateral modifier (same procedure). – Two unilateral mastectomies found in clinical data with a bilateral modifier (same procedure).

Title	Description
	– History of bilateral mastectomy. • Any combination of the following that indicate a mastectomy on both the left and right side on the same or on different dates of service: –Unilateral mastectomy with a right-side modifier (same procedure). – Unilateral mastectomy with a left-side modifier (same procedure). – Absence of the left breast. – Absence of the right breast. – Left unilateral mastectomy. – Right unilateral mastectomy. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Wellness and Prevention
CMIT #:	00093-02-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 53 %	>= 53 % to < 67 %	>= 67 % to < 75 %	>= 75 % to < 82 %	>= 82 %

Measure: C02 - Colorectal Cancer Screening

Title	Description
Label for Stars:	Colorectal Cancer Screening
Label for Data:	Colorectal Cancer Screening
Description:	Percent of plan members aged 50-75 who had appropriate screening for colon cancer.
HEDIS Label:	Colorectal Cancer Screening (COL)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 102
Metric:	The percentage of MA enrollees aged 50 to 75 (denominator) as of December 31 of the measurement year who had appropriate screenings for colorectal cancer (numerator).
Primary Data Source:	HEDIS Patient-level Data
Data Source Category:	Health and Drug Plans

Exclusions:

• Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following:
– Enrolled in an Institutional SNP (I-SNP) any time during the measurement year.
– Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File.
• Members 66 years of age and older as of December 31 of the measurement year with frailty ***and*** advanced illness during the measurement year. Members must meet both of the frailty and advanced illness criteria to be excluded:

1. – At least two indications of frailty with different dates of service during the measurement year.
2. – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years):
   – At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, nonacute inpatient encounters, or nonacute inpatient discharges. Visit type need not be the same for the two visits.
   – At least one acute inpatient encounter with an advanced illness diagnosis.
   – At least one acute inpatient discharge with an advanced illness diagnosis on the discharge claim.
   – A dispensed dementia medication.

• (Required) Exclude members who meet any of the following criteria:
– Members who had colorectal cancer or a total colectomy any time during the member's history through December 31 of the measurement year.
– Members receiving palliative care during the measurement year.
– Members in hospice or using hospice services during the measurement year.

Title	Description
	– Members receiving palliative care during the measurement year. – Members who died during the measurement year. Contracts whose enrollment was at least 500 but less than 1,000 as of the enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Wellness and Prevention
CMIT #:	00139-02-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 53 %	>= 53 % to < 65 %	>= 65 % to < 75 %	>= 75 % to < 83 %	>= 83 %

Measure: C03 - Annual Flu Vaccine

Title	Description
Label for Stars:	Yearly Flu Vaccine
Label for Data:	Yearly Flu Vaccine
Description:	Percent of plan members who got a vaccine (flu shot).
Metric:	The percentage of sampled Medicare enrollees (denominator) who received an influenza vaccination (numerator).
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Question (question number varies depending on survey type): • Have you had a flu shot since July 1, 2023?
Data Source Category:	Survey of Enrollees
General Notes:	This measure is not case-mix adjusted. CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Wellness and Prevention
CMIT #:	00259-01-C-PARTC
Data Display:	Percentage with no decimal place

Title	Description

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 61	>= 61 to < 65	>= 65 to < 71	>= 71 to < 76	>= 76

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C04 - Monitoring Physical Activity

Title	Description
Label for Stars:	Monitoring Physical Activity
Label for Data:	Monitoring Physical Activity
Description:	Percent of senior plan members who discussed exercise with their doctor and were advised to start, increase, or maintain their physical activity during the year.
HEDIS Label:	Physical Activity in Older Adults (PAO)
Measure Reference:	NCQA HEDIS Measurement Year 2022 Specifications for the Medicare Health Outcomes Survey Volume 6, page 36
Metric:	The percentage of sampled Medicare members 65 years of age or older who had a doctor's visit in the past 12 months (denominator) and who received advice to start, increase or maintain their level exercise or physical activity (numerator).
Primary Data Source:	HEDIS-HOS
Data Source Description:	Cohort 24 Follow-up Data collection (2023) and Cohort 26 Baseline data collection (2023). HOS Survey Question 42: In the past 12 months, did you talk with a doctor or other health provider about your level of exercise or physical activity? For example, a doctor or other health provider may ask if you exercise regularly or take part in physical exercise. HOS Survey Question 43: In the past 12 months, did a doctor or other health care provider advise you to start, increase or maintain your level of exercise or physical activity? For example, in order to improve your health, your doctor or other health provider may advise you to start taking the stairs, increase walking from 10 to 20 minutes every day or to maintain your current exercise program.
Data Source Category:	Survey of Enrollees
Exclusions:	Members who responded "I had no visits in the past 12 months" to Question 42 are excluded from results calculations for Question 43. Contracts must achieve a denominator of at least 100 to obtain a reportable result. If the denominator is less than 100, the measure result will be "Not enough data available." Members with evidence from CMS administrative records of a hospice start date are excluded.
Data Time Frame:	07/17/2023 – 11/01/2023

Title	Description
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2022 disasters.
Meaningful Measure Area:	Wellness and Prevention
CMIT #:	00450-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 41 %	>= 41 % to < 47 %	>= 47 % to < 52 %	>= 52 % to < 60 %	>= 60 %

Domain: 2 - Managing Chronic (Long Term) Conditions

Measure: C05 - Special Needs Plan (SNP) Care Management

Title	Description
Label for Stars:	Members Whose Plan Did an Assessment of Their Health Needs and Risks
Label for Data:	Members Whose Plan Did an Assessment of Their Health Needs and Risks
Description:	Percent of members whose plan did an assessment of their health needs and risks in the past year. The results of this review are used to help the member get the care they need. (Medicare does not collect this information from all plans. Medicare collects it only for Special Needs Plans. These plans are a type of Medicare Advantage plan designed for certain people with Medicare. Some Special Needs Plans are for people with certain chronic diseases and conditions, some are for people who have both Medicare and Medicaid, and some are for people who live in an institution such as a nursing home.)
Metric:	This measure is defined as the percent of eligible Special Needs Plan (SNP) enrollees who received a health risk assessment (HRA) during the measurement year. The denominator for this measure is the sum of the number of new enrollees due for an Initial HRA (Element A) and the number of enrollees eligible for an annual reassessment HRA (Element B). The numerator for this measure is the sum of the number of initial HRAs performed on new enrollees (Element C) and the number of annual reassessments performed on enrollees eligible for a reassessment (Element F). The equation for calculating the SNP Care Management Assessment Rate is: [Number of initial HRAs performed on new enrollees (Element C) + Number of annual reassessments performed on enrollees eligible for a reassessment (Element F)] / [Number of new enrollees due for an Initial HRA (Element A) + Number of enrollees eligible for an annual reassessment HRA (Element B)]
Primary Data Source:	Part C Plan Reporting
Data Source Description:	Data reported by contracts to CMS per the 2023 Part C Reporting Requirements. Validation for data performed during the 2024 Data Validation cycle (data pulled June 2023). Validation of these data was performed retrospectively during the 2024 data validation cycle (deadline June 15, 2024 and data validation results pulled July 2024).
Data Source Category:	Health and Drug Plans
Exclusions:	Contracts and PBPs with an effective termination date on or before the deadline to submit data validation results to CMS (June 15, 2024) are excluded and listed as “No data available.” SNP Care Management Assessment Rates are not provided for contracts that did not score at least 95% on data validation for the SNP Care Management reporting section or were not compliant with data validation standards/sub-standards for any of the following SNP Care Management data elements. We define a contract as being non-complaint if either it receives a "No" or a 1, 2, or 3 on the 5-point Likert scale in the specific data element's data validation. • Number of new enrollees due for an initial HRA (Element A) • Number of enrollees eligible for an annual reassessment HRA (Element B) • Number of initial HRAs performed on new enrollees (Element C)

Title	Description
	• Number of annual reassessments performed on enrollees eligible for reassessment (Element F) Contracts excluded from the SNP Care Management Assessment Rates due to data validation issues are shown as “CMS identified issues with this plan's data.” Contracts can view their data validation results in HPMS (https://hpms.cms.gov/). To access this page, from the top menu select “Monitoring,” then “Plan Reporting Data Validation.” Select the appropriate contract year. Select the PRDVM Reports. Select “Score Detail Report.” Select the applicable reporting section. If you cannot see the Plan Reporting Data Validation module, contact CMSHPMS_Access@cms.hhs.gov. Additionally, contracts must have 30 or more enrollees in the denominator [Number of new enrollees due for an Initial HRA (Element A) + Number of enrollees eligible for an annual HRA (Element B) ≥ 30] in order to have a calculated rate. Contracts with fewer than 30 eligible enrollees are listed as "No data available.”
General Notes:	More information about the data used to calculate this measure can be found in Attachment E. The Part C reporting requirement fields listed below are not used in calculating this measure: • Data Element D Number of initial HRA refusals • Data Element E Number of initial HRAs where SNP is unable to reach new enrollees • Data Element G Number of annual reassessment refusals • Data Element H Number of annual reassessments where SNP is unable to reach enrollee
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions

Title	Description

CMIT #: 00685-01-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	No	Yes	Yes	No	No	No

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 46 %	>= 46 % to < 62 %	>= 62 % to < 76 %	>= 76 % to < 89 %	>= 89 %

Measure: C06 - Care for Older Adults – Medication Review

Title	Description

Label for Stars: Yearly Review of All Medications and Supplements Being Taken

Label for Data: Yearly Review of All Medications and Supplements Being Taken

Description: Percent of plan members whose doctor or clinical pharmacist reviewed a list of everything they take (prescription and non-prescription drugs, vitamins, herbal remedies, other supplements) at least once a year.
(Medicare does not collect this information from all plans. Medicare collects it only for Special Needs Plans. These plans are a type of Medicare Advantage plan designed for certain people with Medicare. Some Special Needs Plans are for people with certain chronic diseases and conditions, some are for people who have both Medicare and Medicaid, and some are for people who live in an institution such as a nursing home.)

HEDIS Label: Care for Older Adults (COA) – Medication Review

Measure Reference: NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 115

Metric: The percentage of Medicare Advantage Special Needs Plan enrollees 66 years and older (denominator) who received at least one medication review (Medication Review Value Set) conducted by a prescribing practitioner or clinical pharmacist during the measurement year and the presence of a medication list in the medical record (Medication List Value Set) (numerator).

Primary Data Source: HEDIS

Data Source Category: Health and Drug Plans

Exclusions: SNP benefit packages whose enrollment was less than 30 as of February 2023 SNP Comprehensive Report were excluded from this measure.

Exclude members in hospice or using hospice services or who died any time during the measurement year.

General Notes: The formula used to calculate this measure can be found in Attachment E.

Data Time Frame: 01/01/2023 – 12/31/2023

Title	Description
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Seamless Care Coordination
CMIT #:	00110-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	No	Yes	Yes	No	No	No

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 53 %	>= 53 % to < 80 %	>= 80 % to < 92 %	>= 92 % to < 98 %	>= 98 %

Measure: C07 - Care for Older Adults – Pain Assessment

Title	Description
Label for Stars:	Yearly Pain Screening or Pain Management Plan
Label for Data:	Yearly Pain Screening or Pain Management Plan
Description:	Percent of plan members who had a pain screening at least once during the year. (Medicare does not collect this information from all plans. Medicare collects it only for Special Needs Plans. These plans are a type of Medicare Advantage plan designed for certain people with Medicare. Some Special Needs Plans are for people with certain chronic diseases and conditions, some are for people who have both Medicare and Medicaid, and some are for people who live in an institution such as a nursing home.)
HEDIS Label:	Care for Older Adults (COA) – Pain Screening
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 115

Title	Description

Metric: The percentage of Medicare Advantage Special Needs Plan enrollees 66 years and older (denominator) who received at least one pain assessment (Pain Assessment Value Set) plan during the measurement year (numerator).

Primary Data Source: HEDIS

Data Source Category: Health and Drug Plans

Exclusions: SNP benefit packages whose enrollment was less than 30 as of February 2023 SNP Comprehensive Report were excluded from this measure.

Exclude members in hospice or using hospice services or who died any time during the measurement year.

General Notes: The formula used to calculate this measure can be found in Attachment E.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Not Included

Case-Mix Adjusted: No

Weighting Category: Process Measure

Weighting Value: 1

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Wellness and Prevention

CMIT #: 00111-01-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	No	Yes	Yes	No	No	No

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 60 %	>= 60 % to < 81 %	>= 81 % to < 92 %	>= 92 % to < 96 %	>= 96 %

Measure: C08 - Osteoporosis Management in Women who had a Fracture

Title	Description
Label for Stars:	Osteoporosis Management
Label for Data:	Osteoporosis Management
Description:	Percent of female plan members who broke a bone and got screening or treatment for osteoporosis within 6 months.
HEDIS Label:	Osteoporosis Management in Women Who Had a Fracture (OMW)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 232
Metric:	The percentage of woman MA enrollees 67 - 85 who suffered a fracture (denominator) and who had either a bone mineral density (BMD) test or prescription for a drug to treat osteoporosis in the six months after the fracture (numerator).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	• Members who had a BMD test (Bone Mineral Density Tests Value Set) during the 730 days (24 months) prior to the IESD. • Members who had a claim/encounter for osteoporosis therapy (Osteoporosis Medications Value Set) during the 365 days (12 months) prior to the IESD. • Members who received a dispensed prescription or had an active prescription to treat osteoporosis (Osteoporosis Medications List) during the 365 days (12 months) prior to the IESD. • Members in hospice or using hospice services any time during the measurement year. • Members who died any time during the measurement year. • Members who received palliative care any time during the intake period through the end of the measurement year. • Members 67 years of age and older as of December 31 of the measurement year who meet either of the following: – Members who are enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Members living long-term in an institution any time during the measurement year. • Members 67-80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: • At least two indications of frailty with different dates of service during the intake period through the end of the measurement year. • Any of the following during the measurement year or the year prior to the measurement year: • At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, nonacute inpatient encounters or nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. • At least one acute inpatient encounter with an advanced illness diagnosis. • At least on acute inpatient discharge with an advanced illness diagnosis on the discharge claim.

Title	Description

• A dispenses dementia medication.
• Members 81 years of age and older as of December 31 of the measurement year with at least two indications of frailty with different dates of service during the intake period through the end of the measurement year.

Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded.

Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Included

Case-Mix Adjusted: No

Weighting Category: Process Measure

Weighting Value: 1

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Chronic Conditions

CMIT #: 00484-02-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 27 %	>= 27 % to < 39 %	>= 39 % to < 52 %	>= 52 % to < 71 %	>= 71 %

Measure: C09 - Diabetes Care – Eye Exam

Title	Description
Label for Stars:	Eye Exam to Check for Damage from Diabetes
Label for Data:	Eye Exam to Check for Damage from Diabetes
Description:	Percent of plan members with diabetes who had an eye exam to check for damage from diabetes during the year.
HEDIS Label:	Eye Exam for Patients with Diabetes (EED)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 203
Metric:	The percentage of diabetic MA enrollees age 18-75 with diabetes (type 1 and type 2) (denominator) who had an eye exam (retinal) performed during the measurement year (numerator).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	• Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. • Members 66 years of age and older as of December 31 of the measurement year with both frailty and advanced illness during the measurement year. Members must meet both the following frailty and advanced illness criteria to be excluded: • At least two indications of frailty with different dates of service during the measurement year. • Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): o At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, nonacute inpatient encounters, nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. o At least one acute inpatient encounter with an advanced illness diagnosis. o At least one acute inpatient discharge with an advanced illness diagnosis on the discharge claim. o A dispensed dementia medication. • (Required) Exclude members who meet any of the following criteria: – Members who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and who had a diagnosis of polycystic ovarian syndrome, gestational diabetes or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year. – Members in hospice or using hospice services any time during the measurement year.

Title	Description
	– Members who died any time during the measurement year. – Members receiving palliative care any time during the measurement year. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00203-02-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 57 %	>= 57 % to < 70 %	>= 70 % to < 77 %	>= 77 % to < 83 %	>= 83 %

Measure: C10 - Diabetes Care – Blood Sugar Controlled

Title	Description
Label for Stars:	Plan Members with Diabetes whose Blood Sugar is Under Control
Label for Data:	Plan Members with Diabetes whose Blood Sugar is Under Control
Description:	Percent of plan members with diabetes who had an A1c lab test during the year that showed their average blood sugar is under control.
HEDIS Label:	Hemoglobin A1c Control for Patients with Diabetes (HBD) – HbA1c poor control (>9.0%)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 184
Metric:	The percentage of diabetic MA enrollees age 18-75 (denominator) whose most recent HbA1c level is greater than 9%, or who were not tested during the measurement year (numerator). (This measure for public reporting is reverse scored so higher scores are better.) To calculate this measure, subtract the submitted rate from 100.
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	• Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. • Members 66 years of age and older as of December 31 of the measurement year with both frailty and advanced illness during the measurement year. Members must meet both the following frailty and advanced illness criteria to be excluded: • At least two indications of frailty with different dates of service during the measurement year. • Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): o At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, nonacute inpatient encounters, or nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. o At least one acute inpatient encounter with an advanced illness diagnosis. o At least one acute inpatient discharge with an advanced illness diagnosis on the discharge claim. o A dispensed dementia medication. • (Required) Exclude members who meet any of the following criteria: – Members who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and who had a diagnosis of polycystic ovarian syndrome, gestational diabetes or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

Title	Description

– Members in hospice or using hospice services any time during the measurement year.
– Members who died any time during the measurement year.
– Members receiving palliative care any time during the measurement year.

Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded.

Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Included

Case-Mix Adjusted: No

Weighting Category: Intermediate Outcome Measure

Weighting Value: 3

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Chronic Conditions

CMIT #: 00204-02-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 49 %	>= 49 % to < 72 %	>= 72 % to < 84 %	>= 84 % to < 90 %	>= 90 %

Measure: C11 - Controlling Blood Pressure

Title	Description
Label for Stars:	Controlling Blood Pressure
Label for Data:	Controlling Blood Pressure
Description:	Percent of plan members with high blood pressure who got treatment and were able to maintain a healthy pressure.
HEDIS Label:	Controlling High Blood Pressure (CBP)
Measure Reference:	NCQA HEDIS MY 2023 Technical Specifications Volume 2, page 152
Metric:	The percentage of MA members 18–85 years of age who had a diagnosis of hypertension (HTN) (denominator) and whose blood pressure (BP) was adequately controlled (<140/90 mm Hg) (numerator).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	Exclude members who meet any of the following criteria: • Members 66 years of age and older as of December 31 of the measurement year who meet either of the following: – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if a member had an LTI flag during the measurement year. • Members 81 years of age and older as of December 31 of the measurement year with at least two indications of frailty with different dates of service during the measurement year. • Members 66–80 years of age and older as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: • At least two indications of frailty with different dates of service during the measurement year. • Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): • At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits or virtual check-ins, nonacute inpatient encounters, or nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. • At least one acute inpatient encounter with an advanced illness diagnosis. • At least one acute inpatient discharge with an advanced illness diagnosis on the discharge claim. • A dispensed dementia medication. • (Required) Exclude members who meet any of the following criteria: – • Members with evidence of end-stage renal

Title	Description

disease (ESRD), dialysis, nephrectomy, or kidney transplant any time during the member's history on or prior to December 31 of the measurement year.
- • Members receiving palliative care during the measurement year.
- • Members with a diagnosis of pregnancy during the measurement year.
- • Members in hospice or using hospice services any time during the measurement year.
- • Members who died any time during the measurement year.

Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded.

Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Included

Case-Mix Adjusted: No

Weighting Category: Intermediate Outcomes Measure

Weighting Value: 3

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Chronic Conditions

CMIT #: 00167-02-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 69 %	>= 69 % to < 74 %	>= 74 % to < 80 %	>= 80 % to < 85 %	>= 85 %

Measure: C12 - Reducing the Risk of Falling

Title	Description
Label for Stars:	Reducing the Risk of Falling
Label for Data:	Reducing the Risk of Falling
Description:	Percent of plan members with a problem falling, walking, or balancing who discussed it with their doctor and received a recommendation for how to prevent falls during the year.
HEDIS Label:	Fall Risk Management (FRM)
Measure Reference:	NCQA HEDIS Measurement Year 2022 Specifications for the Medicare Health Outcomes Survey Volume 6, page 38
Metric:	The percentage of Medicare members 65 years of age and older who had a fall or had problems with balance or walking in the past 12 months, who were seen by a practitioner in the past 12 months (denominator) and who received a recommendation for how to prevent falls or treat problems with balance or walking from their current practitioner (numerator).
Primary Data Source:	HEDIS-HOS
Data Source Description:	Cohort 24 Follow-up Data collection (2023) and Cohort 26 Baseline data collection (2023). HOS Survey Question 44: A fall is when your body goes to the ground without being pushed. In the past 12 months, did you talk with your doctor or other health provider about falling or problems with balance or walking? HOS Survey Question 45: Did you fall in the past 12 months? HOS Survey Question 46: In the past 12 months have you had a problem with balance or walking? HOS Survey Question 47: Has your doctor or other health provider done anything to help prevent falls or treat problems with balance or walking? Some things they might do include: • Suggest that you use a cane or walker. • Suggest that you do an exercise or physical therapy program. • Suggest a vision or hearing test.
Data Source Category:	Survey of Enrollees
Exclusions:	Members who responded "I had no visits in the past 12 months" to Question 44 or Question 47 are excluded from results calculations. Contracts must achieve a denominator of at least 100 to obtain a reportable result. If the denominator is less than 100, the measure result will be "Not enough data available." Members with evidence from CMS administrative records of a hospice start date are excluded.
Data Time Frame:	07/17/2023 – 11/01/2023
General Trend:	Higher is better

Title	Description
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2022 disasters.
Meaningful Measure Area:	Safety
CMIT #:	00646-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 50 %	>= 50 % to < 56 %	>= 56 % to < 63 %	>= 63 % to < 73 %	>= 73 %

Measure: C13 - Improving Bladder Control

Title	Description
Label for Stars:	Improving Bladder Control
Label for Data:	Improving Bladder Control
Description:	Percent of plan members with a urine leakage problem in the past 6 months who discussed treatment options with a provider.
HEDIS Label:	Management of Urinary Incontinence in Older Adults (MUI)
Measure Reference:	NCQA HEDIS Measurement Year 2022 Specifications for the Medicare Health Outcomes Survey Volume 6, page 33
Metric:	The percentage of Medicare members 65 years of age or older who reported having any urine leakage in the past six months (denominator) and who discussed treatment options for their urinary incontinence with a provider (numerator).
Primary Data Source:	HEDIS-HOS
Data Source Description:	Cohort 24 Follow-up Data collection (2023) and Cohort 26 Baseline data collection (2023).

Title	Description
	HOS Survey Question 38: Many people experience leaking of urine, also called urinary incontinence. In the past six months, have you experienced leaking of urine? HOS Survey Question 41: There are many ways to control or manage the leaking of urine, including bladder training exercises, medication and surgery. Have you ever talked with a doctor, nurse, or other health care provider about any of these approaches? Member choices must be as follows to be included in the denominator: • Q38 = "Yes." • Q41 = "Yes" or "No." The numerator contains the number of members in the denominator who indicated they discussed treatment options for their urinary incontinence with a health care provider. Member choice must be as follows to be included in the numerator: • Q41 = "Yes."
Data Source Category:	Survey of Enrollees
Exclusions:	Contracts must achieve a denominator of at least 100 to obtain a reportable result. If the denominator is less than 100, the measure result will be "Not enough data available." Members with evidence from CMS administrative records of a hospice start date are excluded.
Data Time Frame:	07/17/2023 – 11/01/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2022 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00378-01-C-PARTC
Data Display:	Percentage with no decimal place

Title	Description

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 39 %	>= 39 % to < 44 %	>= 44 % to < 48 %	>= 48 % to < 52 %	>= 52 %

Measure: C14 - Medication Reconciliation Post-Discharge

Title	Description
Label for Stars:	The Plan Makes Sure Member Medication Records Are Up-to-Date After Hospital Discharge
Label for Data:	The Plan Makes Sure Member Medication Records Are Up-to-Date After Hospital Discharge
Description:	This shows the percent of plan members whose medication records were updated within 30 days after leaving the hospital. To update the record, a doctor or other health care professional looks at the new medications prescribed in the hospital and compares them with the other medications the patient takes. Updating medication records can help to prevent errors that can occur when medications are changed.
HEDIS Label:	Medication Reconciliation Post-Discharge (MRP)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 330
Metric:	The percentage of discharges from January 1–December 1 of the measurement year for members 18 years of age and older for whom medications were reconciled the date of discharge through 30 days after discharge (31 total days).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	Members in hospice or using hospice services any time during the measurement year. Members who died any time during the measurement year. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included

Title	Description
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Seamless Care Coordination
CMIT #:	00441-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 42 %	>= 42 % to < 57 %	>= 57 % to < 73 %	>= 73 % to < 87 %	>= 87 %

Measure: C15 - Plan All-Cause Readmissions

Title	Description
Label for Stars:	Readmission to a Hospital within 30 Days of Being Discharged (more stars are better because it means fewer members are being readmitted)
Label for Data:	Readmission to a Hospital within 30 Days of Being Discharged (lower percentages are better because it means fewer members are being readmitted)
Description:	Percent of plan members aged 18 and older discharged from a hospital stay who were readmitted to a hospital within 30 days, either for the same condition as their recent hospital stay or for a different reason. (Patients may have been readmitted back to the same hospital or to a different one. Rates of readmission take into account how sick patients were when they went into the hospital the first time. This “risk-adjustment” helps make the comparisons between plans fair and meaningful.)
HEDIS Label:	Plan All-Cause Readmissions (PCR)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 498
Metric:	The percentage of acute inpatient stays during the measurement year that were followed by an unplanned acute readmission for any diagnosis within 30 days, for members 18 years of age and older using the following formula to control for differences in the case mix of patients across different contracts. For contract A, their case-mix adjusted readmission rate relative to the national average

Title	Description
	is the observed readmission rate for contract A divided by the expected readmission rate for contract A. This ratio is then multiplied by the national average observed rate. See Attachment F: Calculating Measure C15: Plan All-Cause Readmissions (18+) for the complete formula, example calculation and National Average Observation value used to complete this measure.
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	Exclude hospital stays for the following reasons: • The member died during the stay. • Members with a principal diagnosis of pregnancy on the discharge claim. • A principal diagnosis of a condition originating in the perinatal period on the discharge claim. (Required) Exclude members in hospice or using hospice services any time during the measurement year. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure. As listed in the HEDIS Technical Specifications. CMS has excluded contracts whose denominator was less than 150.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Lower is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	Yes
Weighting Category:	Outcome Measure
Weighting Value:	3
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Admissions and Readmissions to Hospitals

Title	Description
CMIT #:	00561-02-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
> 14 %	> 12 % to <= 14 %	> 10 % to <= 12 %	> 8 % to <= 10 %	<= 8 %

Measure: C16 - Statin Therapy for Patients with Cardiovascular Disease

Title	Description
Label for Stars:	The Plan Makes Sure Members with Heart Disease Get the Most Effective Drugs to Treat High Cholesterol
Label for Data:	The Plan Makes Sure Members with Heart Disease Get the Most Effective Drugs to Treat High Cholesterol
Description:	This rating is based on the percent of plan members with heart disease who get the right type of cholesterol-lowering drugs. Health plans can help make sure their members are prescribed medications that are more effective for them.
HEDIS Label:	Statin Therapy for Patients with Cardiovascular Disease (SPC)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 168
Metric:	The percentage of males 21–75 years of age and females 40–75 years of age during the measurement year, who were identified as having clinical atherosclerotic cardiovascular disease (ASCVD) (denominator) and were dispensed at least one high or moderate-intensity statin medication during the measurement year (numerator).
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	Exclude members who meet any of the following criteria: • Pregnancy during the measurement year or year prior to the measurement year. • In vitro fertilization in the measurement year or year prior to the measurement year. • Dispensed at least one prescription for clomiphene (Table SPC-A) during the measurement year or the year prior to the measurement year. • ESRD or dialysis during the measurement year or the year prior to the measurement year. • Cirrhosis during the measurement year or the year prior to the measurement year. • Myalgia, myositis, myopathy, or rhabdomyolysis during the measurement year. • Members in hospice or using hospice services any time during the measurement year. • Members who died any time during the measurement year. • Members receiving palliative care any time during the measurement year. • Members 66 years of age and older as of December 31 of the measurement year who meet either of the following: – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year.

Title	Description
	– Living long-term in an institution any time during the measurement year as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if a member had an LTI flag during the measurement year. • Members 66 years of age and older as of December 31 of the measurement year with frailty and advanced illness during the measurement year. Members must meet both of the following frailty and advanced illness criteria to be excluded: – At least two indications of frailty with different dates of service during the measurement year. – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): 1. At least two outpatient visits, observation visits, ED visits, telephone visits, e-visits, virtual check-ins, nonacute inpatient encounters, or nonacute inpatient discharges on different dates of service, with an advanced illness diagnosis. Visit type need not be the same for the two visits. 2. At least one acute inpatient encounter with an advanced illness diagnosis. 3. At least one acute inpatient discharge with an advanced illness diagnosis on the discharge claim. 4. A dispensed dementia medication. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00700-01-C-PARTC

Title	Description
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	Yes	Yes	No	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 81 %	>= 81 % to < 85 %	>= 85 % to < 88 %	>= 88 % to < 92 %	>= 92 %

Measure: C17 - Transitions of Care

Title	Description
Label for Stars:	After hospital stay, members receive information and care they need
Label for Data:	After hospital stay, members receive information and care they need
Description:	This rating is based on the percent of plan members who got follow-up care after a hospital stay. Follow-up care includes: getting information about their health problem and what to do next, having a visit or call with a doctor, and having a doctor or pharmacist make sure the plan member's medication records are up to date.
HEDIS Label:	Transitions of Care (TRC)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 330
Metric:	The average of the rates for Transitions of Care - Medication Reconciliation Post-Discharge, Transitions of Care - Notification of Inpatient Admission, Transitions of Care - Patient Engagement After Inpatient Discharge, and Transitions of Care - Receipt of Discharge Information.
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	If the discharge is followed by a readmission or direct transfer to an acute or nonacute inpatient care setting on the date of discharge through 30 days after discharge (31 days total), use the admit date from the first admission and the discharge date from the last discharge. To identify readmissions and direct transfers during the 31-day period: 1. Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set). 2. Identify the admission date for the stay (the admission date must occur during the 31-day period). 3. Identify the discharge date for the stay (the discharge date is the event date). If the admission dates and the discharge date for an acute inpatient stay occur between the admission and discharge dates for a nonacute inpatient stay, include only the nonacute inpatient discharge. Required exclusions: • Members in hospice or using hospice services any time during the measurement year. • Members who died any time during the measurement year.

Title	Description

Exclude both the initial and the readmission/direct transfer discharge if the last discharge occurs after December 1 of the measurement year.

Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded.

Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Included

Case-Mix Adjusted: No

Weighting Category: Process Measure

Weighting Value: 1

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Seamless Care Coordination

CMIT #: 00729-01-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 44 %	>= 44 % to < 52 %	>= 52 % to < 63 %	>= 63 % to < 77 %	>= 77 %

Measure: C18 - Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions

Title	Description
Label for Stars:	Members with 2 or more chronic conditions receive follow-up care within 7 days after an emergency department visit
Label for Data:	Members with 2 or more chronic conditions receive follow-up care within 7 days after an emergency department visit
Description:	This rating is based on the percent of plan members with 2 or more chronic conditions who got follow-up care within 7 days after they had an emergency department (ED) visit. Depending on the person's needs this might be a visit with a health care provider, an appointment with a case manager, or a home visit.
HEDIS Label:	Follow-up After Emergency Department Visit for People with Multiple High-Risk Chronic Conditions (FMC)
Measure Reference:	NCQA HEDIS Measurement Year 2023 Technical Specifications Volume 2, page 340
Metric:	The percentage of emergency department (ED) visits for members 18 years and older who have multiple high-risk chronic conditions who had a follow-up service within 7 days of the ED visit.
Primary Data Source:	HEDIS
Data Source Category:	Health and Drug Plans
Exclusions:	Exclude ED visits that result in an inpatient stay. Exclude ED visits followed by admission to an acute or nonacute inpatient care setting on the date of the ED visit or within 7 days after the ED visit, regardless of the principal diagnosis for admission. To identify admissions to an acute or nonacute inpatient care setting: 1. Identify all acute and nonacute inpatient stays. 2. Identify the admission date for the stay. These events are excluded from the measure because admission to an acute or nonacute setting may prevent an outpatient follow-up visit from taking place Required exclusions: • Members in hospice or using hospice services any time during the measurement year. • Members who died any time during the measurement year. Contracts whose enrollment was at least 500 but less than 1,000 as of the July 2023 enrollment report and having measure score reliability less than 0.7 are excluded. Contracts whose enrollment was less than 500 as of the July 2023 enrollment report are excluded from this measure.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering

Title	Description
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00263-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 39 %	>= 39 % to < 53 %	>= 53 % to < 60 %	>= 60 % to < 69 %	>= 69 %

Domain: 3 - Member Experience with Health Plan

Measure: C19 - Getting Needed Care

Title	Description
Label for Stars:	Ease of Getting Needed Care and Seeing Specialists
Label for Data:	Ease of Getting Needed Care and Seeing Specialists (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned on how easy it is for members to get needed care, including care from specialists.
Metric:	This case-mix adjusted composite measure is used to assess how easy it was for a member to get needed care and see specialists. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Questions (question numbers vary depending on survey type): • In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed? • In the last 6 months, how often was it easy to get the care, tests or treatment you needed?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Title	Description
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00293-02-C-PARTC
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 77	>= 77 to < 79	>= 79 to < 82	>= 82 to < 83	>= 83

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C20 - Getting Appointments and Care Quickly

Title	Description
Label for Stars:	Getting Appointments & Care Quickly
Label for Data:	Getting Appointments & Care Quickly (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned on how quickly members get appointments and care.
Metric:	This case-mix adjusted composite measure is used to assess how quickly the member was able to get appointments and care. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Questions (question numbers vary depending on survey type): • In the last 6 months, when you needed care right away, how often did you get care as soon as you needed? • In the last 6 months, how often did you get an appointment for a check-up or routine care as soon as you needed?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better

Title	Description
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00292-01-C-PARTC
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 80	>= 80 to < 82	>= 82 to < 84	>= 84 to < 86	>= 86

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C21 - Customer Service

Title	Description
Label for Stars:	Health Plan Provides Information or Help When Members Need It
Label for Data:	Health Plan Provides Information or Help When Members Need It (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned on how easy it is for members to get information and help from the plan when needed.
Metric:	This case-mix adjusted composite measure is used to assess how easy it was for the member to get information and help when needed. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Questions (question numbers vary depending on survey type): • In the last 6 months, how often did your health plan's customer service give you the

Title	Description

information or help you needed?

- In the last 6 months, how often did your health plan's customer service treat you with courtesy and respect?
- In the last 6 months, how often were the forms from your health plan easy to fill out?

Data Source Category: Survey of Enrollees

General Notes: CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.

Data Time Frame: 03/2024 – 06/2024

General Trend: Higher is better

Statistical Method: Relative Distribution and Significance Testing

Improvement Measure: Included

CAI Usage: Not Included

Case-Mix Adjusted: Yes

Weighting Category: Patients' Experience and Complaints Measure

Weighting Value: 4

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Person-Centered Care

CMIT #: 00181-01-C-PARTC

Data Display: Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 88	>= 88 to < 89	>= 89 to < 91	>= 91 to < 92	>= 92

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C22 - Rating of Health Care Quality

Title	Description
Label for Stars:	Members' Rating of Health Care Quality
Label for Data:	Members' Rating of Health Care Quality (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned from members who rated the quality of the health care they received.
Metric:	This case-mix adjusted measure is used to assess members' view of the quality of care received from the health plan. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Question (question numbers vary depending on survey type): • Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 6 months?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00642-01-C-PARTC

Title	Description
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 84	>= 84 to < 85	>= 85 to < 87	>= 87 to < 88	>= 88

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C23 - Rating of Health Plan

Title	Description
Label for Stars:	Members' Rating of Health Plan
Label for Data:	Members' Rating of Health Plan (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned from members who rated the health plan.
Metric:	This case-mix adjusted measure is used to assess members' overall view of their health plan. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Question (question numbers vary depending on survey type): • Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes

Title	Description
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters. Person-Centered Care
CMIT #:	00643-02-C-PARTC
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 84	>= 84 to < 86	>= 86 to < 88	>= 88 to < 89	>= 89

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: C24 - Care Coordination

Title	Description
Label for Stars:	Coordination of Members' Health Care Services
Label for Data:	Coordination of Members' Health Care Services (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned on how well the plan coordinates members' care. (This includes whether doctors had the records and information they needed about members' care and how quickly members got their test results.)
Metric:	This case-mix adjusted composite measure is used to assess Care Coordination. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale of 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Questions (question numbers vary depending on survey type): • In the last 6 months, when you talked with your personal doctor during a scheduled appointment, how often did he or she have your medical records or other information about your care? • In the last 6 months, when your personal doctor ordered a blood test, x-ray or other test for you, how often did someone from your personal doctor's office follow up to give you those results? • In the last 6 months, when your personal doctor ordered a blood test, x-ray or other test for you, how often did you get those results as soon as you needed them? • In the last 6 months, how often did you and your personal doctor talk about all the prescription medicines you were taking?

Title	Description
	• In the last 6 months, did you get the help you needed from your personal doctor's office to manage your care among these different providers and services? • In the last 6 months, how often did your personal doctor seem informed and up-to-date about the care you got from specialists?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Seamless Care Coordination
CMIT #:	00106-02-C-PARTC
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	Yes	No	Yes

Base Group Cut Points:

Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
< 84	>= 84 to < 85	>= 85 to < 87	>= 87 to < 88	>= 88

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Domain: 4 - Member Complaints and Changes in the Health Plan's Performance

Measure: C25 - Complaints about the Health Plan

Title	Description
Label for Stars:	Complaints about the Health Plan (more stars are better because it means fewer complaints)
Label for Data:	Complaints about the Health Plan (lower numbers are better because it means fewer complaints)
Description:	Rate of complaints filed with Medicare about the health plan.
Metric:	Rate of complaints about the health plan per 1,000 members. For each contract, this rate is calculated as: [(Total number of all complaints logged into the Complaints Tracking Module (CTM)) / (Average Contract enrollment)] * 1,000 * 30 / (Number of Days in Period). Number of Days in Period = 366 for leap years, 365 for all other years. • Complaints data are pulled after the end of the measurement timeframe to serve as a snapshot of CTM data. • Enrollment numbers used to calculate the complaint rate were based on the average enrollment for the time period measured for each contract. • A contract's failure to follow CMS's CTM Standard Operating Procedures will not result in CMS's adjustment of the data used for these measures.
Primary Data Source:	Complaints Tracking Module (CTM)
Data Source Description:	Data were obtained from the CTM in the Health Plan Management System (HPMS) based on the contract entry date (the date that complaints are assigned or re-assigned to contracts; also known as the contract assignment/reassignment date) for the reporting period specified. The status of any specific complaint at the time the data are pulled stands for use in the reports. Any changes to the complaints data subsequent to the data pull cannot be excluded retroactively. CMS allows for an approximate 6-month "wash out" period to account for any adjustments per CMS's CTM Standard Operating Procedures. Therefore, all Plan Requests for 2023 complaints made by the June 28, 2024 deadline are captured. Complaint rates per 1,000 enrollees are adjusted to a 30-day basis. Monthly enrollment files from HPMS were used to calculate the average enrollment for the contract for the measurement period.
Data Source Category:	CMS Administrative Data
Exclusions:	On May 10, 2019, CMS released an HPMS memo on the Complaints Tracking Module (CTM) Updated Standard Operating Procedures (SOP). Plans should review all complaints at intake and verify the contract assignment and issue level. The APPENDIX A - Category and Subcategory Listing in the SOP lists the subcategories that are excluded. Complaint rates are not calculated for contracts with average enrollment of less than 800 enrollees during the measurement period.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Lower is better

Title	Description
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00142-02-C-PARTC
Data Display:	Numeric with 2 decimal places

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
> 1.39	> 0.76 to <= 1.39	> 0.37 to <= 0.76	> 0.12 to <= 0.37	<= 0.12

Measure: C26 - Members Choosing to Leave the Plan

Title	Description
Label for Stars:	Members Choosing to Leave the Plan (more stars are better because it means fewer members choose to leave the plan)
Label for Data:	Members Choosing to Leave the Plan (lower percentages are better because that indicates fewer members choose to leave the plan)
Description:	Percent of plan members who chose to leave the plan.
Metric:	The percent of members who chose to leave the contract comes from disenrollment reason codes in Medicare's enrollment system. The percent is calculated as the number of members who chose to leave the contract between January 1, 2023–December 31, 2023 (numerator) divided by all members enrolled in the contract at any time during 2023 (denominator).
Primary Data Source:	MBDSS
Data Source Description:	Medicare Beneficiary Database Suite of Systems (MBDSS)
Data Source Category:	CMS Administrative Data

Title	Description
Exclusions:	Members who involuntarily left their contract due to circumstances beyond their control are removed from the final numerator, specifically: • Members affected by a contract service area reduction • Members affected by PBP termination • Members in PBPs that were granted special enrollment exceptions • Members affected by PBP service area reductions where there are no PBPs left within the contract that the enrollee is eligible to enroll into • Members affected by LIS reassignments • Members who are enrolled in employer group plans • Members who were passively enrolled into a Demonstration (MMP) • Contracts with less than 1,000 enrollees • 1876 Cost contract disenrollments into the transition MA contract (H contract) • Members who moved out of the service area of the contract from which they disenrolled (based on the member's address as submitted by the plan into which the member enrolled or the member's current SSA address if there is no address submitted by the plan into which the member enrolled) or where the service area of the contract they enrolled into does not intersect with the service area of the contract from which they disenrolled.
General Notes:	This measure includes members with a disenrollment effective date between 1/1/2023 and 12/31/2023 who disenrolled from the contract with any one of the following disenrollment reason codes: 11 - Voluntary Disenrollment through plan 13 - Disenrollment because of enrollment in another Plan 14 - Retroactive 99 - Other (not supplied by beneficiary). If all potential members in the numerator meet one or more of the exclusion criteria, the measure result will be "Not enough data available". The Disenrollment Reasons Survey (DRS) data available in the HPMS plan preview and in the CMS downloadable Master Table, are not used in the calculation of this measure. The DRS data are presented in each of the systems for information purposes only.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Lower is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4

Title	Description
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00446-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
> 36 %	> 24 % to <= 36 %	> 17 % to <= 24 %	> 8 % to <= 17 %	<= 8 %

Measure: C27 - Health Plan Quality Improvement

Title	Description
Label for Stars:	Improvement (if any) in the Health Plan's Performance
Label for Data:	Improvement (if any) in the Health Plan's Performance
Description:	This shows how much the health plan's performance improved or declined from one year to the next. If a plan receives **1 or 2 stars**, it means, on average, the plan's scores **declined** (got worse). If a plan receives **3 stars**, it means, on average, the plan's scores **stayed about the same**. If a plan receives **4 or 5 stars**, it means, on average, the plan's scores **improved**. Keep in mind that a plan that is already doing well in most areas may not show much improvement. It is also possible that a plan can start with low ratings, show a lot of improvement, and still not be performing very well.
Metric:	The numerator is the net improvement, which is a weighted sum of the number of significantly improved measures minus the number of significantly declined measures. The denominator is the sum of the weights associated with the measures eligible for the improvement measure (i.e., the measures that were included in the 2024 and 2025 Star Ratings for this contract and had no specification changes).
Primary Data Source:	Star Ratings
Data Source Description:	2024 and 2025 Star Ratings
Data Source Category:	Star Ratings
Exclusions:	Contracts must have data in at least half of the measures used to calculate improvement to be rated in this measure.
General Notes:	Attachment H contains the formulas used to calculate the improvement measure and lists indicating which measures were used.

Title	Description
Data Time Frame:	Not Applicable
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Not Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Improvement Measure
Weighting Value:	5
Major Disaster:	Includes only measures which have data from both years.
Meaningful Measure Area:	Person-centered Care
CMIT #:	00300-01-C-PARTC
Data Display:	Not Applicable

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< -0.179809	>= -0.179809 to < 0	>= 0 to < 0.174445	>= 0.174445 to < 0.421057	>= 0.421057

Domain: 5 - Health Plan Customer Service

Measure: C28 - Plan Makes Timely Decisions about Appeals

Title	Description
Label for Stars:	Health Plan Makes Timely Decisions about Appeals
Label for Data:	Health Plan Makes Timely Decisions about Appeals
Description:	This rating shows how fast a plan sends information for an independent review.
Metric:	Percent of appeals timely processed by the plan (numerator) out of all the plan's appeals decided by the Independent Review Entity (IRE) (includes upheld, overturned, partially overturned appeals and appeals not evaluated by the IRE because plan agreed to cover) (denominator). This is calculated as: ([Number of Timely Appeals] / ([Appeals Upheld] + [Appeals Overturned] + [Appeals Partially Overturned] + [Appeals Not Evaluated by the IRE Because Plan Agreed to Cover])) * 100.
Primary Data Source:	Independent Review Entity (IRE)
Data Source Description:	Data were obtained from the Independent Review Entity (IRE) contracted by CMS for Part C appeals. The appeals used in this measure are based on the date in the calendar year the appeal was received by the IRE, not the date a decision was reached by the IRE. The timeliness is based on the actual IRE received date and is compared to the date the appeal should have been received by the IRE.
Data Source Category:	Data Collected by CMS Contractors
Exclusions:	If the denominator is ≤ 10, the result is "Not enough data available." Dismissed appeals (except appeals not evaluated by the IRE because plan agreed to cover) and Withdrawn appeals are excluded from this measure.
General Notes:	This measure includes all Standard Coverage, Standard Claim, and Expedited appeals received by the IRE, regardless of the appellant. This includes appeals requested by a beneficiary, appeals requested by a party on behalf of a beneficiary, and appeals requested by non-contract providers. The number of timely appeals can be calculated using this formula: [Number of Timely Appeals] = ([Appeals Upheld] + [Appeals Overturned] + [Appeals Partially Overturned]) + [Appeals Not Evaluated by the IRE Because Plan Agreed to Cover]) - [Late] Note: Appeals Not Evaluated by the IRE Because Plan Agreed to Cover were formerly called Dismissed Because Plan Agreed to Cover. When reviewing IRE data from the Maximus appeals website found at http://www.medicareappeal.com/AppealSearch and in data files, appeal disposition codes have been updated from the prior codes. Below is a crosswalk of previous appeal disposition codes and current codes:

Title	Description

Previous Field Name	Current Field Name
Upheld	Unfavorable
Overturn	Favorable
Partially Overturn	Partially favorable

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Not Included

Case-Mix Adjusted: No

Weighting Category: Measures Capturing Access

Weighting Value: 4

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Affordability and Efficiency

CMIT #: 00562-01-C-PARTC

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 69 %	>= 69 % to < 85 %	>= 85 % to < 95 %	>= 95 % to < 99 %	>= 99 %

Measure: C29 - Reviewing Appeals Decisions

Title	Description

Label for Stars: Fairness of the Health Plan's Appeal Decisions, Based on an Independent Reviewer

Label for Data: Fairness of the Health Plan's Appeal Decisions, Based on an Independent Reviewer

Description: This rating shows how often an independent reviewer found the health plan's decision to deny coverage to be reasonable.

Title	Description
Metric:	Percent of appeals where a plan's decision was "upheld" by the Independent Review Entity (IRE) (numerator) out of all the plan's appeals (upheld, overturned, and partially overturned appeals only) that the IRE reviewed (denominator). This is calculated as: ([Appeals Upheld] / ([Appeals Upheld] + [Appeals Overturned] + [Appeals Partially Overturned]))* 100.
Primary Data Source:	Independent Review Entity (IRE)
Data Source Description:	Data were obtained from the Independent Review Entity (IRE) contracted by CMS for Part C appeals. The appeals used in this measure are based on the date in the calendar year the appeal was received by the IRE, not the date a decision was reached by the IRE. If a Reopening occurs and is decided prior to June 30, 2024, the Reopened decision is used in place of the Reconsideration decision. Reopenings decided on or after June 30, 2024 are not reflected in these data and the original decision result is used. The results of appeals that occur beyond Level 2 (i.e., Administrative Law Judge or Medicare Appeals Council appeals) are not included in the data.
Data Source Category:	Data Collected by CMS Contractors
Exclusions:	If the minimum number of appeals (upheld + overturned + partially overturned) is ≤ 10, the result is "Not enough data available." Dismissed and Withdrawn appeals are excluded from this measure.
General Notes:	This measure includes all Standard Coverage, Standard Claim, and Expedited appeals received by the IRE, regardless of the appellant. This includes appeals requested by a beneficiary, appeals requested by a party on behalf of a beneficiary, and appeals requested by non-contract providers.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Measures Capturing Access
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Affordability and Efficiency
CMIT #:	00652-01-C-PARTC

Title	Description

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	Yes	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 78 %	>= 78 % to < 92 %	>= 92 % to < 96 %	>= 96 % to < 99 %	>= 99 %

Measure: C30 - Call Center – Foreign Language Interpreter and TTY Availability

Title	Description

Label for Stars: Availability of TTY Services and Foreign Language Interpretation When Prospective Members Call the Health Plan

Label for Data: Availability of TTY Services and Foreign Language Interpretation When Prospective Members Call the Health Plan

Description: Percent of time that TTY services and foreign language interpretation were available when needed by people who called the health plan's prospective enrollee customer service phone line.

Metric: The calculation of this measure is the number of completed contacts with the interpreter and TTY divided by the number of attempted contacts. Completed contact with an interpreter is defined as establishing contact with an interpreter and confirming that the customer service representative can answer questions about the plan's Medicare Part C benefit within eight minutes. Completed TTY contact is defined as establishing contact with and confirming that the customer service representative can answer questions about the plan's Medicare Part C benefit within seven minutes.

Primary Data Source: Call Center

Data Source Description: Call center monitoring data collected by CMS. The Customer Service Contact for Prospective Members phone number associated with each contract was monitored.

Data Source Category: Data Collected by CMS Contractors

Exclusions: Data were collected from contracts that cover U.S territories but were not collected from the following organization types: 1876 Cost, Employer/Union Only Direct Contract PDP, Employer/Union Only Direct Contract PFFS, National PACE, MSA, employer contracts, organizations that did not have a phone number accessible to survey callers, and MAOs, MA-PDs, and MMPs under sanction.

General Notes: Specific questions about Call Center Monitoring and requests for detail data should be directed to CallCenterMonitoring@cms.hhs.gov.

Data Time Frame: 02/2024 – 05/2024

General Trend: Higher is better

Statistical Method: Clustering

Title	Description
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Measures Capturing Access
Weighting Value:	4
Major Disaster:	No adjustment for 2022 or 2023 disasters.
Meaningful Measure Area:	Person-centered Care
CMIT #:	00096-01-C-PARTC
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	Yes	Yes	Yes	No	No	Yes

Cut Points:

1 Star	2 Stars	3 Stars	4 Stars	5 Stars
< 46 %	>= 46 % to < 69 %	>= 69 % to < 93 %	>= 93 % to < 100 %	100 %

Part D Domain and Measure Details

See Attachment C for the national averages of individual Part D measures.

Domain: 1 - Drug Plan Customer Service

Measure: D01 - Call Center – Foreign Language Interpreter and TTY Availability

Title	Description
Label for Stars:	Availability of TTY Services and Foreign Language Interpretation When Prospective Members Call the Drug Plan
Label for Data:	Availability of TTY Services and Foreign Language Interpretation When Prospective Members Call the Drug Plan
Description:	Percent of time that TTY services and foreign language interpretation were available when needed by people who called the drug plan's prospective enrollee customer service line.
Metric:	The calculation of this measure is the number of completed contacts with the interpreter and TTY divided by the number of attempted contacts. Completed contact with an interpreter is defined as establishing contact with an interpreter and confirming that the customer service representative can answer questions about the plan's Medicare Part D benefit within eight minutes. Completed TTY contact is defined as establishing contact with and confirming that the customer service representative can answer questions about the plan's Medicare Part D benefit within seven minutes.
Primary Data Source:	Call Center
Data Source Description:	Call center monitoring data collected by CMS. The Customer Service Contact for Prospective Members phone number associated with each contract was monitored.
Data Source Category:	Data Collected by CMS Contractors
Exclusions:	Data were collected from contracts that cover U.S territories but were not collected from the following organization types: 1876 Cost, Employer/Union Only Direct Contract PDP, Employer/Union Only Direct Contract PFFS, National PACE, MSA, employer contracts, organizations that did not have a phone number accessible to survey callers, and MA-PDs, PDPs, and MMPs under sanction.
General Notes:	Specific questions about Call Center Monitoring and requests for detail data should be directed to CallCenterMonitoring@cms.hhs.gov.
Data Time Frame:	02/2024 – 05/2024
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Measures Capturing Access

Title	Description

Weighting Value: 4

Major Disaster: No adjustment for 2022 or 2023 disasters.

Meaningful Measure Area: Person-Centered Care

CMIT #: 00096-01-C-PARTD

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
No	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 40 %	>= 40 % to < 74 %	>= 74 % to < 90 %	>= 90 % to < 100 %	100 %
PDP	< 70 %	>= 70 % to < 85 %	>= 85 % to < 98 %	>= 98 % to < 100 %	100 %

Domain: 2 - Member Complaints and Changes in the Drug Plan's Performance

Measure: D02 - Complaints about the Drug Plan

Title	Description
Label for Stars:	Complaints about the Drug Plan (more stars are better because it means fewer complaints)
Label for Data:	Complaints about the Drug Plan (number of complaints for every 1,000 members). (Lower numbers are better because it means fewer complaints.)
Description:	Rate of complaints filed with Medicare about the drug plan.
Metric:	Rate of complaints about the drug plan per 1,000 members. For each contract, this rate is calculated as: [(Total number of all complaints logged into the Complaints Tracking Module (CTM)) / (Average Contract enrollment)] * 1,000 * 30 / (Number of Days in Period). Number of Days in Period = 366 for leap years, 365 for all other years. • Complaints data are pulled after the end of the measurement timeframe to serve as a snapshot of CTM data. • Enrollment numbers used to calculate the complaint rate were based on the average enrollment for the time period measured for each contract. • A contract's failure to follow CMS's CTM Standard Operating Procedures will not result in CMS's adjustment of the data used for these measures.
Primary Data Source:	Complaints Tracking Module (CTM)
Data Source Description:	Data were obtained from the CTM in the Health Plan Management System (HPMS) based on the contract entry date (the date that complaints are assigned or re-assigned to contracts; also known as the contract assignment/reassignment date) for the reporting period specified. The status of any specific complaint at the time the data are pulled stands for use in the reports. Any changes to the complaints data subsequent to the data pull cannot be excluded retroactively. CMS allows for an approximate 6-month "wash out" period to account for any adjustments per CMS's CTM Standard Operating Procedures. Therefore, all Plan Requests for 2023 complaints made by the June 28, 2024 deadline are captured. Complaint rates per 1,000 enrollees are adjusted to a 30-day basis. Monthly enrollment files from HPMS were used to calculate the average enrollment for the contract for the measurement period.
Data Source Category:	CMS Administrative Data
Exclusions:	On May 10, 2019, CMS released an HPMS memo on the Complaints Tracking Module (CTM) Updated Standard Operating Procedures (SOP). Plans should review all complaints at intake and verify the contract assignment and issue level. The APPENDIX A - Category and Subcategory Listing in the SOP lists the subcategories that are excluded. Complaint rates are not calculated for contracts with average enrollment of less than 800 enrollees during the measurement period.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Lower is better

Title	Description
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00142-02-C-PARTD
Data Display:	Numeric with 2 decimal places

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	> 1.39	> 0.76 to <= 1.39	> 0.37 to <= 0.76	> 0.12 to <= 0.37	<= 0.12
PDP	> 0.32	> 0.2 to <= 0.32	> 0.11 to <= 0.2	> 0.04 to <= 0.11	<= 0.04

Measure: D03 - Members Choosing to Leave the Plan

Title	Description
Label for Stars:	Members Choosing to Leave the Plan (more stars are better because it means fewer members choose to leave the plan)
Label for Data:	Members Choosing to Leave the Plan (lower percentages are better because that indicates fewer members choose to leave the plan)
Description:	Percent of plan members who chose to leave the plan.
Metric:	The percent of members who chose to leave the contract comes from disenrollment reason codes in Medicare's enrollment system. The percent is calculated as the number of members who chose to leave the contract between January 1, 2023–December 31, 2023 (numerator) divided by all members enrolled in the contract at any time during 2023 (denominator).
Primary Data Source:	MBDSS
Data Source Description:	Medicare Beneficiary Database Suite of Systems (MBDSS)

Title	Description
Data Source Category:	CMS Administrative Data
Exclusions:	Members who involuntarily left their contract due to circumstances beyond their control are removed from the final numerator, specifically: • Members affected by a contract service area reduction • Members affected by PBP termination • Members in PBPs that were granted special enrollment exceptions • Members affected by PBP service area reductions where there are no PBPs left within the contract that the enrollee is eligible to enroll into • Members affected by LIS reassignments • Members who are enrolled in employer group plans • Members who were passively enrolled into a Demonstration (MMP) • Contracts with less than 1,000 enrollees • 1876 Cost contract disenrollments into the transition MA contract (H contract) • Members who moved out of the service area of the contract from which they disenrolled (based on the member's address as submitted by the plan into which the member enrolled or the member's current SSA address if there is no address submitted by the plan into which the member enrolled) or where the service area of the contract they enrolled into does not intersect with the service area of the contract from which they disenrolled.
General Notes:	This measure includes members with a disenrollment effective date between 1/1/2023 and 12/31/2023 who disenrolled from the contract with any one of the following disenrollment reason codes: 11 - Voluntary Disenrollment through plan 13 - Disenrollment because of enrollment in another Plan 14 - Retroactive 99 - Other (not supplied by beneficiary). If all potential members in the numerator meet one or more of the exclusion criteria, the measure result will be "Not enough data available". The Disenrollment Reasons Survey (DRS) data available in the HPMS plan preview and in the CMS downloadable Master Table, are not used in the calculation of this measure. The DRS data are presented in each of the systems for information purposes only.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Lower is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Patients' Experience and Complaints Measure

Title	Description

Weighting Value: 4

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Person-Centered Care

CMIT #: 00446-01-C-PARTD

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	> 36 %	> 24 % to <= 36 %	> 17 % to <= 24 %	> 8 % to <= 17 %	<= 8 %
PDP	> 22 %	> 16 % to <= 22 %	> 9 % to <= 16 %	> 5 % to <= 9 %	<= 5 %

Measure: D04 - Drug Plan Quality Improvement

Title	Description

Label for Stars: Improvement (if any) in the Drug Plan's Performance

Label for Data: Improvement (If any) in the Drug Plan's Performance

Description: This shows how much the drug plan's performance has improved or declined from one year to the next year.
If a plan receives **1 or 2 stars**, it means, on average, the plan's scores **declined** (got worse).
If a plan receives **3 stars**, it means, on average, the plan's scores **stayed about the same**.
If a plan receives **4 or 5 stars**, it means, on average, the plan's scores **improved**.

Keep in mind that a plan that is already doing well in most areas may not show much improvement. It is also possible that a plan can start with low ratings, show a lot of improvement, and still not be performing very well.

Metric: The numerator is the net improvement, which is a weighted sum of the number of significantly improved measures minus the number of significantly declined measures. The denominator is the sum of the weights associated with the measures eligible for the improvement measure (i.e., the measures that were included in the 2024 and 2025 Star Ratings for this contract and had no specification changes).

Primary Data Source: Star Ratings

Data Source Description: 2024 and 2025 Star Ratings

Data Source Category: Star Ratings

Title	Description
Exclusions:	Contracts must have data in at least half of the measures used to calculate improvement to be rated in this measure.
General Notes:	Attachment I contains the formulas used to calculate the improvement measure and lists indicating which measures were used.
Data Time Frame:	Not Applicable
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Not Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Improvement Measure
Weighting Value:	5
Major Disaster:	Includes only measures which have data from both years.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00224-01-C-PARTD
Data Display:	Not Applicable

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< -0.218869	>= -0.218869 to < 0	>= 0 to < 0.242468	>= 0.242468 to < 0.496603	>= 0.496603
PDP	< -0.282500	>= -0.282500 to < 0	>= 0 to < 0.273334	>= 0.273334 to < 0.576667	>= 0.576667

Domain: 3 - Member Experience with the Drug Plan

Measure: D05 - Rating of Drug Plan

Title	Description
Label for Stars:	Members' Rating of Drug Plan
Label for Data:	Members' Rating of Drug Plan (on a scale from 0 to 100)
Description:	Percent of the best possible score the plan earned from members who rated the prescription drug plan.
Metric:	This case-mix adjusted measure is used to assess members' overall view of their prescription drug plan. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.
Primary Data Source:	CAHPS
Data Source Description:	CAHPS Survey Question (question numbers vary depending on survey type): • Using any number from 0 to 10, where 0 is the worst prescription drug plan possible and 10 is the best prescription drug plan possible, what number would you use to rate your prescription drug plan?
Data Source Category:	Survey of Enrollees
General Notes:	CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.
Data Time Frame:	03/2024 – 06/2024
General Trend:	Higher is better
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care

Title	Description

CMIT #: 00641-01-C-PARTD

Data Display: Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	No	Yes	Yes

Base Group Cut Points:

Type	Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
MA-PD	< 84	>= 84 to < 86	>= 86 to < 87	>= 87 to < 89	>= 89
PDP	< 79	>= 79 to < 82	>= 82 to < 85	>= 85 to < 87	>= 87

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Measure: D06 - Getting Needed Prescription Drugs

Title	Description

Label for Stars: Ease of Getting Prescriptions Filled When Using the Plan

Label for Data: Ease of Getting Prescriptions Filled When Using the Plan (on a scale from 0 to 100)

Description: Percent of the best possible score the plan earned on how easy it is for members to get the prescription drugs they need using the plan.

Metric: This case-mix adjusted measure is used to assess the ease with which a beneficiary gets the medicines their doctor prescribed. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) score uses the mean of the distribution of responses converted to a scale from 0 to 100. The score shown is the percentage of the best possible score each contract earned.

Primary Data Source: CAHPS

Data Source Description: CAHPS Survey Questions (question numbers vary depending on survey type):

- In the last 6 months, how often was it easy to use your prescription drug plan to get the medicines your doctor prescribed?
- In the last 6 months, how often was it easy to use your prescription drug plan to fill a prescription at your local pharmacy?
- In the last 6 months, how often was it easy to use your prescription drug plan to fill a prescription by mail?

Data Source Category: Survey of Enrollees

General Notes: CAHPS Survey results were sent to each contract's Medicare Compliance Officer in August 2024. These reports provide further explanation of the CAHPS scoring methodology and provide detailed information on why a specific rating was assigned.

Data Time Frame: 03/2024 – 06/2024

General Trend: Higher is better

Title	Description
Statistical Method:	Relative Distribution and Significance Testing
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	Yes
Weighting Category:	Patients' Experience and Complaints Measure
Weighting Value:	4
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Person-Centered Care
CMIT #:	00294-01-C-PARTD
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	No	No	Yes	Yes

Base Group Cut Points:

Type	Base Group 1	Base Group 2	Base Group 3	Base Group 4	Base Group 5
MA-PD	< 87	>= 87 to < 88	>= 88 to < 90	>= 90 to < 91	>= 91
PDP	< 86	>= 86 to < 87	>= 87 to < 89	>= 89 to < 90	>= 90

These technical notes show the base group cut points for CAHPS measures; please see the Attachment K for the CAHPS Methodology for final star assignment rules.

Domain: 4 - Drug Safety and Accuracy of Drug Pricing

Measure: D07 - MPF Price Accuracy

Title	Description
Label for Stars:	Plan Provides Accurate Drug Pricing Information for This Website
Label for Data:	Plan Provides Accurate Drug Pricing Information for This Website (higher scores are better because they mean more accurate prices)
Description:	A score comparing the drug's total cost at the pharmacy to the drug prices the plan provided for the Medicare Plan Finder (MPF) website. Higher scores are better because they mean the plan provided more accurate prices.
Metric:	This measure evaluates the accuracy of drug prices posted on the MPF tool. A contract's score is based on the accuracy index, or magnitude of difference, and the claim percentage index, or frequency of difference. The accuracy index – or magnitude of difference - considers both ingredient cost and dispensing fee and measures the amount that the PDE price is higher than the MPF price. The claim percentage index – or frequency of difference - also considers both ingredient cost and dispensing fee while measuring how often the PDE price is higher than the MPF price. Therefore, prices that are overstated on MPF will not count against a plan's score. The accuracy index is computed as: (Total amount that PDE is higher than MPF + Total PDE cost) / (Total PDE cost). The claim percentage index is computed as: (Total number of PDEs where PDE cost is higher than MPF) / (Total number of PDEs). The best possible accuracy index is 1 and claim percentage index is 0. Indexes with these values indicate that a plan did not have PDE prices greater than MPF prices. A contract's score is computed using its accuracy index and claim percentage index as: 0.5 x (100 – ((accuracy index – 1) x 100)) + 0.5 x ((1 – claim percentage index) x 100).
Primary Data Source:	PDE data, MPF Pricing Files
Data Source Description:	Data used in this measure are obtained from a number of sources: MPF Pricing Files and PDE data are the primary data sources. The PDE data were submitted by drug plans to CMS Drug Data Processing Systems (DDPS) and accepted by the 2023 PDE submission deadline for annual Part D payment reconciliation with dates of service from January 1, 2023- September 30, 2023. If the PDE edit results in the PDE being rejected by DDPS, then the PDE is not used in the measure. If the PDE edit is informational, and therefore does not result in the PDE being rejected, then the PDE is used. Reminder, CMS uses the term "final action" PDE to describe the most recently accepted original, adjustment, or deleted PDE record representing a single dispensing event. Original and adjustment final action PDEs submitted by the sponsor and accepted by DDPS prior to the 2023 PDE submission deadline are used to calculate this measure. The HPMS-approved formulary extracts, and data from First DataBank and Medi-span are also used.
Data Source Category:	Data Collected by CMS Contractors

Title	Description
Exclusions:	A contract with less than 30 PDE claims over the measurement period. PDEs must also meet the following criteria: • If the NPI in the Pharmacy Cost (PC) file represents a retail only pharmacy or retail and limited access drug only pharmacy, all corresponding PDEs will be eligible for the measure. However, if the NPI in the PC file represents a retail and other pharmacy type (such as Mail, Home Infusion or Long Term Care pharmacy), only the PDE where the pharmacy service type is identified as either Community/Retail or Managed Care Organization (MCO) will be eligible. • Drug must appear in formulary file and in MPF pricing file • PDE must be a 28-34, 60-62, or 90-93 day supply. If a plan's bid indicates a 1, 2, or 3 month retail days supply amount outside of the 28-34, 60-62, or 90-93 windows, then additional days supply values may be included in the accuracy measure for the plan. • Date of service must occur at a time that data are not suppressed for the plan on MPF • PDE must not be a compound claim • PDE must not be a non-covered drug
General Notes:	Please see Attachment M: Methodology for Price Accuracy Measure for more information about this measure.
Data Time Frame:	01/01/2023 – 09/30/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Not Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Affordability and Efficiency
CMIT #:	00452-01-C-PARTD
Data Display:	Numeric with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 97	>= 97 to < 98	>= 98 to < 99	>= 99 to < 100	100
PDP	< 97	>= 97 to < 98	>= 98 to < 99	>= 99 to < 100	100

Measure: D08 - Medication Adherence for Diabetes Medications

Title	Description

Label for Stars: Taking Diabetes Medication as Directed

Label for Data: Taking Diabetes Medication as Directed

Description: Percent of plan members with a prescription for diabetes medication who fill their prescription often enough to cover 80% or more of the time they are supposed to be taking the medication.

One of the most important ways people with diabetes can manage their health is by taking their medication as directed. The plan, the doctor, and the member can work together to find ways to do this. ("Diabetes medication" means a *biguanide drug,* a *sulfonylurea drug,* a *thiazolidinedione drug*, a *DPP-4 inhibitor,* a *GIP/GLP-1 receptor agonist*, a *meglitinide drug,* or an *SGLT2 inhibitor*. Plan members who take insulin are not included.)

Metric: This measure is defined as the percent of Medicare Part D beneficiaries 18 years and older who adhere to their prescribed drug therapy across classes of diabetes medications: biguanides, sulfonylureas, thiazolidinediones, DiPeptidyl Peptidase (DPP)-4 Inhibitors, GIP/GLP-1 receptor agonists, meglitinides, and sodium glucose cotransporter 2 (SGLT2) inhibitors. This percentage is calculated as the number of member-years of enrolled beneficiaries 18 years and older with a proportion of days covered (PDC) at 80 percent or higher across the classes of diabetes medications during the measurement period (numerator) divided by the number of member-years of enrolled beneficiaries 18 years and older with at least two fills of diabetes medication(s) on unique dates of service during the measurement period (denominator).

The PDC is the percent of days in the measurement period "covered" by prescription claims for the same medication or another in its therapeutic category. Beneficiaries are only included in the measure calculation if the first fill of their diabetes medication occurs at least 91 days before the end of the enrollment period, end of measurement period, or death, whichever comes first.

The Medication Adherence measure is adapted from the Medication Adherence-Proportion of Days Covered measure that was developed and endorsed by the Pharmacy Quality Alliance (PQA).

See the medication list for this measure. The Medication Adherence rate is calculated using the National Drug Code (NDC) list maintained by the PQA. The complete NDC list, including diagnosis codes, is posted along with these technical notes.

Primary Data Source: Prescription Drug Event (PDE) data

Data Source Description: The data for this measure come from PDE data submitted by drug plans to CMS Drug Data Processing Systems (DDPS) and accepted by the 2023 PDE submission deadline for annual Part D payment reconciliation with dates of service from January 1, 2023-December 31, 2023. If the PDE edit results in the PDE being rejected by DDPS, then

Title	Description
	the PDE is not used in the Patient Safety measure calculations. If the PDE edit is informational and therefore, does not result in the PDE being rejected, then the PDE is used in the Patient Safety measure calculations. Reminder, CMS uses the term "final action" PDE to describe the most recently accepted original, adjustment, or deleted PDE record representing a single dispensing event. Original and adjustment final action PDEs submitted by the sponsor and accepted by DDPS prior to the 2023 PDE submission deadline are used to calculate this measure. PDE claims are limited to members who received at least two prescriptions on unique dates of service for diabetes medication(s). PDE adjustments made post-reconciliation were not reflected in this measure. Additional data sources include the Common Medicare Environment (CME), the Medicare Enrollment Database (EDB), the Common Working File (CWF), and the Encounter Data Systems (EDS). The data cut off date for all the additional data sources listed below such as the CME, CWF, and EDS is determined by the same PDE submission deadline for the annual Part D payment reconciliation. • CME is used for enrollment information. • EDB is used to identify beneficiaries who elected to receive hospice care or with ESRD status (dialysis start and end dates within the measurement period). Due to CMS's migration of the beneficiary database, including the EDB and CME, to the Amazon Web Services (AWS Cloud), equivalent EDB information to identify beneficiaries in hospice and with ESRD status is pulled from the CME beneficiary tables from the Integrated Data Repository (CME IDRC), sourced from the same upstream database. • CWF is used to identify exclusion diagnoses based on ICD-10-CM codes, inpatient (IP) and skilled nursing facility (SNF) stays for PDPs and MA-PDs (if available). • EDS is used to identify diagnoses based on ICD-10-CM codes, and SNF/IP stays for MA-PD beneficiaries.
Data Source Category:	Health and Drug Plans
Exclusions:	Contracts with 30 or fewer enrolled member-years (in the denominator). The following beneficiaries are also excluded from the denominator if at any time during the measurement period: • In hospice • ESRD diagnosis or dialysis coverage dates • One or more prescriptions for insulin
General Notes:	Part D drugs do not include drugs or classes of drugs, or their medical uses, which may be excluded from coverage or otherwise restricted under section 1927(d)(2) of the Act, except for smoking cessation agents. As such, these drugs, which may be included in the PQA medication or NDC lists, are excluded from CMS analyses. Also, the member-years of enrollment adjustment is made by CMS to account for partial enrollment within the benefit year. Enrollment is measured at the episode level, and inclusion in the measure is determined separately for each episode – i.e., to be included for a given episode, the beneficiary must meet the initial inclusion criteria for the measure during that episode. The measure is weighted based on the total number of member-years for each enrollment episode in which the beneficiary meets the measure criteria. For instance, if a beneficiary is enrolled for a three-month episode, disenrolled for a six-month episode,

Title	Description

reenrolled for a three-month episode, and meets the measure criteria during each enrollment episode, s/he will count as 0.5 member years in the rate calculation (3/12 + 3/12 = 6/12).

The PDC calculation is adjusted for overlapping prescriptions for the same drug which is defined by the active ingredient at the generic name level using the NDC list maintained by PQA. The calculation also adjusts for Part D beneficiaries' stays in IP settings, and stays in SNFs. The discharge date is included as an adjustment for IP/SNF stays. Please see Attachment L: Medication Adherence Measure Calculations for more information about these calculation adjustments.

When available, beneficiary death date from the CME is the end date of a beneficiary's measurement period.

Data Time Frame: 01/01/2023 – 12/31/2023

General Trend: Higher is better

Statistical Method: Clustering

Improvement Measure: Included

CAI Usage: Included

Case-Mix Adjusted: No

Weighting Category: Intermediate Outcome Measure

Weighting Value: 3

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Chronic Conditions

CMIT #: 00436-01-C-PARTD

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 80 %	>= 80 % to < 85 %	>= 85 % to < 87 %	>= 87 % to < 91 %	>= 91 %
PDP	< 85 %	>= 85 % to < 87 %	>= 87 % to < 89 %	>= 89 % to < 93 %	>= 93 %

Measure: D09 - Medication Adherence for Hypertension (RAS antagonists)

Title	Description
Label for Stars:	Taking Blood Pressure Medication as Directed
Label for Data:	Taking Blood Pressure Medication as Directed
Description:	Percent of plan members with a prescription for a blood pressure medication who fill their prescription often enough to cover 80% or more of the time they are supposed to be taking the medication. One of the most important ways people with high blood pressure can manage their health is by taking medication as directed. The plan, the doctor, and the member can work together to do this. ("Blood pressure medication" means an *ACEI (angiotensin converting enzyme inhibitor)*, an *ARB (angiotensin receptor blocker),* or a *direct renin inhibitor drug*.)
Metric:	This measure is defined as the percent of Medicare Part D beneficiaries 18 years and older who adhere to their prescribed drug therapy for renin angiotensin system (RAS) antagonists: angiotensin converting enzyme inhibitor (ACEI), angiotensin receptor blocker (ARB), or direct renin inhibitor medications. This percentage is calculated as the number of member-years of enrolled beneficiaries 18 years and older with a proportion of days covered (PDC) at 80 percent or higher for RAS antagonist medications during the measurement period (numerator) divided by the number of member-years of enrolled beneficiaries 18 years and older with at least two RAS antagonist medication fills on unique dates of service during the measurement period (denominator). The PDC is the percent of days in the measurement period "covered" by prescription claims for the same medication or another in its therapeutic category. Beneficiaries are only included in the measure calculation if the first fill of their RAS antagonist medication occurs at least 91 days before the end of the enrollment period, end of measurement period, or death, whichever comes first. The Part D Medication Adherence measure is adapted from the Medication Adherence-Proportion of Days Covered measure that was developed and endorsed by the PQA. See the medication list for this measure. The Part D Medication Adherence rate is calculated using the NDC list maintained by the PQA. The complete NDC list, including diagnosis codes, is posted along with these technical notes.
Primary Data Source:	Prescription Drug Event (PDE) data
Data Source Description:	The data for this measure come from PDE data submitted to the CMS DDPS and accepted by the 2023 PDE submission deadline for annual Part D payment reconciliation with dates of service from January 1, 2023-December 31, 2023. If the PDE edit results in the PDE being rejected by DDPS, then the PDE is not used in the Patient Safety measure calculations. If the PDE edit is informational and therefore, does not result in the PDE being rejected, then the PDE is used in the Patient Safety measure calculations. Reminder, CMS uses the term "final action" PDE to describe the most recently accepted original, adjustment, or deleted PDE record representing a single dispensing event. Original and adjustment final action PDEs submitted by the sponsor and accepted by DDPS prior to the 2023 PDE submission deadline are used to calculate this measure. PDE claims are limited to members who received at least two

Title	Description
	prescriptions on unique dates of service for RAS antagonist medication(s). PDE adjustments made post-reconciliation were not reflected in this measure. Additional data sources include the CME, the EDB, and the CWF, and the EDS. The data cut off date for all the additional data sources listed below such as the CME, CWF, and EDS is determined by the same PDE submission deadline for the annual Part D payment reconciliation. • CME is used for enrollment information. • EDB is used to identify beneficiaries who elected to receive hospice care or with ESRD status (dialysis start and end dates within the measurement period). Due to CMS's migration of the beneficiary database, including the EDB and CME, to the Amazon Web Services (AWS Cloud), equivalent EDB information to identify beneficiaries in hospice and with ESRD status is pulled from the CME beneficiary tables from the Integrated Data Repository (CME IDRC), sourced from the same upstream database. • CWF is used to identify exclusion diagnoses based on ICD-10-CM codes, inpatient and SNF stays for PDPs and MA-PDs (if available). • EDS is used to identify diagnoses based on ICD-10-CM codes, and SNF/IP stays for MA-PD beneficiaries.
Data Source Category:	Health and Drug Plans
Exclusions:	Contracts with 30 or fewer enrolled member-years (in the denominator). The following beneficiaries are also excluded from the denominator if at any time during the measurement period: • In hospice • ESRD diagnosis or dialysis coverage dates • One or more prescriptions for sacubitril/valsartan
General Notes:	Part D drugs do not include drugs or classes of drugs, or their medical uses, which may be excluded from coverage or otherwise restricted under section 1927(d)(2) of the Act, except for smoking cessation agents. As such, these drugs, which may be included in the PQA medication or NDC lists, are excluded from CMS analyses. Also, the member-years of enrollment adjustment is made by CMS to account for partial enrollment within the benefit year. Enrollment is measured at the episode level, and inclusion in the measure is determined separately for each episode – i.e., to be included for a given episode, the beneficiary must meet the initial inclusion criteria for the measure during that episode. The measure is weighted based on the total number of member-years for each enrollment episode in which the beneficiary meets the measure criteria. For instance, if a beneficiary is enrolled for a three-month episode, disenrolled for a six-month episode, reenrolled for a three-month episode, and meets the measure criteria during each enrollment episode, s/he will count as 0.5 member years in the rate calculation (3/12 + 3/12 = 6/12). The PDC calculation is adjusted for overlapping prescriptions for the same drug which is defined by active ingredient at the generic name level using the NDC list maintained by PQA. The calculation also adjusts for Part D beneficiaries' stays in IP settings, and stays in SNFs. The discharge date is included as an adjustment day for IP/SNF stays.

Title	Description
	Please see Attachment L: Medication Adherence Measure Calculations for more information about these calculation adjustments. When available, beneficiary death date from the CME is the end date of a beneficiary's measurement period.
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Intermediate Outcome Measure
Weighting Value:	3
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00437-01-C-PARTD
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 83 %	>= 83 % to < 87 %	>= 87 % to < 90 %	>= 90 % to < 92 %	>= 92 %
PDP	< 87 %	>= 87 % to < 89 %	>= 89 % to < 90 %	>= 90 % to < 92 %	>= 92 %

Measure: D10 - Medication Adherence for Cholesterol (Statins)

Title	Description
Label for Stars:	Taking Cholesterol Medication as Directed
Label for Data:	Taking Cholesterol Medication as Directed
Description:	Percent of plan members with a prescription for a cholesterol medication (a *statin drug*) who fill their prescription often enough to cover 80% or more of the time they are supposed to be taking the medication. One of the most important ways people with high cholesterol can manage their health is by taking medication as directed. The plan, the doctor, and the member can work together to do this.
Metric:	This measure is defined as the percent of Medicare Part D beneficiaries 18 years and older who adhere to their prescribed drug therapy for statin cholesterol medications. This percentage is calculated as the number of member-years of enrolled beneficiaries 18 years and older with a proportion of days covered (PDC) at 80 percent or higher for statin cholesterol medication(s) during the measurement period (numerator) divided by the number of member-years of enrolled beneficiaries 18 years and older with at least two statin cholesterol medication fills on unique dates of service during the measurement period (denominator). The PDC is the percent of days in the measurement period “covered” by prescription claims for the same medication or another in the therapeutic category. Beneficiaries are only included in the measure calculation if the first fill of their statin medication occurs at least 91 days before the end of the enrollment period, end of measurement period, or death, whichever comes first. The Medication Adherence measure is adapted from the Medication Adherence-Proportion of Days Covered measure that was developed and endorsed by the PQA. See the medication list for this measure. The Medication Adherence rate is calculated using the NDC list maintained by the PQA. The complete NDC list, including diagnosis codes, is posted along with these technical notes.
Primary Data Source:	Prescription Drug Event (PDE) data
Data Source Description:	The data for this measure come from PDE data submitted by drug plans to the CMS DDPS and accepted by the 2023 PDE submission deadline for annual Part D payment reconciliation with dates of service from January 1, 2023-December 31, 2023. If the PDE edit results in the PDE being rejected by DDPS, then the PDE is not used in the Patient Safety measure calculations. If the PDE edit is informational and therefore, does not result in the PDE being rejected, then the PDE is used in the Patient Safety measure calculations. Reminder, CMS uses the term “final action” PDE to describe the most recently accepted original, adjustment, or deleted PDE record representing a single dispensing event. Original and adjustment final action PDEs submitted by the sponsor and accepted by DDPS prior to the 2023 PDE submission deadline are used to calculate this measure. PDE claims are limited to members who received at least two prescriptions on unique dates of service for statin medication. PDE adjustments made post-reconciliation were not reflected in this measure.

Title	Description
	Additional data sources include the CME, the EDB, the CWF, and the EDS. The data cut off date for all the additional data sources listed below such as the CME, CWF, and EDS is determined by the same PDE submission deadline for the annual Part D payment reconciliation. • CME is used for enrollment information. • EDB is used to identify beneficiaries who elected to receive hospice care or with ESRD status (dialysis start and end dates within the measurement period). Due to CMS's migration of the beneficiary database, including the EDB and CME, to the Amazon Web Services (AWS Cloud), equivalent EDB information to identify beneficiaries in hospice and with ESRD status is pulled from the CME beneficiary tables from the Integrated Data Repository (CME IDRC), sourced from the same upstream database. • CWF is used to identify exclusion diagnoses based on ICD-10-CM codes, IP and SNF stays for PDPs and MA-PDs (if available). • EDS is used to identify diagnoses based on ICD-10-CM codes, and SNF/IP stays for MA-PD beneficiaries.
Data Source Category:	Health and Drug Plans
Exclusions:	Contracts with 30 or fewer enrolled member-years (in the denominator). The following beneficiaries are also excluded from the denominator if at any time during the measurement period: • In hospice • ESRD diagnosis or dialysis coverage dates
General Notes:	Part D drugs do not include drugs or classes of drugs, or their medical uses, which may be excluded from coverage or otherwise restricted under section 1927(d)(2) of the Act, except for smoking cessation agents. As such, these drugs, which may be included in the PQA medication or NDC lists, are excluded from CMS analyses. Also, the member-years of enrollment adjustment is made by CMS to account for partial enrollment within the benefit year. Enrollment is measured at the episode level, and inclusion in the measure is determined separately for each episode – i.e., to be included for a given episode, the beneficiary must meet the initial inclusion criteria for the measure during that episode. The measure is weighted based on the total number of member-years for each enrollment episode in which the beneficiary meets the measure criteria. For instance, if a beneficiary is enrolled for a three-month episode, disenrolled for a six-month episode, reenrolled for a three-month episode, and meets the measure criteria during each enrollment episode, s/he will count as 0.5 member years in the rate calculation (3/12 + 3/12 = 6/12). The PDC calculation is adjusted for overlapping prescriptions for the same drug which is defined by active ingredient at the generic name level using the NDC list maintained by PQA. The calculation also adjusts for Part D beneficiaries' stays in IP settings, and stays in SNFs. The discharge date is included as an adjustment day for IP/SNF stays. Please see Attachment L: Medication Adherence Measure Calculations for more information about these calculation adjustments. When available, beneficiary death date from the CME is the end date of a beneficiary's measurement period.

Title	Description
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Intermediate Outcome Measure
Weighting Value:	3
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00435-01-C-PARTD
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 80 %	>= 80 % to < 85 %	>= 85 % to < 89 %	>= 89 % to < 93 %	>= 93 %
PDP	< 86 %	>= 86 % to < 88 %	>= 88 % to < 89 %	>= 89 % to < 92 %	>= 92 %

Measure: D11 - MTM Program Completion Rate for CMR

Title	Description
Label for Stars:	Members Who Had a Pharmacist (or Other Health Professional) Help them Understand and Manage Their Medications
Label for Data:	Members Who Had a Pharmacist (or Other Health Professional) Help them Understand and Manage Their Medications
Description:	Some plan members are in a program (called a *Medication Therapy Management* program) to help them manage their drugs. The measure shows how many members in the program had an assessment of their medications from the plan. The assessment includes a discussion between the member and a pharmacist (or other health care professional) about all of the member's medications. The member also receives a written summary of the discussion, including an action plan that recommends what the member can do to better understand and use his or her medications.

Title	Description
Metric:	This measure is defined as the percent of Medication Therapy Management (MTM) program enrollees who received a Comprehensive Medication Review (CMR) during the reporting period. Numerator = Number of beneficiaries from the denominator who received a CMR at any time during their period of MTM enrollment in the reporting period. Denominator = Number of beneficiaries who were at least 18 years or older as of the beginning of the reporting period and who were enrolled in the MTM program for at least 60 days during the reporting period. Only those beneficiaries who meet the contracts' specified targeting criteria per CMS – Part D requirements pursuant to §423.153(d) of the regulations at any time in the reporting period are included in this measure. Beneficiaries who were in hospice at any point during the reporting period are excluded. Beneficiaries who were enrolled in the contract's MTM program for less than 60 days at any time in the measurement year are only included in the denominator and the numerator if they received a CMR within this timeframe. Beneficiaries are excluded from the measure calculation if they were enrolled in the contract's MTM program for less than 60 days and did not receive a CMR within this timeframe. The date of enrollment is counted towards the 60 days but the opt-out date is not. A beneficiary's MTM eligibility, receipt of CMRs, etc., is determined for each contract he/she was enrolled in during the measurement period. Similarly, a contract's CMR completion rate is calculated based on each of its eligible MTM enrolled beneficiaries. For example, a beneficiary must meet the inclusion criteria for the contract to be included in the contract's CMR rate. A beneficiary who is enrolled in two different contracts' MTM programs for 30 days each is therefore excluded from both contracts' CMR rates. The beneficiary is only included in the measure calculation for the contract(s) where they were enrolled at least 60 days or received a CMR if enrolled for less than 60 days. Beneficiaries with multiple records that contain varying information for the same contract are excluded from the measure calculation for that contract. Beneficiaries may be enrolled in MTM based on the contracts' specified targeting criteria per CMS – Part D requirements and/or based on expanded, other plan-specific targeting criteria. Beneficiaries who were initially enrolled in MTM due to other plan-specific (expanded) criteria and then later met the contracts' specified targeting criteria per CMS – Part D requirements at any time in the reporting period are included in this measure. In these cases, a CMR received after the date of MTM enrollment but before the date the beneficiary met the specified targeting criteria per CMS – Part D requirements are included.
Primary Data Source:	Part D Plan Reporting
Data Source Description:	The data for this measure were reported by contracts to CMS per the 2023 Part D Reporting Requirements (data pulled June 2024). Validation of these data was performed retrospectively during the 2024 data validation cycle (deadline June 15, 2024 and data validation results pulled July 2024). Additionally, the Medicare Enrollment Database (EDB) from the Integrated Data Repository (CME IDRC) is used to identify beneficiaries in hospice (data pulled June 2024).
Data Source Category:	Health and Drug Plans

Title	Description
Exclusions:	Contracts with an effective termination date on or before the deadline to submit data validation results to CMS (June 15, 2024) are excluded and listed as “Not required to report.” MTM CMR rates are not provided for contracts that did not score at least 95% on data validation for the Medication Therapy Management Program reporting section or were not compliant with data validation standards/sub-standards for any of the following Medication Therapy Management Program data elements. We define a contract as being non-complaint if either it receives a "No" or a 1, 2, or 3 on the 5-point Likert scale in the specific data element's data validation. • MBI Number (Element B) • Date of MTM program enrollment (Element H) • Met the specified targeting criteria per CMS – Part D requirements (Element I) • Date met the specified targeting criteria per CMS – Part D requirements (Element J) • Date of MTM program opt-out, if applicable (Element K) • Received annual CMR with written summary in CMS standardized format (Element O) • Date(s) of CMR(s) (Element P) MTM CMR rates are also not provided for contracts that failed to submit their MTM file and pass system validation by the reporting deadline or who had a missing data validation score for MTM. Contracts excluded from the MTM CMR Rates due to data validation issues are shown as “CMS identified issues with this plan's data.” See Attachment N for more details on the MTM CMR completion rate measure scoring methodology. Contracts can view their data validation results in HPMS (https://hpms.cms.gov/). To access this page, from the top menu select “Monitoring,” then “Plan Reporting Data Validation.” Select the appropriate contract year. Select the PRDVM Reports. Select “Score Detail Report.” Select the applicable reporting section. If you cannot see the Plan Reporting Data Validation module, contact CMS at HPMS_Access@cms.hhs.gov. Additionally, contracts must have 31 or more enrollees in the denominator in order to have a calculated rate. Contracts with fewer than 31 eligible enrollees are listed as "Not enough data available".
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure

Title	Description

Weighting Value: 1

Major Disaster: Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.

Meaningful Measure Area: Seamless Care Coordination

CMIT #: 00454-01-C-PARTD

Data Display: Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 57 %	>= 57 % to < 77 %	>= 77 % to < 89 %	>= 89 % to < 93 %	>= 93 %
PDP	< 30 %	>= 30 % to < 55 %	>= 55 % to < 68 %	>= 68 % to < 80 %	>= 80 %

Measure: D12 - Statin Use in Persons with Diabetes (SUPD)

Title	Description

Label for Stars: The Plan Makes Sure Members with Diabetes Take the Most Effective Drugs to Treat High Cholesterol

Label for Data: The Plan Makes Sure Members with Diabetes Take the Most Effective Drugs to Treat High Cholesterol

Description: To lower their risk of developing heart disease, most people with diabetes should take cholesterol medication. This rating is based on the percent of plan members with diabetes who take the most effective cholesterol-lowering drugs. Plans can help make sure their members get these prescriptions filled.

Metric: This measure is defined as the percent of Medicare Part D beneficiaries 40-75 years old who were dispensed at least two diabetes medication fills on unique dates of service and received a statin medication fill during the measurement period. The percentage is calculated as the number of member-years of enrolled beneficiaries 40-75 years old who received a statin medication fill during the measurement period (numerator) divided by the number of member-years of enrolled beneficiaries 40-75 years old with at least two diabetes medication fills on unique dates of service during the measurement period (denominator).

Beneficiaries are only included in the measure calculation if the first fill of their diabetes medication occurs at least 90 days before the end of the measurement year or end of the enrollment episode.

The SUPD measure is adapted from the measure concept that was developed and endorsed by the PQA.

See the medication list for this measure. The SUPD measure is calculated using the NDC lists updated by the PQA. The complete NDC lists, including diagnosis codes, are posted along with these technical notes.

Title	Description
Primary Data Source:	Prescription Drug Event (PDE) data
Data Source Description:	The data for this measure come from Prescription Drug Event (PDE) data submitted by drug plans to the CMS DDPS and accepted by the 2023 PDE submission deadline for annual Part D payment reconciliation with dates of service from January 1, 2023 – December 31, 2023. If the PDE edit results in the PDE being rejected by DDPS, then the PDE is not used in the Patient Safety measure calculations. If the PDE edit is informational and therefore, does not result in the PDE being rejected, then the PDE is used in the Patient Safety measure calculations. Reminder, CMS uses the term “final action” PDE to describe the most recently accepted original, adjustment, or deleted PDE record representing a single dispensing event. Original and adjustment final action PDEs submitted by the sponsor and accepted by DDPS prior to the 2023 PDE submission deadline are used to calculate this measure. PDE adjustments made post-reconciliation were not reflected in this measure. Additional data sources include the CME, the EDB, the CWF, and the EDS. The data cut off date for all the additional data sources listed below such as the CME, CWF, and EDS is determined by the same PDE submission deadline for the annual Part D payment reconciliation. • CME is used for enrollment information. • EDB is used to identify beneficiaries who elected to receive hospice care or with ESRD status (dialysis start and end dates within the measurement period). Due to CMS’s migration of the beneficiary database, including the EDB and CME, to the Amazon Web Services (AWS Cloud), equivalent EDB information to identify beneficiaries in hospice and with ESRD status is pulled from the CME beneficiary tables from the Integrated Data Repository (CME IDRC), sourced from the same upstream database. • CWF is used to identify exclusion diagnoses based on ICD-10-CM codes. • EDS is used to identify diagnoses based on ICD-10-CM codes.
Data Source Category:	Health and Drug Plans
Exclusions:	Contracts with 30 or fewer enrolled member-years (in the denominator). The following beneficiaries are excluded from the denominator if at any time during the measurement period: • Hospice enrollment • ESRD diagnosis or dialysis coverage dates • Rhabdomyolysis and myopathy • Pregnancy, Lactation, and fertility • Cirrhosis • Pre-Diabetes • Polycystic Ovary Syndrome
General Notes:	Part D drugs do not include drugs or classes of drugs, or their medical uses, which may be excluded from coverage or otherwise restricted under section 1927(d)(2) of the Act, except for smoking cessation agents. As such, these drugs, which may be included in the PQA medication or NDC lists, are excluded from CMS analyses. Also, the member-years of enrollment adjustment is made by CMS to account for partial enrollment within the benefit year. Enrollment is measured at the episode level, and inclusion in the measure is determined separately for each episode – i.e., to be included for a given

Title	Description
	episode, the beneficiary must meet the initial inclusion criteria for the measure during that episode. The measure is weighted based on the total number of member years for each episode in which the beneficiary meets the measure criteria. For instance, if a beneficiary is enrolled for a three-month episode, disenrolled for a six-month episode, reenrolled for a three-month episode, and meets the measure criteria during each enrollment episode, s/he will count as 0.5 member years in the rate calculation (3/12 + 3/12 = 6/12).
Data Time Frame:	01/01/2023 – 12/31/2023
General Trend:	Higher is better
Statistical Method:	Clustering
Improvement Measure:	Included
CAI Usage:	Included
Case-Mix Adjusted:	No
Weighting Category:	Process Measure
Weighting Value:	1
Major Disaster:	Higher measure star (2024-2025) for contracts with 25% or more enrolled affected by 2023 disasters.
Meaningful Measure Area:	Chronic Conditions
CMIT #:	00702-01-C-PARTD
Data Display:	Percentage with no decimal place

Reporting Requirements:

1876 Cost	CCP w/o SNP	CCP with SNP	CCP with Only I-SNP	MSA	PDP	PFFS
Yes	Yes	Yes	Yes	No	Yes	Yes

Cut Points:

Type	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
MA-PD	< 81 %	>= 81 % to < 86 %	>= 86 % to < 89 %	>= 89 % to < 93 %	>= 93 %
PDP	< 80 %	>= 80 % to < 83 %	>= 83 % to < 85 %	>= 85 % to < 87 %	>= 87 %

Attachment A: CAHPS Case-Mix Adjustment

CAHPS Case-Mix Adjustment

The CAHPS measures are case-mix adjusted to take into account the mix of enrollees. Case-mix variables include administrative age, dual eligibility status, low-income subsidy (LIS) indicator, and use of Asian language survey, and self-reported education, general health status, mental health status, and proxy usage status. The tables below include the case-mix variables and show the case-mix coefficients for each of the CAHPS measures included in the Star Ratings. The coefficients indicate how much higher or lower people with a given characteristic tend to respond compared to otherwise similar people with the baseline value for that characteristic (e.g. reference group), on the original scale of the item or composite, as presented in plan reports. The reference group for each characteristic will have a coefficient value of zero.

For example, for the Part C measure "Rating of Health Plan," the model coefficient for "age 75-79" is 0.0511, indicating that respondents in that age range tend to score their plans 0.0511 points higher than otherwise similar people in the 70-74 age range (the baseline or reference category). Similarly, respondents who had a proxy help aside from answering for them tend to respond 0.0850 points lower on this item than otherwise similar respondents without proxy help. Contracts with higher proportions of beneficiaries who are in the 75-79 age range will be adjusted downward on this measure to compensate for the positive response tendency of their respondents. Similarly, contracts with higher proportions of respondents who had proxy help will be adjusted upward on this measure to compensate for their respondents' negative response tendency. The case-mix patterns are not always consistent across measures. Missing case-mix adjustors are imputed as the contract mean.

The composites consist of multiple items, each of which is adjusted separately before combining the adjusted scores into a composite score. Item-level coefficients are presented below separately for each composite. For more detailed information on the application of CAHPS case-mix adjustment, please review the materials at https://ma-pdpcahps.org/en/scoring-and-star-ratings/.

Attachment C: National Averages for Part C and D Measures

The tables below contain the average of contract numeric and star values for each measure reported in the 2025 Star Ratings. The averages are calculated after the disaster adjustment has been applied.

Table C-1: National Averages for Part C Measures

Measure ID	Measure Name	Numeric Average	Star Average
C01	Breast Cancer Screening	73%	3.4
C02	Colorectal Cancer Screening	73%	3.4
C03	Annual Flu Vaccine	69%	3.2
C04	Monitoring Physical Activity	50%	3.1
C05	Special Needs Plan (SNP) Care Management	75%	3.4
C06	Care for Older Adults – Medication Review	93%	4.1
C07	Care for Older Adults – Pain Assessment	93%	4.2
C08	Osteoporosis Management in Women who had a Fracture	43%	2.7
C09	Diabetes Care – Eye Exam	75%	3.4
C10	Diabetes Care – Blood Sugar Controlled	83%	3.7
C11	Controlling Blood Pressure	76%	3.0
C12	Reducing the Risk of Falling	57%	2.6
C13	Improving Bladder Control	45%	3.0
C14	Medication Reconciliation Post-Discharge	73%	3.6
C15	Plan All-Cause Readmissions	11%	3.1
C16	Statin Therapy for Patients with Cardiovascular Disease	86%	3.0
C17	Transitions of Care	59%	3.0
C18	Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions	58%	3.2
C19	Getting Needed Care	81	3.3
C20	Getting Appointments and Care Quickly	84	3.5
C21	Customer Service	90	3.5
C22	Rating of Health Care Quality	87	3.5
C23	Rating of Health Plan	87	3.2
C24	Care Coordination	87	3.6
C25	Complaints about the Health Plan	0.23	4.2
C26	Members Choosing to Leave the Plan	17%	3.6
C27	Health Plan Quality Improvement	Medicare only shows a Star Rating for this measure	3.6
C28	Plan Makes Timely Decisions about Appeals	96%	4.2
C29	Reviewing Appeals Decisions	95%	3.7
C30	Call Center – Foreign Language Interpreter and TTY Availability	94%	4.0

Table C-2: National Averages for Part D Measures

Measure ID	Measure Name	MA-PD Numeric Average	MA-PD Star Average	PDP Numeric Average	PDP Star Average
D01	Call Center – Foreign Language Interpreter and TTY Availability	94	4.0	97	3.6
D02	Complaints about the Drug Plan	0.23	4.2	0.04	4.6
D03	Members Choosing to Leave the Plan	17	3.6	10	3.7
D04	Drug Plan Quality Improvement	Medicare only shows a Star Rating for this measure	3.3	Medicare only shows a Star Rating for this measure	3.0
D05	Rating of Drug Plan	87	3.4	84	3.5
D06	Getting Needed Prescription Drugs	89	3.3	89	3.7
D07	MPF Price Accuracy	98	3.4	97	3.1
D08	Medication Adherence for Diabetes Medications	86	3.2	86	2.4
D09	Medication Adherence for Hypertension (RAS antagonists)	89	3.3	89	2.9
D10	Medication Adherence for Cholesterol (Statins)	88	3.3	88	2.9
D11	MTM Program Completion Rate for CMR	87	3.7	55	3.0
D12	Statin Use in Persons with Diabetes (SUPD)	86	2.8	83	2.7

Figure J-3: Diagram showing star assignment based on cut points.

Clustering Methodology Detail
This section details the steps of the clustering method performed in SAS to allow the conversion of the measure scores to measure-level stars.

Tukey outlier deletion is used to determine the cut points for all non-CAHPS measures. Tukey outlier deletion involves removing Tukey outer fence outlier contract scores, those defined as measure-specific scores outside the bounds of 3.0 times the measure-specific interquartile range subtracted from the 1st quartile or added to the 3rd quartile. Outliers are removed prior to applying mean resampling to the hierarchical clustering algorithm. The 1st and 3rd quartiles can be obtained by using the MEANS procedure in SAS. The Tukey outer fence outlier cutoffs can then be calculated as:

- Lower outlier cutoff: first quartile – 3.0*(third quartile – first quartile)
- Upper outlier cutoff: third quartile + 3.0*(third quartile – first quartile).

Measures with data displays of percentages with no decimal places ranging from 0 to 100 will have the lower and upper outlier cutoffs capped at those values, respectively. Any other measures with range restrictions, such as have a lower bound of zero, will have the respective outlier cutoff capped at the restricted value.

Mean resampling is used to determine the cut points for all non-CAHPS measures. With mean resampling, measure-specific scores for the current year's Star Ratings are separated into 10 equal-sized groups, using a random assignment process to assign each contract's measure score to a group. The random assignment of contracts into 10 groups can be produced using the SURVEYSELECT procedure in SAS as follows:
proc surveyselect data=inclusterdat groups=10 seed=8675309 out=inclusterdat_random;
run;

In the above code, the input dataset, *inclusterdat*, is the list of contracts without missing, flagged, excluded by disaster rules or voluntary contract scores for a particular measure. The *group=10* option identifies that 10 random groupings of the data should be created. The *seed=8675309* option specifies the seed value that controls the starting point of the random sequence of numbers and allows for future replication of the randomization process. The output dataset, *inclusterdat_random*, is identical to the input dataset with the addition of a new column, named *groupid*, that has the group assignments (from 1 through 10) for each contract.
The hierarchal clustering algorithm (steps 1 through 4 below) is then applied 10 times, each time leaving out one of the 10 groups. For each measure and leave-one-out contract set, the clustering method does the following:

- Produces the individual measure distance matrix.
- Groups the measure scores into an initial set of clusters.
- Selects the set of clusters.

1. **Produce the individual measure distance matrix.**

   For each pair of contracts j and k (j>=k) among the n contracts with measure score data, compute the Euclidian distance of their measure scores (e.g., the absolute value of the difference between the two

Relative Distribution and Significance Testing (CAHPS) Methodology

The CAHPS measures are case-mix adjusted to take into account differences in the characteristics of enrollees across contracts that may potentially impact survey responses. See Attachment A for the case-mix adjusters. The percentile cut points for base groups are defined by current-year distribution of case-mix adjusted contract means. Percentile cut points are rounded to the nearest integer on the 0-100 reporting scale, and each base group includes those contracts whose rounded mean score is at or above the lower limit and below the upper limit. The number of stars assigned is determined by the position of the contract mean score relative to percentile cutoffs from the distribution of contract weighted mean scores from all contracts (which determines the base group); statistical significance of the difference of the contract mean from the national mean along with the direction of the difference; the statistical reliability of the estimate (based on the ratio of sampling variation for each contract mean to between-contract variation); and the standard error of the mean score. All statistical tests, including comparisons involving standard errors, are computed using unrounded scores.

CAHPS reliability calculation details are provided under the section header, "MA & PDP CAHPS Between-Contract Variances for Reported Measures" at https://www.ma-pdpcahps.org/en/scoring-and-star-ratings. Tables K-8 and K-9 contain the rules applied to determine the final CAHPS measure star value.

Table K-8: CAHPS Star Assignment Rules

Star	Criteria for Assigning Star Ratings
1	A contract is assigned one star if both criteria (a) and (b) are met plus at least one of criteria (c) and (d): (a) its average CAHPS measure score is lower than the 15th percentile; AND (b) its average CAHPS measure score is statistically significantly lower than the national average CAHPS measure score; (c) the reliability is not low; OR (d) its average CAHPS measure score is more than one standard error (SE) below the 15th percentile.
2	A contract is assigned two stars if it does not meet the one-star criteria and meets at least one of these three criteria: (a) its average CAHPS measure score is lower than the 30th percentile and the measure does not have low reliability; OR (b) its average CAHPS measure score is lower than the 15th percentile and the measure has low reliability; OR (c) its average CAHPS measure score is statistically significantly lower than the national average CAHPS measure score and below the 60th percentile.
3	A contract is assigned three stars if it meets at least one of these three criteria: (a) its average CAHPS measure score is at or above the 30th percentile and lower than the 60th percentile, AND it is not statistically significantly different from the national average CAHPS measure score; OR (b) its average CAHPS measure score is at or above the 15th percentile and lower than the 30th percentile, AND the reliability is low, AND the score is not statistically significantly lower than the national average CAHPS measure score; OR (c) its average CAHPS measure score is at or above the 60th percentile and lower than the 80th percentile, AND the reliability is low, AND the score is not statistically significantly higher than the national average CAHPS measure score.
4	A contract is assigned four stars if it does not meet the five-star criteria and meets at least one of these three criteria: (a) its average CAHPS measure score is at or above the 60th percentile and the measure does not have low reliability; OR (b) its average CAHPS measure score is at or above the 80th percentile and the measure has low reliability; OR (c) its average CAHPS measure score is statistically significantly higher than the national average CAHPS measure score and above the 30th percentile.
5	A contract is assigned five stars if both criteria (a) and (b) are met plus at least one of criteria (c) and (d): (a) its average CAHPS measure score is at or above the 80th percentile; AND (b) its average CAHPS measure score is statistically significantly higher than the national average CAHPS measure score; (c) the reliability is not low; OR (d) its average CAHPS measure score is more than one standard error (SE) above the 80th percentile.

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Figure J-3: Diagram showing star assignment based on cut points.

Clustering Methodology Detail

This section details the steps of the clustering method performed in SAS to allow the conversion of the measure scores to measure-level stars.

Tukey outlier deletion is used to determine the cut points for all non-CAHPS measures. Tukey outlier deletion involves removing Tukey outer fence outlier contract scores, those defined as measure-specific scores outside the bounds of 3.0 times the measure-specific interquartile range subtracted from the 1st quartile or added to the 3rd quartile. Outliers are removed prior to applying mean resampling to the hierarchical clustering algorithm. The 1st and 3rd quartiles can be obtained by using the MEANS procedure in SAS. The Tukey outer fence outlier cutoffs can then be calculated as:

- Lower outlier cutoff: first quartile – 3.0*(third quartile – first quartile).
- Upper outlier cutoff: third quartile + 3.0*(third quartile – first quartile).

Measures with data displays of percentages with no decimal places ranging from 0 to 100 will have the lower and upper outlier cutoffs capped at those values, respectively. Any other measures with range restrictions, such as have a lower bound of zero, will have the respective outlier cutoff capped at the restricted value.

Mean resampling is used to determine the cut points for all non-CAHPS measures. With mean resampling, measure-specific scores for the current year's Star Ratings are separated into 10 equal-sized groups, using a random assignment process to assign each contract's measure score to a group. The random assignment of contracts into 10 groups can be produced using the SURVEYSELECT procedure in SAS as follows:
proc surveyselect data=inclusterdat groups=10 seed=8675309 out=inclusterdat_random;
run;

In the above code, the input dataset, *inclusterdat*, is the list of contracts without missing, flagged, excluded by disaster rules or voluntary contract scores for a particular measure. The *group=10* option identifies that 10 random groupings of the data should be created. The *seed=8675309* option specifies the seed value that controls the starting point of the random sequence of numbers and allows for future replication of the randomization process. The output dataset, *inclusterdat_random*, is identical to the input dataset with the addition of a new column, named *groupid*, that has the group assignments (from 1 through 10) for each contract.
The hierarchal clustering algorithm (steps 1 through 4 below) is then applied 10 times, each time leaving out one of the 10 groups. For each measure and leave-one-out contract set, the clustering method does the following:

- Produces the individual measure distance matrix.
- Groups the measure scores into an initial set of clusters.
- Selects the set of clusters.

1. **Produce the individual measure distance matrix.**

   For each pair of contracts j and k (j>=k) among the n contracts with measure score data, compute the Euclidian distance of their measure scores (e.g., the absolute value of the difference between the two

Medicare 2023 Part C & D Star Ratings Technical Notes

Updated – 01/19/2023

Clustering Methodology Detail

This section details the steps of the clustering method performed in SAS to allow the conversion of the measure scores to measure-level stars.

Mean resampling is used to determine the cut points for all non-CAHPS measures. With mean resampling, measure-specific scores for the current year's Star Ratings are separated into 10 equal-sized groups, using a random assignment process to assign each contract's measure score to a group. The random assignment of contracts into 10 groups can be produced using the SURVEYSELECT procedure in SAS as follows:

```
proc surveyselect data=inclusterdat groups=10 seed=8675309 out=inclusterdat_random;
run;
```

In the above code, the input dataset, *inclusterdat,* is the list of contracts without missing, flagged, excluded by disaster rules or voluntary contract scores for a particular measure. The *group=10* option identifies that 10 random groupings of the data should be created. The *seed=8675309* option specifies the seed value that controls the starting point of the random sequence of numbers and allows for future replication of the randomization process. The output dataset, *inclusterdat_random,* is identical to the input dataset with the addition of a new column, named *groupid,* that has the group assignments (from 1 through 10) for each contract.

The hierarchal clustering algorithm (steps 1 through 4 below) is then applied 10 times, each time leaving out one of the 10 groups. For each measure and leave-one-out contract set, the clustering method does the following:

- Produces the individual measure distance matrix.
- Groups the measure scores into an initial set of clusters.
- Selects the set of clusters.

1. **Produce the individual measure distance matrix.**

   For each pair of contracts j and k (j>=k) among the n contracts with measure score data, compute the Euclidian distance of their measure scores (e.g., the absolute value of the difference between the two measure scores). Enter this distance in row j and column k of a distance matrix with n rows and n columns. This matrix can be produced using the DISTANCE procedure in SAS as follows:

   ```
   proc distance data= inclusterdat_leave1out out=distancedat method=Euclid;
               var interval(measure_score);
               id contract_id;
   run;
   ```

   In the above code, the input data set, *inclusterdat_leave1out,* is the list of contracts (excluding the group left out) without missing, flagged, excluded by disaster rules or voluntary contract scores for a particular measure. Each record has a unique contract identifier, *contract_id*. The option *method=Euclid* specifies that distances between contract measure scores should be based on Euclidean distance. The input data contain a variable called *measure_score* that is formatted to the display criteria outlined in the Technical Notes. In the *var* call, the parentheses around *measure_score* indicate that *measure_score* is considered to be an interval or numeric variable. The distances computed by this code are stored to an output data set called *distancedat.*

2. **Create a tree of cluster assignments.**

Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS® Survey

Quality Assurance Protocols & Technical Specifications

Version 14.1

November 2023

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Data Cleaning Prior to Case-Mix Adjustment

A forward-cleaning approach is used for editing and cleaning survey data. This approach uses responses to the "screener" (or gate) items to control how subsequent items within the questionnaire are treated, such as setting responses to a missing value or retaining the original response. Under this forward data cleaning approach, screener items that were initially unanswered are **not** updated or back-filled based on responses to subsequent items.

Data are cleaned using the following forward-cleaning conventions and guidelines:

- Survey items that contain multiple responses (double-grid) when only one response is allowed are set to "M – Missing"
- If a screener question is blank, but there are data in the dependent questions, those data are used in analysis and the screener is recorded as "M – Missing"
- If the response to a screener question is valid, but the respondent violates the skip instruction by answering dependent questions that should have been skipped, the response to the screener question is retained and the responses for the dependent questions are set to "M – Missing" (with the exception of Customer Service, item 3 as referenced above)
- Embedded screener questions (a skip pattern within a skip pattern) are treated in the same way as a primary screener question. The embedded skip pattern is evaluated first, followed by the primary skip pattern.

Special missing value codes are assigned to recoded questionnaire variables to indicate the type of missing data.

Case-Mix Adjustment and Weighting

Certain respondent characteristics, such as education, are not under the control of the health plan, but are related to the sampled enrollee's survey responses. To ensure that comparisons between contracts reflect differences in performance rather than differences in case-mix, CMS adjusts for such respondent characteristics when comparing contracts in preview reports and public reporting.

In general, for example, individuals with less education and those who report better general and mental health provide more positive ratings and reports of care. The case-mix model used for analyzing MA & PDP CAHPS Survey data includes the following variables (each of which has mutually exclusive categories):

- Education
- Self-reported general health status
- Self-reported mental health status
- Proxy completion of the survey or other proxy assistance
- Dual eligibility*; Low income subsidy but not dual eligibility*
- Age* (calculated as the difference between survey finalization year and year of birth)
- Asian (Chinese, Korean, Tagalog, and Vietnamese) language survey completion

* *Note: CMS Administrative Data*

From: CMS MP-CAHPS
To: Turano, Michelle
Cc: CMS PartC&DStarRatings
Subject: RE: Elevance Health Plan Preview 2 Letter to CMS
Date: Thursday, September 19, 2024 9:36:55 AM
Attachments: H3655_Casemix_CAHPS_2024_more_suppression_info.xlsx
H6078_Casemix_CAHPS_2024_more_suppression_info.xlsx
image001.png

Good morning,

This is in response to your CAHPS comments. In accordance with confidentiality requirements, CMS cannot provide the suppressed case-mix adjustment data for these contracts. We realize that suppression of cells with small sample sizes in the case-mix adjustment reports may in some instances make exact verification of case-mix adjustment calculations unfeasible. The same methodology and the same code are used for all case-mix adjustment calculations, so Elevance may use instances where no cells are suppressed for a given measure to verify the accuracy of case-mix adjustment. Examples of measures for which Elevance contracts do not experience any small-cell suppression include md_medrecs for contract H3447, pl_ezpaper for contract H5828, and md_talkmeds for contract H9525. The corresponding tabs of the case-mix adjustment reports for those contracts may be used to verify case-mix adjustment calculations.

For contracts H3655 and H6078, see the attached files for slightly modified versions of the case-mix adjustment reports. In these reports, for contract proportions that have been suppressed, we've provided additional information within the limits of our confidentiality requirements about the extent to which the contract's proportions differs from the national proportion. See footnote 1 in the reports, which provides the key regarding whether a suppressed contract proportion is at least 20 percentage points below the national proportion, within 20 percentage points of the national proportion, or at least 20 percentage points above the national proportion. For these two contracts, in nearly all cases in which a contract proportion is suppressed, the contract proportion is within 20 percentage points of the national proportion. The exception is the "Medicaid dual eligible" predictor category, for which H6078's contract proportion is at least 20 percentage points below the national proportion for 12 of the outcome measures; for example, see the first sheet "md_medrecs" in the H6078 report, where the contract proportion for "Medicaid dual eligible" is represented with a "B".

MA & PDP CAHPS case-mix adjustment ensures that contract scores are not influenced by patient-level factors beyond their control and facilitates fair comparison of contracts. Its effects are moderate rather than drastic or disproportionate and improve the comparability of the data across contracts (Orr et al. 2022, Cefalu et al. 2021). Building on a body of CAHPS research that has continued into more specific MA & PDP CAHPS research, the MA & PDP CAHPS methodology benefits from more than 25 years of case-mix adjustment research, psychometric evaluation, and analyses to ensure and improve data quality. This research and these procedures are well-represented in the peer-reviewed literature and available on the MA & PDP CAHPS website.

Orr N, Zaslavsky AM, Hays RD, Cleary PD, Haviland AM, Brown JA, Dembosky JW, Martino SC, Gaillot S, Elliott MN. (2022) "Development, Methodology, and Adaptation of the Medicare

Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Patient-Experience Survey, 2007-2019" *Health Services and Outcomes Research Methodology* 2022:1-20. DOI: https://doi.org/10.1007/s10742-022-00277-9

Cefalu M, Elliott MN, Hays RD. (2021) "Adjustment of Patient Experience Surveys for How People Respond" *Medical Care* 59(3):202-205 DOI: https://doi.org/10.1097/MLR.0000000000001489

Thank you
MA & PDP CAHPS Survey Team

From: CMS PartC&DStarRatings <PartCandDStarRatings@cms.hhs.gov>
Sent: Friday, September 13, 2024 4:19 PM
To: CMS MP-CAHPS <MP-CAHPS@cms.hhs.gov>
Cc: CMS PartC&DStarRatings <PartCandDStarRatings@cms.hhs.gov>
Subject: FW: Elevance Health Plan Preview 2 Letter to CMS

From: Turano, Michelle <michelle.turano@elevancehealth.com>
Sent: Friday, September 13, 2024 4:05 PM
To: CMS PartC&DStarRatings <PartCandDStarRatings@cms.hhs.gov>
Subject: Elevance Health Plan Preview 2 Letter to CMS

Dear Sir or Madam: attached please find Elevance Health's response to the 2025 Star Ratings Plan Preview 2 data, as well as a zip file attachment. Could you kindly confirm your receipt of this correspondence?

Thank you in advance.
Michelle Turano

Michelle Turano
Vice President, Government Business Compliance
Medicare & Medicaid Compliance Officer
5411 Sky Center Dr., Tampa, Florida 33607
Phone: 813-295-1367
Michelle.turano@elevancehealth.com

*You can confidentially report a compliance issue by calling the HelpLine at **877-725-2702.***

CMS Newsroom

Fact Sheets Oct 10, 2024

2025 Medicare Advantage and Part D Star Ratings

Medicare Part D Medicare Part C

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Note: The information included in this Fact Sheet is based on the 2025 Star Ratings published on the Medicare Plan Finder on October 10, 2024. For details on the Medicare Advantage (MA) and Part D Star Ratings, please refer to the 2025 Part C & D Star Ratings Technical Notes available at http://go.cms.gov/partcanddstarratings.

Introduction

Ensuring that Medicare works for seniors and people with disabilities, and that people with Medicare have access to robust, stable, high-quality, and affordable options for the coverage they need, are top priorities for the Centers for Medicare & Medicaid Services (CMS). As part of this, CMS is focused on continuing to improve the quality of the MA and Part D programs. As the results for the 2025 Star Ratings demonstrate, CMS continues to implement enhancements to the MA and Part D Star Ratings program to promote continual quality improvement to help ensure that Medicare enrollees receive high quality care and to incentivize plans to continue to strive for higher quality.

CMS publishes the Medicare Advantage (Medicare Part C) and Medicare Part D Star Ratings each year to measure the quality of health and prescription drug services received by consumers enrolled in MA and Part D prescription drug plans (PDPs or Part D plans). The Star Ratings system helps people with Medicare compare the quality of Medicare health and drug plans being offered so they are empowered to make the best health care decisions for themselves. An important component of this effort is to provide people with Medicare and their caregivers with meaningful information about quality, alongside information about benefits and costs, to assist them in comparing plans and choosing the Medicare coverage option that best fits their health needs.

The 2025 Stars being announced today appear on Medicare Plan Finder for 2025 open enrollment and will impact 2026 MA quality bonus payments.

Highlights of Contract Performance in 2025 Star Ratings

Medicare Advantage Prescription Drug (MA-PD) contracts are rated on up to 40 unique quality and performance measures; MA-only contracts (without Part D coverage) are rated on up to 30 measures; and PDP contracts are rated on up to 12 measures. For each measure, CMS establishes thresholds called "cut points" that are used to determine whether each contract's performance for that measure receives a 1-, 2-, 3-, 4- or 5-star rating.

Changes in the Methodology for the 2025 Star Ratings

There were no major methodological changes in the 2025 Star Ratings. Minor methodological changes were included for 2025, such as increasing the weight for the Part C Plan All-Cause Readmissions measure from one to three.[1] Since the Part D Medicare Plan Finder measure is no longer treated as a new measure, bi-directional guardrails are now applied, as needed, starting with the 2025 Star Ratings to this measure after mean resampling if cut points change by more than 5%. Guardrails were not applied to this measure for the 2025 Star Ratings since cut points did not move more than 5%.

CMS made changes to the methodology through previous notice and comment rulemaking for the 2024 Star Ratings that affect the 2025 Star Ratings. In the Medicare Program, Contract Year 2021 Policy and Technical Changes to the Medicare Advantage Program, Medicare Prescription Drug Benefit Program, and Medicare Cost Plan Program Final Rule (85 FR 33796) [2], we added Tukey outlier deletion to the hierarchical clustering methodology that is used to set cut points for non-Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures, in order to improve accuracy and stability of

the Star Ratings measure-level cut points (i.e., the performance level needed to receive a certain measure star), starting with the 2024 Star Ratings. Tukey outlier deletion results in more accurate cut points that are not influenced by a small number of extreme outliers, often at the low end of performance. When a small number of extreme outliers at the low end of performance are dropped, there is an upward shift in cut points because the few outliers on the lower end of performance are no longer having an undue influence on cut points. However, in some cases, guardrails, which limit upward and downward movement of cut points year-over-year, prevent cut point adjustments from reflecting the full impact of Tukey outlier deletion.

***Rating Distribution*[3]**

The last row in Table 1 shows the trend in the average overall Star Ratings weighted by enrollment for MA-PDs from 2022 to 2025 after any adjustments for extreme and uncontrollable circumstances.[4]

- Approximately 40% of MA-PDs (209 contracts) that will be offered in 2025 earned four stars or higher for their 2025 overall rating.
- Weighted by enrollment, approximately 62% of MA-PD enrollees are currently in contracts that will have four or more stars in 2025.

Changes in Star Ratings year-over-year are normal and expected and vary by measure. The Star Ratings are intended to capture a contract's performance during the measurement period and some contracts perform better or worse in different years. The cut points are recalculated each year based on performance during the measurement period. Many of the measure-level cut points increased from the 2024 Star Ratings, meaning that, overall, contracts had to achieve higher performance on these measures to receive a high Star Rating. Increases in measure-level cut points result both from contracts' performance and from CMS policies that continue to drive quality improvement for the program. The changes in measure-level cut points for 2025 Star Ratings were impacted by various factors, including:

1. For measures that had extreme outliers, they were more often removed from the lower end of performance, as described above; thus, for these measures there was an upward shift in cut points to more accurately measure performance.
2. For some measures, performance is returning to pre-pandemic levels, resulting in some increases in cut points.
3. A more compressed distribution of scores, which generally resulted in increases in cut points.
4. An increasing number of very high-scoring contracts for some measures such as Breast Cancer Screening (Part C) pushed cut points for those measures higher.
5. An increase in scores for contracts at the lower end of the distribution for some measures, such as Colorectal Cancer Screening (Part C) pushed cut points higher for those measures.

Table 1: 2022-2025 Overall Star Rating Distribution for MA-PD Contracts

Overall Rating	2022			2023			2024		
	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollment
5 stars	74	15.71	26.59	57	11.24	21.87	38	6.97	7.64
4.5 stars	96	20.38	33.21	67	13.21	25.92	81	14.86	31.76
4 stars	152	32.27	29.87	136	26.82	24.26	123	22.57	36.94
3.5 stars	122	25.90	8.49	116	22.88	18.71	141	25.87	15.89
3 stars	25	5.31	1.80	90	17.75	6.73	126	23.12	6.77

Overall Rating	2022			2023			2024		
	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollmen
2.5 stars	2	0.42	0.03	37	7.30	2.39	32	5.87	0.96
2 stars	0	0	0	4	0.79	0.12	4	0.73	0.03
Total Rated Contracts	471	100		507	100		545	100	
Average Star Rating*	**4.37**			**4.14**			**4.07**		

* The average overall MA-PD Star Rating is weighted by enrollment. The overall rating is a weighted average of the Part C and D measure stars.

The last row in Table 2 shows the average Part D ratings weighted by enrollment for stand-alone PDPs from 2022 to 2025 after any adjustments for extreme and uncontrollable circumstances.[4]

- Approximately 27% of PDPs (11 contracts) that will be active in 2025 received four or more stars for their 2025 Part D Rating.
- Weighted by enrollment, about 5% of PDP enrollees are currently in contracts that will have four or more stars in 2025.

Table 2: 2022-2025 Part D Rating Distribution for PDPs

Part D Rating	2022			2023			2024				
# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	Weighted by Enrollment	# of Contracts	%	E
5 stars	10	18.52	0.93	2	3.85	0.06	2	4.17	0.04	2	
4.5 stars	5	9.26	4.74	7	13.46	0.90	4	8.33	0.60	6	
4 stars	14	25.93	36.21	7	13.46	7.89	12	25.00	22.82	3	
3.5 stars	20	37.04	52.84	11	21.15	36.89	10	20.83	24.45	10	
3 stars	3	5.56	3.84	16	30.77	49.10	14	29.17	49.56	11	
2.5 stars	2	3.70	1.44	4	7.69	3.18	2	4.17	0.04	7	

Part D Rating	2022			2023			2024				
2 stars	0	0	0	4	7.69	0.58	4	8.33	2.48	2	
1.5 stars	0	0	0	1	1.92	1.39	0	0.00	0.00	0	
Total Rated Contracts	54	100		52	100		48	100		41	
Average Star Rating*	**3.70**			**3.25**			**3.34**				

* The average Star Rating is weighted by enrollment.

5-Star Contracts

A total of 11 contracts are highlighted on the Medicare Plan Finder with a high performing icon[5] indicating they earned five stars; seven are MA-PD contracts (Table A1 in Appendix), two are section 1876 Cost Contracts (Table A2 in Appendix), and two are PDPs (Table A3 in Appendix). For 2025, 10 of the contracts receiving the high performing icon also received it in 2024. Six of the seven MA-PD contracts receiving five stars have plan benefit packages that include dual eligible special needs plans (D-SNP).

Consistently Low Performers

There are eight contracts identified on the Medicare Plan Finder with a low performing icon[6] for 2025 for consistently low quality ratings (Table A4 in Appendix). Last year, six contracts received this icon. Seven are MA-PD contracts and one is a PDP. Two of the MA-PD contracts have D-SNP plan benefit packages.

Tax Status and Performance

Organizations that are non-profit more frequently earn higher ratings than organizations that are for-profit. For MA-PDs, approximately 50% of non-profit contracts received four or more stars compared to 36% of for-profit MA-PDs. Similarly, for PDPs, approximately 41% of non-profit PDPs received four or more stars compared to 17% of for-profit PDPs.

Below is the ratings distribution by tax status for MA-PD (Table 3) and PDP (Table 4) contracts after any adjustments for extreme and uncontrollable circumstances.[4]

Table 3: Distribution of 2025 Overall Star Ratings for For-profit and Non-profit MA-PDs

2025 Overall Rating	Number of Contracts that are For-Profit	% For-Profit	Weighted By Enrollment For-Profit	Number of Contracts that are Non-Profit	% Non-Profit	Weighted By Enrollment Non-Profit
5 stars	6	1.66	2.09	1	0.63	0.75
4.5 stars	48	13.30	21.04	38	23.75	55.87
4 stars	75	20.78	33.31	41	25.63	25.12

2025 Overall Rating	Number of Contracts that are For-Profit	% For-Profit	Weighted By Enrollment For-Profit	Number of Contracts that are Non-Profit	% Non-Profit	Weighted By Enrollment Non-Profit
3.5 stars	118	32.69	32.06	47	29.38	12.71
3 stars	95	26.32	10.43	28	17.50	4.80
2.5 stars	18	4.99	1.07	5	3.13	0.74
2 stars	1	0.28	0.01	0	0.00	0.00
Total Rated Contracts	361			160		

Table 4: Distribution of 2025 Part D Ratings for For-profit and Non-profit PDPs*

2025 Part D Rating	Number of Contracts that are For-Profit	% For-Profit	Weighted By Enrollment For-Profit	Number of Contracts that are Non-Profit	% Non-Profit	Weighted By Enrollment Non-Profit
5 stars	1	4.35	0.01	1	5.88	1.27
4.5 stars	2	8.70	0.46	4	23.53	19.02
4 stars	1	4.35	3.48	2	11.76	9.09
3.5 stars	6	26.09	48.51	4	23.53	21.96
3 stars	5	21.74	8.45	5	29.41	47.94
2.5 stars	6	26.09	30.03	1	5.88	0.73
2 stars	2	8.70	9.06	0	0.00	0.00
Total Rated Contracts	23			17		

*One PDP is missing information about tax status.

Length of Time in Program and Performance

Generally, higher overall Star Ratings are associated with contracts that have more experience in the MA program. MA-PDs with 10 or more years in the program are more likely to have four or more stars compared to contracts with fewer than five years in the program. For PDPs, there are very few PDPs with fewer than 10 years of experience in the program, so the relationship is not as clear. There is only one PDP with fewer than five years of experience and it received two stars. There are only three PDPs that have at least five years but fewer than 10 years of experience, and two of the three received four or more stars. The tables below show the distribution of ratings by the number of years in the program (MA-PDs are shown in Table 5 and PDPs in Table 6 after adjustments for extreme and uncontrollable circumstances).[4]

Table 5: Distribution of 2025 Overall Star Ratings by Length of Time in Program for MA-PDs

2025 Overall Rating	Number of Contracts with Fewer than Five Years	Percent Fewer than Five Years	Number of Contracts with Five years to Fewer than 10 Years	Percent Five Years to Fewer than 10 Years	Number of Contracts with 10 or More Years	Percent 10 or More Years
5 stars	2	1.37	0	0.00	5	1.76
4.5 stars	14	9.59	11	12.09	61	21.48
4 stars	25	17.12	23	25.27	68	23.94
3.5 stars	49	33.56	35	38.46	81	28.52
3 stars	42	28.77	20	21.98	61	21.48
2.5 stars	13	8.90	2	2.20	8	2.82
2 stars	1	0.68	0	0.00	0	0.00
Total Rated Contracts	146		91		284	

Table 6: Distribution of 2025 Part D Ratings by Length of Time in Program for PDPs

2025 Part D Rating	Number of Contracts with Fewer than Five Years	Percent Fewer than Five Years	Number of Contracts with Five years to Fewer than 10 Years	Percent Five Years to Fewer than 10 Years	Number of Contracts with 10 or More Years	Percent 10 or More Years
5 stars	0	0.00	1	33.33	1	2.70
4.5 stars	0	0.00	1	33.33	5	13.51
4 stars	0	0.00	0	0.00	3	8.11
3.5 stars	0	0.00	1	33.33	9	24.32
3 stars	0	0.00	0	0.00	11	29.73
2.5 stars	0	0.00	0	0.00	7	18.92
2 stars	1	100.00	0	0.00	1	2.70
Total Rated Contracts	1		3		37	

Average Star Rating for Each Measure

Below we list the average Star Ratings for 2022, 2023, 2024, and 2025 Part C and D measures (Tables 7, 8, and 9) using all measure scores for contracts that are publicly reported in a given year. All Star Ratings referenced in Tables 7, 8, and 9 are after adjustments for extreme and uncontrollable circumstances have been applied.[4]

Table 7: 2022-2025 Average Star Rating by Part C Measure

Measure	2022 Average Star	2023 Average Star	2024 Average Star	2025 Average Star
Breast Cancer Screening	3.9	3.7	3.7	3.4
Colorectal Cancer Screening	3.9	3.8	3.7	3.4
Annual Flu Vaccine	3.4	3.2	3.1	3.2
Monitoring Physical Activity	3.1	3.2	3.0	3.1
Special Needs Plan (SNP) Care Management	3.6	3.3	3.4	3.4
Care for Older Adults – Medication Review	4.4	4.4	4.1	4.1
Care for Older Adults – Pain Assessment	4.4	4.3	4.0	4.2
Osteoporosis Management in Women who had a Fracture	3.1	2.6	2.8	2.7
Diabetes Care – Eye Exam	3.8	3.7	3.5	3.4
Diabetes Care – Blood Sugar Controlled	4.3	4.1	3.8	3.7
Controlling Blood Pressure	NA	3.5	3.4	3.0
Reducing the Risk of Falling	2.5	2.9	2.9	2.6
Improving Bladder Control	2.7	3.3	3.2	3.0
Medication Reconciliation Post-Discharge	3.5	3.4	3.4	3.6
Plan All-Cause Readmissions	NA	NA	2.9	3.1
Statin Therapy for Patients with Cardiovascular Disease	3.5	3.5	3.3	3.0
Transitions of Care	NA	NA	2.5	3.0
Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions	NA	NA	3.0	3.2

Measure	2022 Average Star	2023 Average Star	2024 Average Star	2025 Average Star
Getting Needed Care	3.6	3.4	3.4	3.3
Getting Appointments and Care Quickly	3.6	3.5	3.5	3.5
Customer Service	3.8	3.4	3.6	3.5
Rating of Health Care Quality	3.6	3.4	3.3	3.5
Rating of Health Plan	3.5	3.2	3.1	3.2
Care Coordination	3.7	3.5	3.6	3.6
Complaints about the Plan	4.7	4.3	4.1	4.2
Members Choosing to Leave the Plan	4.1	3.5	3.6	3.6
Health Plan Quality Improvement	3.7	2.6	2.9	3.6
Plan Makes Timely Decisions about Appeals	4.6	4.6	4.3	4.2
Reviewing Appeals Decisions	4.6	4.4	3.7	3.7
Call Center – Foreign Language Interpreter and TTY Availability	4.6	4.3	4.5	4.0

Table 8: 2022-2025 Average Star Rating by Part D Measure for MA-PDs

Measure	2022 MA-PD Average Star	2023 MA-PD Average Star	2024 MA-PD Average Star	2025 MA-PD Average Star
Call Center – Foreign Language Interpreter and TTY Availability	4.5	4.4	4.5	4.0
Complaints about the Plan	4.7	4.3	4.1	4.2
Members Choosing to Leave the Plan	4.1	3.5	3.6	3.6
Drug Plan Quality Improvement	4.2	2.7	3.4	3.3
Rating of Drug Plan	3.4	3.2	3.2	3.4
Getting Needed Prescription Drugs	3.8	3.4	3.5	3.3

Measure	2022 MA-PD Average Star	2023 MA-PD Average Star	2024 MA-PD Average Star	2025 MA-PD Average Star
MPF Price Accuracy	4.0	4.2	3.6	3.4
Medication Adherence for Diabetes Medications	3.7	3.0	3.3	3.2
Medication Adherence for Hypertension (RAS antagonists)	3.9	3.4	3.4	3.3
Medication Adherence for Cholesterol (Statins)	3.6	3.1	3.2	3.3
MTM Program Completion Rate for CMR	4.0	3.9	3.6	3.7
Statin Use in Persons with Diabetes (SUPD)	3.4	3.1	2.7	2.8

Table 9: 2022-2025 Average Star Rating by Part D Measure for PDPs

Measure	2022 PDP Average Star	2023 PDP Average Star	2024 PDP Average Star	2025 PDP Average Star
Call Center – Foreign Language Interpreter and TTY Availability	4.2	4.1	3.6	3.6
Complaints about the Plan	4.8	4.4	4.6	4.6
Members Choosing to Leave the Plan	4.2	4.0	3.9	3.7
Drug Plan Quality Improvement	4.1	2.2	3.0	3.0
Rating of Drug Plan	3.8	3.3	3.4	3.5
Getting Needed Prescription Drugs	3.9	3.5	3.5	3.7
MPF Price Accuracy	3.3	3.5	3.6	3.1
Medication Adherence for Diabetes Medications	3.9	2.9	2.6	2.4
Medication Adherence for Hypertension (RAS antagonists)	3.5	2.7	2.6	2.9
Medication Adherence for Cholesterol (Statins)	3.6	3.1	3.0	2.9

Measure	2022 PDP Average Star	2023 PDP Average Star	2024 PDP Average Star	2025 PDP Average Star
MTM Program Completion Rate for CMR	3.7	3.1	3.2	3.0
Statin Use in Persons with Diabetes (SUPD)	3.3	2.9	2.4	2.7

APPENDIX

Table A1: MA-PD Contracts Receiving the 2025 High-Performing Icon

Contract ID	Contract Name	Parent Organization	10/2024 Enrollment	5 Star Last Year	Includes SNP Plan Benefit Packages
H3957	HIGHMARK CHOICE COMPANY	Highmark Health	55,015	Yes	No
H4286	LEON HEALTH, INC.	LMC Family Holdings, LLC	38,877	Yes	Yes
H5215	NETWORK HEALTH INSURANCE CORPORATION	Network Health, Inc.	77,798	Yes	Yes
H5296	ALIGNMENT HEALTH PLAN OF NORTH CAROLINA, INC.	Alignment Healthcare USA, LLC	6,212	Yes	Yes
H5431	HEALTHSUN HEALTH PLANS, INC.	Elevance Health, Inc.	56,202	Yes	Yes
H5577	MCS ADVANTAGE, INC.	MHH Healthcare, L.P.	284,055	Yes	Yes
H5594	OPTIMUM HEALTHCARE, INC.	Elevance Health, Inc.	62,883	Yes	Yes

Table A2: 1876 Cost Contracts Receiving the 2025 High-Performing Icon*

Contract ID	Contract Name	Parent Organization	10/2024 Enrollment	5 Star Last Year
H5256	MEDICAL ASSOCIATES CLINIC HEALTH PLAN	Medical Associates Clinic, P.C.	4,536	Yes

Contract ID	Contract Name	Parent Organization	10/2024 Enrollment	5 Star Last Year
H5264	DEAN HEALTH PLAN, INC.	Medica Holding Company	12,192	Yes

*1876 Cost Contracts do not offer SNPs

Table A3: PDP Contracts Receiving the 2025 High-Performing Icon

Contract ID	Contract Name	Parent Organization	10/2024 Enrollment	5 Star Last Year
S3389	UPMC HEALTH BENEFITS, INC.	UPMC Health System	1,474	No
S4501	INDEPENDENT HEALTH BENEFITS CORPORATION	Independent Health Association, Inc.	7,329	Yes

Table A4: Contracts Receiving the Low Performing Icon for the 2025 Star Ratings

Contract ID	Contract Name	Parent Organization	Reason for Low-Performance Warning	10/2024 Enrollment
H0724	BUCKEYE HEALTH PLAN COMMUNITY SOLUTIONS, Inc.	Centene Corporation	Part C or D	*
H2853	CENTENE VENTURE COMPANY TENNESSEE	Centene Corporation	Part C or D	*
H4982	AETNA BETTER HEALTH OF CALIFORNIA INC.	CVS Health Corporation	Part C or D	26,484
H5475	MERIDIAN HEALTH PLAN OF MICHIGAN, INC.	Centene Corporation	Part C or D	23,615
H6713	WELLCARE OF ILLINOIS, INC.	Centene Corporation	Part C or D	10,819
H7330	ZING HEALTH, INC.	Zing Health Consolidator, Inc	Part C or D	3,360
H8553	WELLCARE HEALTH INSURANCE OF THE SOUTHWEST, INC.	Centene Corporation	Part C or D	1,952
S6946	CLEAR SPRING HEALTH INSURANCE COMPANY	Group 1001	Part D	340,855

*No enrollment is showing for this contract in the CMS enrollment files. This contract only has 800 series plans for employer group enrollees.

[1] See also the Announcement of Calendar Year (CY) 2025 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies, page 130 at https://www.cms.gov/files/document/2025-announcement.pdf.
[2] https://www.federalregister.gov/documents/2020/06/02/2020-11342/medicare-program-contract-year-2021-policy-and-technical-changes-to-the-medicare-advantage-program.
[3] Percentages in the tables may not sum to 100 due to rounding.
[4] The qualifying extreme and uncontrollable circumstances for the 2023 performance period include severe storms, straight-line winds, and tornadoes in Mississippi, Typhoon Mawar in Guam, wildfires in Hawaii, and Hurricane Idalia in Florida and Georgia. See the 2025 Rate Announcement at https://www.cms.gov/files/document/2025-announcement.pdf.
[5] 42 C.F.R. §§ 422.166(h)(1)(i), 423.186(h)(1)(i).
[6] 42 C.F.R. §§ 422.166(h)(1)(ii), 423.186(h)(1)(ii).

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Consumer Assessment of Healthcare Providers & Systems (CAHPS)

The Centers for Medicare & Medicaid Services (CMS) develop, implement and administer several different patient experience surveys. These surveys ask patients (or in some cases their families) about their experiences with, and ratings of, their health care providers and plans, including hospitals, home health care agencies, doctors, and health and drug plans, among others. The surveys focus on matters that patients themselves say are important to them and for which patients are the best and/or only source of information. CMS publicly reports the results of its patient experience surveys, and some surveys affect payments to CMS providers.

Experience is not the same as satisfaction

Patient experience surveys sometimes are mistaken for customer satisfaction surveys. Patient experience surveys focus on how patients experienced or perceived key aspects of their care, not how satisfied they were with their care. Patient experience surveys focus on asking patients whether or how often they experienced critical aspects of health care, including communication with their doctors, understanding their medication instructions, and the coordination of their healthcare needs. They do not focus on amenities.

CAHPS® Surveys

Many of the CMS patient experience surveys are in the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) family of surveys. Others are developed following CAHPS principles and used by CMS but are not CAHPS surveys. All surveys officially designated as CAHPS surveys have been approved by the CAHPS Consortium, which is overseen by the Agency for Healthcare Research and Quality (AHRQ).

CAHPS surveys follow scientific principles in survey design and development. The surveys are designed to reliably assess the experiences of a large sample of

patients. They use standardized questions and data collection protocols to ensure that information can be compared across healthcare settings. CAHPS surveys are developed with broad stakeholder input, including a public solicitation of measures and a technical expert panel, and the opportunity for anyone to comment on the survey through multiple public comments period through the Federal Register. Finally, many CAHPS measures are statistically adjusted to correct for differences in the mix of patients across providers and the use of different survey modes.

CAHPS surveys are an integral part of CMS' efforts to improve healthcare in the U.S. Some CAHPS surveys are used in Value-Based Purchasing (Pay for Performance) initiatives. These initiatives represent a change in the way CMS pays for services. Instead of only paying for the number of services provided, CMS also pays for providing high quality services. The quality of services is measured clinically, administratively, and through the use of patient experience of care surveys.

CMS Patient Experience Surveys include:

CMS CAHPS® Surveys

- Hospital CAHPS
- Home Health Care CAHPS
- HCBS CAHPS Survey
- Fee-for-Service CAHPS
- Medicare Advantage and Prescription Drug Plan CAHPS
- In-Center Hemodialysis CAHPS
- Nationwide Adult Medicaid CAHPS
- CAHPS Hospice
- Outpatient and Ambulatory Surgery CAHPS
- CAHPS for MIPS
- Emergency Department CAHPS

Other CMS Patient Surveys

- Health Outcomes Survey (HOS)
- Medicare Advantage and Prescription Drug Plan Disenrollment Reasons Survey
- Qualified Health Plan Enrollee Experience Survey

Downloads

R-version of CAHPS macro (ZIP)

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Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS Survey Approved Survey Vendors as of November 18, 2024

The organizations listed below, in alphabetical order, have met the Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS Survey requirements to be approved to administer the MA & PDP CAHPS Survey in the 2025 survey cycle, ending in summer 2025.

Center for the Study of Services
Bianca Budhai
1625 K Street NW, 8th Floor
Washington, DC 20006
202-454-3058
bbudhai@cssresearch.org
www.cssresearch.org

The Crossroads Group, Inc.
Mark Robledo
440 Johnson Road
Keller, TX 76248
817-591-1140
merobledo@crossroadsgrp.com
CrossroadsGrp.com

DataStat, Inc.
Steven Weindorf
3975 Research Park Drive
Ann Arbor, MI 48108
734-994-0540 x 193
sweindorf@datastat.com
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Medallia, Inc.
Patrick Colletta
575 Market Street, Suite 1850
San Francisco, CA 94105
513-821-6266
pcolletta@medallia.com
www.medallia.com

Press Ganey
Abigail Foster
1173 Ignition Dr
South Bend, IN 46601
800-232-8032
afoster@pressganey.com
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333 W River Park Drive
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Medicare Advantage and Prescription Drug Plan CAHPS (MA and PDP CAHPS)

If you have been contacted to participate in the MA and PDP CAHPS Survey and would like to verify your selection in this study, please contact the approved survey vendor identified in your survey invitation letter, or email mp-cahps@cms.hhs.gov.

Overview: CMS collects information about Medicare beneficiaries' experiences with, and ratings of, Medicare Advantage only (MA-only) plans, Medicare Advantage Prescription Drug (MA-PD) plans, and stand-alone Medicare Prescription Drug Plans (PDP) via surveys of beneficiaries who have been enrolled in their plans for six months or longer. Although all three versions have a nearly identical set of core questions, each version also includes additional questions related to the enrollees' experiences in their particular plan type. The health plan survey has been conducted annually since 1998, and the drug plan survey was added in 2007.

About the survey: The MA & PDP CAHPS Survey is administered annually to a large sample of MA and PDP beneficiaries using a mixed mode data collection protocol that includes an invitation to complete a web survey, followed by up to two mailed surveys to non-respondents to the web survey, and telephone follow-up of non-respondents to the mail survey. Questions ask about ease of getting needed care and seeing specialists, getting appointments and care quickly, doctors who communicate well, coordination of members' health care services, health plan provides information or help when members need it, ease of getting

prescriptions filled, rating of health and/or drug plan, rating of health care quality, annual flu vaccine, and pneumonia vaccine.

How the data are used: The MA & PDP CAHPS Survey allows objective and meaningful comparisons among MA and PDP contracts on domains that are important to consumers. The survey results are publicly reported by CMS for each contract in the Medicare & You Handbook published each Fall and on the Medicare Plan Finder tool at www.medicare.gov. The survey results are used by beneficiaries to assist in their selection of an MA or PDP contract, and MA CAHPS results can be compared with FFS CAHPS results on Medicare Plan Finder. The public and research community uses survey results to assess Medicare program performance, contracts use survey results to identify areas for quality improvement, and Medicare administrators and policymakers rely on the measures to manage the Medicare program. Beginning in 2012, several measures from MA CAHPS have been included in the Star Ratings for MA Quality Bonus Payments.

For more information, please visit the MA & PDP CAHPS website: http://ma-pdpcahps.org/. You can also access the Protocols and Technical Specifications Manual. You may contact CMS at mp-cahps@cms.hhs.gov or the MA & PDP CAHPS project team via email at MA-PDPCAHPS@hsag.com or by calling 1-877-735-8882.

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OFFICE OF MANAGEMENT AND BUDGET

STANDARDS AND GUIDELINES FOR STATISTICAL SURVEYS

September 2006

Table of Contents

data collections; methods of collection for achieving acceptable response rates; training of enumerators and persons coding and editing the data; and cost estimates, including the costs of pretests, nonresponse follow-up, and evaluation studies.

Guideline 1.2.6: Whenever possible, construct an estimate of total mean square error in approximate terms, and evaluate accuracy of survey estimates by comparing with other information sources. If probability sampling is used, estimate sampling error; if nonprobability sampling is used, calculate the estimation error.

Guideline 1.2.7: When possible, estimate the effects of potential nonsampling errors including measurement errors due to interviewers, respondents, instruments, and mode; nonresponse error; coverage error; and processing error.

Section 1.3 Survey Response Rates

Standard 1.3: Agencies must design the survey to achieve the highest practical rates of response, commensurate with the importance of survey uses, respondent burden, and data collection costs, to ensure that survey results are representative of the target population so that they can be used with confidence to inform decisions. Nonresponse bias analyses must be conducted when unit or item response rates or other factors suggest the potential for bias to occur.

Key Terms: cross-sectional, key variables, longitudinal, nonresponse bias, response rates, stage of data collection, substitution, target population, universe

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The following guidelines represent best practices that may be useful in fulfilling the goals of the standard:

Guideline 1.3.1: Calculate sample survey unit response rates without substitutions.

Guideline 1.3.2: Design data collections that will be used for sample frames for other surveys (e.g., the Decennial Census, and the Common Core of Data collection by the National Center for Education Statistics) to meet a target unit response rate of at least 95 percent, or provide a justification for a lower anticipated rate (See Section 2.1.3).

Guideline 1.3.3: Prior to data collection, identify expected unit response rates at each stage of data collection, based on content, use, mode, and type of survey.

Guideline 1.3.4: Plan for a nonresponse bias analysis if the expected unit response rate is below 80 percent (see Section 3.2.9).

Guideline 1.3.5: Plan for a nonresponse bias analysis if the expected item response rate is below 70 percent for any items used in a report (see Section 3.2.9).

Federal Committee on Statistical Methodology

Best Practices for Nonresponse Bias Reporting

Prepared by the Nonresponse Bias Subcommittee of the Federal Committee on Statistical Methodology

June 2023

Recommended citation: Madans JH, Earp MS, Blumberg SJ, Christopher EM, Thompson KJ, Sivinski RG, Frenk SM, Fakhouri THI, Piscopo KD. 2023. *Best Practices for Nonresponse Bias Reporting*, FCSM-23-01 Nonresponse Bias Subcommittee, Federal Committee on Statistical Methodology. June 2023.

OBJECTIVES

The goal of this report is to provide an overview of best practices for discussing and reporting on nonresponse bias in estimates obtained from survey data. Nonresponse bias is one of the main threats to data quality in federal surveys, as discussed in the 2020 report *A Framework for Data Quality* from the Federal Committee on Statistical Methodology (FCSM). Yet there are no consistent standards for reporting on nonresponse bias, a problem clearly demonstrated in another 2020 FCSM report: *A Systematic Review of Nonresponse Bias Studies in Federally Sponsored Surveys* (Miller et al., 2020). The current report addresses the latter concern.

This report and both of the 2020 FCSM reports elaborate on the issues included in the 2006 Office of Management and Budget (OMB) guidance *Standards and Guidelines for Statistical Surveys*. The OMB guidance focuses on several aspects of data quality and provides standards for describing surveys and reporting on nonresponse. The OMB guidance requires that all federal surveys conduct a nonresponse bias analysis if the program expects a unit-level response rate less than 80 percent, or an item-level response rate less than 70 percent (Office of Management and Budget 2006). The current report offers additional guidance for reporting on the methods, results, and conclusions from those nonresponse bias analyses.

The literature on how to conduct nonresponse bias analyses is extensive and growing. The methods used for any data collection will be a function of the characteristics of that data collection and the availability of information to evaluate bias. The intent of the current report is not to provide a comprehensive guide to conducting nonresponse bias analyses. Rather, it is to provide guidance on reporting on the analyses done. To do this, the current report sometimes refers to various methods for conducting, and aspects of, nonresponse bias analyses. But these methods are not fully described. Readers will need to refer to the many existing references for more information on these methods.

The current report also does not offer guidance for assessing whether the nonresponse bias present in any data collection is small enough to be acceptable or so large as to be unacceptable. Rather, the guidance in the current report is intended to yield sufficient documentation of the methods and results of nonresponse bias analyses so that readers can

KeyCite Yellow Flag - Negative Treatment
Proposed Regulation

Code of Federal Regulations
Title 42. Public Health
Chapter IV. Centers for Medicare & Medicaid Services, Department of Health and Human Services (Refs & Annos)
Subchapter B. Medicare Program
Part 422. Medicare Advantage Program (Refs & Annos)
Subpart D. Quality Improvement (Refs & Annos)

42 C.F.R. § 422.162

§ 422.162 Medicare Advantage Quality Rating System.

Currentness

<For applicability date(s) of amendment(s) to subsections (a) and (b), see 88 FR 22120.>

(a) Definitions. In this subpart the following terms have the meanings:

Absolute percentage cap is a cap applied to non–CAHPS measures that are on a 0 to 100 scale that restricts movement of the current year's measure-threshold-specific cut point to no more than the stated percentage as compared to the prior year's cut point.

CAHPS refers to a comprehensive and evolving family of surveys that ask consumers and patients to evaluate the interpersonal aspects of health care. CAHPS surveys probe those aspects of care for which consumers and patients are the best or only source of information, as well as those that consumers and patients have identified as being important. CAHPS initially stood for the Consumer Assessment of Health Plans Study, but as the products have evolved beyond health plans the acronym now stands for Consumer Assessment of Healthcare Providers and Systems.

Case-mix adjustment means an adjustment to the measure score made prior to the score being converted into a Star Rating to take into account certain enrollee characteristics that are not under the control of the plan. For example age, education, chronic medical conditions, and functional health status that may be related to the enrollee's survey responses.

Categorical Adjustment Index (CAI) means the factor that is added to or subtracted from an overall or summary Star Rating (or both) to adjust for the average within-contract (or within-plan as applicable) disparity in performance associated with the percentages of beneficiaries who are dually eligible for Medicare and enrolled in Medicaid, beneficiaries who receive a Low Income Subsidy, or have disability status in that contract (or plan as applicable).

Clustering refers to a variety of techniques used to partition data into distinct groups such that the observations within a group are as similar as possible to each other, and as dissimilar as possible to observations in any other group. Clustering of the measure-specific scores means that gaps that exist within the distribution of the scores are identified to create groups (clusters) that are then used to identify the four cut points resulting in the creation of five levels (one for each Star Rating), such that the scores in the same Star Rating level are as similar as possible and the scores in different Star Rating levels are as different as possible. Technically, the variance in measure scores is separated into within-cluster and between-cluster sum of squares components. The clusters reflect the groupings of numeric value scores that minimize the variance of scores within the clusters. The Star Ratings levels are assigned to the clusters that minimize the within-cluster sum of squares. The cut points for star assignments

are derived from the range of measure scores per cluster, and the star levels associated with each cluster are determined by ordering the means of the clusters.

Consolidation means when an MA organization that has at least two contracts for health and/or drug services of the same plan type under the same parent organization in a year combines multiple contracts into a single contract for the start of the subsequent contract year.

Consumed contract means a contract that will no longer exist after a contract year's end as a result of a consolidation.

Cut point cap is a restriction on the change in the amount of movement a measure-threshold-specific cut point can make as compared to the prior year's measure-threshold-specific cut point. A cut point cap can restrict upward movement, downward movement, or both.

Display page means the CMS website on which certain measures and scores are publicly available for informational purposes; the measures that are presented on the display page are not used in assigning Part C and D Star Ratings.

Domain rating means the rating that groups measures together by dimensions of care.

Dual-eligible (DE) means a beneficiary who is enrolled in both Medicare and Medicaid.

Guardrail is a bidirectional cap that restricts both upward and downward movement of a measure-threshold-specific cut point for the current year's measure-level Star Ratings as compared to the prior year's measure-threshold-specific cut point.

Health equity index means an index that summarizes contract performance among those with specified social risk factors (SRFs) across multiple measures into a single score.

HEDIS is the Healthcare Effectiveness Data and Information Set which is a widely used set of performance measures in the managed care industry, developed and maintained by the National Committee for Quality Assurance (NCQA). HEDIS data include clinical measures assessing the effectiveness of care, access/availability measures, and service use measures.

Highest rating means the overall rating for MA–PDs, the Part C summary rating for MA–only contracts, and the Part D summary rating for PDPs.

Highly-rated contract means a contract that has 4 or more stars for its highest rating when calculated without the improvement measures and with all applicable adjustments in § 422.166(f).

HOS means the Medicare Health Outcomes Survey which is the first patient reported outcomes measure that was used in Medicare managed care. The goal of the Medicare HOS program is to gather valid, reliable, and clinically meaningful health status data in the Medicare Advantage (MA) program for use in quality improvement activities, pay for performance, program oversight, public reporting, and improving health. All managed care organizations with MA contracts must participate.

Low income subsidy (LIS) means the subsidy that a beneficiary receives to help pay for prescription drug coverage (see § 423.34 of this chapter for definition of a low-income subsidy eligible individual).

Mean resampling refers to a technique where measure-specific scores for the current year's Star Ratings are randomly separated into 10 equal-sized groups. The hierarchal clustering algorithm is done 10 times, each time leaving one of the 10 groups out. By leaving out one of the 10 groups for each run, 9 of the 10 groups, which is 90 percent of the applicable measure scores, are used for each run of the clustering algorithm. The method results in 10 sets of measure-specific cut points. The mean cut point for each threshold per measure is calculated using the 10 values.

Measurement period means the period for which data are collected for a measure or the performance period that a measures covers.

Measure score means the numeric value of the measure or an assigned 'missing data' message.

Measure star means the measure's numeric value is converted to a Star Rating. It is displayed to the nearest whole star, using a 1–5 star scale.

Overall rating means a global rating that summarizes the quality and performance for the types of services offered across all unique Part C and Part D measures.

Part C summary rating means a global rating that summarizes the health plan quality and performance on Part C measures.

Part D summary rating means a global rating that summarizes prescription drug plan quality and performance on Part D measures.

Plan benefit package (PBP) means a set of benefits for a defined MA or PDP service area. The PBP is submitted by Part D plan sponsors and MA organizations to CMS for benefit analysis, bidding, marketing, and beneficiary communication purposes.

Reliability means a measure of the fraction of the variation among the observed measure values that is due to real differences in quality ("signal") rather than random variation ("noise"); it is reflected on a scale from 0 (all differences in plan performance measure scores are due to measurement error) to 1 (the difference in plan performance scores is attributable to real differences in performance).

Restricted range is the difference between the maximum and minimum measure score values using the prior year measure scores excluding outer fence outliers (first quartile -3*Interquartile Range (IQR) and third quartile + 3*IQR).

Restricted range cap is a cap applied to non–CAHPS measures that restricts movement of the current year's measure-threshold-specific cut point to no more than the stated percentage of the restricted range of a measure calculated using the prior year's measure score distribution.

Reward factor means a rating-specific factor added to the contract's summary or overall ratings (or both) if a contract has both high and stable relative performance.

Statistical significance assesses how likely differences observed in performance are due to random chance alone under the assumption that plans are actually performing the same.

Surviving contract means the contact that will still exist under a consolidation, and all of the beneficiaries enrolled in the consumed contract(s) are moved to the surviving contracts.

Traditional rounding rules mean that the last digit in a value will be rounded. If rounding to a whole number, look at the digit in the first decimal place. If the digit in the first decimal place is 0, 1, 2, 3, or 4, then the value should be rounded down by deleting the digit in the first decimal place. If the digit in the first decimal place is 5 or greater, then the value should be rounded up by 1 and the digit in the first decimal place deleted.

Tukey outer fence outliers are measure scores that are below a certain point (first quartile–3.0 x (third quartile-first quartile)) or above a certain point (third quartile + 3.0 x (third quartile-first quartile)).

(b) Contract ratings—

(1) General. CMS calculates an overall Star Rating, Part C summary rating, and Part D summary rating for each MA–PD contract, and a Part C summary rating for each MA–only contract using the 5–star rating system described in this subpart. Measures are assigned stars at the contract level and weighted in accordance with § 422.166(a). Domain ratings are the unweighted mean of the individual measure ratings under the topic area in accordance with § 422.166(b). Summary ratings are the weighted mean of the individual measure ratings for Part C or Part D in accordance with § 422.166(c), with the applicable adjustments provided in paragraph (f) of this section. Overall Star Ratings are calculated by using the weighted mean of the individual measure ratings in accordance with § 422.166(d), with the applicable adjustments provided in paragraph (f) of this section. CMS includes the Star Ratings measures in the overall and summary ratings that are associated with the contract type for the Star Ratings year.

(2) Plan benefit packages. All plan benefit packages (PBPs) offered under an MA contract have the same overall and/or summary Star Ratings as the contract under which the PBP is offered by the MA organization. Data from all the PBPs offered under a contract are used to calculate the measure and domain ratings for the contract except for Special Needs Plan (SNP)-specific measures collected at the PBP level; a contract level score for such measures is calculated using an enrollment-weighted mean of the PBP scores and enrollment reported as part of the measure specification in each PBP.

(3) Contract consolidations.

(i) In the case of contract consolidations involving two or more contracts for health or drug services of the same plan type under the same parent organization, CMS assigns Star Ratings for the first and second years following the consolidation based on the enrollment-weighted mean of the measure scores of the surviving and consumed contract(s) as provided in paragraph (b)(3)(iv) of this section. Paragraph (b)(3)(iii) of this section is applied to subsequent years that are not addressed in paragraph (b)(3)(ii) of this section for assigning the QBP rating.

(ii) For the first year after a consolidation, CMS will determine the QBP status of a contract using the enrollment-weighted means (using traditional rounding rules) of what would have been the QBP Ratings of the surviving and consumed contracts based on the contract enrollment in November of the year the preliminary QBP ratings were released in the Health Plan Management System (HPMS).

(iii) In subsequent years following the first year after the consolidation, CMS will determine QBP status based on the consolidated entity's Star Ratings displayed on Medicare Plan Finder.

(iv) The Star Ratings posted on Medicare Plan Finder for contracts that consolidate are as follows:

(A)(1) For the first year after consolidation, CMS uses enrollment-weighted measure scores using the July enrollment of the measurement period of the consumed and surviving contracts for all measures, except survey-based measures, call center measures, and improvement measures. The survey-based measures will use enrollment of the surviving and consumed contracts at the time the sample is pulled for the rating year. The call center measures will use average enrollment during the study period. The Part C and D improvement measures are not calculated for first year consolidations.

(2) For contract consolidations approved on or after January 1, 2022, if a measure score for a consumed or surviving contract is missing due to a data integrity issue as described in § 422.164(g)(1)(i) and (ii), CMS assigns a score of zero for the missing measure score in the calculation of the enrollment-weighted measure score.

(B)(1) For the second year after consolidation, CMS uses the enrollment-weighted measure scores using the July enrollment of the measurement year of the consumed and surviving contracts for all measures except for HEDIS, CAHPS, and HOS. HEDIS and HOS measure data are scored as reported. CMS ensures that the CAHPS survey sample includes enrollees in the sample frame from both the surviving and consumed contracts.

(2) For contract consolidations approved on or after January 1, 2022, for all measures except HEDIS, CAHPS, and HOS if a measure score for a consumed or surviving contract is missing due to a data integrity issue as described in § 422.164(g)(1)(i) and (ii), CMS assigns a score of zero for the missing measure score in the calculation of the enrollment-weighted measure score.

(v) This provision governing the Star Ratings of surviving contracts is applicable to contract consolidations that are approved on or after January 1, 2019.

(4) Quality bonus payment ratings.

(i) For contracts that receive a numeric Star Rating, the final quality bonus payment (QBP) rating for the contract is released in April of each year for the following contract year. The QBP rating is the contract's highest rating from the Star Ratings published by CMS in October of the calendar year that is 2 years before the contract year to which the QBP rating applies.

(ii) The contract QBP rating is applied to each plan benefit package offered under the contract.

(c) Data sources.

(1) CMS bases Part C Star Ratings on the type of data specified in section 1852(e) of the Act and on CMS administrative data. Part C Star Ratings measures reflect structure, process, and outcome indices of quality. This includes information of the following types: Clinical data, beneficiary experiences, changes in physical and mental health, benefit administration information and CMS administrative data. Data underlying Star Ratings measures may include survey data, data separately collected and used in oversight of MA plans' compliance with MA requirements, data submitted by plans, and CMS administrative data.

(2) MA organizations are required to collect, analyze, and report data that permit measurement of health outcomes and other indices of quality. MA organizations must provide unbiased, accurate, and complete quality data described in paragraph (c)(1) of this section to CMS on a timely basis as requested by CMS.

Credits

[83 FR 16725, April 16, 2018; 84 FR 15829, April 16, 2019; 85 FR 33907, June 2, 2020; 86 FR 6097, Jan. 19, 2021; 88 FR 22332, April 12, 2023]

SOURCE: 63 FR 35067, 35082, June 26, 1998; 70 FR 4714, Jan. 28, 2005; 77 FR 29028, May 16, 2012; 84 FR 15827, April 16, 2019; 84 FR 23879, May 23, 2019; 88 FR 79539, Nov. 16, 2023; 89 FR 30812, April 23, 2024; 89 FR 63826, Aug. 6, 2024, unless otherwise noted.

AUTHORITY: 42 U.S.C. 1302, 1306, 1395w–21 through 1395w–28, and 1395hh.

Current through February 13, 2025, 90 FR 9519. Some sections may be more current. See credits for details.

End of Document

Current News

- MA & PDP CAHPS Survey *Quality Assurance Protocols & Technical Specifications V15.0* – Updated Technical Corrections and Clarifications
- MA & PDP CAHPS Publications by the MA & PDP CAHPS Project Team
- The MA & PDP CAHPS Survey *Quality Assurance Protocols & Technical Specifications V15.0* (QAP&TS V15.0) Summary of Updates Document Is Now Available
- MA & PDP CAHPS Survey Vendor List
- The Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS Survey *Quality Assurance Protocols & Technical Specifications V15.0* Manual Is Now Available

Welcome

Welcome to the Medicare Advantage and Prescription Drug Plan (MA & PDP) CAHPS website. Check back frequently to review updated information. The Home Page of the MA & PDP CAHPS website contains an overview of the program. Topics include program background, data collection overview, public reporting and use of the Medicare CAHPS survey data, information about the survey, information for participation, contact information, and internet citation.

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Background

The Centers for Medicare & Medicaid Services (CMS) is committed to measuring and reporting information from the consumer perspective for Medicare Advantage (MA) and Prescription Drug Plan (PDP) contracts. The Medicare Consumer Assessment of Healthcare Providers and Systems (CAHPS®) surveys are a set of surveys sponsored by CMS that collect information to fulfill a requirement of Congress (under the Balanced Budget Act of 1997 and Medicare Modernization Act of 2003). The surveys provide information to Medicare beneficiaries on the quality of health services provided through MA and Medicare and Part D programs. Consumer evaluations of health care, such as those collected through the Medicare CAHPS® surveys, measure important aspects of a patient's experience that cannot be assessed by other means.

The surveys have been rigorously developed and tested to assess the experiences of beneficiaries who receive health care through the Medicare Fee-for-Service (FFS), MA and PDP programs. The Medicare CAHPS Surveys are part of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) initiative, a family of surveys developed by a consortium of researchers from American Institutes for Research, Harvard Medical School, Yale University, the RAND Corporation, and RTI International under a cooperative agreement between CMS and the Agency for Healthcare Research and Quality (AHRQ), a component of the U.S. Public Health Service. For more information about the CAHPS Project, please go to http://go.cms.gov/cahps.

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Data Collection Overview

Since 1998, CMS has conducted the Medicare CAHPS surveys annually with a sample of Medicare beneficiaries at least 18 years of age, currently enrolled in a Medicare Advantage contract for six months or longer, and who live in the United States. Surveys of beneficiaries enrolled in FFS were added in 2001 and surveys of PDP enrollees were added in 2007. Traditionally, CMS has paid for all data collection activities and has contracted with a single contractor for data collection. Beginning in 2011, CMS required all MA and PDP contracts with at least 600 enrollees to contract with approved survey vendors to collect and report CAHPS survey data following a specific timeline and protocols established by CMS. The CAHPS surveys will be conducted at the contract level for Medicare Advantage only (MA), Medicare Advantage Prescription Drug (MA-PD), and Stand-Alone Prescription Drug plans (PDPs). CMS will provide the sample for each contract. The Medicare CAHPS surveys will continue to be conducted on an annual basis.

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Public Reporting and Use of the Medicare CAHPS Survey Data

The Medicare CAHPS surveys produce comparable data on the patient's experience of care that allow objective and meaningful comparisons between MA and PDP contracts on domains that are important to consumers. The survey data are publicly reported by contract. The results from the Medicare CAHPS surveys are published in the Medicare & You handbook and on the Medicare Options Compare website (www.medicare.gov). Public reporting of the survey results is designed to create incentives for contracts to improve their quality of care and also serves to enhance public accountability in health care by increasing the transparency of the quality of care provided by Medicare contracts. The measures derived from the

surveys are used by beneficiaries to help choose an MA or PDP contract, help contracts identify areas for quality improvement, and allow the public and research community to assess Medicare program performance. Medicare administrators and policymakers also rely on the measures to manage the program; devise, implement, and monitor quality improvement efforts; and make policy decisions.

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About the Survey

The Medicare CAHPS Survey includes three versions of the questionnaire: Medicare Advantage (MA-Only), Medicare Advantage Prescription Drug plan (MA-PD), and Stand-Alone Medicare Prescription Drug Plan (PDP). Although all three versions have a nearly identical set of core questions, each version also includes additional questions and response categories related to the enrollees' experiences in their own particular contract type.

The *MA-Only questionnaire* includes the following domains: Your Healthcare in the Last 6 Months, Your Personal Doctor, Getting Healthcare from Specialists, Your Health Plan, and About You.

The *MA-PD questionnaire* includes the following domains: Your Healthcare in the Last 6 Months, Your Personal Doctor, Getting Healthcare from Specialists, Your Health Plan, Your Prescription Drug Plan, and About You.

The *PDP questionnaire* includes the following domains: Your Prescription Drug Plan, and About You.

Many of the items in the MA & PDP CAHPS Survey are preceded by screener questions. This allows only those beneficiaries for whom the item is relevant to answer the questions associated with the screener questions.

For scoring and reporting purposes, some questions are combined into the following 6 composite measures:

- Getting Needed Care
- Getting Appointments and Care Quickly
- Doctors Who Communicate Well (reported to contracts – not reported to consumers)
- Customer Service
- Getting Needed Prescription Drugs (MA-PD and PDP)
- Care Coordination

In addition to the publicly reported composite measures listed above, the survey questionnaires include several publicly reported “member overall” ratings based on a 0-10 scale, where 0 is the lowest rating and 10 is the highest:

- Rating of Health Plan
- Rating of Health Care Quality
- Rating of Drug Plan (MA-PD and PDP)

The MA & PDP CAHPS Survey also includes the following single item measures, which are publicly reported:

- Annual Flu Vaccine
- Pneumonia Vaccine (reported to contracts – not reported to consumers)

The Medicare Advantage and Prescription Drug Plan CAHPS Survey is administered using only a mixed mode data collection protocol that includes two survey mailings and telephone follow-up of non-respondents to the mailed questionnaire.

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Survey Vendor Participation

To participate in MA & PDP CAHPS Data Collection, all survey vendors must meet certain Survey Program Minimum Business Requirements and must be in compliance with the protocols in the Medicare CAHPS Survey Quality Assurance Protocols & Technical Specifications. In addition, survey vendors must submit a Participation Application Form to the MA & PDP CAHPS Project Team annually for approval.

Please note: At a minimum, a survey vendor's Project Manager, Mail Survey Supervisor and Telephone Survey Supervisor are required to participate in the Medicare CAHPS Training. MA and PDP contracts are not required to attend training.

View or download a copy of the Minimum Business Requirements.

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Webcasts and Educational Resources

This web page includes MA & PDP CAHPS informational webcasts and educational resources. Webcasts and educational resources cover topics of interest to vendors who administer the survey and health and drug plan staff who use the data collected by the survey. Please click the link provided or the Webcasts and Educational Resources navigation button on the left to learn more.

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MA & PDP CAHPS Publications by the MA & PDP CAHPS Project Team

CMS and the MA & PDP CAHPS Project Team continually analyze MA & PDP CAHPS data. To make locating our MA & PDP CAHPS research easier, we have added a bibliography of publications from the MA & PDP CAHPS Project Team. This bibliography was updated on November 27, 2024.

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To Provide Comments or Ask Questions

- For information and technical assistance, contact the MA & PDP CAHPS Project Team via email at MA-PDPCAHPS@hsag.com or by calling toll free at 1-877-735-8882.
- To communicate with CMS staff, please email: MP-CAHPS@cms.hhs.gov

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Internet Citation

Please use the following citation when referencing material on this website. [www.MA-PDPCAHPS.org] Centers for Medicare & Medicaid Services, Baltimore, MD. *Month, Date, Year* the page was accessed. www.MA-PDPCAHPS.org.

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Helpful Link

For information about the availability of auxiliary aids and services, please visit: https://www.medicare.gov/about-us/nondiscrimination/nondiscrimination-notice.html.

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Native File Attachment to AR1675

"De-identified contract-level data for cut point calculations.xls"

Curriculum Vitae

J. MARK ABERNATHY
BERKELEY RESEARCH GROUP, LLC
Two Urban Centre, 4890 W. Kennedy Blvd, Suite 750 | Tampa, FL 33609

Direct: 727.560.3248
mabernathy@thinkbrg.com

SUMMARY

Mark Abernathy has 45 years of experience in the health care industry that span a variety of providers, payers and other health care entities, including health maintenance organizations (HMOs), preferred provider organizations (PPOs), pharmacy benefit managers (PBMs), pharmaceutical manufacturers, hospitals, physician groups, home health agencies, ambulatory surgery centers, outpatient diagnostic centers, and state regulators, among others. He has advised clients with commercial litigation, federal investigations and disclosures, bankruptcy, liquidation and reorganizations, health plan corrective action plans, financial exams, supervision, seizures, and fair market valuation assessment. He has prepared numerous expert reports and provided testimony in litigation, arbitration and mediation matters including fraud, waste and abuse, contract disputes, class action, provider v. payer disputes, and purchase price disputes, grievance and appeals, among other matters. Recent engagements include state-appointed Conservator for Medi-Cal plan; state-appointed Monitor for Medi-Cal plan; expert in a State and Federal Medicaid dispute with a PBM administrator (Medicaid pay and chase); Medicare Advantage plan breach, lost profits and disgorgement disputes with a provider group, competitor, Management Services Organization (MSO) and others; and expert in two out-of-network (“OON”) reimbursement class action cases brought by patients and non-MD physicians.

INDUSTRIES

- Health Care Providers
- Insurance and Managed Care
- Pharmaceuticals and Medical Devices
- Pharmacy Benefit Managers

EXPERTISE

- Accounting and Forensics
- Bankruptcy/Insolvency
- Claims and Regulatory Audits
- Fraud, False Claims Act and Anti-Kickback Statute Investigations
- Class Certification Analysis
- Commercial Litigation
- Due Diligence Reviews
- Economic Damages Analyses

- Expert Testimony
- Management Consulting and Operations
- Payer/Provider Disputes
- Regulatory Compliance
- Statistical Sampling
- Valuations

PROFESSIONAL EXPERIENCE

Mr. Abernathy's health care consulting and financial management experience covers a broad range of services including:

- Expert testimony and litigation support services including class action, payer/provider disputes, breach of contract, buy/sell disputes, antitrust, wrongful termination and lost profits;
- Forensic accounting, statistical sampling and valuations analysis;
- Provider and payer support during DOJ/OIG/AG investigations;
- Conservator, Examiner, Special Monitor roles and assistance with Managed Care Organization (MCO) state seizures and compliance with California Knox Keene Act;
- Appointed Monitor by state regulators of Health plans and a FQHC under investigation by state AG and DOJ for alleged fraudulent billing and other potential illegal activities.
- Review of billing and third party claims processing systems, internal and external financial reports and controls;
- Review and/or testimony of operational performance of MCOs, TPAs and PBMs.
- Development of hospital-physician networks for national HMO and PPO organizations;
- Risk pool settlements, Incurred-but-not-reported (IBNR) assessments, Premium rate development;
- Hospital and HMO accounting and operations;
- HMO Certificate of Authority licensure;
- IPA, PHO, MSO development and management;
- Outpatient ancillary services development and operations; and
- Treasury, budgeting and financial planning responsibility.

Regulatory Compliance

- Appointed Monitor by state regulator of a FQHC under investigation by state AG and DOJ for alleged fraudulent billing and other potential illegal activities.
- Assisted MCO respond to congressional inquiry relating to authorizations, appeals and reviews.
- Assisted providers in self-disclosure for billing and coding issues, cost reporting, proper supervision requirements for interns and other false claims and Stark-related issues;
- Assisted a lender of a DME company under investigation by the FBI;
- Assisted in a negotiated settlement with a state AG based on provider's ability to pay;
- Assisted hospitals, DME companies and fiscal intermediaries defend against DOJ/OIG investigations;
- Appointed Monitor; then Conservator for Alameda Alliance for Health and assumed the role of CEO. I and my team effectuated a turnaround of the HMO as well as rebuilding and reengineering the health plan's infrastructure due to a failed IT conversion.
- Appointed Conservator by the California Department of Corporations for MedPartners Provider Network, Inc. ("MPN") and provided oversight to the orderly divestiture of MPN's California operations. Oversight areas included claims adjudication, risk pool settlements and practice divestiture;
- Appointed Conservator by the California Department of Managed Health Care for Maxicare and provided oversight to daily operations, proper segregation of management services to subsidiaries, trustee reporting and the orderly divestiture of Maxicare's California operations;
- Worked in other oversight /Monitor roles for state regulators and developed an HMO Early Warning System to assist regulators and Health Plans in identifying operational and financial problems;
- Appointed Monitor by the California Department of Managed Health Care for CenCal and provided assistance and oversight for the corrective action plan to meet statutory equity requirements;
- Appointed Monitor by the California Department of Health Care Services for Gold Coast Health Plan and provided assistance and oversight for their corrective action plan;
- Assisted Fiscal Intermediary with disclosure of improper settlements of hospital cost reports filed over a five-year period; this involved a review of every filed cost report for every hospital during the period under investigation; and

- Provided testimony and expert reports for PBM in Medicaid Third Party Liability dispute with State and Federal attorney generals.

Litigation Support and Expert Testimony

- Provided expert reports and or testified in Lost profits disputes as a result of Physician contract terminations and breaches, employee contract breaches and inappropriate movement of patients;
- Provided expert reports and or testified in buy / sell disputes involving lack of disclosure issues prior to consummation of the transaction;
- Testified and prepared several expert reports / affidavits in class certification hearings relating to uninsured class certification and OON reimbursement class hearings;
- Testified and prepared several expert reports / affidavits in payor / provider reimbursement disputes including in-network and out-of-network claims for commercial, Medicare, Medicaid and exchange lines of business. These disputes involve contract compliance or interpretation, regulatory requirements such as prompt pay, fair market reimbursement for out-of-network emergency and post stabilization claims.
- Provided advice and/or testimony in numerous other disputes, breach of contract, wrongful termination of service agreements and employment agreements; duty to disclose by seller, breach of fiduciary duty, loss in enterprise value, fraud, class action, antitrust, deepening insolvency, management responsibilities, intellectual property dispute, Average Wholesale Price dispute on behalf of a pharmaceutical manufacturer and staff model HMO, and breach of contract by a PBM;
- Testified and prepared expert reports in class certification hearings relating to reasonableness of OON reimbursement fee schedules;
- Prepared expert reports on legal and accounting malpractice claims; and
- Testified as the financial expert in the landmark antitrust case between Blue Cross Blue Shield United of Wisconsin and Marshfield Clinic.

Bankruptcy/Insolvency and Turnaround Management

- Advised clients in bankruptcy with required filings, development of reorganization and liquidation plans and settlements of proof-of-claim disputes;
- Provided advice to creditors' committee assessment of the debtor's plan for reorganization;
- Advised state regulatory agencies in oversight of insolvent health plans and provided guidance and oversight to health plans with insufficient net equity requirements;

- Advised a DME and Home Health Agency file Chapter 11 plan for reorganization; and
- Served as Examiner, Special Monitor and Conservator.

Due Diligence Reviews and Valuations

- Provided client with analysis on the divestiture of a clinic-owned HMO and subsequent reviews of the capitation settlements;
- Provided due diligence reviews of various HMOs and ancillary service companies;
- Worked with regulators to review operations of HMOs prior to approval of acquisition;
- Provided due diligence reviews of various diagnostic centers and other ancillary providers;
- Prepared valuations of MCOs (both HMO and IPA) in anticipation of transactions;
- Prepared valuations of physician practices in anticipation of transactions; and
- Prepared valuations of ASCs, outpatient diagnostic centers and medical device companies.

Accounting

- Performed numerous feasibility studies for hospital resizing and hospital ancillary services, physician joint ventures, HMO acquisition/due diligence, hospital debt capacity, and elimination of an emergency room;
- Prepared limited financial analyses and market conduct studies for regulators
- Prepared numerous IBNR analyses for various HMOs; and
- Audited hospital cost reports for proper cost allocation.

Interim Chief Officer

- Performed in the role of interim CFO for Neighborhood Health Plan, a Medicaid HMO headquartered in Boston, Massachusetts, until a permanent CFO was hired;
- Performed in the role of interim CFO for a North Florida HMO until a permanent CFO was hired;
- Performed in the role of interim CFO for DME/Medical Equipment Company; and
- Performed the role of interim Financial Advisor/CFO for a large physician clinic.

Operations

- Held several senior level management positions including CEO, COO, CFO, and Director of Development as well as other management positions such as operations analysis, internal auditor and corporate accountant for various health care entities;
- Provided advisory services to various organizations including assisting the Board of Directors of two large not-for-profit health insurance companies to understand the financial implications of disaffiliation of their organizations;
- Developed numerous IPA's, negotiated managed care contracts and third-party payer agreements and developed MSOs and a TPA;
- Developed and managed ambulatory surgery centers and outpatient diagnostic centers under management agreements;
- Developed a DME company dealing in specialty equipment and provided outsourcing billing services to other companies;
- Worked with lending institutions in the review of collectability of receivables and assisted in the subsequent collection; and
- Managed DME/Home Health company and sold components of same to various entities.

Management responsibilities have included but are not limited to:

- All treasury activities, budgeting and financial planning;
- Conversion and implementation of an internal HMO data processing system;
- Safeguarding of assets;
- Determination of appropriate premium rates based on claims and medical encounter data;
- Analysis of service cost per encounter;
- Review of all capital expenditure requests; and
- Oversight of daily financial activities of the corporation including: general ledger, accounts receivable, accounts payable, claims payable, payroll, budgeting, Medicare cost reimbursement, financial forecasting, hospital and physician contracting, development of corporate policies and procedures, analysis of corporate data processing systems, establishment of corporate overhead departmental reporting, and development of audit programs and internal control procedures.

EDUCATION

Bachelor of Business Administration degree in Accounting from Middle Tennessee State University

PRESENT POSITION

Managing Director, Berkeley Research Group, LLC, 2010 - Present

PREVIOUS POSITIONS

Managing Director, Resolve Advisory Partners, LLC, 2010
Partner, Deloitte Financial Advisory Services LLP, 2007 - 2009
Managing Director, Navigant Consulting, Inc., 1998 - 2007
CFO & Senior VP, Jacobson, Abernathy & Associates, 1989 - 1998
Senior Manager, Ernst & Young, 1987 - 1989
Network Director, AMI Group Health Services, 1986 - 1987
Chief Operating Officer, Partners National Health Plans, 1985 - 1986
CFO and Vice President, CIGNA Health Plan of Florida, 1981 - 1985
Internal Auditor & Operations Analyst, INA Health Care Group, 1980 - 1981
Corporate Accountant, Hospital Affiliates International, 1978 - 1980
Senior Auditor, Controller's Office of the State of Tennessee, 1977 - 1978

LICENSES/CERTIFICATIONS

Certified Public Accountant (CPA) licensed by the State of Florida and Tennessee (pending renewal)
Certified in Financial Forensics (CFF)
Chartered Global Management Accountant (CGMA)
Certified Valuation Analyst (CVA)

TESTIMONY EXPERIENCE

In addition to being designated as an expert witness in several cases that were resolved prior to his testimony, Mr. Abernathy has provided deposition and/or trial testimony in the following cases:

- Kindred Hospitals v. Molina Healthcare of California (2024)
- The Wonderful Company v. Anthem Blue Cross Life and Health Insurance Company (2024)
- Prime Healthcare Services v. OptumCare Management, LLC (2024)
- Arbitration - Hospital v. Payor (2024)
- Arbitration – Provider v. Network (2024)
- South Broward Hospital District D/B/A Memorial Healthcare System & Others Similarly Situated v. ELAP Services, LLC and Group and Pension Administrators (2023)

- Arbitration – Provider v. Network Provider (2023)
- Physicians for Healthy Hospitals, Inc. v. Kaiser Foundation Hospitals and Kaiser Foundation Health Plans, Inc. (2022)
- Arbitration Physician Group v. Health Plan (2022)
- University of California Irvine Medical Center v. Kaiser Foundation Health Plan, Inc. (2022)
- United Biologics, LLC v AmeriGroup Tennessee, Inc., Blue Cross Blue Shield Tennessee, Physicians' Medical Enterprises, LLC., Allergy Associates P.A., and Ned DeLozier (2022)
- Arbitration Hospital System v. Health Plan (2022)
- Arbitration Hospital System v. Health Plan (2022)
- Elaine Courtney v. Health Net Inc.(2021 & 2022)
- Anthem,Inc, v. Express Scripts, Inc. (2021)
- Arbitration Integrated Delivery System v. Health Plan (2020 & 2021)
- ASC PrimaryCare Physicians Southwest,PA, and Emergency Services of Texas, PA. v. Molina Healthcare, Inc. and Molina Healthcare of Texas, Inc. (2019 & 2020)
- Arbitration - Hospital v. Payor (2019 & 2021)
- IDJB Investments, LLC v. McGladrey LLP (2019)
- Sheridan Healthcorp, Inc. v. Aetna Health, Inc. et al (2019)
- Innovative Care v. Aldo Montes, MD and MCCI Group Holdings, LLC (2019)
- Scripps Health v. Molina Healthcare of California, Inc. (2019)
- Arbitration - Hospital v. Payor (2019)
- San Joaquin General Hospital v. Aetna Health of California (2019)
- Secretary of Labor v. Chimes District of Columbia, Inc. et al (2019)
- Arbitration - Hospital v. Payor (2018)
- Arbitration – Insuror v. TPA (2018)
- Sheridan Healthcorp, Inc. v. Aetna Health Inc., Coventry Health and Life Insurance Company et.al. (2018)

- MRO v. Humana, Inc. (2018)
- Innovative Care v. Aldo Montes, MD and MCCI Group Holdings, LLC (2018)
- Steward Health Care System LLC, Blackstone Medical Center, Inc. v. Blue Cross Blue Shield of Rhode Island. (2017)
- Arbitration - Hospital v. Payor (2017)
- Arbitration - Hospital v. Payor (2016)
- Insurance Trust for Delta Retirees v. United Health Care (2016)
- Deanna Renee Branch v. Shands Jacksonville Medical Center, Inc. (2016)
- Arbitration - Hospital v. Payor (2016)
- BioReference Laboratories, Inc. v. Horizon Healthcare Services, Inc. d/b/a Blue Cross Blue Shield of New Jersey (2016)
- The City of Houston, Texas v. Xerox State and Local Solutions, Inc. (2015)
- Arbitration – Doctor v. ASC (2015)
- Shands Teaching Hospital and Clinics, Inc. v. Allstate Insurance Company (2015)
- Arbitration – Provider Network v. Payor (2015)
- Clarence William Brown, M.D., and Vassilious Dimitropoulos, M.D., v. Rush University Medical Center; Michael D. Tharp, M.D.; and Rush Health (2014)
- United Surgical Assistants, Inc., v. Aetna Health, Inc., and Aetna Life Insurance Company (2014)
- North Cypress Medical Center Operating Company Ltd, et al. v. CoreSource, Inc., et al. (2013)
- Leanne Bartle v. Lee Memorial Health System and Health Options, Inc. (2013)
- The State of Texas v. Caremark Rx, L.L.C., et al. (2012)
- Cathleen McDonough et al. v. Horizon BCBS of N.J. (2012)
- N.J. Psychological Assoc. and Barry Helfmann Psy.D., et al. v. Horizon BCBS of N.J. (2012)
- Berkeley HeartLab, Inc. v. Health Diagnostic Laboratory, Inc. (2011)
- Roswell Hospital Corporation v. Patrick Sisneros and Tammie McClain (2011)
- ComCar Industries, Inc. v. DBG Benefit Solutions, Inc. (2010)

- Russell Mohawk v. Aveta Inc., Aveta Holdings, LLC, Aveta Health, Inc., and MMM HealthCare, Inc. (2009)
- Anthony Brawley, on behalf of Himself and Others Similarly Situated v. CHRISTUS Health and CHRISTUS Health Southeast Texas (2009, 2007)
- Judy Diaz, individually and on behalf of all those similarly situated v. Ruffolo Hooper & Associates, M.D., P.A. and University Community Hospital, Inc. (2008)
- Edward Charles Lewis on behalf of himself and all others similarly situated v. Baptist Health System, Inc. d/b/a Baptist Citizens Hospital (2007)
- Arleana Lawrence and all others similarly situated v. Lakeview Community Hospital (2007, 2006)
- Neal Fisher v. Pinnacle Anesthesia Consultants, LLP., Texas Health System and Burney W. Gibson, M.D. (2006)
- Jose Manuel Quintana and all others similarly situated v. Health Management Associates, Inc. (2006)
- TCC Partners, d/b/a Cleveland Clinic Hospital v. Vista Health Plans of Florida, Inc. (2006)
- Robert Loiseau, Special Deputy Receiver of American Benefit Plans, et al. v. Robert David Neal, et al. (2005)
- Alexis Sams and all others similarly situated v. Palmetto Health Alliance d/b/a Palmetto (2005)
- Frances Bonetto and all others similarly situated v. Palmetto Health Alliance d/b/a Palmetto (2005)
- Arbitration – Home Care v. Home Care (2005)
- Arbitration - Hospital v. Payor (2005)
- Arbitration – Reinsurance v. Payor (2005, 2004)
- Arbitration - Hospital v. Payor (2004)
- Brandi Howard, et al. v. Willis Knighton Medical Center (2004)
- Donna DeFeo v. Intracoastal Health Systems, Inc. (2004)
- Arbitration - Hospital v. Payor (2004)
- Arbitration - Hospital v. Payor (2004)
- Amil International Insurance, Inc. v. Caremark, Inc. (2003)

- Georgia Urology, P.A. v. Kilpatrick Stockton, LLP, et al. (2003)
- Various Hospitals v. State of Texas (2003)
- Arbitration - Hospital v. Payor (2003)
- Arbitration - Hospital v. Payor (2002)
- Arbitration - Hospital v. Payor (2002)
- South Broward Hospital District v. Total Health Choice (2002)
- Arbitration – Provider Network v. Payor (2001)
- Arbitration – Provider Network v. Payor (2000)
- Arbitration – Health System v. Hospital (2000)
- Humana Military Healthcare Services, Inc. v. BCBSNC, et al. (1998)
- Bankers Risk Management Services, Inc. v. AvMed Managed Care, Inc. (1998)
- Dr. Breadleau v. Dr. Eugene E. Meyers (1996)
- Blue Cross Blue Shield United of Wisconsin and Compcare Insurance Services Corporation v. Marshfield Clinic and Security Health Plan of Wisconsin, Inc. (1996, 1995)
- Arbitration – Provider Network v. Payor (1995)

PUBLICATIONS

- Abernathy, J. Mark and Maizel, Samuel. “The Role of Examiner in Health Care Insolvencies.” ABI Journal No. 10 (December 2003/January 2004).
- Abernathy, J. Mark. “How to Benefit from a Managed Care Check-up.” Financial Executive (July/August 2000).
- Abernathy, Mark. “Avoiding Common Problems in Risk-Sharing Contracts.” Managed Care Magazine (April 2000).

SPEAKING ENGAGEMENTS

- 2018 McGuireWoods’ 5th Annual Healthcare Litigation and Compliance Conference
- 2016 ACI’s 7th Annual Advanced Forum on Managed Care Disputes and Litigation.

- 2015 ABA 17th Annual EMI Conference. Managed Care & Payments & Reimbursement Interest Groups – "Value-Based Purchasing – Provider and Payor Perspective."
- 2013 ACI 3rd Annual Advanced Forum on Managed Care Disputes and Litigation. "Navigating the Minefields of Balance Billing, UCR and Non-Par Litigation." Philadelphia, Pennsylvania.
- 2013 National CLE Conference. "Compliance Update." Vail, Colorado.
- 2012 National CLE Conference. "Compliance Program Oversight—Implications for Governance of Healthcare Organizations." Vail, Colorado.
- 2009 Baker Donelson/Deloitte CLE/CPE Event. "Storm Clouds Over Healthcare: Preparing Your Company to Weather a Government Investigation in the New Enforcement Environment." April 28, Nashville, Tennessee.
- 2008 Baptist Memorial Health Care. "Investigation & Litigation Year in Review." September 24, Memphis, Tennessee.
- 2008 Deloitte College for Health Sciences. "The Shifting Landscape of Health Care Fraud and Regulatory Compliance." October 14, Phoenix, Arizona.
- 2008 Hillsborough County Bar Association. "Healthcare Fraud and Regulatory Environment." October, Tampa, Florida.
- 2007 Deloitte College for Life Sciences & Health Care. "Top Investigation, Litigation and Dispute Risks: What You Need to Know and Do." October 2, Hollywood, Florida.
- 2006 Akerman Senterfitt's Annual Healthcare Meeting. "Healthcare Litigation Trends." August 18, Orlando, Florida.
- 2006 Florida Bar Association Annual Meeting – Health Law Section. "Healthcare Litigation Trends." June 23, Boca Raton, Florida.

PROFESSIONAL AFFILIATIONS

American Bar Association
American Institute of Certified Public Accountants
American's Health Insurance Plans
American Health Lawyers Association
Tennessee Society of Certified Public Accountants
Florida Institute of Certified Public Accountants
Health Care Compliance Association

RECOGNITION

Who's Who Legal Insurance and Reinsurance Experts

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SUMMARY

Paul Diver, Ph.D., is a director in BRG's Washington, D.C., office. He has applied statistical and econometric techniques in solving complex problems in matters heard before federal and state courts, administrative law judges, regulatory commissions, and in arbitrations. Dr. Diver has been engaged and submitted expert reports as a statistical expert, has provided expert testimony at federal trial, at the state level, and at arbitration hearings, and has been deposed in matters heard at the federal court level and for arbitration.

Dr. Diver has provided extensive statistical sampling consulting services to clients and their counsel across a wide range of industries. Notably, Dr. Diver has developed complex sampling designs and drawn samples for clients, as well as evaluated the statistical validity of samples and their associated extrapolations developed by parties opposed to clients. These sampling analyses have been used for a wide variety of purposes including damages estimation, estimating fraud exposure, rates of diagnosis upcoding, and repayment amounts. Dr. Diver's sampling analyses have also been used to assess compliance risks in a variety of settings.

Dr. Diver routinely applies a variety of statistical and econometric techniques in addressing client concerns, including sampling analysis, regression analysis, cluster and classification analysis, synthetic control method analysis, difference in differences analysis, and nonparametric analytical methods. Further, he has experience working with Big Data and parallel processing.

Dr. Diver has also provided consulting services to healthcare clients concerning the evaluation of Centers for Medicare & Medicaid Services (CMS) RADV audit sampling and extrapolation methodologies, the evaluation of potential bias in the CMS-Hierarchical Condition Category (CMS-HCC) risk adjustment model and the application of the associated Fee for Service Adjuster, and guidance for internal quality-control practices and outlier detection.

Dr. Diver has further provided statistical and economic analysis pertaining to horizontal and vertical competition, intellectual property, and damages matters across a wide range of industries including but not limited to automotive, live entertainment, luxury goods, telecommunications, and waste collection and disposal. Additionally, Dr. Diver has provided strategic and evaluative advisory services to Division I collegiate athletic programs.

EDUCATION

Ph.D. (Statistics),	University of Virginia, 2017
M.A. (Economics),	University of Virginia, 2010
M.S. (Mathematics and Statistics),	Georgetown University, 2007
B.S. (Mathematics),	Georgetown University, 2006

PROFESSIONAL EXPERIENCE:

Berkeley Research Group, LLC

Director	2021 - present
Associate Director	2019 – 2020
Senior Managing Consultant	2017 – 2019
Independent Contractor	2011 – 2017

LECG, LLC

Independent Contractor	2009 – 2011
Senior Associate	2009
Associate	2007 – 2009

U.S. Census Bureau

Mathematical Statistician 2006 – 2007

Analyzed the imputation methodology of several national surveys and their supplements (Current Population Survey, Annual Social Economic Supplement, and American Community Survey)

NPR, Inc. (National Public Radio)

Sponsorship Coordinator 2005 – 2006

TEACHING EXPERIENCE:

Georgetown University

Adjunct Associate Professor 2018 – present

Graduate-level class in nonparametric statistical methods

University of Virginia

Instructor 2012, 2015 – 2016

Undergraduate-level classes in nonparametric statistical methods and regression analysis

Teaching Assistant 2009 – 2014

Undergraduate-level classes in theoretical and applied statistical analysis

SELECTED CONSULTING EXPERIENCE

Statistical Sampling and Damages Analysis

- Development of a statistical sampling design in a dispute involving medical infusion treatment claims
- Evaluation of a statistical sampling design and extrapolation audit analysis regarding healthcare claims performed by HHS Office of Inspector General
- Development of a statistical sampling design and extrapolation analysis in a dispute involving the assignment of diagnosis codes associated with medical claims

SELECTED CONSULTING EXPERIENCE *(continued)*

- Review and assessment of a statistical sampling design, extrapolation, and damages analysis in a False Claims Act dispute
- Damages estimation in the automotive industry – econometric modeling to evaluate damages related to undisclosed vehicle defects
- Evaluation of theories of injury and damages related to the fiscal sponsorship of a 501(c)(3) public charity
- Development of statistical sampling design and evaluation of sample results in a payment dispute concerning emergency room claim fees for arbitration
- Rebuttal analysis of a Monte Carlo simulation analysis of live entertainment industry data
- Development of statistical sampling design and evaluation of sample results in a matter involving repayments made by an ambulance company concerning billing code modifiers
- Development of a mutually agreeable sampling plan with a statistician engaged by opposing counsel for a matter in arbitration regarding the evaluation of medical claim payments – the plan was agreed to by both parties

Antitrust – Mergers and Competition

- Analysis of claims of monopolization and abuse of a dominant position in the provision of specialized search advertising during investigations by the EU Commission – statistical modeling to investigate competitive effects, experimental design, and remedies
- Analysis of claims of monopolization in a consummated merger in the battery separator industry (FTC investigation and litigation) – market definition, competitive effects, efficiencies, and remedies
- Analysis for merger in the waste collection and disposal industries (DOJ investigation) – market definition, competitive effects (horizontal and vertical), efficiencies, and remedies

Investigations and Strategic Advisory Services

- Analysis of the sampling design used in a government investigation to assess hazardous waste disposal, including the development of alternative sampling design and evaluation procedures
- Analysis of the sampling design used in a government investigation to assess hazardous waste disposal in an investigation, including the development of a novel evaluation procedure proposal
- Analysis of Medicare Risk Adjustment data, development of statistical sampling designs, and procurement of samples in support of a health services internal investigation into the detection of fraudulent diagnosis code submissions - robust statistical methods of outlier detection, sampling design, and probability distribution assessment

SELECTED CONSULTING EXPERIENCE *(continued)*

- Development of statistical sampling designs and procurement of samples in support of a health services internal investigation into the medical necessity of provided procedures

- Development of statistical sampling designs and evaluation of the sample results in a matter involving a medical device company and prescriptions involving their medical devices

TESTIMONY EXPERIENCE (WITHIN LAST FOUR YEARS - FROM JANUARY 2020 TO PRESENT)

Trial Testimony

- The Dufresne Spencer Group, LLC and Dufresne Spencer Group Holdings, LLC, Plaintiffs v. Han Nara Enterprises LP, Richard Choi, and Aggie Choi, Defendants, United States District Court, District of Delaware, C.A. No. 21-cs-1857-JLH, Testimony on June 11, 2024.

State Hearing Testimony

- New York Office of Medicaid Inspector General v. All Metro Home Care Services, Inc., Docket No. 18-6085, Testimony on October 9, 2024.

Arbitration Testimony

- Bond Pharmacy, Inc. d/b/a AIS Healthcare, Claimant v. Humana, Inc. Respondent, In the Arbitration Before the American Arbitration Association, Case No. 01-20-0015-7249, Testimony on August 4, 2022.

Deposition Testimony

- Sutter Bay Hospitals, et al., Plaintiffs v. Kaiser Foundation Health Plan, et al., Defendants. JAMS Ref. No. 5100000303, Deposition on May 6, 2024.

- The Dufresne Spencer Group, LLC and Dufresne Spencer Group Holdings, LLC, Plaintiffs v. Han Nara Enterprises LP, Richard Choi, and Aggie Choi, Defendants, United States District Court, District of Delaware, C.A. No. 21-cs-1857-JLH, Deposition on February 21, 2024.

- Conrad Reloj, on behalf of himself and all others similarly situated, Plaintiff v. Government Employees Insurance Company Inc. d/b/a GEICO, Defendant, United States District Court, Southern District of California, Case No. '21CV1751 L AGS, Deposition on December 13, 2023.

- Bond Pharmacy, Inc. d/b/a AIS Healthcare, Claimant v. Humana, Inc. Respondent, In the Arbitration Before the American Arbitration Association, Case No. 01-20-0015-7249, Deposition on June 29, 2022.

- Ohio County Hospital Corporation vs. Wellcare Health Insurance of Kentucky, Inc., In the Arbitration Before the American Arbitration Association, Case No. 01-19-0003-4668, Deposition on March 24, 2021.

PUBLICATIONS, REFERENCES, AND ACKNOWLEDGMENTS

"Arbitration Damages – Using Sensitivity Analysis, Scenario Modelling and Data Visualisation Tools," Corporate Disputes Magazine, July – September 2022 Issue, Financier Worldwide Ltd. (with Stefan Boedeker, *interview*)

"MOOCs as a massive research laboratory: opportunities and challenges," Distance Education, 36:1, 5-25, 2015, DOI:10.1080/01587919.2015.1019968 (with Ignacio Martinez)

"Website Volume Prediction," *Twelfth Industrial Mathematical and Statistical Modeling Workshop for Graduate Students*. North Carolina State University, pgs. 1 – 22, (with Richard Barnard, Roxana Hritcu, Asuman Turkmen, Joe Zhang, and Gang Zhao), *available at*: http*://www.ncsu.edu/crsc/reports/ftp/pdf/crsc-tr06-23.pdf*

"What are the Chances," *Virginia*, 22 July 2014, *(referenced), available at*: *http://uvamagazine.org/articles/uva_baseball_chances*

Automated Trading with R: Quantitative Research and Platform Development, Chris Conlan, Apress, 2016 (*acknowledged*)

PRESENTATIONS

"Statistical Analysis in the Assessment of Disparate Impact and Treatment," Presentation to the Washington Lawyers' Committee for Civil Rights and Urban Affairs, Washington, D.C., April 19, 2019

"Statistical Sampling in Litigation," Presentation to the Bureau of Consumer Financial Protection, Washington, D.C., with David Campbell, August 15, 2018

"Inquiry into methods for setting rates for solid waste collection companies," Docket TG-131255, on behalf of Washington Recycling & Refuse Association, Presentation at Washington Utilities and Transportation Commission Technical Conference, with Cleve Tyler, Ph.D., October 8, 2019.

HONORS AND AWARDS

The Jefferson Trust "Developing Students for Leadership in Data-intensive Research and Innovation" Award (Big Data Initiative Award sponsored by the Jefferson Trust and the VP for Research), University of Virginia, 2013

Huskey Research Exhibition, 1st Prize, "A Proposed Methodology for Two-Level Cluster Analysis," Physical Science and Math Posters, University of Virginia, 2016

[February 2025]

VITA

PAUL JOHN LAVRAKAS, PH.D.

Birth:	7 October 1946; Cambridge, Massachusetts, USA
Marital Status:	Married (Barbara J.); One nondependent adult offspring (Nikolas J.)
Home Addresses:	2542 Princeton Avenue, Evanston IL, 20601 31 Doherty Lane, West Yarmouth MA 02673
Telephone:	Home & Office in IL: 224-307-2654 Home & Office in MA: 508-957-2336
Business Email:	*pjlavrakas@comcast.net*

EDUCATION

1977	Ph.D.	Applied Social Psychology, Loyola University of Chicago Dissertation: *Human Differences in the Ability to Differentiate Veracity from the Audio Medium*
1975	M.A.	Experimental Social Psychology, Loyola University of Chicago Thesis: *Female Preferences for Male Physiques*
1968	B.A.	General Social Sciences (Psychology, Political Science, History), Michigan State University
1964		H.S. Diploma; E.W. Seaholm High School, Birmingham MI

EMPLOYMENT HISTORY

Research

2021-Present Senior Methodological Consultant, Battelle Memorial Institute

2014-Present Senior Fellow, NORC at the University of Chicago

2013-Present Senior Methodological Adviser, Social Research Centre (Melbourne), Australian National University

2015-2020 Senior Research Fellow, Office for Survey Research, Institute for Public Policy and Social Research, Michigan State University

2013-Present Senior Research Consultant, Morris Davis and Company

2007-2017 Senior Consultant, Charles River Associates (CRA) International

2010-2016 Visiting Scholar, Department of Politics and International Affairs, Northern Arizona University

2012-2014 Senior Research Consultant, Herbert Smith Freehills New York LLP

2010-2014 Senior Research Consultant, Harper Grey LLP

2010-2013 Senior Research Consultant, KnowledgeNetworks/GfK

2008-2013 Research Consultant, Associated Press (AP)

2007-2010 Methodological Research Consultant, Media Rating Council (MRC)

2000-2007 Vice President and Senior Research Methodologist, Nielsen Media Research

1996-2000 Founding Faculty Director, Center for Survey Research, College of Social & Behavioral Sciences, Ohio State University

Principal Investigator, VNS Early Voter Surveys: Arizona and Washington, funded by the Voter News Service for $56,000, 2000

Principal Investigator, Children's Issue survey, funded by Voice for Children and Families for $16,000, 2000.

Principal Investigator, *West Virginia Poll*, three surveys funded by the *Charleston Daily Mail*, WSAZ Television, and the Associated Press for $35,000, 2000.

Principal Investigator, *Buckeye State Poll*, funded in part by the *Columbus Dispatch*, WBNS-TV, and the Federal Reserve Bank of Cleveland for $349,000, 1999-00

Co-Principal Investigator, Ohio Closed Cases Study, in collaboration with the OSU Center for Human Resources Research, funded by the Ohio Department of Human Services for $1,200,000+, 1999-00.

Principal Investigator, Ross County newspaper readership survey, funded by Thomson Central Ohio Newspapers for $8,000, 1999.

Principal Investigator, 3-State Appalachia Project surveys, funded by the *Columbus Dispatch* for $73,000, 1999

Principal Investigator, Central Ohio Race Relation/Differences project, funded in part by the United Way of Franklin County for $37,000, 1998-99

Principal Investigator, VNS Early Voter Surveys: Oregon and Washington, funded by the Voter News Service for $57,000, 1998

Principal Investigator, *Buckeye State Poll*, funded in part by the *Columbus Dispatch*, WBNS-TV, and the Federal Reserve Bank of Cleveland for $340,000, 1998-99

Project Director, OSU Faculty Career Development Survey, funded by the OSU Office of the Provost for $31,000, 1998

Principal Investigator, The Public's Responses to Election Polls, funded by the University of Michigan under a grant from the Pew Charitable Trusts for $3,000, 1997-1998

Principal Investigator, *Buckeye State Poll*; funded in part by the *Columbus Dispatch* and WBNS-TV for $322,000, 1997-98

Co-Principal Investigator and Project Director, Wave 5 of Illinois Anti-Crime Policing Surveys, funded by the National Institute of Justice through a subcontract from the University of Illinois at Chicago for $46,000, 1997-1998.

Project Director, OSU Poll, funded by various OSU administrative and academic units for $89,000, 1997

Principal Investigator, *Buckeye State Poll*; funded in part by the *Columbus Dispatch* and WBNS-TV for $322,000, 1996-97

Co-Principal Investigator, Illinois School-Community Anti-Crime Evaluation, funded by the National Institute of Justice via subcontract with the U. of Illinois at Chicago for $31,700, 1996

Principal Investigator, Stark County Pre-election Survey, funded by the *New York Times* for $18,600, 1996

1991 Visiting Scholar, Institute for Social Research, Center for Political Studies, University of Michigan, Fall Semester

1982-1996 Founding Faculty Director, Northwestern University Survey Laboratory

Project Director, *Sun-Times* and *Tribune* Chicago Metro Survey, funded by the Medill School of Journalism for $2,800, 1984

Co-Principal Investigator, District 300 Community Survey, funded under contract from the Dundee (IL) School District Board of Education for $9,200, 1984.

Principal Investigator, Evanston Research Park Survey, funded by University Relations Department, Northwestern University, for $2,900, 1986

Project Director, Newspaper Readership Surveys: Port Huron, Anderson, Wausua, Marion, Quincy and Newton," funded by the Urban Journalism Center, Northwestern University for $39,000, 1986

Principal Investigator, Testing the Efficacy of Telephone Surveys for Gathering Information About the Missing Children Issue Project, funded under a research agreement from the U. S. Office of Juvenile Justice and Delinquency Prevention for $117,000, 1986-1987

Principal Investigator, *Chicago Catholic* Readership Survey, funded under contract by the Chicago Archdiocese for $6,000, 1987

Principal Investigator, *Chicago Daily Law Bulletin* Illinois Lawyers Survey, funded under contract from the Law Bulletin Publishing Company (IL) for $8,000, 1987

Principal Investigator, District 86 Community Assessment, funded under contract from the Hinsdale (IL) High School District Board of Education for $27,000, 1987

Principal Investigator, Telephone Marketing Surveys, funded by Northwestern Telecommunications Systems for $4,000, 1987

Project Director, West Roxbury and Roslindale Newspaper Readership Survey, funded by the Medill School of Journalism for $4,800, 1988

Principal Investigator, Task Force on the Undergraduate Experience Surveys, funded by the Office of the Provost, Northwestern University for $39,500, 1988

Principal Investigator, Media Executive Management Curriculum Survey, funded by the Medill School of Journalism for $8,500, 1988

Principal Investigator, Media Use of Presidential Polling Survey, funded by the Medill School of Journalism and the Institute of Modern Communications, and the NU Survey Lab for $32,000, 1988

Principal Investigator, Survey of Black Americans, funded under contract from Richard Clarke & Associates (NY), for $8,200, 1988

Principal Investigator, Law Enforcement Chief Executives Survey, funded under contract from the National Crime Prevention Council (Washington, DC) for $24,000, 1988

Principal Investigator, Newspaper Article Readership Study, funded under contract from the *Chicago Sun-Times*, for $2,100, 1989

Principal Investigator, Admitted Students Enrollment Decision Study, funded by the Office of the President, Northwestern University for $21,000, 1989

Co-Principal Investigator, Community Responses to Drug Abuse Process Evaluation, funded by the National Institute of Justice under a subcontract from the University of Illinois at Chicago for $41,000, 1989-90

Principal Investigator, District 70 Projected Enrollment Study, funded by the Illinois School District 70 Board of Education under contract for $18,000

Principal Investigator, 1990 Chicago Area Study Project Survey, funded by the Institute for Modern Communications, the Gannett Urban Journalism Center, the NU Survey Lab and miscellaneous other sources for $23,000

Co-Principal Investigator, Community Responses to Drug Abuse Impact Evaluation, funded by the National Institute of Justice under a subcontract from the University of Illinois at Chicago for $73,000, 1990-92

Project Director, *Saginaw News* Market Survey, funded by the Saginaw News for $9,000, 1991

Principal Investigator, Illinois High-Tech Post-Baccalaureate Employee Needs Assessment, funded by the Illinois Board of Higher Education through a subcontract from University of Illinois for $15,000, 1991

Principal Investigator, Senior Class Satisfaction Study, funded by the Office of the President, Northwestern University for $26,000, 1991

Principal Investigator, 1991 Chicago Area Study Project Survey, funded by the Institute for Modern Communications, the Gannett Urban Journalism Center, the NU Survey Lab, the Chicago Human Relations Foundation and miscellaneous other sources for $33,000

Principal Investigator, National Anti-Crime Media Campaign Evaluation Surveys, funded by the U.S. Bureau of Justice Assistance, through a subcontract from the University of Wisconsin for $131,000, 1991-1993

Principal Investigator, CTEC Psychometric Accuracy Studies, funded by the Office of the President, Northwestern University for $24,000, 1991-1993

Principal Investigator, *The Times* 1992 Market Survey, funded by *The Times* newspaper (Munster, IN) for $12,000, 1992

Principal Investigator, 1992 Chicago Area Study Project Survey, funded by the Institute for Modern Communications, the Gannett Urban Journalism Center, the NU Survey Lab, the Chicago Human Relations Foundation and miscellaneous other sources for $17,000

Principal Investigator, Graduate Student Focus Group Project, funded by the Office of the President, Northwestern University for $10,000, 1992

Principal Investigator, Chicago Campus Mail Services Studies, funded by Northwestern University General Services for $9,600, 1992

Principal Investigator, *The Times* 1993 Market Survey, funded by *The Times* newspaper (Munster, IN) for $10,000, 1993

Co-Principal Investigator, Chicago Community Policing Evaluation, funded by the MacArthur Foundation and the Illinois Criminal Justice Information Authority through a grant and contract to the Center for Urban Affairs and Policy Research for $450,000, 1993-1995

Principal Investigator, 1993 Chicago Area Study Project Survey, funded by the Institute for Modern Communications, the Gannett Urban Journalism Center, the Center for Urban Affairs, the Chicago Human Relations Foundation and miscellaneous other sources for $27,000

Principal Investigator, Evanston Campus Mail Services Studies, funded by Northwestern University General Services for $5,900, 1993

Principal Investigator, Undergraduate Student Focus Group Project," funded by the Office of the Provost, Northwestern University for $8,000, 1993

Principal Investigator, "Illinois Long-Distance Usage and Consumer Survey," funded by the AT&T Corporation for $13,500, 1993

Principal Investigator, 1994 Chicago Area Study Project Survey, funded by the Gannett Urban Journalism Center, the MacArthur Foundation, the Chicago Human Relations Foundation and miscellaneous other sources for $25,000

Principal Investigator, "Illinois Long-Distance Usage and Consumer Panel Survey," funded by the AT&T Corp. for $3,300, 1994.

Co-Principal Investigator, 1995 Chicago Community Policing Evaluation Project Survey, funded by the Bureau of Justice Assistance for $64,000.

Co-Principal Investigator, Aurora-Joliet-Evanston Community and Schools Anti-Crime Surveys," funded by the Bureau of Justice Assistance via a subcontract from the U. of Illinois at Chicago for $98,000, 1995.

Principal Investigator, 1996 Illinois Pre-Election Public Agenda Survey, funded in part by WBEZ-FM, Chicago NPR affiliate for $2,000.

Principal Investigator, 1996 Stark County (OH) Pre-Election Survey," funded in part by *The New York Times* for $2,500.

Co-Principal Investigator, 1996 Chicago Community Policing Evaluation Project Survey, funded by the Bureau of Justice Assistance for $68,000.

Principal Investigator, Washington DC Journalists Survey, funded in part by the Association for Women in Journalism, for $2,000, 1996.

1980-1996 Faculty Associate, Center for Urban Affairs and Policy Research, Northwestern University

Principal Investigator, Citizens' Reactions to Crime in Evanston, funded under contract from the Evanston (IL) Police Department for $31,000, 1981

Co-Principal Investigator, Wilmette 10 Year Community Plan Study, funded under contract from the Village of Wilmette (IL) for $13,000, 1982

Principal Investigator, Neighborhood Anti-Crime Self-Help Project Evaluation, funded under contract from the Eisenhower Foundation for $537,000, 1982-1988

Co-Principal Investigator, "National Evaluation of Crime Stoppers," funded under a research agreement with the National Institute of Justice for $256,000, 1983-1985

1980-1982 Faculty Research Associate, Center for Health Services and Policy Research, Northwestern University

1978-1980 Research Associate, Center for Urban Affairs, Northwestern University

Co-Principal Investigator, "Citizen Participation and Community Crime Prevention", funded under a research agreement with the National Institute of Law Enforcement and Criminal Justice for $261,000

1977-1978 Public Sector Specialist, Westinghouse Electric Corporation,

Principal Investigator, Crime Prevention Through Environmental Design (CPTED) Commercial Demonstration Project Evaluation, funded by the National Institute of Law Enforcement and Criminal Justice for $77,000

1975-1976 Research Associate, Psychology Department, Loyola University of Chicago

Project Administrator, Citizen Crime Reporting Projects National Evaluation, funded under a grant from the National Institute of Law Enforcement and Criminal Justice for $109,000

Teaching

2017-present Adjunct Professor, Department of Public Administration, University of Illinois-Chicago

Summer 23/24 PA582 Survey Research Design and Operations

Fall 21/22 PA582 Survey Research Design and Operations

Fall 20/21 PA582 Survey Research Design and Operations

Spring 18/19 PA582 Survey Research Design and Operations

Spring 17/18 PA582 Survey Research Design and Operations

2010-2016 Lecturer, Department of Politics and International Affairs, Northern Arizona University

Spring 15/16 POS 303 Social Science Research

Spring 13/14 POS 303 Social Science Research

Spring 11/12 POS 303 Social Science Research

Fall 10/11 POS 303 Social Science Research

1996-2000 Professor, School of Journalism & Communication, School of Public Policy and Management, Department of Sociology (courtesy appointment), Ohio State University

Autumn 99/00 615G Introduction to Research Methods

Autumn 98/99 802N06 Special Topics: Elections Polls, the News Media and Democracy

Spring 97/98 801.03 Content Analysis Methods

Autumn 96/97 802N06 Special Topics: Election Polls, the News Media and Democracy

1994-1996 Professor, Department of Communication Studies, School of Speech, Northwestern University

Spring 95/96 C95/E25 Special Topics: Chicago Area Survey Research Practicum

Fall 95/96 B01: Research Methods in Communication Studies
D03: Introduction to the Methods of Mass Communications Research

Fall 94/95 D90/E25: Special Topics: Public Opinion, Election Polls, and the News Media

1991-1995 Professor, Statistics Department, College of Arts & Sciences, Northwestern University (courtesy appointment)

Spring 93/94 C59/E25: Chicago Area Survey Research Practicum

Spring 92/93 C59/E25: Chicago Area Survey Research Practicum

Spring 91/92 C59/E25: Chicago Area Survey Research Practicum

Spring 90/91 C59/E25: Chicago Area Survey Research Practicum

1991-1995 Professor, Medill School of Journalism, Northwestern University

Winter 94/95 D22: Research Methods for Journalists

Spring 93/94 D01/D02: Newspaper Study Project, Co-instructor

Winter 93/94 D22: Research Methods for Journalists
C25: Advanced Reporting, Co-Instructor

Winter 92/93 D22: Research Methods for Journalists
C25: Advanced Reporting, Co-Instructor

Spring 91/92 C25: Advanced Reporting, Co-Instructor

Winter 91/92 D22: Research Methods for Journalists

1991 Visiting Professor, Department of Communication, University of Michigan

Fall 91/92 Public Opinion, Election Polling, and the News Media

1984-1991 Associate Professor, Medill School of Journalism, Northwestern University

Winter 90/91 D22: Research Methods for Journalists
D01-D02: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Spring 89/90: C89: Chicago Area Survey Research Practicum

Winter 89/90 D22: Research Methods for Journalists
C25: Advanced Reporting, Co-Instructor

Fall 89/90 C25: Advanced Reporting, Co-Instructor

Spring 88/89 C25: Advanced Reporting, Co-Instructor

Winter 88/89 D22: Research Methods for Journalists
D01-D02: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Fall 88/89 C25: Advanced Reporting, Co-Instructor

Winter 87/88 D01-D02-D22: Newspaper Study Project, Co-Instructor

Spring 86/87: D01-D02-D22: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Winter 86/87 UJC Newspaper Project II, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Fall 86/87 C25: Advanced Reporting, Co-Instructor
UJC Newspaper Project I, Co-Instructor

Spring 85/86 D01-D02-D22: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Winter 85/86 D22: Research Methods for Journalists
C25: Advanced Reporting, Co-Instructor

Fall 85/86 C25: Advanced Reporting, Co-Instructor

Spring 84/85 D01-D02-D22 Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Winter 84/85 C25: Advanced Reporting, Co-Instructor

Fall 84/85 C25: Advanced Reporting, Co-Instructor

1980-1984 Assistant Professor, Medill School of Journalism, Northwestern University

Spring 83/84 D01-D02-D21: Newspaper Study Project, Co-Instructor
C25 Advanced Reporting, Co-Instructor

Winter 83/84 C25: Advanced Reporting, Co-Instructor

Fall 83/84 C25: Advanced Reporting, Co-Instructor

Spring 82/83 D01-D02-D21 Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Fall 82/83 C25: Advanced Reporting, Co-Instructor

Spring 81/82 D01-D02-D21: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Winter 81/82 D12: Legal Seminar, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Fall 81/82 D01-D02-D21: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor
D06-D07: Magazine Publishing Program, Co-Instructor

Spring 80/81 D01-D02-D21 Newspaper Study Project, Co-Instructor
C25 Advanced Reporting, Co-Instructor
D06-D07: Magazine Publishing Program, Co-Instructor

Winter 80/81 D01-D02-D21: Newspaper Study Project, Co-Instructor
C25: Advanced Reporting, Co-Instructor

Fall 80/81 C25: Advanced Reporting, Co-Instructor

1979-1980 Instructor, Medill School of Journalism, Northwestern University

Spring 79/80 D01-D02-D21: Newspaper Study Project, Co-Instructor

Winter 79/80 D21: Research Methods for Journalists

1976-1977 Instructor, Psychology Department, Loyola University of Chicago

Winter 76/77 Research in Personality and Social Psychology

1975-1976 Instructor, Psychology Department, St. Xavier College, Chicago

Fall 75/76 Statistical Methods for Psychologists

Winter 75/76 Statistical Methods for Psychologists

1972-1975 Graduate Teaching Assistant, Psychology Department, Loyola University

1968-1972 Fifth-grade Teacher, Chicago Public Schools

Consulting

2024-present Reed Smith LLP

Litigation-related projects

2024-present University of Hawaii

Maui Forest Fires Health Impact Survey

2024-present ACCUPOLL Precision Research

Health questionnaire development and evaluation expert testimony

2023 Morris Davis and Company

U.S. National Highway Traffic Safety Administration Drowsy Driving National Survey - nonresponse bias evaluation

2022-2023 EKOS

Improving the Probit panel in Canada

2022-2024 Drexel University

Health Impact Survey of Puerto Rican Natural Disasters

2022 CRRC Republic of Georgia

Workshop on Telephone Survey Methods Enhancements

2021-2022 Lionsgate Corporation

Methodological Research projects

2021-2024 U.S. Federal Highway Administration (contract via Battelle Memorial Institute)

2022 National Household Travel Survey, ABS vs. Knowledge Panel evaluation

2021 ACCUPOLL Precision Research

Health questionnaire development and evaluation expert testimony

2020 *Washington Post*

Covid & Health Clubs project assistance (unpaid)

2020 *New York Times*

2020 Election Surveying assistance (unpaid)

2016-2020 Reconnect Research

RICS sampling and IVR recruitment and data collection R&D (paid and unpaid)

2016-2018 University of Wisconsin Extension

State of Wisconsin Adult Education Survey

2015-2016 TNS Opinion

EU Agency for Fundamental Human Rights project

2015-2021 U.S. National Center for Educational Statistics (contract via AIR)

National Household Education Survey methodological innovations

2015-2017 Legacy Foundation

Evaluation of the *truth* campaign

2015-2019 Simmons Research (formerly Experian Marketing Services)

Redesign of Simmons National Consumer Surveys

2015 U.S. Federal Highway Administration

National Household Travel Survey Expert Statistical Panel

2014-2016 SciMetrika

Elderly Abuse project
NBCCEBP Longitudinal Survey project

2014-2015 *Asahi Shimbun* (Tokyo)

Dual-frame RDD conversion project

2013-2015 Morris Davis and Company

Institute of Museum and Library Services survey project

2013-2014 uSamp

Mobile vs. Online Restaurant Questionnaire Comparison Experiment
Online vs. Mobile Public Opinion Questionnaire Comparison experiment
Mobile vs. Online Grocery Shopping Questionnaire Comparison experiment

2012-2014 Herbert Smith Freehills New York LLP

Litigation-related projects

2010-2014 Harper Grey LLP

Litigation-related projects

2011 LeClair Ryan LLP

Survey Research Expert Services

2011-2013 Google

Mobile Panel project

2011-2012 Social Research Centre

Introducing DFRDD to Australia consultation

2010-2011 NORC University of Chicago

Senior Methodological Adviser

2009 Satterlee Stephens Burke & Burke LLP

Expert Critique of Defendant's Advertising Campaign and Surrebuttal Report

2008-present CRA International

2008-2009 Project Director, US DOJ West Virginia News Media Survey

2009 Expert Critique of Plaintiff's Expert Reports in an Anti-Trust Case and Surrebuttal of Plaintiff's Rebuttal Report

2012 Expert Critique of Defendant's survey methods for Howard G. Buffett Foundation

2017 Expert Witness for College America Litigation

2017-2018 Expert Witness for Au Pair Litigation

2008-2010 Interactive Advertising Bureau

Assessing the Validity On-line Advertising Effectiveness Research Methodologies

2008-2013 The Associated Press

2013, AP 2010 and 2012 Elections Exit Poll vs. Online Survey Comparison
2012, AP Primary Election and General Election Exit Poll Decision Team
2010, AP General Election Exit Poll Decision Team
2009-present, AP representative, National Election Pool Exit Polling Statistical Committee
2009-2010 Co-Principal Investigator and Project Manager, National Hispanic Study
2009 National Election Poll Exit Poll Evaluation project
2008, 2009, and 2010 Principal Investigator on Debt Stress projects
2008 Project Director, Eight Battleground State Pre-Election Polls

2008 Office of the Attorney General, State of New York

Arbitron Personal People Meter (PPM) Methodological Evaluation expert report

2008 National Center for Health Statistics

Review Panel Member, Children with Special Health Care Needs Survey

2008 Center for Community Development and Civil Rights, Arizona State University

Arbitron PPM Hispanic/Latino Review Panel project

2007-2013 Knowledge Networks/GfK

2007 Address-Based Sampling project
2010-present Gaining Cooperation and Compliance for Audience Measurement Panels

2007-2008 ABC News

2007/2008 ABC News/*Washington Post* Cell Phone Survey project
2008 ABC News Primary/General Election Exit Poll Decision Team

2007-2010 Media Rating Council

2010 Response Rate Technical Advisory Committee
2007 Arbitron PPM Audit Review
2007-2008 Minority Evaluation Audit Inventory
2007-2009 Evaluation of Within Household Respondent Selection Procedures

2007-2009 Pacific Institute for Research & Evaluation (PIRE)

Active Parental Consent project

2007 Fordham University, Fellowship Program in Media Leadership

Lecturer, Television Audience Measurement

2007 U.S. Department of State, Bureau of Intelligence and Research

Respondent-Related Measurement Error workshop

2006 Edison Media Research

Election Day Exit Poll News Media Quarantine Room proctor

2005-present National Science Foundation

Research proposal reviewer (Unpaid)

2005 U.S. Department of Education

Research paper reviewer (Unpaid)

2002 Voters News Service (VNS)

November 2002 Election Night Decision Team

2000-2004 Center for Disease Control

Behavioral Risk Factors Surveillance Survey (BRFSS) Advisory Committee (Unpaid)

2000 Ohio State University Center for Survey Research

Leadership Transition and Advisor to National Research Projects

2000 Nielsen Media Research

Response Rate Research and Evaluation: Diary Placement and Call Center Operations

2000 University of Virginia

Review of Operations of U-VA Center for Survey Research

2000 Voter News Service (VNS)

March 2000 Primary Election Decision Team
November 2000 Election Night Decision Team

1999 College of William and Mary

Review of Operations of Policy Studies Resource Labs

1999 Gallup International

Review of Research Methods Used by U.S. Army Office of Research

1998 Voter News Service (VNS)

1998 Election Night Decision Team

1998 Research Triangle Institute (RTI)

Total Survey Error workshop instructor

1997-1999 Village of Granville (OH) School District (Unpaid)

Projected Enrollment Census (1997-2001)

1996 American Statistical Association

1996 InterCASIC Conference workshop instructor

1996 Voter News Service (VNS)

1996 Election Night Decision Team

1994 OSU Health Services Research, Inc.

Kaiser-Permanente Survey Nonresponse project

1994-1996 ABT Associates

National Center for Health Statistics State and Local Immunization Survey

1994 *Minneapolis Star Tribune*

Newspaper Content Redesign study

1993-94 Michigan Department of Public Health

Michigan Alcohol and Drug Usage Survey

1992 Center for Urban Studies, University of Chicago

Invited Review Paper for Annual Public Policy Conference

1992 Illinois Attorney General's Office

Statistical and Research Methodology Expert Witness Testimony

1992 U.S. Bureau of Justice Assistance (Unpaid)

Survey Research Workshop Instructor

1991 St. Matthew Episcopal Church of Evanston

Needs Assessment Survey

1990-1994 Research Triangle Institute (Unpaid)

HHS Runaway and Homeless Youth Survey Advisory Council

1990-91 University of Illinois, Survey Research Laboratory

High-Tech Higher Education Needs Assessment Project

1990 New York Historical Society

Book Preservation Survey

1990 National Realty Advisors

Industrial Space Survey

1990 Sidley & Austin, Inc.

Commonwealth Edison Job Preferences Survey

1990 Morton Grove District 70 Public Schools

Projected Student Enrollment Study (1990-1994)

1990 Chicago Historical Society

Book Preservation Survey

1989 Cahners Publishing Co.

Magazine Research Training Seminar

1989 Alderman David Orr

Political Survey Research Consultation

1989 *Chicago Sun-Times*

Newspaper Readership Research

1988-1996 *Quincy Herald-Whig*

Newspaper Readership Research

1988-89 National Crime Prevention Council, Washington, DC

Media Campaign Development Research

1988 Richard Clarke & Associates, New York NY

Black American Attitudes Survey

1987 Law Bulletin Publishing Company, Chicago IL

Chicago Daily Law Bulletin Readership Survey

1987 Catholic Archdiocese of Chicago

Chicago Catholic Readership Survey

1986-1992 Aaron D. Cushman & Associates, Chicago IL

Quill 1000 Small Business Survey

FNM (Bahamas) Political Opinion Survey
Business Women's Satisfaction with Travel Accommodations Survey
College Students' Morality Attitudes Survey

1985-1991 Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice

Advisory Workshop: Research on Missing Children
Reviewer: Missing, Abducted, Runaway & Thrownaway Children in America studies

1985-1986 Department of Technical Journalism, Colorado State University

Advisory Committee: Crime Prevention, Media and the Elderly

1984-1987 *World Press Institute*, Macalester College, St. Paul MN

Summer Lecturer

1984 Government of Bermuda

Political Unrest and Quality of Life Survey

1982-1984 Inland Daily Press Association

Annual Wage, Salary and Employee Benefits Surveys

1981-1984 Department of Mass Communications, University of Denver

Advisory Committee: "Take A Bite Out of Crime" Public Service Media Campaign Evaluation

1981-1982 Eisenhower Foundation for the Prevention of Violence, Washington DC

Crime Prevention Proposal Development

1981-1982 GTE Automatic Electric, Northlake IL

Monthly Corporate Magazine Readership Survey

1981-1982 Evanston Police Department, Evanston IL

Crime Prevention Workshop Instruction

1980-1986 The Police Foundation, Washington DC

Public Housing Urban Initiatives Anti-Crime Program Evaluation

Newark/Houston Fear Reduction Program Evaluation

1979-1980 Office of Justice Programs, City of Portland, Oregon

Crime Prevention Through Environment Design Project Evaluation

1979 National Criminal Justice Information and Statistical Service

Peer Reviewer

1978-1993 National Institute of Justice, U.S. Department of Justice

Peer Reviewer

1978 Lake County Mental Health Center, Waukegan IL

Mental Health Survey

1978-1982 Department of Planning and Community Development, City of Chicago IL

Advisory Committee, Industrial-Residential Security Project

1977 Professional Research Analysts, Chicago IL

Psychographic Profile of Medical Practitioners Survey

1976 National Community Foundation, Evanston IL

Advisory Board Member

1976 Illinois Law Enforcement Commission, Chicago IL

Beat Representative Program Evaluation

1976 Center for Urban Affairs, Northwestern University, Evanston IL

Reactions to Crime Project Research

1975 Cook County State Attorney's Office, Chicago IL

Victim-Witness Unit Program Evaluation

PUBLICATIONS

Lavrakas, P. J. Female preferences for male physiques. *Journal of Research in Personality*, 1975, 9, 324-334. (Summarized in *Psychology Today*, 1975, October, 65)

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Co-authored chapters in book:

Lavrakas, P.J. & Traugott, M.W. Why election polls are important to a democracy: an american perspective; 3-22.

Kosicki, G. & Lavrakas, P.J. Mixing literary journalism and precision journalism in the coverage of the 1996 presidential election; 142-161.

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Lavrakas, P. J., Dirksz, G., Lusskin, L. and Ponce, B. (2016). Experimenting with the Addressee Line in a Mail Survey of Hispanic Households. *Survey Practice*, August, https://surveypractice.scholasticahq.com/article/2794-experimenting-with-the-addressee-line-in-a-mail-survey-of-hispanic-households

Pennay, D., Neiger, D. and Lavrakas, P.J. (2016). A TSE comparison of findings from probability-based surveys and non-probability online panel surveys in Australia. *Proceedings of the International Total Survey Error Workshop.* Sydney. https://www.dropbox.com/s/vgow9opb5zxz343/Pennay_ITSEW%20Conference%20Paper_Abridged_23Sept16%20%28Final%29.pdf?dl=0

Traugott, M.W. and Lavrakas, P.J. (2016). *The Voter's Guide to Election Polls.* 5th Edition. Lulu Online Publication.

Lavrakas, P.J., Benson, G., Blumberg, S., Buskirk, T. Flores Cervantes, I., et al. (2017). *The Future of U.S. General Population Telephone Survey Research.* Deerfield IL: American Association for Public Opinion Research. https://www.aapor.org/Education-Resources/Reports/The-Future-Of-U-S-General-Population-Telephone-Sur.aspx (retrieved July 17, 2017).

Roller, M. R., & Lavrakas, P. J. (2017). "A Total Quality Framework Approach to Sharing Qualitative Research Data: Comment on DuBois et al. (2017)." *Qualitative Psychology*. Advance online publication. http://dx.doi.org/10.1037/qup0000081

Lavrakas, P.J., Skalland, B., Ward, C., Geng, C., Welch, V., et al. (2017). "Testing the Effects of Envelope Features on Survey Response in a Telephone Survey Advance Letter Mailing Experiment." *Journal of Survey Statistics and Methodology*, smx023, https://doi.org/10.1093/jssam/smx023; (2018) June issue, 262-283

Guterbock, T., Benson, G. and Lavrakas, P.J. (2018). "The Changing Cost of Random-Digit Dialing Cell Phone and Landline Interviewing." *Survey Practice*, 11(2), http://www.surveypractice.org/article/3168.

Pennay, D., Neiger, D., Lavrakas, P. and Borg, K. (2018). "The Online Panels Benchmarking Study: a Total Survey Error Comparison of Findings from Probability-based Surveys and Nonprobability Online Panel Surveys in Australia", Methods Paper No. 2/2018, ANU Centre for Social Research and Methods and the Social Research Centre, The Australian National University, Canberra.

Lavrakas, P.J., Jackson, M. and McPhee, C. (2018). The Use of Response Propensity Modeling (RPM) for Allocating Differential Survey Recruitment Strategies: Purpose, Rationale, and Implementation. *Survey Practice*, 11(2), https://surveypractice.scholasticahq.com/article/3705-the-use-of-response-propensity-modeling-rpm-for-allocating-differential-survey-recruitment-strategies-purpose-rationale-and-implementation

Jackson, M., McPhee, C. and Lavrakas, P. J. (2019). Using Response Propensity Modeling to Allocation Incentives in an Address-based Sample: Evidence from a National Experiment. *Journal of Survey Statistics and Methods*, April, https://doi.org/10.1093/jssam/smz007

Levine, B., Krotki, K., and Lavrakas, P.J. (2019). Redirected Inbound Telephone Call Sampling (RICS): Telephone Surveying via a New Sampling Paradigm. *Public Opinion Quarterly*, nfz024, https://doi.org/10.1093/poq/nfz024

Lavrakas, P.J., Traugott, M.W., Kennedy, C., Holbrook, A., de Leeuw, E., and West, B. (Editors). (2019). *Experimental Methods in Survey Research: Techniques that Combine Random Assignment with Random Probability Sampling.* Hoboken, NJ: Wiley & Sons.

Lavrakas, P.J., Kennedy, C., de Leeuw, E., Holbrook, A., West, B., and Traugott, M.W. (2019). Probability Survey-based Experimentation and the Balancing of Internal and External Validity Concerns (Chapter 1). In Lavrakas et al. (eds.), *Experimental Methods in Survey Research: Techniques that Combine Random Assignment with Random Probability Sampling.* Hoboken, NJ: Wiley & Sons.

Lavrakas, P.J., Kelly, J. and McClain, C. (2019). Investigating Survey Effects and Confounds in Interviewer-based Survey Experimentation (Chapter 12). In Lavrakas et al. (eds.), *Experimental Methods in Survey Research: Techniques that Combine Random Assignment with Random Probability Sampling.* Hoboken, NJ: Wiley & Sons.

Vogl, S., Parsons, J., Owens, L. and Lavrakas, P.J. (2019). Experiments on the Effects of Advance Letters in Surveys (Chapter 5). In Lavrakas et al. (eds.), *Experimental Methods in Survey Research: Techniques that Combine Random Assignment with Random Probability Sampling.* Hoboken, NJ: Wiley & Sons.

Pennay, D, Goot, M. Neiger, D. Trewin, D. Lavrakas, P. J., Stirton, J., Hughes, P Sheppard, J. McAllister, I. (2020) *Report of the Inquiry into the Performance of the Opinion Polls at the 2019 Australian Federal Election*, Association of Market and Social Research Organisations and the Statistical Society of Australia. https://www.amsro.com.au/amsro-polling-inquiry-final-report/

Lavrakas, P.J., Pennay, D., Neiger, D. and Phillips, B. (2022). Comparing Probability-Based Surveys and Nonprobability Online Panel Surveys in Australia: A Total Survey Error Perspective. *Survey Research Methods*, 16(2), 241-266.

Kocar, S. and Lavrakas, P.J. (2023) Social-psychological aspects of probability-based panel participation. *International Journal of Public Opinion Research*, 35(2), https://doi.org/10.1093/ijpor/edad012

Lavrakas, P.J. and Kocar, S. (2023). A low-cost method to try to improve panel survey representation. *Survey Practice*, 16(1), https://www.surveypractice.org/article/88139-a-low-cost-method-to-try-to-improve-panel-survey-representation

PRESENTATIONS

"Female preferences for male physiques." Midwestern Psychological Association, Chicago, 1974.

"What makes a good witness?" Symposium: the witness and the criminal justice system. American Psychological Association, Chicago, 1975. (L. Bickman, co-author)

"The effects of individual differences and training on the recognition of other race faces." Symposium: the witness and the criminal justice system. American Psychological Association, Chicago, 1975. (J. Buri & M. Mayzner, co-authors)

"Projects which encourage witness crime reporting: results of a national evaluation." Symposium: citizen response to crime. American Psychological Association, Washington DC, 1976. (L. Bickman co-author)

Organizer and Chairperson. Symposium: the accuracy of eyewitness identification: the psychologist as expert witness. American Psychological Association, Washington DC, 1976.

"Methods for evaluating citizen crime reporting projects." Symposium: evaluation designs for community crime prevention programs. LEAA National Conference on Criminal Justice Evaluation, Washington DC, 1977. (L. Bickman, co-author)

"A performance assessment model for community crime prevention projects." Invited address, National Crime Prevention Institute, University of Louisville, 1977.

"Evaluation planning for crime prevention through environmental design programs." American Psychological Association, San Francisco, 1977. (L. Bickman & M. Maltz, co-authors)

"Victim, police, and community perceptions of criminal victimization". Workshop: the implication of surveys for victim service delivery. Third National Victim Services Conference, Akron, 1977. (D. Rosenbaum co-author)

Chairperson. Workshop: alternative structures for service delivery for victim/witness projects. Third National Victim Services Conference, Akron, 1977.

"Crime prevention through environmental design." Symposium: environmental psychology. Southern Society of Psychology and Philosophy, Orlando FL, 1978. (I. Kohn, co-author)

"Crime prevention and fear reduction in the commercial environment." Workshop: community crime prevention. UPDATE '78: LEAA National Conference for Local Elected Officials, Arlington VA, 1978. (M. Maxfield & J. Henig, co-authors)

"Commercial security surveys and burglary reduction: a time-series analysis." Symposium: environmental design. National Conference of Criminal Justice Evaluation, Washington DC, 1978. (J. Normoyle & R. Szoc, co-authors)

"Environmental planning for crime prevention and fear reduction." Invited address, Center for Urban Economic Development, University of Illinois, Chicago, 1979.

Organizer. Symposium: prevention: citizen risk-avoidance behaviors. American Psychological Association, New York City, 1979.

"Citizen-community crime prevention." Symposium: prevention: citizen risk-avoidance behavior. American Psychological Association, New York City, 1979. (D. Lewis & J. Normoyle, co-authors)

"Locus of control, territoriality, and fear of crime in elderly women." Midwestern Psychological Association, St. Louis, 1980. (J. Normoyle, co-author)

"Police and citizen participation in community crime prevention." Invited address, Illinois Crime Prevention Officers' Association, Evanston, 1980. (J. Normoyle, co-author)

Organizer and Chairperson. Community Responses to Crime Conference, Evanston,1980. (co-sponsored with the Illinois Department of Law Enforcement)

Chairperson. Symposium: comprehensive planning for neighborhood crime prevention. American Society of Public Administrators, Detroit, 1981.

"Community organizations, citizen participation, and neighborhood crime prevention." Symposium: community organizations and neighborhood change. American Psychological Association, Los Angeles, 1981. (G. Salem and E. Herz, co-authors)

"Fear of crime, behavioral restrictions, and crime prevention." Symposium: crime prevention: theories, research, and citizen involvement. American Psychological Association, Los Angeles, 1981.

"Human lie detection." Invited Address, Illinois Psychological Association, Chicago, 1981.

"Social demographics, mediating variables, and infant mortality." Symposium: an analysis of the use of research findings on infant mortality: a case study of chicago. EVALUATION '81, Austin TX, 1981.

"Generating a random digit dialing sample for telephone surveys." ISSUE '81: Annual SPSS Convention, San Francisco, 1981. (R. K. LeBailly, co-author)

"The role of information sources and citizen involvement in crime prevention." Symposium: research and policy on communication and crime prevention. Midwest Association of Public Opinion Research, Chicago, 1981.

"Crime and fear in America: a psychological perspective." Invited Address, Indiana University NW, Gary, 1981.

Organizer and Chairperson. Symposium: the police and the citizenry: cooperation or conflict? Academy of Criminal Justice Sciences, Louisville, 1982.

"Attitudes of the police towards citizens' anti-crime measures." Symposium: the police and the citizenry: cooperation or conflict? Academy of Criminal Justice Sciences, Louisville, 1982. (J. Normoyle, co-author)

Organizer and Chairperson. Symposium: crime's impact: more than a tally of reported crimes. American Psychological Association, Washington DC, 1982.

"Identifying crime problems and planning solutions at the local level." Symposium: crime's impact. American Psychological Association, Washington DC, 1982. (J. Normoyle, co-author)

"Support for gun control: the influence of personal and sociotropic concerns." Symposium: public opinion and crime. Midwest Association of Public Opinion Research, Chicago, 1982. (T. Tyler, co-author)

"Transmitting information about crime and crime prevention to citizens." National Association of Police Planners, St. Louis, 1983. (F. Kaminski & D. Rosenbaum, co-authors)

Organizer and Chairperson. Symposium: testing and clarifying community crime prevention hypotheses. American Psychological Association, Anaheim, 1983.

"Transmitting information about crime and crime prevention to citizens." Symposium: testing and clarifying community crime prevention hypotheses. American Psychological Association, Anaheim, 1983. (D. Rosenbaum & F. Kaminski, co-authors)

"Planning to prevent crime and reduce fear: the Evanston model" Symposium: social incivilities and crime perceptions in neighborhoods. Chicago Academy of Information and Planning, Chicago, 1983.

"Taking the pulse of the people." Invited address, Mid-America Press Institute, Chicago, 1983.

"The Evanston police-community anti-crime newsletter". National Association of Police Planners, St. Louis, 1983. (F. Kaminski and D. Rosenbaum, co-authors)

Organizer and Chairperson. Symposium: Evaluating community crime prevention and fear reduction projects. EVALUATION '83, Chicago, 1983.

"Evaluating the Eisenhower foundation's neighborhood anti-crime self-help program." Symposium: evaluating community crime prevention and fear reduction projects. EVALUATION '83, Chicago, 1983. (S. Bennett, co-author)

"Low cost telephone surveys." Symposium: research methods when resources are scarce. EVALUATION '83, Chicago, 1983. (T. Tyler, co-author)

"A social psychologist in a journalism department". Symposium: Alternative academic departments for psychologists. Southern Psychological Association, Atlanta, 1984.

"What do we know about citizen involvement in anti-crime activities?" Invited Address, National Crime Prevention Coalition, Washington DC, 1984.

"Racial differences as a barrier to effective community anti-crime programming." Symposium: Constructive and destructive forces in community crime prevention. American Psychological Association, Toronto, 1984. (R. A. Maier, Jr. co-author)

"The fear reduction project evaluation: the Newark and Houston newsletter true experiments. American Society of Criminology, Cincinnati, 1984.

"An update of the Eisenhower neighborhood program evaluation." American Society of Criminology, Cincinnati, 1984.

Organizer and Chairperson. Symposium: Citizens' individual and collective responses to crime. American Psychological Association, Los Angeles, 1985.

"The bubble-up approach to community anti-crime programming." Symposium: citizens' individual and collective responses to crime. American Psychological Association, Los Angeles, 1985. (S. Bennett, co-author)

"An evaluation of public support of tax increases for education." EVALUATION '85, Toronto, 1985, and Midwestern Association of Public Opinion Research, Chicago, 1985. (K. Rasinski & S. Rosenbaum, co-authors)

Organizer and Chairperson. Invited Symposium: Neighborhood watch approaches to reducing violent crime and fear. American Society of Criminology, San Diego, 1985.

"How neighborhoods groups decide what to do about crime." American Society of Criminology, San Diego, 1985. (co-author, S. Bennett)

"Citizen self-help and crime prevention policy." American Society of Criminology, San Diego, 1985.

"Low-cost telephone surveys for newspapers". Invited address, Mid-America Press Institute, St. Louis, 1986.

"Using telephone surveys to gather information about the missing children issue". National Conference of Missing and Exploited Children, Chicago, 1986. (co-author, S. M. Hartnett)

"What research tells us about maintaining citizen participation in crime prevention". Invited presentation, in symposium: Sustaining a crime prevention program. Illinois Crime Prevention Conference, Chicago, 1986.

"Thinking about implementing citizen and community crime prevention measures". Invited paper, British Home Office Crime Prevention Conference, Cambridge, U.K., 1986. (co-author, S. Bennett)

"Awareness of and participation in neighborhood anti-crime programs". American Society of Criminology, Atlanta, 1986. (co-authors, S. Bennett and B. Fisher)

"Surveying parents about the missing children issue". Midwest Association for Public Opinion Research, Chicago, 1986. (co-author, S. M. Hartnett)

"Parental attitudes towards the missing children issue". National Conference of Missing and Exploited Children, Chicago, 1987. (co-author, S. M. Hartnett)

"The NACSHP evaluation: some preliminary findings on community organization and police interaction". American Society of Criminology, Montreal, 1987. (co-authors, S. Bennett and B. Fisher)

"Attitudes towards the problem of missing children". American Society of Criminology, Montreal, 1987. (co-author, S. M. Hartnett)

Chairperson. Symposium: "Progress in measurement issues". Midwest Association for Public Opinion Research, Chicago, 1987.

"A comparison of some operational definitions used to measure newspaper readers". Midwest Association for Public Opinion Research, Chicago, 1987.

"Planning and implementing crime prevention programs." Invited presentation, National Crime Prevention Coalition's Workshop for State and Local Administrators, Washington DC, 1988.

"Police-community crime control." Roundtable participant, American Society of Criminology, Chicago, 1988.

"The nature and scope of panel attrition in RDD surveys." Midwest Association for Public Opinion Research, Chicago, 1988.

Organizer and Co-chair. Conference: Media Polling and the 1988 Presidential Election. Northwestern University, Evanston, 1989.

Organizer and Moderator, Symposium: Media Use of Polling in the 1988 Presidential Election Coverage. American Association for Public Opinion Research, St. Petersburg, 1989.

"Media executives and media management training." Symposium: Opinion Research in Organizations and the Workplace, Midwest Association for Public Opinion Research, Chicago, 1989. (co-author, J. K. Holley)

Discussant. Symposium: "News, Debates and Polls: What the Media Say About Presidential Elections," Midwest Association for Public Opinion Research, Chicago, 1989.

"Public opinion in drug-plagued neighborhoods towards anti-drug strategies." Symposium: Surveys on the Nation's #1 Problem -- Drugs, American Association for Public Opinion Research, Lancaster, PA, 1990. (co-authors, S.M. Hartnett & D.P. Rosenbaum)

"Testing of bandwagon and underdog effects via fabricated news stories." Symposium: Analyzing the Content and Effect of Mass Media, American Association for Public Opinion Research, Lancaster, PA, 1990. (co-author, K. L. Schenck)

"An experimental study of bandwagon and underdog effects in the 1988 u.s. presidential election: implications for future elections." Symposium: Questions for Research on Media and Elections, International Communication Association, Dublin, Ireland, 1990.

Organizer and Moderator. Symposium: "Evaluation Research on Community Anti-Drug Strategies". American Psychological Association, Boston, 1990.

"Citizen and community reaction to the drug problem." Symposium: "Evaluation Research on Community Anti-Drug Strategies". American Psychological Association, Boston, 1990. (co-authors, S. M. Hartnett and D. P. Rosenbaum)

"Telephone survey response rates and external validity considerations." Symposium: Studies of Mail and Telephone Survey Techniques. American Psychological Association, Boston, 1990.

"Public Opinion in Drug-Plagued Neighborhoods Towards Anti-Drug Strategies." American Society of Criminology, Baltimore, 1990. (co-authors S.M. Hartnett and D.P. Rosenbaum)

"Name Recognition and Pre-Primary Poll Measurement Error." International Conference of Survey Measurement Error, Tucson, 1990. (co-author D. Merkle)

"The Nature and Extent of Readership of Chicago Dailies." Midwest Association for Public Opinion Research, Chicago, 1990.

Chairperson. Symposium: "Sources and Influence of Campaign Coverage. Midwest Association for Public Opinion Research, Chicago, 1990.

Discussant. Panel: "The Election Mandate of 1990 and the Polling Agenda for 1992." Midwest Association for Public Opinion Research, Chicago, 1990.

Organizer and Chairperson. Symposium: "The 1990 Election & Voter Research and Surveys." American Association for Public Opinion Research, Phoenix, AZ, 1991.

"Nonresponse bias: refusal conversions and call-backs in rdd telephone surveys." Symposium: Methodological Research and Telephone Surveys, Midwest Association for Public Opinion Research, Chicago, 1991. (co-authors, D. Merkle and S. Bauman)

"A reversal of roles: when respondents question interviewers." Symposium: Methodological Research and Telephone Surveys, Midwest Association for Public Opinion Research, Chicago, 1991. (co-author, D. Merkle)

"Black and white perspectives on racial issues in the city of chicago." Symposium: Tolerance of Others' Differences, Midwest Association for Public Opinion Research, Chicago, 1991. (co-author, J. Schejbal)

"Behaviors and attitudes towards environmental issues." Symposium: Surveying Special Topics to Aid Policy Development, Midwest Association for Public Opinion Research, Chicago, 1991. (co-author, J. Lovig)

"Refusal report forms, refusals conversions, and nonresponse error." American Association for Public Opinion Research, St. Petersburg, FL, 1992. (co-authors, S. Bauman and D. Merkle)

Invited Workshop. Total survey error and critical thinking about survey research. Bureau of Justice Assistance Annual Evaluation Conference, Washington DC, 1992.

Co-Organizer and Chair. Symposium: Survey Research, the News Media, and the Public," American Statistical Association, Boston, 1992.

"Attitudes toward and experiences with sexual harassment in the workplace." Symposium: Social Issues, Midwest Association for Public Opinion Research, Chicago, 1992.

"Interviewer estimates of refusers' gender, race and age in telephone surveys." Symposium: Nonresponse and Noncoverage, Midwest Association for Public Opinion Research, Chicago, 1992. (co-authors, S. Bauman and D. Merkle)

"Race-related perceptions of blacks and whites in an integrated suburb." Symposium: Race Relations and Racial Attitudes, Midwest Association for Public Opinion Research, Chicago, 1992. (co-author, J. Schejbal)

"Opinions on the causative factors of the L.A. riots." Symposium: Race Relations and Racial Attitudes, Midwest Association for Public Opinion Research, Chicago, 1992. (co-author, J. Schejbal)

Invited Workshop. Total survey error and critical thinking about survey research. Bureau of Justice Assistance State-level Criminal Justice Conference, San Antonio, 1992.

Invited Paper. "The impetus to covert to CATI: a total survey error perspective. Computer-Aided Telephone Interviewing Conference, Evanston (IL), May, 1993.

"The last birthday selection method and within-unit coverage problems. American Association for Public Opinion Research, St. Charles, IL, 1993. (co-authors, S. Bauman and D. Merkle)

"The impact of callbacks on survey estimates in an annual rdd survey. American Association for Public Opinion Research, St. Charles, IL, 1993. (co-authors, S. Bauman and D. Merkle)

Discussant. Symposium: Respondent Tracking and Response Rates. American Association for Public Opinion Research, St. Charles, IL, 1993.

"The continuing adventures of mcgruff: new perspectives on an information campaign." Symposium: New Perspectives on Information Campaigns, Political Advertising, and PSAs. AEJMC Convention, Kansas City, MO, 1993. (co-authors: G. O'Keefe, D. Rosenbaum, R. Botta)

Invited Workshop. Total survey error. Bureau of Justice Statistics/Justice Research and Statistical Association Jointing Conference, Albuquerque, NM, 1993. (co-presenter R. Groves)

Discussant. Symposium: Measurement Issues. Science & Democracy: International Conference on the Public Understanding of Science and Technology, Chicago, IL.

Discussant. Symposium: "Community processes and community-oriented policing." American Society of Criminology, Phoenix, 1993.

Invited Presentation. Evaluating the impact of a crime prevention public service advertising campaign. BJA/OJP State and Local Annual Conference, Philadelphia, 1993. (co-presenters, G. O'Keefe and D. Rosenbaum)

"Pre-election polls in newspaper presidential campaign coverage." Symposium: Polling and the Press, Midwest Association for Public Opinion Research, Chicago, 1993. (co-author, S. Bauman)

"Hello, do you remember us?" Symposium: New Directions in Public Opinion Methodology, Midwest Association for Public Opinion Research, Chicago, 1993. (co-authors, J. Schejbal and H. Sachs)

"Media gatekeepers and the McGruff PSA campaign." Panel: Taking More Bites Out of Crime: The Continuing Impact of a Public Information Campaign, Midwest Association for Public Opinion Research, Chicago, 1993. (co-author, S. Bauman)

"Reverse directory sampling, random-digit dialing, and the problems of geographic screening." Symposium: Classic and Contemporary Issues in Public Opinion Methodology. Midwest Association for Public Opinion Research, Chicago, 1993. (co-authors, J. Schejbal and S. Jones)

Invited Presentation. "Using the total survey error perspective to improve newspaper research." Newspaper Association of America 1994 Research, Marketing & Promotion annual conference, San Diego, 1994.

Symposium: "The Social Impact of the McGruff PSA Campaign." American Criminal Justice Association annual conference, Chicago, 1994. (co-presenters: G. O'Keefe and D. Rosenbaum)

"The use and perception of ethno-racial labels." Annual Research Conference, U.S. Bureau of the Census, Arlington (VA), 1994. (co-authors: J. Schejbal and T. W. Smith)

"Data quality of reluctant respondents: refusal conversions and item-nonresponse." American Association for Public Opinion Research, Danvers, MA. 1994. (co-authors, D. Merkle and S. Bauman)

“Newspapers' page one use of presidential pre-election polls: 1980-1992." Poster Session, American Association for Public Opinion Research, Danvers, MA. 1994. (co-author: S. Bauman)

"Coverage error and cost issues in small area telephone surveys." American Association for Public Opinion Research, Danvers, MA. 1994. (co-author: J.A. Schejbal)

Organizer and Chair. Discussion Panel: "Procedures for Determining Likely Voters: Likely Voter Screening, Allocation and Weighting." American Association for Public Opinion Research, Danvers, MA. 1994.

Co-Organizer and Chair. Panel: "Media, Public Opinion, Guilt and Innocence." Midwest Association for Public Opinion Research, Chicago, 1994.

"Citizens' telephone-related behaviors and attitudes: implications for telephone surveys." Midwest Association for Public Opinion Research, Chicago, 1994. (co-authors, J.A. Schejbal and S.L. Bauman)

"Panel attrition in a dual-frame local area telephone survey." Midwest Association for Public Opinion Research, Chicago, 1994. (co-author, J.A. Schejbal)

"The costs and benefits of refusal conversions in telephone surveys." Midwest Association for Public Opinion Research, Chicago, 1994. (co-authors, J.A. Schejbal and S.L. Bauman)

"Crime prevention public policy and politics: the role of elected officials and journalists." Symposium: Crime Prevention and Public Policy. Academy of Criminal Justice Sciences, Boston, 1995.

Organizer and Chair. Symposium: "Strategies for reducing unit nonresponse in large-scale telephone surveys." American Association for Public Opinion Research, Ft. Lauderdale, FL, 1995.

"Using advanced respondent letters in random-digit dialing telephone surveys." American Association for Public Opinion Research, Ft. Lauderdale, FL, 1995. (co-authors: D. Camburn, J. Massey, R. Wright)

"Who are we losing? Panel attrition in a dual-frame local area telephone survey." American Association for Public Opinion Research, Ft. Lauderdale, FL, 1995. (co-author: J.A. Schejbal)

"Pre-election polls and the framing of news coverage of the 1994 Illinois gubernatorial campaign." American Association for Public Opinion Research, Ft. Lauderdale, FL, 1995. (co-authors: T. Tompson, S. Eck, J. Bay, R. Agrawal)

"Using the total survey error perspective in training and monitoring interviewers." 1995 International Field Directors and Technologies Conference, Deerfield Beach, FL. (co-author: J.A. Schejbal)

"Investigating the meaning of responses to the 'number one problem' item. Midwest Association for Public Opinion Research, Chicago, 1995. (co-author: J.A. Schejbal)

"A methodological approach to the measurement of race and ethnicity: self- identification as 'african-american' and/or 'black'." Midwest Association for Public Opinion Research, Chicago, 1995. (co-authors: J.A. Schejbal & T.W. Smith)

"Total survey error and resource allocation trade-offs." 1996 New England AAPOR Conference, Salem, MA.

"Asking respondents to estimate public opinion: who can do it and how accurate are they?" American Association for Public Opinion Research, Salt Lake City, UT, 1996. (co-author: D.M. Merkle)

"A flexible approach to the measurement of race and ethnicity." American Association for Public Opinion Research, Salt Lake City, UT, 1996. (co-authors: J.A. Schejbal & T.W. Smith)

"Geographic context, information sources, and the meaning of responses to the number one problem item." American Association for Public Opinion Research, Salt Lake City, UT, 1996. (co-author: J.A. Schejbal)

“Measuring demographics as independent variables: the case of race and ethnicity.” *AEJMC Conference*, Anaheim, CA, 1996.

Invited 4-hr. workshop: “Total survey error considerations for CASIC.” *InterCASIC-96: International Conference on Computer-Assisted Survey information Collection*, San Antonio, TX, 1996.

“A study of the costs and benefits of refusal conversions.” *Midwest AAPOR Conference*, Chicago, 1996. (co-author: C. Marsh)

“Gender-differences among Washington DC beat reporters.” *Midwest AAPOR Conference*, Chicago, 1996. (co-authors: L. Jones & C. Marsh)

“’Litmus-test’ issues, voting intentions, and election polling.” *Midwest AAPOR Conference*, Chicago, 1996. (co-author: T. Tompson)

“Assessing the psychological effects of debt: a consumer debt stress index.” *American Association for Public Opinion Research*, Norfolk, VA 1997. (co-author: L. Dunn)

“Literary journalism meets precision journalism.” *American Association for Public Opinion Research*, Norfolk, VA 1997. (co-author: G. Kosicki)

"'Litmus-test' issues, voting intentions, and election polling." *American Association for Public Opinion Research*, Norfolk, VA 1997. (co-author: T. Tompson)

Invited Workshop: "The Total Survey Error Perspective." New York AAPOR, August, 1997.

"The relative importance of income and debt in explaining race differences in health outcomes." 1997 *Midwest AAPOR Conference*, Chicago, IL. (co-author: P. Drentea)

Panelist, "The academic survey research consultant: issues faced and suggested answers." 1997 *Midwest AAPOR Conference*, Chicago, IL.

Discussant, Symposium on: "All things considered: the problem of measuring quality of opinion." 1997 *Midwest AAPOR Conference*, Chicago, IL.

"Predicting voter turnout and vote outcome in ballot elections." 1997 *Midwest AAPOR Conference*, Chicago, IL. (Co-authors: S. Mockabee & Q. Monson)

"Using an experimental design to measure public attitudes on a local ballot issue." 1997 *Midwest AAPOR Conference*, Chicago, IL. (Co-authors: S. Mockabee & Q. Monson)

"Adding texture to data: using respondent profiles to enhance reporting of survey data." 1997 *Midwest AAPOR Conference*, Chicago, (Co-authors: Q. Monson, S. Mockabee, S. & M. Nolan)

"New media technologies and their implications for society and politics." 1997 *Midwest AAPOR Conference*, Chicago, IL. (Co-authors: K. Viswanath & C. Wei)

Invited Workshop, "Telephone Survey Introduction and Questionnaire Design." *New York AAPOR*, January, 1998

"Measuring the stress caused by the financial debt one takes on in life." 1998 *New England AAPOR*, Portsmouth, NH. (Co-authors: L. Dunn & J. Stec)

"Adding Texture to Data: Using Respondent Profiles to Enhance Media Reporting of Survey Data." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO. (co-authors, Q. Monson, S. Mockabee & M. Nolan)

"Dan Quayle vs. Murphy Brown (Five Years Later): Traditional Values and the American People." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO. (co-authors, B. Harpuder, St. Mockabee, Q. Monson & T. Tompson)

"I'm OK but Everyone is Going to the Dogs: A Comparison of Public Perceptions of Social Morals and Self-Reported Moral Beliefs." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO. (co-author, T. Tompson)

"Investigating Unit Nonresponse in RDD Surveys." *1998 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-authors, J. Stec & E. Stasny)

"Are American morals in decline? A comparison of public perceptions of societal morals and self-reported beliefs." *American Political Science Association*, Boston. (co-author, T. Tompson)

"Litmus test issues and single-issue voting." *International Society of Political Psychology*, Montreal, Quebec, Canada. (co-author, T. Tompson)

"Is There Such a Thing as a 'Baby Boomer' or 'Gen-Xer'?" *1998 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, T. Tompson, G. Melwani & P. David)

"New Wine in an Old Bottle? New Media, Opinion Holding, and Perceptions of Media Coverage." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO. (co-authors, K. Viswanath & C. Wei)

"Predicting Voter Turnout and Vote Outcome in Ballot Elections." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO. (co-authors, Q. Monson, S. Mockabee & T. Tompson)

Panel participant. "Current Research on the Impact of Polls on Public Opinion." *1998 American Association for Public Opinion Research Conference*, St. Louis, MO.

"The Influence of Public Opinion Polls on Candidate Preferences: The Role of Individuals' Motivation and Ability." *1998 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-authors, M. Kang & M. Traugott)

Panel participant. "Climbing the Tower of Babel: AAPOR's Standard Definitions of Outcome Categories and Response Rates." *1998 Midwest Association for Public Opinion Research Conference*, Chicago IL.

Panel participant. "Starting and Maintaining a University-Based Polling Operation." *1998 Midwest Association for Public Opinion Research Conference*, Chicago IL.

Invited Paper: "Thinking About the Effects of Elections Polls on Elites and the Public." *3rd Annual Gallup Symposium on Survey Research; Election Polling*, Lincoln, NE, 1999.

"Measuring the Exposure to and Use of the Internet: Construct Validity and Measurement Error Considerations." *1999 American Association for Public Opinion Research Conference*, St. Petersburg, FL (co-authors, K. Viswanath & J. Kosicki)

"Investigating Unit Nonresponse in RDD Surveys" *1999 American Association for Public Opinion Research Conference*, St. Petersburg, FL (co-authors, J. Stec & E. Stasny)

Panel Participant. "Reporting and Disclosing of Survey Response Rates." *1999 American Association for Public Opinion Research Conference*, St. Petersburg, FL.

Discussant, "The Effects of Repeated Call-Backs and Reallocation on Non-Response Bias." *International Conference on Survey Nonresponse*, Portland, OR, 1999.

"Compensating for Nonresponse Households in RDD Survey Estimates." *1999 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-authors, E. Stasny & C. Mittra)

"'Covering' Education: News Media and Public opinion About Public Education Controversies in Ohio." *1999 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-authors, K. Vishwanath & L. McClure)

"Attributions that Blacks and whites Make About SES Differences Between Blacks and Whites." *1999 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, M. Courser)

Discussant: "Polls and Political Participation." *1999 Midwest Association for Public Opinion Research Conference*, Chicago IL.

"Class vs. Place: Contrasting Models of Diffusion and Adoption of New Communication Technologies." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-authors, K. Viswanath, D. McDonald)

"A Further Investigation of the Last-Birthday Respondent Selection Method." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-authors, B. Harpuder, E. Stasny)

"Do Voters Really Have 'Litmus Test' Issues? *2000 American Association for Public Opinion Research Conference*, Portland OR (co-author, T. Thomson)

"Experimental Investigations of the Cognitive Processes Which Underlie Judgments of Poll Accuracy." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-authors, L. Diaz-Castillo, Q. Monson)

"Can 'Unobtrusive' Timers be Used to Measure Response Latency." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-authors, K. Mulligan, J. Grant, Q. Monson, S. Mockabee)

"Interviewer-related Measurement Error in a Continuing Economic CATI Survey." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-authors, L. Horner, E. Stewart)

"The Attributions of Blacks and Whites in Explaining SES Differences Between Blacks and Whites." *2000 American Association for Public Opinion Research Conference*, Portland OR (co-author, Matt Courser)

"A *Debt Stress Index* for measuring the stress associated with one's total debt." *2000 American Statistical Association Conference,* Indianapolis. (co-authors, L. Dunn, J. Stec, T.H. Kim)

"Does Thinking Make it So? Interviewer Expectations and Data Quality." *2000 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-authors: L. Horner, M. Courser)

"Item-Nonresponse, Measurement Error, and the 10-Point Response Scale." *2001 American Association for Public Opinion Research Conference*, Montreal. (co-author, M. Courser)

"The Impact on Mail Mode Cooperation of Targeted Cover Letters to Households that were Refusals or Non-contacts in the Telephone Mode." *2001 American Association for Public Research Opinion Research Conference*, Montreal. (co-authors, K. Steve , M. Bennett)

"Large Scale Experimentation Using Priority Mail Envelopes to Increase Household Cooperation Rates and Improve Sample Representation". *2001 American Association for Public Opinion Research Conference*, Montreal. (co-authors, N. Trussell, M. Bennett)

"Improving Data Quality In the Nielsen Media Research Diary and Meter Samples". *2001 Advertising Research Forum* annual conference, Chicago, IL

"Further Experimentation on Item-Nonresponse, Measurement Error, and the 10-Point Response Scale." *2001 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, M. Courser)

Invited Speaker Pedagogy Hour. "A Multimode, Multimethod Approach to Increasing Response Rates and Data Quality in NMR's Diary Research." *2001 Midwest Association for Public Opinion Research Conference*, Chicago IL.

"Differences Between Hispanic "Origin" and Hispanic "Identity" and their Implications." *2002 American Association for Public Opinion Research Conference*, St. Petersburg. (co-authors, M. Courser, L. Diaz-Castillo)

"Various Monetary Incentives Experiment in a Mixed Mode Survey." *2002 American Association for Public Opinion Research Conference*, St. Petersburg. (co-author, N. Trussell).

"The Development and Experimental Testing of an Innovative Approach to Training Telephone Interviewers to Avoid Refusals." *2002 American Association for Public Opinion Research Conference*, St. Petersburg. (co-authors, C. Shuttles, J. Welch, J. B. Hoover).

"Development and Validation of the Nielsen TV Diary Placement Interviewer Monitoring Form." *2002 American Association for Public Opinion Research Conference*, St. Petersburg. (co-authors, K. Steve, J. B. Hoover, C. Shuttles, J. Crabtree, J. Welch)

"New Research on Varied Efforts to Reduce Non-Response." *CMOR Nonresponse Conference*, New York, 2002.

"Musical Preferences Among 18-34 Year Olds in the United States." *2002 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, N. Lavrakas)

"An Experimental Testing of Format Changes to Reduce Missing Data in the Nielsen TV Diary." *2002 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, K. Steve)

"Reducing Nonresponse Among Targeted Demographic Subgroups Using Larger Cash Incentives." *2002 Midwest Association for Public Opinion Research Conference*, Chicago IL. (co-author, N. Trussell)

Organizer and Chair. *Cell Phone Sampling Summit I*, New York, 2003.

"A National Survey to Help Build an Advertising Campaign to Motivate Survey Response." *CMOR Nonresponse Conference*, Orlando, 2003.

"Identifying Barriers to Survey Cooperation among 18-34 Year Olds." *CMOR Nonresponse Conference*, Orlando, 2003. (co-author, C. Shuttles)

Roundtable Participant. "Cellular Phones and Telephone Sampling." *2003 American Association for Public Opinion Research Conference*, Nashville.

"An Experimental Test of Incentives Levels and Type of Mailer on Mail Survey Response in the Post-9/11 Era." *2003 American Association for Public Opinion Research Conference*, Nashville. (co-author, N. Trussell)

"Explaining Nonresponse in a Large National Multi-mode Survey." *2003 American Association for Public Opinion Research Conference*, Nashville. (co-authors, K. Steve, C. Shuttles)

"Language of Contact, Nonresponse and Measurement Error in Multimode Language Enumeration Survey." *2003 American Association for Public Opinion Research Conference*, Nashville. (co-authors, T. Dolson, N. Coser, S. Bell, R. Keesling)

"CMOR's National Survey to Help Build and Advertising Campaign to Motivate Survey Response." *2003 American Association for Public Opinion Research Conference*, Nashville. (co-authors, J. Lai, J. Shepard)

"Countering Nonresponse Through Interviewer Training: Avoiding Refusals Training (ART) II." *2003 American Association for Public Opinion Research Conference*, Nashville. (co-authors, C. Shuttles, J. Welch, B. Hoover)

"Will a Perfect Storm of Cellular Forces Sink RDD Sampling?" *2004 American Association for Public Opinion Research Conference*, Phoenix.

"Getting Them to Stay on the Phone: Large-scale Experiment of Combining Incentives with a Pre-Contact Letter." *2004 American Association for Public Opinion Research Conference*, Phoenix. (co-authors: C. Shuttles, J. Lai)

"The Effects Cash Incentives on Hard-to-Reach Demographic Groups." *2004 American Association for Public Opinion Research Conference*, Phoenix. (co-author: N. Trussell)

"Evaluating an Ad Campaign to Raise a Survey Organization's Name Recognition." *2004 American Association for Public Opinion Research Conference*, Phoenix. (co-authors: A. Melgar, T. Tompson)

"An Experimental Testing of Format Changes to Reduce Missing Data and Increase Cooperation in the Nielsen TV Diary." *2004 American Association for Public Opinion Research Conference*, Phoenix. (co-authors: K. Steve, M. Bennett)

"Predicting Respondents' Likelihood to Cooperate: Stage I Research." *2004 American Association for Public Opinion Research Conference*, Phoenix. (co-authors: A.T. Burks, M. Bennett)

"Two Advance Letter Experiments to Raise Survey Responses Rates in a Two-stage Mixed Mode Survey." Paper presented at the *2004 Joint Statistical Meetings*, Toronto. (co-author: C. Shuttles)

"Applying a framework of visual design principles to reduce missing data in a diary survey." Paper presented at the 6th *International Conference on Social Science Methodology*. Amsterdam, The Netherlands, August 2004. (co-authors: K. Steve, D. Dillman, M. Bennett)

"Predicting Respondents' Likelihood to Cooperate: Stage II Research." *2004 Midwest Association for Public Opinion Research Conference*, Chicago. (co-authors: A.T. Burks and M. Bennett)

Organizer and Chair. *Cell Phone Sampling Summit II*, New York, 2005; http://www.nielsenmedia.com/cellphonesummit/cellphone.html

"An Experimental Test of Answering Machine Message Content to Improve Response Rates." *2005 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-author: C. Shuttles)

"Testing the Impact of Caller ID Technology on Response Rates in a Mixed Mode Survey." *2005 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-author: N. Trussell).

"Gaining Efficiencies in Scheduling Callbacks in Large RDD National Surveys." *2005 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-authors: J. Stec and C. Shuttles)

"What a Difference a Word Can Make: New Research on the Differences between Hispanic "Origin" and Hispanic "Identity" and their Implications." *American Association for Public Opinion Research Conference*, Miami Beach. (co-authors: M. Courser and L. Diaz-Castillo)

"Predicting Sampled Respondents' Likelihood to Cooperate: Stage III Research." *2005 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-authors: A. T. Burks and M. Bennett)

"Development of a Comprehensive Behavior-based System to Monitor Telephone Interviewer Performance." *2006 International Conference on Telephone Survey Methods*, Miami FL. (co-authors: K. Steve, A. Burks, B. Hoover, K. Brown)

Discussant. "Election Surveys." *2006 International Conference on Telephone Survey Methods*, Miami FL.

"Gaining Efficiencies in Scheduling Callbacks in Large RDD National Surveys." *2006 International Conference on Telephone Survey Methods*, Miami FL. (co-authors: J. Stec, G. Daily, T. Yancey, C. Shuttles)

"Hiring 'The Right Stuff': Development of an Assessment System for Hiring Effective Interviewers." *2006 International Conference on Telephone Survey Methods*, Miami FL. (co-authors: C. Shuttles, P. Skyrme, K. Vallar, C. Haskins, D. Wilkinson)

"Overcoming Structure and Order Effects in Cognitive Interviewing." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-authors: J. Bailey, K. Steve, A. T. Burks, K. Brown)

"How Organizations Monitor the Quality of Work Performed by their Telephone Interviewers." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-authors: A.T. Burks, K. Steve, K. Brown, B. Hoover, J. Sherman, and R. Wang)

"Unit Nonresponse Bias in a Mail Survey about Television." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-author: A. Flizik).

"Testing an Advance Contact Targeted-Awareness Campaign to Raise Response Rates." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-authors: A. Melgar, R. Holden, A. Flizik, M. Anatro)

"Personal Contact and Performance-Based Incentives to Raise Long-Term Panel Compliance and to Reduce Missing Data." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-authors: R. Holden, L.M. Heng; A. Flizik, S. Bell).

"Improving Response Rates among Targeted Demographic Subgroups Using Large Cash Incentives." *2006 American Association for Public Opinion Research Conference*, Montreal. (co-authors: N. Trussell, Daily, Bennett, Yancey, Bailey and Lai)

"Where does Charity Begin?" *2006 American Association for Public Opinion Research Conference*, Montreal. (co-author: S. Williams)

Organizer and Chair, AAPOR Ad Hoc Committee which planned the three-day series of consecutive sessions on "Cell Phones and Survey Research" at *2007 American Association for Public Opinion Research Conference*, Anaheim, CA.

Chair and Discussion Leader. Paper session on "Cell Phone Surveying: Coverage Bias." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA.

Chair and Discussion Leader. Paper session on "Cell Phone Surveying: Where Do We Go From Here?" *2007 American Association for Public Opinion Research Conference*, Anaheim, CA.

"R&D Studies to Replace the RDD-frame with an ABS-frame." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-authors: K. Steve, G. Daily, T. Yancey, D. Kulp)

"The Cost of Refusals in Large RDD National Studies." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-author: J. Stec)

"Gaining Efficiencies in Scheduling Callbacks in Large RDD National Studies." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-authors: J. Stec, C. Shuttles, G. Daily, T. Yancey, R. Watkins)

"The Use of Progressive Involvement Techniques in a Telephone Survey Introduction." *2007 American Association for Public Opinion Research Conference* , Anaheim, CA. (co-authors: A. Burks, E. Camayd, M. Bennett)

"Cash, Credit, or Check: a Test of Monetary Alternatives to Cash Incentives." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-authors: J. Bailey, M. Bennett)

"Nonresponders Who Initially Agree to Participate." *2007 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-authors: K. Brown, J. Bailey, N. Trussell)

"The Impact of Active Consent Procedures on Nonresponse and Nonresponse Error in Youth Survey Data: Evidence from a New Experiment" *2008 American Association for Public Opinion*

Research Conference, New Orleans, LA. (co-authors: M. Courser, S. Shamblen, P. Ditterline, D. Collins)

Roundtable Organizer/Presenter. "2008 AAPOR Task Force Report on Cell Phone Surveying in the U.S." *2008 Joint Statistical Meetings*, Denver, CO.

"Revolutionalizing Respondent Cooperation: Let Predictive Analytics Show You How." SPSS WebEx Seminar, August 26, 2008. (co-presenter, C. Shearer)

"New research on the measurement of debt stress." *2008 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-author T. Tompson)

"Differences between Hispanic 'origin' and 'identify' and their implications: part iii." *2008 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson, M. Courser, L. Diaz-Hoffman)

"Introduction," "Synthesis and Future Research Needs," and "Closing Remarks." Workshop on Cell Phone Numbers and Telephone Surveying in the U.S., Washington DC, September 3, 2008.

"Using Incentives in Survey Research." Workshop presented for New York AAPOR; New York, September 24, 2008.

"Using Incentives in Survey Research." Workshop presented for DC-AAPOR; Washington DC, January 27, 2009.

"Using Incentives in Survey Research." Workshop presented at the 2009 CMOR-MRA Respondent Cooperation conference; Miami, FL, March 3, 2009.

"Nonresponse error implication for the study of television audiences." *2009 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-author P. V. Miller)

"Pre-election polling: Pros and cons of a 5-day field period." *2009 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-authors T. Tompson, R. Benton, C. Fleury, B. Feinberg, G. Fienberg, N. Speulda, A. Weber)

"Research on a hybrid within-unit respondent selection method." *2009 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-authors T. Tompson, R. Benton)

"New research on debt stress and related health problems." *2009 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-author T. Tompson)

"Parent engagement in the informed consent process: Evidence from four parental surveys." *2009 American Association for Public Opinion Research Conference*, Miami Beach, FL. (co-author M. Courser, D. Collins, P. Ditterline)

"Using the Total Survey Error Framework in Legal Proceedings." *2009 International Total Survey Error Workshop*, Tällberg, Sweden.

"Using Incentives in Survey Research." Webinar presented for CMOR/MRA; September 2, 2009.

"Investigating Data Quality in Cell Phone Surveying." *2009 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson and R. Benford)

"More Research on a Hybrid Respondent Selection Method." *2009 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson, R. Benford and C. Fleury)

Discussant. "Future of Public Opinion" paper session. *2009 Mid-west Association for Public Opinion Research Conference*, Chicago.

"Using Incentives in Survey Research." Workshop presented for PAPOR; San Francisco, December 10, 2009.

"Investigating the Errors that Occur with Within-Unit Respondent Selection." *2010 American Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson and R. Benford).

Organizer, Chair, and Discussion Leader. "AAPOR Task Force Report on Surveying Cell Phones in the U.S." *2010 American Association for Public Opinion Research Conference*, Chicago.

"Investigating Data Quality in Cell Phone Surveying." *2010 American Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson, R. Benford and C. Fleury).

Short Course Instructor. "Conducting Cell Phone Surveying in the U.S. circa 2010". *2010 American Association for Public Opinion Research Conference*, Chicago. (co-instructors: C. Kennedy, L. Piekarski, and C. Shuttles).

Roundtable Organizer/Presenter. "2010 AAPOR Task Force Report on Cell Phone Surveying in the U.S." *2010 Joint Statistical Meetings*, Vancouver, CA.

Organizer/Presenter. "Cell Phone Surveying." *2010 Southern Association for Public Opinion Research Conference*, Raleigh, NC. (co-presenters, T. Buskirk and T. Guterbock)

"Difference between Hispanics in the U.S. from Whom Data are Gathered in Spanish and Hispanics in the U.S. from Whom Data are Gathered in English." *2010 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson, C. Shagrin, D. Darfield, G. Segura, J. Krosnick, T. Heinz, J. Kelly, and E. Lopez)

"A Before and After Comparison Investigating the Effects on Hispanics of the April 23, 2010, Signing of the Arizona Immigration Law." *2010 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-authors T. Tompson, C. Shagrin, D. Darfield, G. Segura, J. Krosnick, and T. Heinz)

"Future Agendas for MAPOR (and AAPOR and its Other Chapters)." *2010 Mid-west Association for Public Opinion Research Conference*, Chicago.

"Nonresponse Issues in U.S. Cell and Landline Telephone Surveys." Invited presentation for National Academy of Sciences' National Research Committee workshop on Survey Nonresponse, Washington, D.C.; February 17, 2011.

Invited Presentation. "What you need to know about the challenges and opportunities of online research panels: Let the buyer beware!" Minnesota chapter of the *Marketing Research Association*, Minneapolis: February 24, 2011.

Invited Presentation. "Is the Exclusion of Mobile Phones from Telephone Surveys a Problem? The US Experience." Invited Presentation. Australian Workshop on *Sampling for Telephone Surveys and the "Mobile Phone Only" Population*, Melbourne: March 22, 2011.

Invited Presentation. "An Overview of the Practical /Methodological Issues to Consider when Mounting Telephone Surveys which Include Mobile Phone Samples." Australian Workshop on *Sampling for Telephone Surveys and the "Mobile Phone Only" Population*, Melbourne: March 22, 2011.

Invited Presentation. "How did the U.S. Research Community Respond to the Increase in Mobile Phone Only Households?" Australian Workshop on *Sampling for Telephone Surveys and the "Mobile Phone Only" Population*, Melbourne: March 22, 2011.

Invited Presentation. "Including the Mobile Telephone Population in Survey Research: The USA Experience." Institute for Social Science Research, University of Queensland, Brisbane: March 25, 2011.

Short Course Instructor. "The Use of Incentives in Survey Research". *2011 American Association for Public Opinion Research Conference*, Phoenix.

"A Before and After Comparison Investigating the Effects on Hispanics of the April 23, 2010, Signing of the Arizona Immigration bill ." *2011 American Association for Public Opinion Research Conference*, Phoenix. (co-authors T. Tompson, C. Shagrin, D. Darfield, G. Segura, M. Krist, J. Krosnick, and T. Heinz).

"Difference between Hispanics in the U.S. from Whom Data are Gathered in Spanish and Hispanics in the U.S. from Whom Data are Gathered in English." *2011 American Association for Public Opinion Research Conference*, Phoenix. (co-authors T. Tompson, C. Shagrin, D. Darfield, G. Segura, J. Krosnick, T. Heinz, J. Kelly and E. Lopez).

"Current Status of AAPOR's Transparency Initiative". 2011 World Association for Public Opinion Research Conference, Amsterdam, Netherlands.

"Behavior-Opinion vs. Opinion-Behavior Differences: Investigating an Unexpected Question Order Effect." *2011 Mid-west Association for Public Opinion Research Conference*, Chicago. (co-author: T. Tompson).

Discussant. "Changing Survey Methods." Panel at the 2011 annual conference of the *Pacific Association for Public Opinion Research,* San Francisco.

Invited Presentation. Panel: "Considering Changing Sectors in the Research Industry?: Advice from Those Who have Done It." *2012 American Association for Public Opinion Research Conference*, Orlando.

"Experimenting with Noncontingent and Contingent Incentives in a Media Measurement Panel." *2012 American Association for Public Opinion Research Conference*, Orlando. (co-authors: J. D. Dennis, J. Peugh, J. Shan-Lubbers, E. Lee, and O. Charlebois.)

"Investigating Nonresponse Bias in a Nonresponse Bias Study." *2012 American Association for Public Opinion Research Conference*, Orlando. (co-authors: J. D. Dennis, J. Peugh, J. Shan-Lubbers, E. Lee, and O. Charlebois.)

Organizer, Chair, and Presenter. "Implementing the AAPOR Transparency Initiative." *2012 American Association for Public Opinion Research Conference*, Orlando.

"Within-Unit Respondent Selection Errors in Landline RDD Surveys." *2012 Eighth International Conference on Social Science Methodology,* Sydney. (co-authors: T. N. Tompson, R. Benford, and C. Fleury.)

Organizer and Chair. "Coverage and Nonresponse Issues in Dual Frame RDD Telephone Surveys." *2012 Eighth International Conference on Social Science Methodology,* Sydney.

"AAPOR's Transparency Initiative." *2012 Eighth International Conference on Social Science Methodology,* Sydney. (co-author: T. Johnson.)

"2011 Telephone Surveys and the Mobile Phone Only Population Workshop." Melbourne. (co-instructor: D. Pennay).

"An Experimental Investigation of the Effects of Noncontingent and Contingent Incentives in Recruiting a Long-Term Panel: Testing a Leverage Salience Theory Hypothesis." *2012 Mid-west Association for Public Opinion Research Conference*, Chicago. . (co-authors: J. D. Dennis, J. Peugh, J. Shan-Lubbers, E. Lee, O. Charlebois and M. Murakami.)

Invited Short Course Instructor. "Applying a Total Error Perspective to Qualitative and Quantitative Social and Marketing Research." 2012 annual conference of the *Pacific Association for Public Opinion Research,* San Francisco.

Presidential Address. "Applying a Total Error Perspective for Improving Research Quality in the Social, Behavioral, and Marketing Sciences." *2013 American Association for Public Opinion Research Conference*, Boston.

"Cross-Cultural Perspectives on Surveys of the U.S. Hispanic Population." *2013 American Association for Public Opinion Research Conference*, Boston. (co-author: T. N. Tompson.)

"Multiple Approaches for Evaluating Nonresponse Bias in a Short-Field-Period Survey." *2013 American Association for Public Opinion Research Conference*, Boston. (co-authors: R. Rapport, E. Ben-Porath, M. Herrmann.)

"Applying a 'Total Error' Perspective to All Qualitative and Quantitative Research Methods." 2013 International Workshop on Total Survey Error. Ames, IA.

Invited Speaker. "Advances and Challenges in Survey Research." College of Arts and Sciences, Australian National University. Canberra. 2 July 2013.

Invited Speaker. "Relevant or Irrelevant? US Experience Using New Methods for Social Research." AMSRS Social Research Network. Melbourne. 2 July 2013.

Invited Short Course Lecturer. "Recent Developments in Dual-Frame RDD Surveys." Australian Marketing and Social Research Society. Melbourne. 3 July 2013. (co-presenter: D. Pennay)

Invited Lecture. "Applying a Total Error Perspective for Improving Research Quality in the Social, Behavioral, and Marketing Sciences." Institute for Public Policy Research, Michigan State University. October 10, 2013.

"Accounting for social desirability bias: a model for calibration of direction and magnitude." Presented at *2013 Federal Committee on Statistical Methods Annual Conference*, Washington, D.C. https://fcsm.sites.usa.gov/files/2014/05/C4_Lange_2013FCSM.pdf. Accessed 22 March, 2015. (co-authors, Gittelman, Lange, Cook, Frede, Pierce & Thomas.)

"Nonresponse and Measurement Differences in Mobile vs. Traditional Online Surveying: Findings from Three Experiments." *2014 American Association for Public Opinion Research Conference*, Anaheim, CA. (co-author: R. Clancy)

Moderator and Discussant. "The Future of Landline and Cell Phone Telephone Surveys in the U.S." *2014 American Association for Public Opinion Research Conference*, Anaheim, CA.

Lavrakas, P.J. Instructor, "Use of Incentives in Survey Research." Invited webinar; *American Association for Public Opinion Research*. September 10, 2014.

Lavrakas, P.J. and Pennay, D. Instructors for an Invited Master Class, "Quality Frameworks and Emerging Issues in Social Research;" Australian National University, Canberra; 23 October 2014.

Invited Pedagogy Hour Lecture. "Thinking About the Use of Old and New Methods for Sampling, Recruitment, and Data Collection in Public Opinion Research." 39th annual conference of the *Midwest Association for Public Opinion Research.* Chicago, November 22, 2014.

"Testing the Dual Frame RDD Surveying of the Japanese General Population". *2015 American Association for Public Opinion Research Conference,* Hollywood, FL. (co-author: Y. Saito)

"Studying Nonresponse Bias with a Follow-up Survey of Initial Nonresponders in a National Dual Frame RDD Survey." *2015 American Association for Public Opinion Research Conference,* Hollywood, FL. (co-authors: M. Ballou, D. Swan, C. Manjarrez)

"Testing Envelope Features and Interviewer Training in a Large Advance Letter Experiment." *2015 American Association for Public Opinion Research Conference,* Hollywood, FL. (co-authors: C. Ward, C. Geng, V. Welch, B. Skalland, J. Jeyarajah, C. Knighton)

"Innovations in Nonresponse Bias Measurement and Reporting for Probability-Based Web Surveys." *2015 American Association for Public Opinion Research Conference,* Hollywood, FL. (co-authors: M. Barron, N. English)

P. J. Lavrakas, Short Course Instructor: "Applying Quality Standards to the Conceptualization, Implementation, and Interpretation of Qualitative Research." *2015 American Association for Public Opinion Research Conference,* Hollywood, FL. (co-instructor: M. R. Roller)

"Applying Quality Standards to the Conceptualization, Implementation, and Interpretation of Qualitative Public Opinion Research." *2015 World Association for Public Opinion Research Conference,* Buenos Aires. (co-author: M. R. Roller).

Lavrakas P. J. and Pennay, D. Workshop Instructors: "*Total Survey Error and Emerging Issues in Social Research"*. Australian Marketing and Social Research Society; Melbourne, 7 August 2015.

Lavrakas, P.J. and Pennay, D. Instructors for an Invited Master Class, "*Total Error Issues Related to Probability and Nonprobability Samples,*" Australian National University, Canberra; 11 August 2015.

"Adapting and Applying the TSE Paradigm to All Quantitative and Qualitative Research." *2015 International Conference on Total Survey Error,* Baltimore MD, September 20, 2015.

"Improving Our Understanding of Public Opinion by Using the Total Quality Framework Perspective." *40th Annual Conference of the Midwest Association for Public Opinion Research,* Chicago, November 20, 2015. (co-author, M. Roller)

"Using a Progressive Engagement Introduction to Gain Cooperation in an Interviewer-Administered Telephone Survey." *40th Annual Conference of the Midwest Association for Public Opinion Research*, Chicago, November 21, 2015. (co-authors, J. Kelly & C. McClain)

"Improving Our Understanding of Public Opinion by Using the Total Quality Framework Perspective." *Annual Conference of the Pacific Association for Public Opinion Research*, San Francisco, December 10, 2015. (co-author, M. Roller)

"Experimenting with Advance Text Messages to Increase Response Rates and Improve Calling Efficiency: Findings from Two Australian Dual-Frame RDD Surveys". *2016 World Association for Public Opinion Research Conference,* Austin TX. (co-authors: D. Pennay & K. Borg).

"Experimenting with the Addressee Line in a Mail Survey of Hispanic Households." *2016 World Association for Public Opinion Research Conference,* Austin TX. (co-authors: G. Dirks, L. Lusskin, & B. Ponce).

"2015-2016 Australian Online Panels Benchmarking Study: A comparison of surveys using probability and nonprobability samples in an Australian research context." *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: D. Pennay & D. Neiger).

"Accounting for Social-desirability Bias in Survey Sampling: A Model for Predicting and Calibrating the Direction and Magnitude of Social-desirability Bias". *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: S. Gittelman, V. Lang, W. Cook, S. Frede, C. Pierce, R. Thomas).

Organizer and Moderator. Panel: "Using Response Propensity Modeling for the Cost-effective Allocation of Survey Incentives." *2016 American Association for Public Opinion Research Conference,* Austin TX.

"Conceptual Background on Response Propensity Modeling for Allocating Differential Survey Incentives: Purpose and Rationale." *2016 American Association for Public Opinion Research Conference,* Austin TX.(co-authors: C. McPhee & M. Jackson).

"Developing and Validating a Response Propensity Model for the Efficient Allocation of Non-contingent Incentives Using 2014 NHES Data." *2016 American Association for Public Opinion Research Conference,* Austin TX.(co-authors: C. McPhee & M. Jackson).

"Can Response Propensity Modeling be Used to Improve Response Rates, Reduce Nonresponse Bias, and Reduce Cost through the Use of Tailored Differential Incentives in the 2016 NHES." *2016 American Association for Public Opinion Research Conference,* Austin TX.(co-authors: C. McPhee & M. Jackson).

"Using Nonresponse Follow-up (NRFU) Recruitment to Help Build a Probability-based Research Panel." *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: N. Ganesh & J.M. Dennis).

"Increasing Cooperation in Telephone Surveys with the Progressive Engagement Technique: An Australian Perspective." *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: P. Myers, D. Pennay, & N. Vickers).

"Using a Progressive Engagement Introduction to Gain Cooperation in an Interviewer-administered Survey." *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: J. Kelly & C. McClain).

Moderator and Discussant. Panel: "The Future of Telephone Interviewing: Revealing New Data on the State of Telephone Surveys." *2016 American Association for Public Opinion Research Conference,* Austin TX.

"Quota Controls in Survey Research: A Test of Accuracy and Inter-source Reliability in Online Samples." *2016 American Association for Public Opinion Research Conference,* Austin TX. (co-authors: S. Gittelman, R. Thomas & V. Lang).

Webinar. "Enhancing the Value of Qualitative Research using the Total Quality Framework." *American Statistical Association*. June 9, 2016. (co-instructor: M.R. Roller)

Invited Presentation. "Online Research Panels Around the Worlds: The Situation in the United States". In *The Current State and Future of Online Research in Australia*." Australian National University Workshop, Canberra, 14 July 2016.

Invited Presentation. "Online Panels from a TSE Perspective: Representation Errors in Online Panels". In *The Current State and Future of Online Research in Australia*." Australian National University Workshop, Canberra, 14 July 2016.

"An AAPOR Task Force's 2015 Survey on RDD Dual Frame Costs." *2016 Joint Statistical Meetings*, Chicago IL. (co-authors: T. Guterbock, G. Benson, D., Dutwin & J. Kelly)

"Experiments in Recruiting the Life in Australia Probability-based Panel." *2017 American Association for Public Opinion Research Conference,* New Orleans LA. (co-authors G. Challice, D. Penney, & L. Kaczmirek).

"Testing the Effects of Token Noncontingent Incentives in Follow-up Mailings in a Mixed Mode Survey." *2017 American Association for Public Opinion Research Conference,* New Orleans LA. (co-authors: G. Dirksz, L. Lusskin, B. Ponce & J. Leonard).

"Deploying a Total Survey Error (TSE) and Total Survey Quality (TSQ) Assessment of the AmeriSpeak Panel." *2017 American Association for Public Opinion Research Conference,* New Orleans LA. (co-authors: C. Brazle, G. Dirksz & P. Pino).

"The Effects of Cell Phone Recruitment of Nonresponders in a Mixed Mode ABS Survey." *2017 American Association for Public Opinion Research Conference,* New Orleans LA. (co-authors: G. Dirksz, L. Lusskin, B. Ponce & J. Leonard).

"Using Noncontingent Incentives in Follow-up Contacts in a Two-stage Mail Survey." *42nd Annual Conference of the Midwest Association for Public Opinion Research,* Chicago, November 17, 2017. (co-authors, G. Dirksz, L. Lusskin, B. Ponce, and P. Felstead)

"Investigating Data Quality In IVR Public Opinion Survey Research." *42nd Annual Conference of the Midwest Association for Public Opinion Research,* Chicago, November 18, 2017. (co-authors, S. Richards and B. Levine)

"Response Propensity Modeling (RPM) to Cost-Effectively Allocate Recruitment Strategies." *42nd Annual Conference of the Midwest Association for Public Opinion Research,* Chicago, November 18, 2017. (co-authors, G. Dirksz, M. Jackson, C. Brazle, L. Lusskin, and B. Ponce)

Invited Webinar. "Why Telephone Surveying is Needed (and Still Relevant) in a World of Online Surveying." *Australian Marketing and Social Research Society*. November 28, 2017.

Invited Plenary Speaker. "The Future of General Population Telephone Surveys." *2017 Pacific Association for Public Opinion Research.* San Francisco, CA. December 14, 2017.

"Testing the Inclusion of an Informational Brochure in the First Recruitment Mailing to an ABS Sample in a Mixed-Mode Survey." *2018 American Association for Public Opinion Research Conference,* Denver, May 16. (co-authors: G. Dirksz, L. Lusskin, B. Ponce, P. Felstead, J. Leonard)

"Testing New Protocols to Convert Phase I Refusals to Phase II in a Dual-Phase Mixed Mode Survey." *2018 American Association for Public Opinion Research Conference,* Denver, May 17. (co-authors: G. Dirksz, L. Lusskin, B. Ponce, P. Felstead, J. Leonard)

"Testing Recruiting Panelist from Former Respondents to a Dual-Phase Mixed Mode Survey." *2018 American Association for Public Opinion Research Conference,* Denver, May 17. (co-authors: G. Dirksz, L. Lusskin, B. Ponce, C. Couceiro, A. DiIorio)

"Telephone Survey Respondents' Abilities to Identify the Race of Their Interviewers." *2018 American Association for Public Opinion Research Conference,* Denver, May 18. (co-authors: D. Thaler, D. Solis, L. Stork)

"A Response Propensity Modeling Experiment of the Differential Allocation of Recruitment Strategies in the Simmons National Consumer Survey." *2018 American Association for Public Opinion Research Conference,* Denver, May 18. (co-authors: M. Jackson, G. Dirksz, C. Brazle, L. Lusskin, B. Ponce)

"An Experiment to Reduce Noncompliance in an Online Probability-based Panel: The Challenges of Dozer, Sleeper, Comatose, and Backout Panelists." *2018 American Association for Public Opinion Research Conference,* Denver, May 19. (co-authors: L. Kaczmirek, P. Myers, D. Pennay, B. Phillips)

"Improving ABS Response Rate through Cell Phone Matching." *2018 American Association for Public Opinion Research Conference,* Denver, May 17. (co-authors: G. Dirksz, L. P. Pino, A. Eddinger, J. Harmon)

"Measurement Errors in Race-related Attitudes by Race of Interviewer, Perceived Race of Interviewer, and Race of Respondent." *2018 Joint Statistical Methods Conference*, Vancouver, August 1. (co-authors: D. Thaler, D. Solis, and L. Stork).

"Investigating the Value of Appending New Types of Big Data to Address-Based Survey Frames and Samples." *2018 BIGSURV18: Exploring Statistical Frontiers at the Intersection of Survey Science and Big Dat*a, Barcelona, October 27 (with A Hyon and A Malarek.)

"The Effects of Adding a Mailback Questionnaire to Supplement CAWI Data Collection in an Addressed-Based Sample Survey." *43rd Annual Conference of the Midwest Association for Public Opinion Research*, Chicago, November 16, 2018. (co-authors: M. Mailloux, J. Stevenson, N. Assad, K. Elver).

"To Tease or Not to Tease: Testing the Use of Teasers on Mail Survey Envelopes." *43rd Annual Conference of the Midwest Association for Public Opinion Research*, Chicago, November 17, 2018. (co-authors: K. Clark, D. Solis, L. Stork).

"Evaluating Different Informed Consent Scripts on Response Rates and User Experience in a Redirected Inbound Call Sample Survey." *2019 American Association for Public Opinion Research Conference,* Toronto, May 16. (co-authors: B. Levine, K. Krotki).

"How Can We Interest You in Our Survey? Investigating the Effects of Pre-survey Awareness Mailings." *2019 American Association for Public Opinion Research Conference*, Toronto, May 18. (co-authors: D. Battle, A. Kaiser, T. Katz.)

"A Response Propensity Modeling Experiment Testing Differential Recruitment Protocols." *2019 American Association for Public Opinion Research Conference,* Toronto, May 18. (co-authors: M. Jackson, G. Dirksz, L. Lusskin, B. Ponce, C. Brazle.)

"Investigating the Value of Appending New Types of Auxiliary Data to ABS Frames and Samples." *2019 American Association for Public Opinion Research Conference,* Toronto, May 19. (co-authors: A. Hyon, D. Malarek, K. Lin).

"Experiments with 'Loss Framing' Verbiage in Survey Introductions to Raise Response Rates." *2019 World Association for Public Opinion Research Conference*, Toronto, May 20. (co-authors: B. Phillips, Shae Compton, D. Pennay.)

"Using Redirect Inbound Call Sampling (RICS) for 2020 Election Polling." *2020 American Association for Public Opinion Research Conference,* Virtual, May 12. (co-author: Scott Richards)

"Surveying People's Reaction to COVID-19: The Role of Political Party Affiliation." *2020 American Association for Public Opinion Research Conference,* Virtual, May 12. (co-author: Scott Richards)

"Surveying People's Reaction to COVID-19: The Role of Political Party Affiliation." *2020 SAPOR Conference,* Virtual, October 1. (co-author: Scott Richards)

"Using RICS-IVR to Survey Attitudes towards the Police and Race Relations". *2020 SAPOR Conference,* Virtual, October 1. (co-author: Scott Richards and Harry Miller)

"RICS-IVR: When is it Fit for Purpose?" Webinars sponsored by ReconnectResearch, October 20 and 22.

"Surveying People's Reaction to COVID-19: The Role of Political Party Affiliation." *2020 MAPOR Conference,* Virtual, November 20. (co-author: Scott Richards and Lindsey Wagner)

Using RICS-IVR to Survey Attitudes towards the Police and Race Relations". *2020 SAPOR Conference,* Virtual, November 21. (co-author: Scott Richards and Harry Miller)

Invited Lecture. "Using Survey Research Methods for Theoretical Investigations." Qatar National Library Productive Researcher Series. March 25, 2021.

"Why do people participate in probability-based online panel surveys?" General Online Research (GOR 21) conference, Virtual, September 9, 2021. (with S. Kocar)

Discussant. Session on "Total Survey Error and Data Collection about COVID." 2021 International Total Survey Error Workshop, September 24, 2021.

Invited Workshop. "Leveraging Auxiliary Frame Data to Improve Survey Quality, Efficiency, and Value: Total Survey Error Perspective." 2021 WAPOR Conference, November 6, 2021.

"Candidate Signaling and Polling - What Google Trends Can Tell Us?" *MAPOR 2021 Conference,* Chicago, November 19, 2021. (with R. Schultz)

"Using Experimental Vignettes to Study the Public's Reactions to and Evaluation of Public Opinion Polls." *MAPOR 2021 Conference,* Chicago, November 20, 2021. (with A. Holbrook, A. Crosby, E. Kapousouz, X. Hu, Y. Cho, H. Silber, X. Wang, A. Hutti, P. Polskala, T. Johnson)

"2020 Presidential Support among Old Testament and New Testament Christians and Pseudo-Christians." *MAPOR 2021 Conference,* Chicago, November 20, 2021. (with S. Richards).

"Why do people say they participate in online panel surveys?" *CIPHER 2022* conference, March 3, 2022. (with S. Kocar)

"2020 Presidential Support Among Old-Testament and New Testament Christian and Pseudo-Christians." *2022 American Association for Public Opinion Research Conference,* Chicago, May 12. (co-author: Scott Richards)

"Candidate Signaling and Polling: What Google Trends Data Can Tells Us." *2022 American Association for Public Opinion Research Conference,* Chicago, May 12. (co-authors: Robert Schultz and Rubin Bach)

"The Impact of Weighting by Past-vote on Estimates of Pre-Election Voting Intentions". *2022 American Association for Public Opinion Research Conference,* Chicago, May 12. (co-author: Darren Pennay, Dina Neiger, and Ben Phillips)

"Using Experimental Vignettes to Study How Survey Methods and Results Influence the Public's Evaluation of Public Opinion Polls." *2022 American Association for Public Opinion Research Conference,* Chicago, May 12. (co-author: Allyson Holbrook et al.)

"Socio-Psychological Aspect of Probability-based Online Panel Participation." *2022 American Association for Public Opinion Research Conference,* Chicago, May 12. (co-author: Sebastian Kocar)

"Panel Conditioning Effects in the Life in Australia Panel." *2023 American Association for Public Opinion Research Conference,* Philadelphia, May 9. (co-authors: Darren Pennay and Sam Slamowicz)

"The Use of Differential Methods and their TSE Impacts in the 2022 National Household Travel Surveys." *2024 American Association for Public Opinion Research Conference,* Atlanta, May 15. (co-author: Ta Lui).

"An Evaluation of the 2022 National Household Travel Surveys: A Total Survey Error Comparison of the ABS vs. the Probability-Based Panel NextGen NHTS Studies." *2024 Federal Committee for Statistical Methods Research and Policy Conference.* (co-authors: Alan Pate, Trent Buskirk, Bob Krile, Ta Liu, Elizabeth Slone, and Filmon Habtemichael)

"Political and Other Attitudinal Predictors of Attitudes Towards Surveys." *MAPOR 2024 Conference,* Chicago, November 23, 2024. (co-authors: A. Gkotinakos and X. Wang)

PATENTS

Donna Bluestone, Clara Haskins, Paul J. Lavrakas and Kyle Vallar. Nielsen Media Research. *Methods and Apparatus to Recruit Call Center Personnel.* January 11, 2007.

PROFESSIONAL REPORTS AND INTERVIEWS

More than 300 technical reports (unpublished) for government, public-sector, and private-sector agencies related to funded research. Substantive focus and funding agencies available upon request.

More than 200 newspaper, magazine, radio and television interviews with the national, state, local and international media covering research findings on public opinion surveying; political polling results; the accuracy of TV ratings data; cell phone surveying; debt, stress, and health; fear of crime, community crime prevention, and other criminal justice issues; human lie detection; interpersonal attraction; and other topics. These include being a "source" for news articles and/or editorials in *The New York Times*, *The Wall Street Journal*, *The Washington Post*, *The Sunday Times (London)*, *San Francisco Chronicle*, *Chicago Tribune*, *Chicago Sun-Times*, *Columbus Dispatch*, *Newsweek;* taped appearances on the *CBS Evening News with Dan Rather*, the *ABC Evening News*, *WCBS Radio*, *NPR*, and a live interview with Bryant Gumbel on *The Today Show*.

"Debt Stress and Holiday Spending." Interview on RadioMD. December 18, 2015: http://radiomd.com/show/er-101/item/30279-holiday-overspending-how-it-affects-your-health

SERVICE AND OTHER PROFESSIONAL ACTIVITIES

Faculty Director, Course and Teacher Evaluation Council, Northwestern University, 1986-1996.

University Committees

Thesis committee member, Janice Normoyle, Department of Psychology, Loyola University of Chicago, 1978-1979.

Dissertation committee member, Dennis P. Rosenbaum, Department of Psychology, Loyola University of Chicago, 1978-1980.

Committee Member, various Medill School of Journalism Faculty Committees, 1980-1994.

Dissertation committee member, Janice Normoyle, Department of Psychology, Loyola University of Chicago, 1980-1984.

Dissertation committee member, Lalla K. Woerner, Department of Education, Northwestern University, 1980-1981.

Dissertation committee member, Kenneth Rasinski, Department of Psychology, Northwestern University, 1983-1984.

Journalism Faculty Representative, Course and Teacher Evaluation Council Committee, Northwestern University, 1983-1985.

Journalism Faculty Representative, University Computing and Information Processing Committee, Northwestern University, 1982-91.

Chair, Academic Standards Committee, Medill School of Journalism, 1987-91.

Member, Program Review Subcommittee for the School of Law, Northwestern University, 1989-90.

Thesis committee member, Richard A. Settersten Jr., School of Education, Northwestern University, 1990.

Member, Provost's Committee on the Evaluation and Improvement of Teaching, Northwestern University, 1990-91.

Member, Provost Search Committee, Northwestern Univ., 1991.

Co-Chair, Academic Standards Committee, Medill School of Journalism, 1991-93.

Co-Chair, Promotion & Tenure Committee, Medill School of Journalism, 1991-93.

Member, Vice President for Information Services Search Committee, Northwestern Univ.,1992.

Member, Northwestern University Community Council, 1992-94.

Member, General Faculty Committee, Elected Representative for Medill, 1992-94.

Dissertation committee member, Daniel M. Merkle, Dept. of Communications Studies, School of Speech, Northwestern University, 1992-93, completed June 1993.

Dissertation committee member and Co-Chair, Terri L. Nolinski, Department of Education, Northwestern University, 1993-94, completed June 1994.

Chair, Promotion & Tenure Committee, Medill School of Journalism, 1993-94.

Principal Investigator, A Validity and Reliability Study of the CTEC System, conducted for the Provost's Office, Northwestern University, 1992-94.

Elected Vice-Chair, Northwestern Univ. General Faculty Committee, 1994.

Member, General Faculty Committee, Elected University-wide Representative, 1994-95.

Elected Chair, Northwestern Univ. General Faculty Committee, 1995.

Dissertation Committee Chair, Sandra L. Bauman, Department of Communications Studies, Northwestern University, 1994-96, completed June 1996.

Member, Survey Research Future Committee, College of Social and Behavioral Sciences, The Ohio State University, 1995-96.

Elected member, Graduate Studies Committee, School of Journalism & Communication, Ohio State Univ., 1996-97.

Thesis Committee Chair: Lillian Diaz-Castillo, School of Journalism & Communication, Ohio State Univ., 1996-98, completed June, 1998.

Thesis Committee Chair. Kimberly Ball, School of Journalism & Communication, Ohio State University, 1997.

Dissertation Committee member, Darlene Drummond, School of Journalism & Communication, Ohio State University, 1997-2000.

Thesis Committee member, Chi-Yu Wei, School of Journalism & Communication, Ohio State University, completed June, 1998.

Masters Exam Committee member, Crystal Hill, School of Journalism & Communication, Ohio State University, Fall, 1998.

Thesis Committee member, Jun (Rick) Li, School of Journalism & Communication, Ohio State University, completed June, 1999.

Thesis Committee member, Anupama Pakala, School of Journalism & Communication, Ohio State University, 1999-2000.

Thesis Committee member, Mary Ashley, School of Journalism & Communication, Ohio State University, 2000-2001.

Dissertation Committee Co-Chair, Lillian Diaz-Castillo, School of Journalism & Communication, Ohio State University, 2000-2005.

External Advisory Board member, Survey Research Methodology Graduate program, University of Michigan. 2002-2008.

Chair, External Advisory Committee, Center for Public Affairs Research, NORC/AP. 2011-2013.

Dissertation Committee member, Evgenia Kapousouz. CUPPA, U. of Illinois at Chicago. 2023-2024.

Peer Reviewer for Professional Periodicals

1978-1986	*Urban Affairs Quarterly*
1983-1996	*Justice Quarterly*
1987-1996	*Criminology*
1988-present	*Journal of Official Statistics*
1988-present	*Public Opinion Quarterly*
1989-present	*Sociological Methods and Research*
1989	*Communications Research*
1994	*Journal of Legal Education*
1994-1995	*Criminal Justice Review*
1995-2000	*Political Communication*
1996	*Journal of Applied Social Psychology*
1997	*Press & Politics*
2000-present	*International Journal for Public Opinion Research*
2008	*Perceptual and Motor Skills*
2008-present	*Field Methods*
2010-present	*Social Science Research*
2013-present	*Journal of Survey Statistics and Methods*
2014-present	*Journalism and Mass Communications Quarterly*
2018	*Social Science Computer Review*
2020-present	*Sociological Methods and Research*

Professional Honors & Service

Appointed Board Member, Midwest Association for Public Opinion Research, 1988-90.

Elected 1991 Program Co-Chair for the Midwest Association for Public Opinion Research annual conference.

Elected 1992 Program Chair for the Midwest Association for Public Opinion Research annual conference.

Invited member, *Who's Who Worldwide*, 1992.

Elected 1993 Vice President of the Midwest Association for Public Opinion Research.

Elected 1994 President of the Midwest Association for Public Opinion Research.

Elected, Fellow of the Midwest Association for Public Opinion Research, 1997.

Ohio Professional Journalism Award Winner: 1st Place, Best Use of a Poll. Sylvia Brooks, Paul J. Lavrakas, and staff of *The Columbus Dispatch.*

Elected, 1997-1998 Associate Program Chair and 1998-1999 Program Chair for the American Association of Public Opinion Research 53rd and 54th annual conferences.

2003 INNOVATORS AWARD from the American Association of Public Opinion Research for "Leadership in Producing *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys.*" (co-winners, Tom Smith and Rob Daves)

Judge, 2005-2009, Iowa Gallup Award for Excellent Journalism Using Polls

2007 New York AAPOR Outstanding Career Achievement Award

Elected, 2008-2010, Counselor-at-Large, American Association for Public Opinion Research

Elected, 2011-2012, Vice President/President-Elect, American Association for Public Opinion Research

Elected, 2012-2013, President, American Association for Public Opinion Research

Elected, 2013-2014, Past-President, American Association for Public Opinion Research

2019 American Association for Public Opinion Research Lifetime Award for Exceptionally Distinguished Achievement

2021 American Association for Public Opinion Research BOOK AWARD for Margaret R. Roller and Paul J. Lavrakas (2015), *Applied Qualitative Research Design: A Total Quality Framework Approach*, Guilford Press, New York.

Professional Association Memberships

American Association for Public Opinion Research (AAPOR)

American Statistical Association (AStatA)

Midwest Association for Public Opinion Research (MAPOR)

New York Association for Public Opinion Research (NYAAPOR)

Pacific Association for Public Opinion Research (PAPOR)

World Association for Public Opinion Research (WAPOR)

Other Professional Service

Local Arrangements Co-chair for EVALUATION '83, the annual convention of the *Evaluation Research Society and the Evaluation Network*, held October, 1983, Chicago IL.

Member, Evanston Residential Crime Prevention Committee, 1981-1986.

Advisory Steering Committee Member, Illinois Criminal Justice Information Authority, 1985-1992.

Chair, AAPOR Conference Operations Committee, 1995-1997.

Member, AAPOR Committee on Response Outcomes and Rates, 1997-2004

Member, AAPOR Committee on Standard Definitions and Disclosure, 1999-present

Member, Editorial Board, *Public Opinion Quarterly*, 2000-present

Chair, AAPOR Task Force on Establishing Guidelines for Conducting Surveys with Respondents' Reached via a Cell Phone, 2007-2008.

Member, AAPOR President's Election Campaign 2008 Rapid-Response Advisory Team. 2007-2008.

Member, AAPOR Advisory Council to *Public Opinion Quarterly*, 2008-2010.

Member, AAPOR Task Force of Evaluating the Reliability and Validity of On-line Panel Methodologies, 2008-2010.

Chair, AAPOR Task Force II on Establishing Guidelines for Conducting Surveys with Respondents' Reached via a Cell Phone, 2009-2010.

Chair, AAPOR Task Force on Survey-Based Legal Evidence, 2010-present.

Chair, AAPOR Transparency Initiative Steering Committee, 2011-2012.

Member, ARF Research Quality Forum Committee on Respondent Motivations and Incentives, 2011-present.

Member, AAPOR Task Force on Survey Refusals, 2012-2015.

Co-chair, AAPOR By-Laws Review Committee, 2013-2014.

Chair, AAPOR 2014 Elections Nominations Committee.

Chair, AAPOR 2014 Policy Impact Award Committee.

Chair and Organizer. AAPOR Task Force on the Future of General Population Telephone Surveys in the United States, 2014-2017.

Member, California Heath Interviewer Survey (CHIS) 2015-2016 Sample Design and Survey Methodology Technical Advisory Committee, 2014-2015.

- Subtract the summary or overall star from each performance measure's star; square the results; and multiply each squared result by the corresponding individual performance measure weight.
- Sum these results; call this 'SUMWX.'
- Set n equal to the number of individual performance measures available for the given contract.
- Set W equal to the sum of the weights assigned to the n individual performance measures available for the given contract.
- The weighted variance for the given contract is calculated as: n * SUMWX / (W * (n-1)). For the complete formula, please see Attachment H: Calculation of Weighted Star Rating and Variance Estimates.

- Categorize the variance into three categories:
  - low (0 to < 30th percentile),
  - medium (≥ 30th to < 70th percentile) and
  - high (≥ 70th percentile)
- Develop the reward factor as follows:
  - r-Factor = 0.4 (for contract w/ low variance & high mean (mean ≥ 85th percentile))
  - r-Factor = 0.3 (for contract w/ medium variance & high mean (mean ≥ 85th percentile))
  - r-Factor = 0.2 (for contract w/ low variance & relatively high mean (mean ≥ 65th & < 85th percentile))
  - r-Factor = 0.1 (for contract w/ medium variance & relatively high mean (mean ≥ 65th & < 85th percentile))
  - r-Factor = 0.0 (for all other contracts)

Tables 8 and 9 show the final threshold values used in reward factor calculations for the 2025 Star Ratings.

Table 8: Performance Summary Thresholds

Improvement	Percentile	Part C Rating	Part D Rating (MA-PD)	Part D Rating (PDP)	Overall Rating
With	65th	3.703125	3.666667	3.535714	3.646465
With	85th	4.014493	4.000000	4.035714	3.949495
Without	65th	3.707692	3.718750	3.687500	3.662921
Without	85th	4.044118	4.062500	4.173913	3.977528

Table 9: Variance Thresholds

Improvement	Percentile	Part C Rating	Part D Rating (MA-PD)	Part D Rating (PDP)	Overall Rating
With	30th	0.820452	0.742679	0.847865	0.828220
With	70th	1.275376	1.268610	1.533170	1.240423
Without	30th	0.807024	0.654297	0.717578	0.795388
Without	70th	1.256410	1.210645	1.508203	1.216635

Categorical Adjustment Index (CAI)

CMS has implemented an analytical adjustment called the Categorical Adjustment Index (CAI). The CAI is a factor that is added to or subtracted from a contract's Overall and/or Summary Star Ratings to adjust for the

average within-contract disparity in performance for Low Income Subsidy/Dual Eligible (LIS/DE) beneficiaries and disabled beneficiaries. The CAI value (factor) depends on the contract's percentage of beneficiaries with LIS/DE and the contract's percentage of beneficiaries with disabled status. These adjustments are performed both with and without the improvement measures included. The value of the CAI varies by the contract's percentage of beneficiaries with LIS/DE and disability status.

The CAI values use data collected for the 2024 Star Ratings. To calculate the CAI, case-mix adjustment is applied to all clinical Star Rating measure scores that are not adjusted for SES using a beneficiary-level logistic regression model with contract fixed effects and beneficiary-level indicators of LIS/DE and disability status, similar to the approach currently used to adjust CAHPS patient experience measures. However, unlike CAHPS case-mix adjustment, the only adjusters are LIS/DE and disability status. Adjusted measure scores are then converted to measure stars using the 2024 rating year measure cutoffs and used to calculate Adjusted Overall and Summary Star Ratings. Unadjusted Overall and Summary Star Ratings are also determined for each contract.

The 2024 measures used in the 2025 CAI adjustment calculations are:

- Breast Cancer Screening (Part C)
- Colorectal Cancer Screening (Part C)
- Annual Flu Vaccine (Part C)
- Monitoring Physical Activity (Part C)
- Osteoporosis Management in Women who had a Fracture (Part C)
- Diabetes Care – Eye Exam (Part C)
- Diabetes Care – Blood Sugar Controlled (Part C)
- Controlling Blood Pressure (Part C)
- Reducing the Risk of Falling (Part C)
- Improving Bladder Control (Part C)
- Medication Reconciliation Post-Discharge (Part C)
- Plan All-Cause Readmissions (Part C)
- Statin Therapy for Patients with Cardiovascular Disease (Part C)
- Transitions of Care (Part C)
- Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions (Part C)
- Medication Adherence for Diabetes Medication (Part D)
- Medication Adherence for Hypertension (RAS antagonists) (Part D)
- Medication Adherence for Cholesterol (Statins) (Part D)
- MTM Program Completion Rate for CMR (Part D)
- Statin Use in Patients with Diabetes (SUPD) (Part D)

To determine the value of the CAI, contracts are first divided into an initial set of categories based on the combination of a contract's LIS/DE and disability percentages. For the adjustment for the overall and summary ratings for MA-Only and MA-PD contracts, the initial groups are formed by the ten groups of LIS/DE and quintiles of disability, thus resulting in 50 initial categories. For PDPs, the initial groups are formed using quartiles for both LIS/DE and disability. The mean differences between the Adjusted Overall or Summary Star Rating and the corresponding Unadjusted Star Rating for contracts in each initial category are determined and examined. The initial categories are collapsed to form final adjustment groups. The CAI values are the mean differences between the Adjusted Overall or Summary Star Rating and the corresponding Unadjusted Star Rating for contracts within each final adjustment group. Separate CAI values are computed for the overall and summary

Native File Attachment to AR829

"H3655_2025_SR_Calculations_2024_10_16"

Medicare Program Integrity Manual

Chapter 8 – Administrative Actions and Sanctions and Statistical Sampling for Overpayment Estimation

Table of Contents

(Rev. 12515, Issued: 02-22-24)

Transmittals for Chapter 8

environment, must be designed so that overpayment amounts can be accurately reflected on the provider's cost report. Therefore, sampling units must coincide with an estimation methodology designed specifically for that type of provider/supplier to ensure that the results can be placed at the appropriate points on the cost report. The sample may be either claim-based or composed of specific line items. For example, home health cost reports are determined in units of "visits" for disciplines 1 through 6 and "lower of costs or charges" for drugs, supplies, etc. If claims are paid under cost report, the services reviewed and how those units link to the provider/supplier's cost report must be known. The contractor shall follow the instructions contained in section 8.4 et seq., but use the projection methodologies provided in Pub. 100-08, Exhibits 9 through 12, for the appropriate provider type. Pub. 100-08, Exhibits 9 through 12, are to be used only for claims not paid under PPS.

8.4.3.2.3 - The Sampling Frame
(Rev. 11962; Issued: 04-21-23; Effective: 05-22-23; Implementation: 05-22-23)

The sampling frame is the set of all the possible sampling units from which the sample is selected. As examples, the frame may be a list of all beneficiaries receiving items from a selected supplier, a list of all claims for which fully or partially favorable determinations have been issued, or a list of all the line items for specific items or services for which fully or partially favorable determinations have been issued.

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8.4.4 - Sample Selection
(Rev. 377, Issued: 05-27-11, Effective: 06-28-11, Implementation: 06-28-11)

8.4.4.1 - Sampling Methodology
(Rev. 906; Issued: 09-26-19; Effective: 01-02-19; Implementation: 01-02-19)

The contractor shall identify the sampling methodology to be followed. There are various ways a probability sample can be generated. The most appropriate method will depend on factors such as, the target universe and the resources available for sampling. (Refer to section 8.4.1.5 of this chapter regarding consultations with a statistical expert to determine the appropriate methodology.)

8.4.4.2 - Random Number Selection
(Rev. 906; Issued: 09-26-19; Effective: 01-02-19; Implementation: 01-02-19)

The contractor shall identify the source of the random numbers used to select the individual sampling units, if used. The contractor shall also document the program and its algorithm or table, when available, that is used; this documentation becomes part of the record of the sampling and must be available for review. The contractor shall document any starting point if using a random number table or drawing a systematic sample. In addition, the contractor shall document the known seed value if a computer algorithm is used. The contractor shall document all steps taken in the random selection process exactly as done to ensure that the necessary information is available for anyone attempting to replicate the sample selection.

FIXED function

▸ *Applies To*

This article describes the formula syntax and usage of the **FIXED** function in Microsoft Excel.

Description

Rounds a number to the specified number of decimals, formats the number in decimal format using a period and commas, and returns the result as text.

Syntax

FIXED(number, [decimals], [no_commas])

The FIXED function syntax has the following arguments:

- **Number** Required. The number you want to round and convert to text.
- **Decimals** Optional. The number of digits to the right of the decimal point.
- **No_commas** Optional. A logical value that, if TRUE, prevents FIXED from including commas in the returned text.

Remarks

- Numbers in Microsoft Excel can never have more than 15 significant digits, but decimals can be as large as 127.
- If decimals is negative, number is rounded to the left of the decimal point.
- If you omit decimals, it is assumed to be 2.
- If no_commas is FALSE or omitted, then the returned text includes commas as usual.
- The major difference between formatting a cell containing a number by using a command (On the **Home** tab, in the **Number** group, click the arrow next to **Number**, and then click **Number**.) and formatting a number directly with the FIXED function is that FIXED converts its result to text. A number formatted with the **Cells** command is still a number.

Example

Copy the example data in the following table, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Data

-1234.567		
44.332		
Formula	**Description**	**Result**
=FIXED(A2, 1)	Rounds the number in A2 one digit to the right of the decimal point.	1,234.6
=FIXED(A2, -1)	Rounds the number in A2 one digit to the left of the decimal point.	1,230
=FIXED(A3, -1, TRUE)	Rounds the number in A3 one digit to the left of the decimal point, without commas (the TRUE argument).	-1230
=FIXED(A4)	Rounds the number in A4 two digits to the left of the decimal point.	44.33

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AI in Windows	Certified Refurbished	Educator training and development	Microsoft Teams	Azure Marketplace	Diversity and inclusion
Explore Microsoft products	Microsoft Store Promise		Microsoft 365 Copilot	AppSource	Accessibility

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al., Plaintiffs, v. **ROBERT F. KENNEDY, JR.**, in his official capacity as Secretary of Health and Human Services, U.S. Department of Health and Human Services, and **MEHMET OZ**, in his official capacity as Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064 Hon. Mark T. Pittman

SUPPLEMENTAL DECLARATION OF

PAUL DIVER, PH.D.

April 11, 2025

Table of Contents

1 Introduction and Scope

I, Paul Diver, Ph.D., declare the following to be true and correct:

1. I am over twenty-one years of age, of sound mind, and fully competent to make this declaration.

2. I am a Director with Berkeley Research Group, LLC ("BRG"). I was retained by Reed Smith LLP ("Counsel") on behalf of Elevance Health Inc. ("Elevance Health") and its affiliated entities ("Elevance Health") to provide my statistical opinions on certain aspects of the Centers for Medicare and Medicaid Services' ("CMS") calculation of the 2025 Medicare Advantage Star Ratings ("Star Ratings").

3. I previously submitted a declaration (the "Diver Declaration") in this matter on February 14th, 2025, in which I have included relevant background, my qualifications, and my opinions.[1]

4. I have reviewed Defendants' Consolidated Brief in Support of Their Response to Plaintiffs' Motion for Summary Judgment and Cross-Motion for Summary Judgment ("Defendants' Consolidated Brief") [2] as well as the Declaration of Elizabeth Goldstein ("Goldstein Declaration") submitted in support of Defendants' summary-judgment briefing.[3] This report provides a reply and rebuttal.

2 Summary of Opinions

5. Based on my review of the Defendants' Consolidated Brief and the Goldstein Declaration, it is my statistical opinion that:

a. CMS's own simulation analysis fails to refute – and indeed confirms – one of the overarching findings of the Diver Declaration simulations: Overall Star Ratings are subject to fluctuation due to random chance alone. CMS did not dispute this but rather provides evidence in support of this fact. Its

[1] *See* App. 21-54, Declaration of Paul Diver, Ph.D.; App. 237-241, Curriculum Vitae of Paul Diver, Ph.D.

[2] *See* ECF No. 38, Defendants' Brief ("Defs.' Br.").

[3] *See* ECF No. 39, Defendants' Appendix ("Defs' App.") 1-4.

criticisms of the Diver Declaration simulations do not change this fact, and moreover can all be traced back to the fact that CMS did not make public the data necessary to address the issues it raises.

b. CMS is incorrect when it states that it "does not round to the sixth decimal." The scorecards used to calculate the Final Summary Scores, made available in the Administrative Record,[4] make use of the "FIXED" Excel function to round an intermediate weighted average of measure star ratings – and thus all subsequent scores - to the sixth decimal places.

c. CMS's discussion of precision is inherently flawed. It confuses the difference between fixed thresholds (e.g., 3.250000 and 3.750000) with the (im)precision of estimates subject to random chance. CMS's analysis is misleading as it conflates these two concepts.

d. Contrary to CMS's assertion, using a well-known seed – "like a number from pop culture"[5] – is not a best practice requirement for selecting an initialization seed.

3 CMS's Own Simulation Analysis Fails to Refute – and Indeed Confirms – the General Findings of the Diver Declaration

6. At a high level, one of the overarching themes offered through the Diver Declaration is that a Medicare Advantage Organization's Final Summary Score and therefore Overall Star Rating are subject to fluctuation due to random chance alone. CMS does not refute this opinion but rather the Defendants' Consolidated Brief instead confirms this to be the case.

7. To assess if random chance alone could cause fluctuations in a contract's Final Summary Score and Overall Star Rating, I performed a simulation exercise where I allowed for different initialization seeds (i.e., those other than CMS's 8-6-7-5-3-0-9 "Jenny Seed"). In the Defendants'

[4] *See for example* A.R. 838, Supp. App. 314, Scorecard for Elevance Contract H3655.

[5] *See* Defs.' Br. at 43.

Consolidated Brief, CMS suggests that the simulations summarized in the Diver Declaration are flawed for the following two reasons:

(1) The Diver Declaration simulations did not recalculate reward factor thresholds as part of his simulations;[6] and

(2) The Diver Declaration simulations did not recalculate Part C and Part D improvement measure scores and Star Ratings to account for the measure-level hold harmless provision.[7]

8. CMS's discussion of what it believes to be "errors" in the Diver Declaration simulations are a complete red herring for several reasons. Principally, the so-called "flaws" posited by CMS are due to the fact that the necessary data were not made available by CMS. Indeed, as to CMS's first criticism, as noted in the Diver Declaration, the measure value data provided by CMS in response to this suit were de-identified in such a manner which *prevented* the re-calculation of the reward factor thresholds. As to CMS's second criticism, that the Diver Declaration simulations did not recalculate Part C and Part D improvement measure scores and Star Ratings to account for the measure-level hold harmless provision is also a result of data not made available by CMS. To account for the hold harmless provision depends on possessing the full, non-publicly available measure value data for the prior year, 2024 – which CMS also did not provide. Further, both years measure value data would need to be made identifiable to reveal which measure value pertained to which contract.

9. But in any case, CMS **offers its own simulation** analysis, which purports to correct for the criticisms CMS levies at my own simulations, and the findings reveal that, indeed, the Final Summary Score and subsequent Final Overall Star Rating **are subject to fluctuation due to random chance alone.** In other words, CMS's simulation actually confirms the overarching opinion that I offered in my original declaration.

[6] *See* Defs.' Br. at 34.

[7] *See* Defs.' Br. at 35.

10. Moreover, CMS's simulation shows that 21 contracts received a 2025 Overall Star Rating **lower** than their respective "most common overall Star rating."[8]

11. Critically, CMS concedes that for **15%** of its own simulation runs, Elevance's H3655 contract received a higher Final Overall Star Rating of a 4.0. This is notable because CMS's own 15% finding exceeds the commonly used 5% or 10% statistical significance thresholds used in statistical hypothesis tests when evaluating how likely a scenario is to occur due to random chance alone.

12. The Diver Declaration states that the variability in the Final Summary Score due to random chance is generally on the order of 0.01. Despite running its own simulation analysis, CMS does not provide in response its own counter-measurement of variability in Final Summary Score due to random chance. CMS is notably quiet on this front.

13. In short, CMS's criticisms of the simulations in the Diver Declaration are moot because (1) the data were not available from CMS to proactively address them, and (2) because CMS offers its own simulation results which confirm the overarching finding of the Diver Declaration – i.e., that Final Summary Scores and Overall Star Ratings are subject to change due to random chance alone.

4 CMS Is Incorrect When It States that It "Does Not Round to the Sixth Decimal"

14. In Defendants' Consolidated Brief, CMS states that it did not round Elevance's overall numerical scores to the sixth decimal place.[9] CMS goes on to state that "[t]ellingly, Elevance does not point to anything that supports its assertion that CMS rounds to six digits of precision." However, the information within the record shows that CMS is incorrect in its statement that it does not round to the sixth decimal.

[8] Defs.' Br. at 35-36. Note CMS's use of the phrase "most common"; CMS is further acknowledging that there can be multiple Star Ratings due to fluctuations arising from random chance alone. Additionally, CMS tellingly also does not provide a more general discussion on how many contracts in their simulations are associated with multiple Star Ratings due to random chance. Instead, it limits its discussion just to the number of contracts whose *most common* Star Rating is different than its published one.

[9] Defs.' Br. at 27-28.

15. As noted in the Diver Declaration, Elevance's overall numerical score is derived by calculating a weighted average of measure specific star ratings and then adjusting that average with a reward factor and a CAI value. For example, CMS calculates a weighted average for Elevance Contract H3655 (i.e., 3.647059) to which it adds a Reward Factor of 0.1 and a CAI Value of 0.002506 to derive a Finally Summary Score of 3.749565.

16. CMS calculates the weighted average of measure specific star ratings by dividing the sum of weighted measure star ratings by the sum of their associated weights **and then rounding the resulting ratio value to the sixth decimal place**. CMS does this through the use of the "FIXED" function in Microsoft Excel as evidenced by the contract "Score Card" provided by CMS to Elevance for Contract H3655 (*see* Figure 1 from A.R. 838, Suppl. App. 314).

Figure 1: CMS Rounds the Weighted Average of Measure Specific Star Ratings to Six Decimals Using the "FIXED" Function in Microsoft Excel (A.R. 838, Suppl. App. 314) (emphasis added)

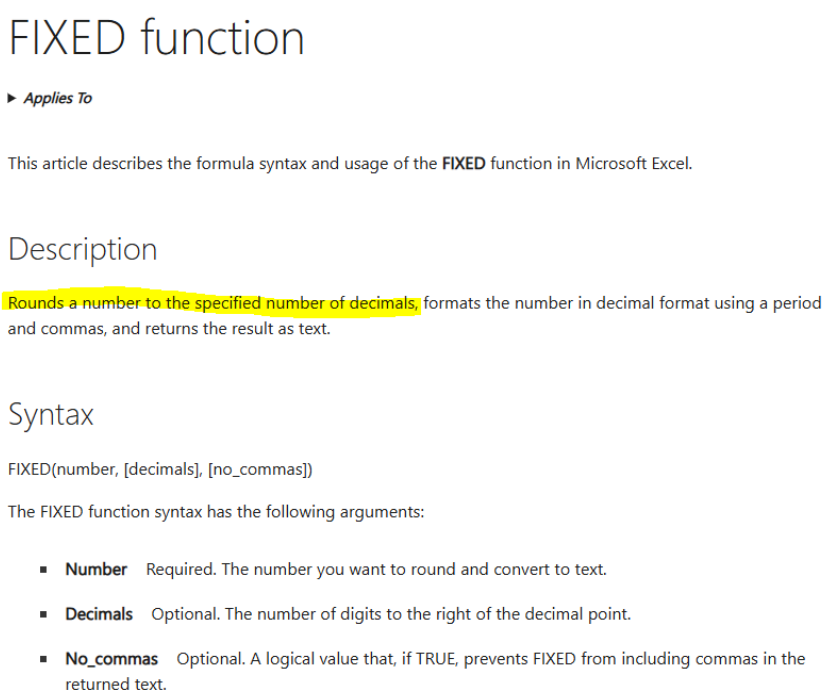
```
=NUMBERVALUE(FIXED((O48/N48),6))
```

P48 =NUMBERVALUE(FIXED((O48/N48),6))

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Contract: H3655	Contract Type: Local & Regional CCP with SNP																	
2	Contract Name: COMMUNITY INSURANCE COMPANY							Calculation Without Improvement						Calculation With Improvement					
3	Domain	Primary Data Source	Quality Measure			Score	Star	Weight	Weight * star	x bar	diff	diff squared	multiply by measure weight	Weight	Weight * star	x bar	diff	diff squared	multiply by measure weight
4	Part C Measures																		
5	1 - Staying Healthy: Screenings, Tests, and Vaccines	HEDIS	C01: Breast Cancer Screening			71	3	1	3	3.608696	-0.608696	0.370511	0.370511	1	3	3.647059	-0.647059	0.418685	0.418685
6		HEDIS	C02: Colorectal Cancer Screening			78	4	1	4	3.608696	0.391304	0.153119	0.153119	1	4	3.647059	0.352941	0.124567	0.124567
7		CAHPS	C03: Annual Flu Vaccine			71	4	1	4	3.608696	0.391304	0.153119	0.153119	1	4	3.647059	0.352941	0.124567	0.124567
8		HEDIS / HOS	C04: Monitoring Physical Activity			44	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
9	2 - Managing Chronic (Long Term) Conditions	Plan Reporting	C05: Special Needs Plan (SNP) Care Management			59	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
10		HEDIS	C06: Care for Older Adults – Medication Review			99	5	1	5	3.608696	1.391304	1.935727	1.935727	1	5	3.647059	1.352941	1.830449	1.830449
11		HEDIS	C07: Care for Older Adults – Pain Assessment			98	5	1	5	3.608696	1.391304	1.935727	1.935727	1	5	3.647059	1.352941	1.830449	1.830449
12		HEDIS	C08: Osteoporosis Management in Women who had a Fractu			30	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
13		HEDIS	C09: Diabetes Care – Eye Exam			72	3	1	3	3.608696	-0.608696	0.370511	0.370511	1	3	3.647059	-0.647059	0.418685	0.418685
14		HEDIS	C10: Diabetes Care – Blood Sugar Controlled			83	3	3	9	3.608696	-0.608696	0.370511	1.111532	3	9	3.647059	-0.647059	0.418685	1.256056
15		HEDIS	C11: Controlling Blood Pressure			72	2	3	6	3.608696	-1.608696	2.587903	7.763708	3	6	3.647059	-1.647059	2.712803	8.138410
16		HEDIS / HOS	C12: Reducing the Risk of Falling			54	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
17		HEDIS / HOS	C13: Improving Bladder Control			40	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
18		HEDIS	C14: Medication Reconciliation Post-Discharge			86	4	1	4	3.608696	0.391304	0.153119	0.153119	1	4	3.647059	0.352941	0.124567	0.124567
19		HEDIS	C15: Plan All-Cause Readmissions			12	3	3	9	3.608696	-0.608696	0.370511	1.111532	3	9	3.647059	-0.647059	0.418685	1.256056
20		HEDIS	C16: Statin Therapy for Patients with Cardiovascular Disease			86	3	1	3	3.608696	-0.608696	0.370511	0.370511	1	3	3.647059	-0.647059	0.418685	0.418685
21		HEDIS	C17: Transitions of Care			59	3	1	3	3.608696	-0.608696	0.370511	0.370511	1	3	3.647059	-0.647059	0.418685	0.418685
22		HEDIS	C18: Follow-up after Emergency Department Visit for People with Multiple High-Risk Chronic Conditions			67	4	1	4	3.608696	0.391304	0.153119	0.153119	1	4	3.647059	0.352941	0.124567	0.124567
23	3 - Member Experience with Health Plan	CAHPS	C19: Getting Needed Care			83	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
24		CAHPS	C20: Getting Appointments and Care Quickly			85	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
25		CAHPS	C21: Customer Service			89	3	4	12	3.608696	-0.608696	0.370511	1.482043	4	12	3.647059	-0.647059	0.418685	1.674741
26		CAHPS	C22: Rating of Health Care Quality			88	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
27		CAHPS	C23: Rating of Health Plan			88	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
28		CAHPS	C24: Care Coordination			87	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
29	4 - Member Complaints and Improvement in the Health Plan's Performance	CTM	C25: Complaints about the Health Plan			0.12	5	4	20	3.608696	1.391304	1.935727	7.742907	4	20	3.647059	1.352941	1.830449	7.321797
30		MBDSS	C26: Members Choosing to Leave the Plan			15	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
31		Star Ratings	C27: Health Plan Quality Improvement			Medical ...	4	Not used in this Calculation						5	20	3.647059	0.352941	0.124567	0.622837
32	5 - Health Plan Customer Service	IRE	C28: Plan Makes Timely Decisions about Appeals			97	4	4	16	3.608696	0.391304	0.153119	0.612475	4	16	3.647059	0.352941	0.124567	0.498269
33		IRE	C29: Reviewing Appeals Decisions			99	5	4	20	3.608696	1.391304	1.935727	7.742907	4	20	3.647059	1.352941	1.830449	7.321797
34		Call Center	C30: Call Center – Foreign Language Interpreter and TTY Ava			100	5	4	20	3.608696	1.391304	1.935727	7.742907	4	20	3.647059	1.352941	1.830449	7.321797
35	Part D Measures																		
36	1 - Drug Plan Customer	Call Center	D01: Call Center – Foreign Language Interpreter and TTY Ava			100	5	4	20	3.608696	1.391304	1.935727	7.742907	4	20	3.647059	1.352941	1.830449	7.321797
37	2 - Member Complaints and Improvement in the Drug Plan's Performance	CTM	D02 Complaints about the Drug Plan			0.12	5	Counted in Part C						Counted in Part C					
38		MBDSS	D03: Members Choosing to Leave the Plan			15	4	Counted in Part C						Counted in Part C					
39		Star Ratings	D04: Drug Plan Quality Improvement			Medical ...	4	Not used in this Calculation						5	20	3.647059	0.352941	0.124567	0.622837
40	3 - Member Experience with Drug Plan	CAHPS	D05: Rating of Drug Plan			86	2	4	8	3.608696	-1.608696	2.587903	10.351611	4	8	3.647059	-1.647059	2.712803	10.851213
41		CAHPS	D06: Getting Needed Prescription Drugs			89	3	4	12	3.608696	-0.608696	0.370511	1.482043	4	12	3.647059	-0.647059	0.418685	1.674741
42	4 - Drug Pricing and Patient Safety	PDE & MPF Pricing Files	D07: MPF Price Accuracy			98	3	1	3	3.608696	-0.608696	0.370511	0.370511	1	3	3.647059	-0.647059	0.418685	0.418685
43		PDE data	D08: Medication Adherence for Diabetes Medications			85	3	3	9	3.608696	-0.608696	0.370511	1.111532	3	9	3.647059	-0.647059	0.418685	1.256056
44		PDE data	D09: Medication Adherence for Hypertension (RAS antagoni			89	3	3	9	3.608696	-0.608696	0.370511	1.111532	3	9	3.647059	-0.647059	0.418685	1.256056
45		PDE data	D10: Medication Adherence for Cholesterol (Statins)			88	3	3	9	3.608696	-0.608696	0.370511	1.111532	3	9	3.647059	-0.647059	0.418685	1.256056
46		Part D Plan Reporting	D11: MTM Program Completion Rate for CMR			89	4	1	4	3.608696	0.391304	0.153119	0.153119	1	4	3.647059	0.352941	0.124567	0.124567
47		PDE data	D12: Statin Use in Persons with Diabetes (SUPD)			85	2	1	2	3.608696	-1.608696	2.587903	2.587903	1	2	3.647059	-1.647059	2.712803	2.712803
48	Rated Like	Local & Regional CCP with SNP needs at least 19 of 38 measures						92	332	3.608696			83.913043	102	372	3.647059			85.294118
49	MA-PD	2022 Major Disaster %	0					Sum of weights	Sum of weights * stars	Calculated Summary Mean			Sum of weighted squared diffs	Sum of weights	Sum of weights * stars	Calculated Summary Mean			Sum of weighted squared diffs
50		2023 Major Disaster %	0																
51	New Measure(s)	With	With																
52	Improvement	Without	With																
53	# Measures Needed	19	19																
54	# Measures Scored	38	40					38 * eligible		0.936750 Calculated Variance				40 * eligible		0.857658 Calculated Variance			
55	Variance Category	med	med																
56	Reward Factor	0	0.1																
57	Interim Summary	3.608696	3.747059																
58	CAI Value	0.002506	0.002506																
59	Final Summary	3.611202	3.749565																
60	Overall Rating	3.5	3.5																
61	Final Overall Rating	3.5																	

17. As noted on Microsoft's own support page, the FIXED function in Excel "[r]ounds a number to the specified number of decimals…and returns the result as text." It does not purport to truncate the digits at the specified number of decimals for reporting or displaying purposes.

Figure 2: Microsoft's Description of the FIXED Function[10]



FIXED function

▸ *Applies To*

This article describes the formula syntax and usage of the **FIXED** function in Microsoft Excel.

Description

Rounds a number to the specified number of decimals, formats the number in decimal format using a period and commas, and returns the result as text.

Syntax

FIXED(number, [decimals], [no_commas])

The FIXED function syntax has the following arguments:

- **Number** Required. The number you want to round and convert to text.
- **Decimals** Optional. The number of digits to the right of the decimal point.
- **No_commas** Optional. A logical value that, if TRUE, prevents FIXED from including commas in the returned text.

18. The syntax for the function is such that a user provides the function with a number to be rounded to a specified number of decimal places. As an example provided by Microsoft, passing the number "1234.567" to the FIXED function and specifying that it should be rounded to one digit to the right of the decimal point, results in the output "1,234.6" (*see* **Figure 3**).

[10] Microsoft Support, *FIXED function*, https://support.microsoft.com/en-us/office/fixed-function-ffd5723c-324c-45e9-8b96-e41be2a8274a (last visited April 9, 2025) (Suppl. App. 317) (emphasis added).

Figure 3: Example of Functionality of the FIXED Function[11]

Example

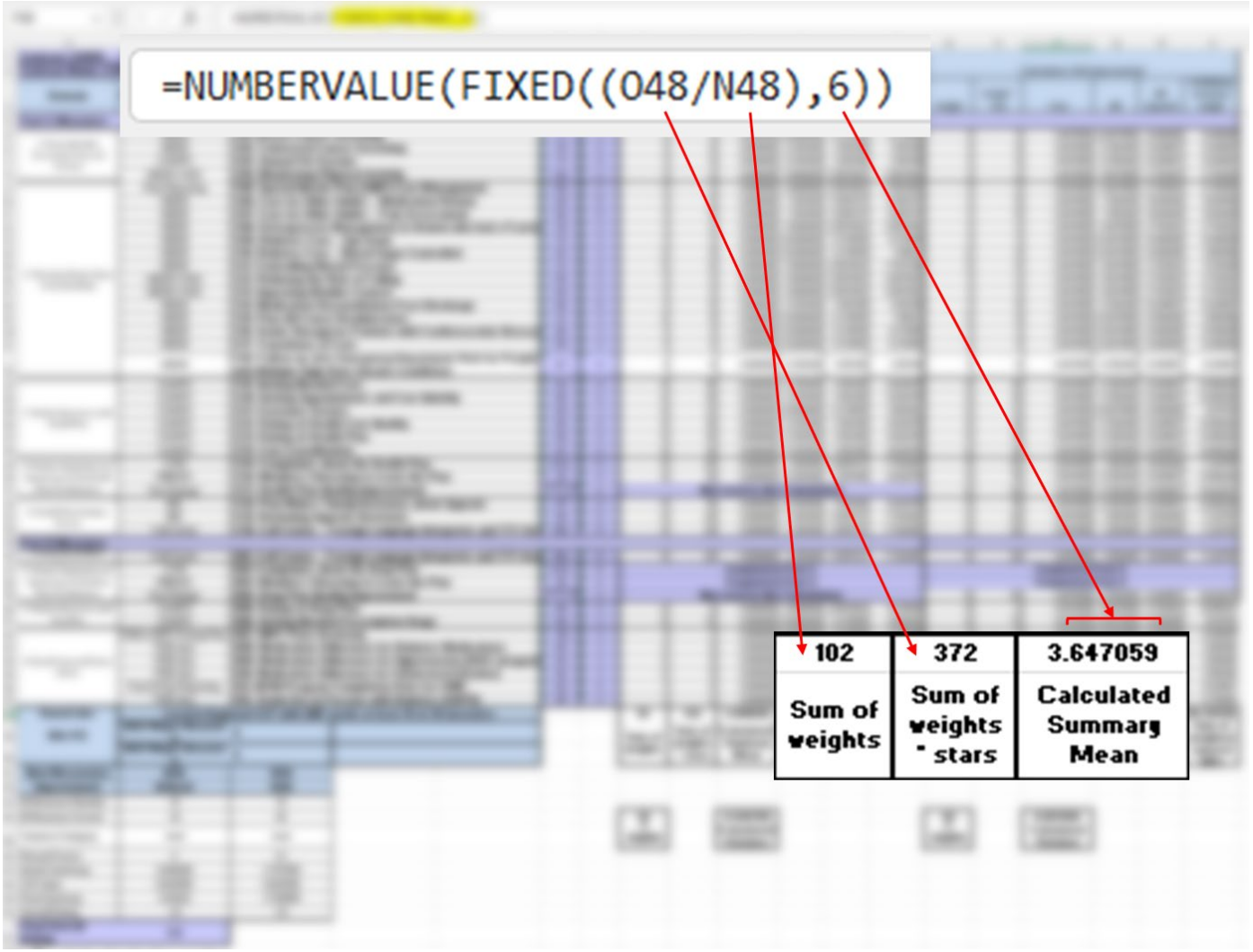
Copy the example data in the following table, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Data		
1234.567		
-1234.567		
44.332		
Formula	**Description**	**Result**
=FIXED(A2, 1)	Rounds the number in A2 one digit to the right of the decimal point.	1,234.6

19. In calculating the weighted average of measure specific star ratings, CMS passes the ratio of the sum of the weighted measure star ratings over the sum of the weights (i.e., 372/102) as the number it wishes to round using the FIXED function (*see* **Figure 1 and Figure 4**). In this function, CMS specifies that it wants to round this value to the sixth decimal place to the right of the decimal point by specifying the number "6" in the FIXED function.

[11] Microsoft Support, *FIXED function*, https://support.microsoft.com/en-us/office/fixed-function-ffd5723c-324c-45e9-8b96-e41be2a8274a (last visited April 9, 2025) (Suppl. App. 318) (emphasis added).

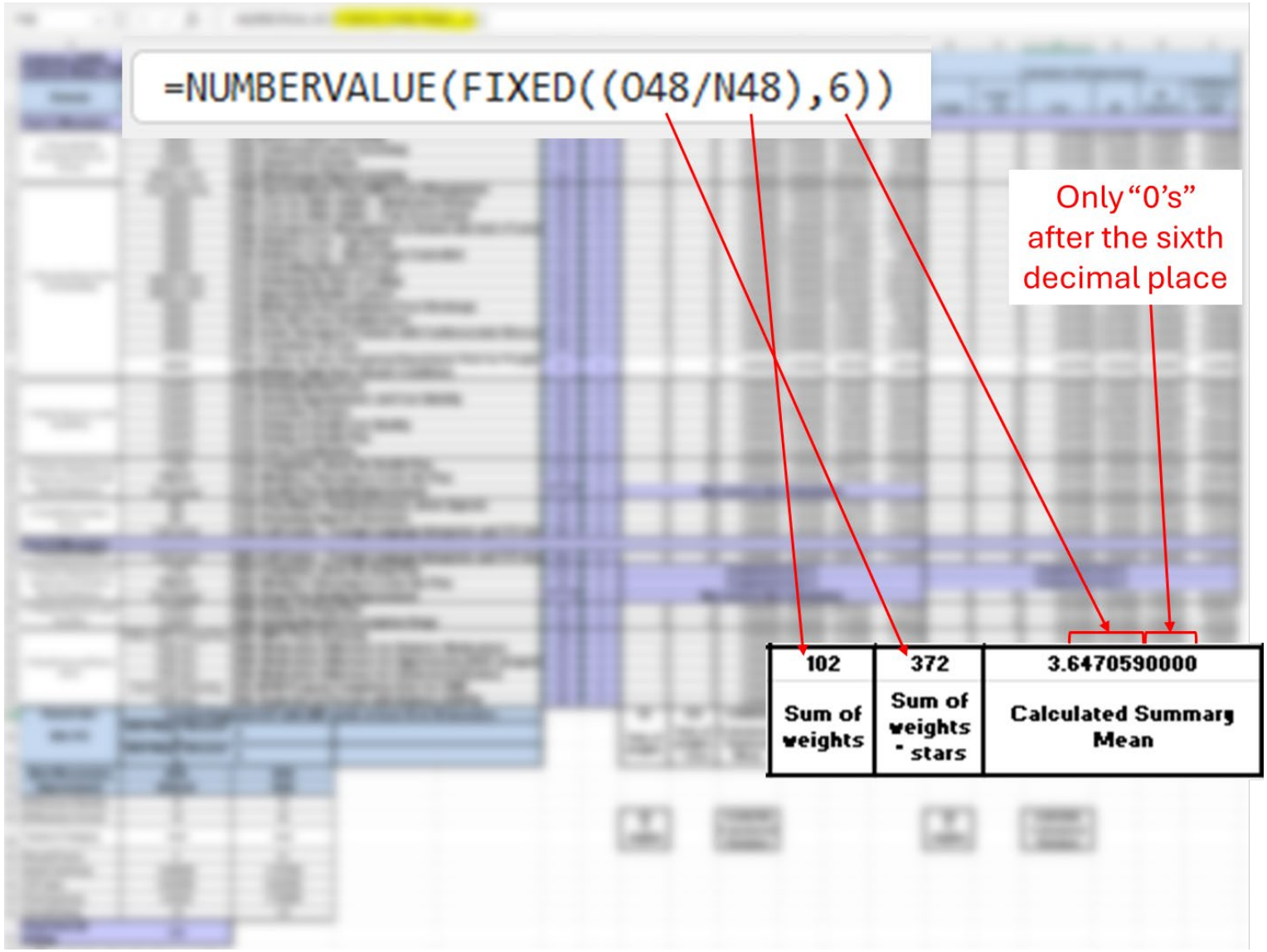
Figure 4: CMS's Rounding of the Weighted Average of Measure Specific Star Ratings to the Sixth Decimal Place (A.R. 838, Suppl. App. 314) (emphasis added)



20. As noted, the FIXED function converts this value to a "text" format. CMS uses the "NUMBERVALUE" function to convert this text formatted value to a numerical format for use in its later calculations. The application of this "NUMBERVALUE" function does **not** restore values beyond the sixth decimal place.

21. The effect of the application of the FIXED function can be seen simply by *removing* it. To illustrate, allowing Excel to display beyond the sixth decimal place shows the effect of CMS's use of the FIXED function. When using the FIXED function as CMS does but allowing Excel to display 10 digits to the right of the decimal place, the calculated value is "3.6470590000." In other words, the sixth decimal place is rounded to a "9" and then 0's follow for every decimal place past the sixth.

Figure 5: Rounded Figure Displayed Out to 10 Decimal Places (A.R. 838, Suppl. App. 314) (emphasis added)



22. As a result, the Interim and Final Summary Scores which are calculated using this rounded score are also rounded to the sixth decimal.

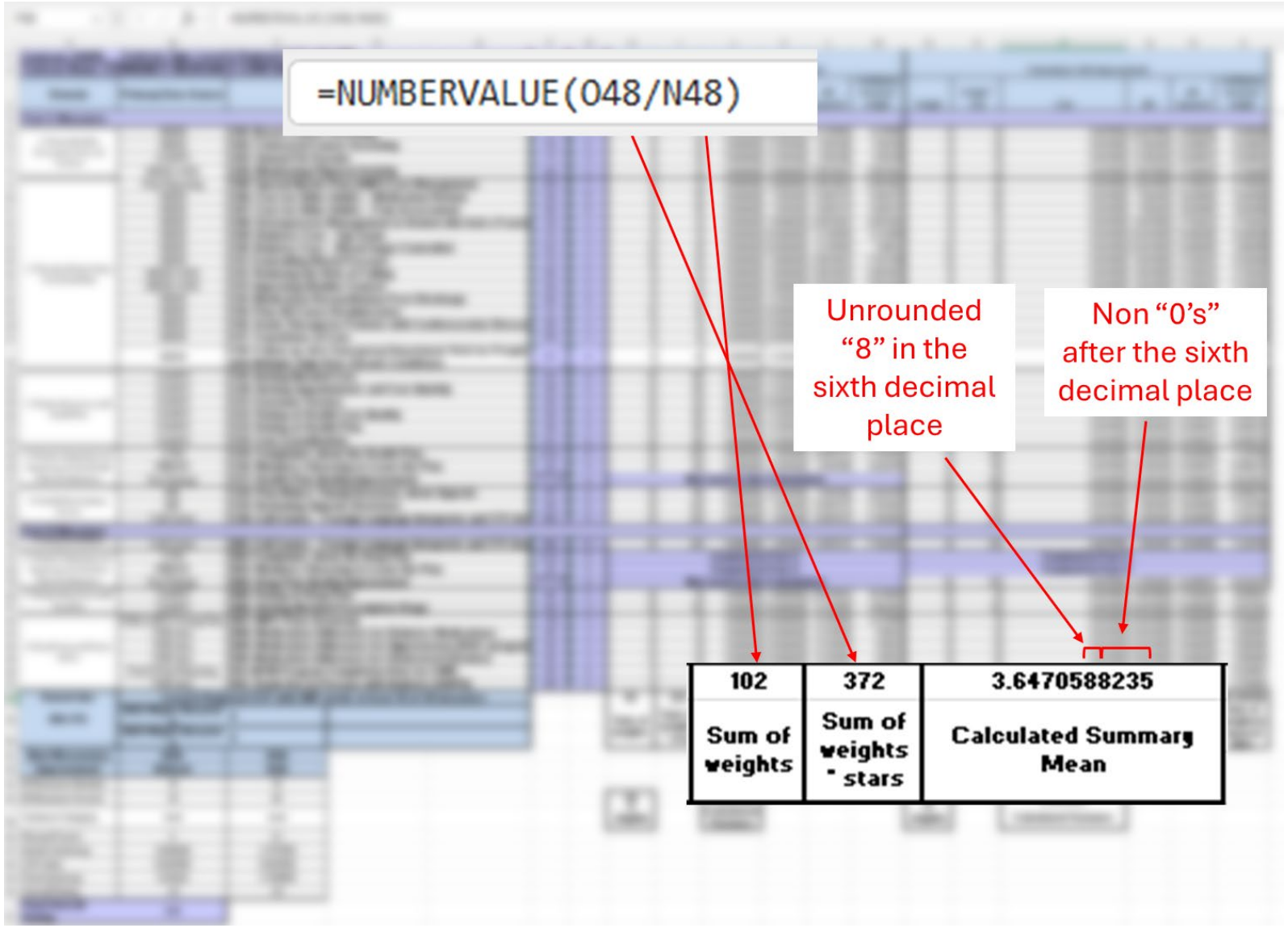
Figure 6:

# Measures Needed	19	19
# Measures Scored	38	40
Variance Category	med	med
Reward Factor	0	0.1
Interim Summary	3.608696	3.7470590000
CAI Value	0.002506	0.002506
Final Summary	3.611202	3.7495650000
Overall Rating	3.5	3.5

23. CMS then takes the rounded Final Summary Score (i.e., 3.749565) and compares that to its star categorization thresholds (e.g., 3.750000) to determine its final Overall Star Rating (i.e., 3.5 per CMS's rules).

24. In contrast, removing the FIXED function when calculating the weighted average reveals a Calculated Summary Mean number with an "8" in the sixth decimal place – in other words, a number no longer rounded to a "9" in the sixth decimal place – followed by non-zero numbers in subsequent decimal places (*contrast* **Figure 5** vs. **Figure 7**).

Figure 7: Removing the FIXED Rounding Function Results in a Number No Longer Rounded to the Sixth Decimal Place (A.R. 838, Suppl. App. 314) (emphasis added)



25. This weighted average carries through to the Interim Summary and Final Summary Scores as well, notably resulting in a Final Summary Score which is no longer rounded to the sixth decimal.

Figure 8

New Measure(s) Improvement	With Without	With With
# Measures Needed	19	19
# Measures Scored	38	40
Variance Category	med	med
Reward Factor	0	0.1
Interim Summary	3.608696	3.7470588235
CAI Value	0.002506	0.002506
Final Summary	3.611202	3.7495648235
Overall Rating	3.5	3.5

26. The above also demonstrates that CMS is rounding at the sixth decimal and is *not* simply reporting out to the sixth decimal as suggested by the Goldstein Declaration when it mentions that:

> *"CMS calculates each step out to the sixth decimal place because nothing that happens at the sixth decimal place ever impacts the second, hundredth decimal place…When those overall scores are displayed in CMS's technical guidance or for contracts to view, CMS displays only the six decimal places".* [12]

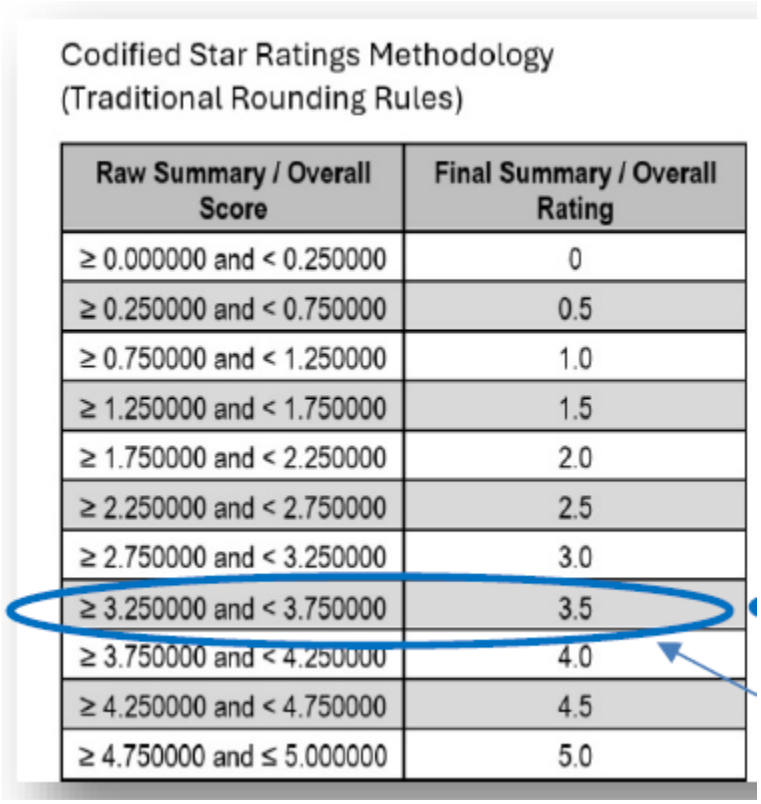
27. A simple example demonstrates this issue where a theoretical Final Summary value lands on 3.7499999 (unrounded and reported to seven decimal places). Per CMS's "Codified Star Ratings Methodology" shared in Defendants' Consolidated Brief[13] (see **Figure 9**), this Final Summary value would result in a 3.5 Star Overall Rating because it is less than 3.750000; however, we have shown that CMS would display and report this unrounded Final Summary value as 3.750000 within the plan scorecard. Per the formula within CMS's plan scorecard files, this value would then get categorized as a 4.0 Star Overall Rating. Therefore, what happens at the sixth

[12] Defs.' App. ¶ 2.

[13] Defs.' Br. at 31.

decimal place clearly impacts the second, hundredth decimal place using CMS's current rounding method.

Figure 9

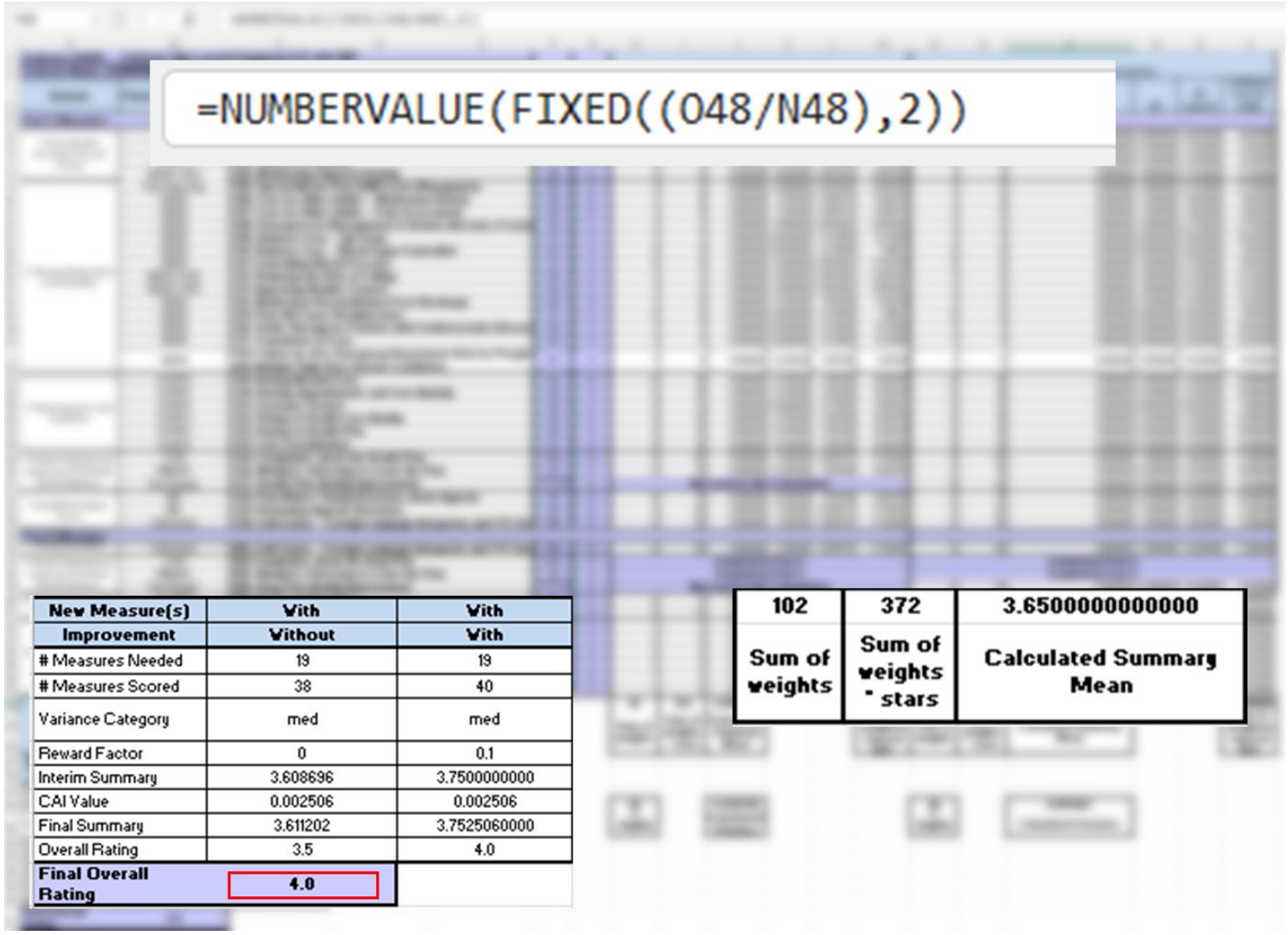


Codified Star Ratings Methodology
(Traditional Rounding Rules)

Raw Summary / Overall Score	Final Summary / Overall Rating
≥ 0.000000 and < 0.250000	0
≥ 0.250000 and < 0.750000	0.5
≥ 0.750000 and < 1.250000	1.0
≥ 1.250000 and < 1.750000	1.5
≥ 1.750000 and < 2.250000	2.0
≥ 2.250000 and < 2.750000	2.5
≥ 2.750000 and < 3.250000	3.0
≥ 3.250000 and < 3.750000	3.5
≥ 3.750000 and < 4.250000	4.0
≥ 4.250000 and < 4.750000	4.5
≥ 4.750000 and ≤ 5.000000	5.0

As a final exemplar – if one were to leave CMS's use of the "FIXED" function as it is currently – but change the specified rounding decimal places from 6 to 2 – the Elevance's final Overall Star Rating changes from a 3.5 to a 4.0 (*see* **Figure 10**).

Figure 10: Keeping CMS's Fixed Function But Rounding to the Second Decimal Place Instead of the Sixth Results in a Higher Overall Star Rating of a 4.0 for Elevance Contract H3655 (A.R. 838, Suppl. App. 314) (emphasis added)



New Measure(s) Improvement	With Without	With With
# Measures Needed	19	19
# Measures Scored	38	40
Variance Category	med	med
Reward Factor	0	0.1
Interim Summary	3.608696	3.7500000000
CAI Value	0.002506	0.002506
Final Summary	3.611202	3.7525060000
Overall Rating	3.5	4.0
Final Overall Rating	**4.0**	

5 CMS's Discussion of Precision Is Inherently Flawed

28. CMS's discussion of precision also is flawed. Its criticism of the Diver Declaration conflates the width of an interval between two fixed points (e.g., the difference between the fixed thresholds 3.25 and 4.25 is 0.50) with that of the (im)precision of an estimate subject to fluctuation due to random chance (e.g., the uncertainty due to random chance in a contract's Final Summary Score).

29. It is helpful to take a step back and consider at a high level what CMS does to assign an Overall Star Rating to each contract:

i. Calculate a weighted average of performance measures;
ii. Adjust the weighted average based on several factors to form a Final Summary Score;
iii. Compare the Final Summary Score to a series of fixed thresholds to determine an Overall Star Rating.

30. CMS states that:

> *"Either your score is above, below, or equal to [a fixed threshold]."*[14]

31. Problematically, this statement can only be universally true if the effect of random chance is ignored. Both the Diver Declaration and CMS's own simulations confirm this. The work contained therein demonstrates that elements in all three of the above steps are subject to fluctuation due to random chance alone:

Figure 11

i. Calculate a **weighted average** of performance measures;
ii. Adjust the **weighted average** based on several **factors** to form a Final Summary Score;
iii. Compare the **Final Summary Score** to a series of fixed thresholds to determine an **Overall Star Rating**

Red box indicates an element in CMS's Star Rating determination methodology subject to random chance

[14] Defs.' Br. at 30.

32. CMS does not dispute this. As such, under one initialization seed a Final Summary Score could be below a threshold, but under another initialization seed the same contract's Final Summary score could be above that same threshold.

33. The Diver Declaration provides a discussion of precision as the degree to which Final Summary Scores can fluctuate due to random chance alone under CMS's methodology. In other words, the Diver Declaration provides a discussion on how much a contract's Final Summary Score could change due to nothing other than arbitrary, random chance. This is consistent with the definition of precision provided in the Diver Declaration as well as in materials published by CMS.[15]

34. The Diver Declaration provides an assessment that this variability is on the order of 0.01. CMS could have easily offered a similar assessment based upon its own simulations but conspicuously did not.

35. In contrast, CMS discusses precision through the lens that the difference between two fixed points not subject to random chance is 0.5 (e.g., the difference between a star rating of 3.5 and 4 is 0.5 and equivalently the difference between star rating determination thresholds – e.g., 3.250000 and 3.750000 – is also 0.5).[16] CMS suggests that since this difference between two fixed points is larger than 0.01 that the points concerning statistical uncertainty in the Diver Declaration are rendered moot.[17] CMS's own discussion however reveals either a fundamental failure to grasp the concept of statistical uncertainty or a misleading discussion of the concept.

36. For example, CMS states:

> *"[Dr. Diver] points to the difference between 3.749565 and 3.75 – 0.000435 – and concludes that the difference between 3.5 and 4.0 stars should not hinge on such a miniscule number that is, according to his calculations, 'smaller than the average statistical uncertainty due to random chance inherent in CMS's methodology…*

[15] *See* Ctrs. for Medicare & Medicaid Servs., *HHS Risk Adjustment Data Validation (HHS-RADV) White Paper* (Dec. 6, 2019), https://www.cms.gov/files/document/2019-hhs-risk-adjustment-data-validation-hhs-radv-white-paper.pdf.

[16] Defs.' Br. at 32.

[17] Defs.' Br. at 33-34.

> *Under ordinary rounding rules, Dr. Diver should subtract 3.5 from 3.749565 to get 0.249565 (and because it is less than .25, it indicates that CMS should round down). Under Elevance's double rounding rules, the rounding error would constitute the leap from 3.749565 to 3.75, then to 4.0, which would result in an increased rounding error of 0.250435. More importantly, the rounding error is much higher than 0.01, which Dr. Diver concludes is the amount of 'statistical uncertainty due to random chance associated with the calculation of the Final Summary Score.' The difference for Elevance's H3655 contract between a 3.5 Star Rating and a 4.0 Star Rating is not 0.000435 – it's .249565. Put another way, the precision CMS is using when determining overall ratings is 0.5, which is larger than 0.01."*[18]

37. There are several flaws in CMS's analysis here.

38. First, in most simple terms – CMS establishes a fixed threshold for assigning a contract an Overall Star Rating of a 4.0. That threshold is a *Final Summary Score value* of a 3.750000. The difference between Elevance's observed Final Summary Score and this threshold is 0.000435. In other words, had Elevance's observed Final Summary Score been 0.000435 larger, CMS would have assigned contract H3655 an Overall Star Rating of a 4.0. CMS's analysis mistakenly confuses this issue by taking the difference between a *Star Rating* and a Final Summary Score. To put it another way, CMS performs an apples-to-oranges calculation. However, this flaw pales in comparison to its most substantive issue.

39. CMS states that the difference between Elevance's observed Final Summary Score (3.749565) and a Star Rating of 4.0 is 0.250435, which is greater than 0.250000. Similarly, CMS states that the difference between Elevance's observed Final Summary Score and a Star Rating of 3.5 is 0.249565, which is less than 0.250000. This is reason enough for CMS to say Elevance should receive a 3.5. However, this rationale *ignores the random chance* inherent in CMS's methodology.

40. A different initialization seed (i.e., a different roll of random dice) – changing nothing about Elevance H3655's actual performance – could have resulted in a Final Summary Score greater than 3.750000. For illustration, assume under this alternate (non-"8-6-7-5-3-0-9") initialization seed, H3655 receives a Final Summary Score of 3.759565 – a difference of 0.01 from

[18] Defs.' Br. at 33.

its observed score due to random chance alone. Now, CMS's calculated supposed "rounding error" differences are essentially flipped: the difference between this alternate score and 4.0 is 0.240435 while the difference from 3.5 is 0.259565.

41. In other words, CMS's discussion of the "rounding error" calculated between an Overall *Star Rating* and Final Summary Score is misleading and conceptually flawed. What CMS terms "rounding error" is itself subject to random chance.

42. It is also worth noting that rounding the Final Summary Score to the second decimal instead of the sixth prior to assigning an Overall Star Rating does **not** increase the width between relevant fixed thresholds but rather maintains the current difference (i.e., the difference between 3.75 and 4.25 is still 0.5). However, it does decrease the probability that a plan is harmed by not considering the effect of random chance in CMS's methodology.

6 Contrary to CMS's Assertion, Using a Well Known Seed – "Like a Number from Pop Culture" – Is Not a Best Practice Requirement for Selecting an Initialization Seed

43. As noted in the Diver Declaration, CMS uses the same initialization seed "8-6-7-5-3-0-9" each year in its mean resampling methodology. CMS claims that "a memorable seed is necessary to replicate results of a randomization process."[19] It states that "[t]he best practice is to use a number that is well known, like a number from pop culture, hence [CMS's] reference to the Tommy Tutone song, 'Jenny.'"[20] In my experience as a statistician, I am aware of no such best practice that suggests a "memorable" seed like one from pop culture be used. In contrast, best practice is typically simply to ensure that the seed that is used is properly documented so that the otherwise random process can be replicated. Indeed to this end, CMS's own Medicare Program Integrity Manual provides guidance to this effect. It requires the documentation of the

[19] *See* Defs.' Br at 43.

[20] *See* Defs.' Br. at 43.

initialization seed but notably makes no mention of inherent "memorability" nor more specifically any mention of using a pop culture reference: [21]

> *"The contractor shall identify the source of the random numbers used to select the individual sampling units, if used. The contractor shall also document the program and its algorithm or table, when available, that is used; this documentation becomes part of the record of the sampling and must be available for review. The contractor shall document any starting point if using a random number table or drawing a systematic sample.* ***In addition, the contractor shall document the known seed value if a computer algorithm is used.*** *The contractor shall document all steps taken in the random selection process exactly as done to ensure that the necessary information is available for anyone attempting to replicate the sample selection."*

44. Not only is there no mention of selecting a "memorable" seed, but the guidance to properly document the source of the seed number carries some implication that there is no expectation that the seed number be inherently "memorable."

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on April 11, 2025 in Washington, D.C.

Paul Diver, Ph.D.

[21] *See* App. 315-316, Medicare Program Integrity Manual, Ch. 8, Section 8.4.4.2 (emphasis added), available at: https://www.cms.gov/regulations-and-guidance/guidance/manuals/downloads/pim83c08.pdf.

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS

ELEVANCE HEALTH, INC., et al., Plaintiffs, v. **ROBERT F. KENNEDY, JR.**, in his official capacity as Secretary of Health and Human Services, U.S. Department of Health and Human Services, and **MEHMET OZ**, in his official capacity as Administrator, Centers for Medicare and Medicaid Services, Defendants.	Case No. 4:24-cv-01064 Hon. Mark T. Pittman

SUPPLEMENTAL DECLARATION OF PAUL J. LAVRAKAS, PH.D.

I, Paul J. Lavrakas, Ph.D., declare the following to be true and correct:

1. I am over 21 years of age, of sound mind, and fully qualified and competent to make this declaration.

I. Error in Survey Research

2. There are several types of major sources of error that can reduce the accuracy (validity and reliability) of the data that a survey produces. And in evaluating the presence of errors in the CAHPS dataset, I identified three types of error as being particularly troublesome: (a) Sampling Error (Imprecision), (b) Nonresponse Error (Bias); and (c) Measurement Error (Imprecision and Bias).

3. This surrebuttal will address each of these forms of error in CAHPS data (and in the CMS's usage of CAHPS data) and the misunderstandings about each demonstrated by the Defendants' filing and the supporting Declaration of Ms. Elizabeth Goldstein.

4. It is of note that in her Declaration, Ms. Goldstein includes one paragraph that purports to address sampling error in surveys. Ms. Goldstein then states that confidence intervals in surveys are a "descriptive tool," that the "most accurate, unbiased measure of a contract's performance is the mean," and "using the upper confidence limit and lower confidence limit would be biased and less accurate." Ms. Goldstein makes these statements without quoting a single expert source or providing any evidence that she possesses any expertise in survey research methods. In addition. Ms. Goldstein provides no evidence that she has been trained in the conceptualization, conduct, interpretation and/or evaluation of sample surveys.

5. Ms. Goldstein further makes these statements without disclosing any information about the sampling designs of the CAHPS data quality (for instance, the "design effects" also known as *deffs*)[1]. Without sampling design metrics, such as *deffs*, being calculated and transparently disclosed, it is impossible for an observer to know the precision (i.e., the amount of error in the form of imprecision/variance) associated with a given CAHPS survey or know basic information about the size of the confidence intervals around a given mean or percentage.

II. Nonresponse vs. Nonresponse Bias

6. CMS' brief asserts that my principal concern regarding CAHPS surveys is that the response rates are less than 80%. That is incorrect. As I wrote in my original declaration and address further below, my principal concern is that CMS does not address Nonresponse Bias at all

[1] Gabler, S., Ganninger, M., Hader, S., and Munnich, R. (2008). Design Effects. In P.J. Lavrakas editor, *Encyclopedia of Survey Research Methods*. Thousand Oaks CA: Sage Publishing, pp. 193-197.

in the specific CAHPS surveys. CMS addresses some aspects of nonresponse, but not the bias (error) that nonresponse can, and often does, cause.

7. Nonresponse and Nonresponse Bias are not the same thing, and CMS's documents and statistical procedures and survey methods pertaining to CAHPS data do not accurately differentiate between the two. *Nonresponse* (in particular "unit" nonresponse vs. "item" nonresponse) refers to occasions when an individual who is sampled to participate in a given survey fails to provide any of the data the survey is seeking to gather. Nowadays, this occurs in essentially all surveys. In contrast, *Nonresponse Bias* refers to instances when nonrespondents to a given survey, as a group, would have provided materially different data for a given survey measure than was provided by respondents, as a group. Whereas Nonresponse is a necessary condition for Nonresponse Bias, it is not a sufficient condition (cf. Groves, 2006). Therefore, a survey may have Nonresponse associated with the recruitment of its respondents, but that does not guarantee that Nonresponse Bias will result from that Nonresponse (cf. Groves, 2006; Groves and Peytcheva, 2008, Bland et al. 2022[2]). And as reported by Groves and Peytcheva (2008), nonresponse rates are relatively poor predictors (i.e., weak correlates) of Nonresponse Bias. Furthermore, if nonrespondents are a random subset of those who were initially sampled to participate in a survey, then there will be no Nonresponse Bias due to nonrespondents.

8. CMS's brief (as supported by Ms. Goldstein's declaration) does not appear to understand the difference between Nonresponse and Nonresponse Bias, and the important implications of this difference. They report that statistical adjustments (e.g., their case-mix

[2] Bland, C., Zuckerbranun, S., Lines, L.M/ Kenyon, A., Hinsdale-Shouse, M. et al. (2022). Challenges Facing CAHPS Surveys and Opportunities for Modernization. RTI Press: Occasional Paper ISSN 2378-7996.; Groves, R.M. (2006). "Nonresponse Rates and Nonresponse Bias in Household Surveys." *Public Opinion Quarterly*, 70(50), 646-675; Groves R.M. and Peytcheva, E. (2008). The Impact of Nonresponse Rates on Nonresponse Bias: A Meta-Analysis. *Public Opinion Quarterly*, 72(2) 167–189.

adjustment) are made to correct for *nonresponse* when they instead should be correcting for *Nonresponse Biases*.

9. CMS cites to a 2022 Research Triangle Institute (RTI) article (Bland et al., 2022, p. iv.) that reviewed the methods used to conduct the CAHPS studies and the manner in which CMS put those data to use. That article recommended CMS "to review and implement [our recommended] innovations to the CAHPS surveys and their dissemination of the results" (Bland et al., 2022, p. iv.). And as part of the recommended innovations were "Address nonresponse through survey and statistical methods" (Bland et al. 2022, p. 7) and " Analyze Nonresponse Bias and conduct adjustments where bias is present" (Bland et al. 2022, p. 8). Of note, the article is actually focused on decreasing nonresponse rates and adjusting for nonresponse (rather than adjusting for nonresponse bias) while referencing at times nonresponse bias. Bland et al. go on to opine that, "Nonresponse analysis is an important part of identifying subgroups that may be left behind, and nonresponse bias analysis is a tool that identifies whether the missing responses are causing bias." (p.8). Those RTI authors further explain, "[w]hen subgroups of the population are missed, there is an increased risk to data quality because of nonresponse bias. Researchers can address some of the nonresponse bias with statistical solutions such as weighting. However, it is possible to reach a point where weights are not enough to make up for a lack of specific respondents." (p.8). In other words, weighting responses under certain conditions may help address bias, but it does not eliminate it when there is nonresponse. Furthermore, as Groves (2006) notes, nonresponse bias exists at the level of an individual survey question, not at the level of the entire questionnaire or subsets of questions. Therefore, any adjustment such as the case-mix one that CMS uses that is a survey-wide adjustment is wholly unsuited to make proper adjustments at the level of each of the individual CAHPS survey items that are used to help create the STARS

Ratings. Thus, applying the CMS's case-mix adjustment to an entire CAHPS dataset is wholly contrary to best practices in survey research.

10. And more importantly, as the federal Office of Management and Budget ("OMB") mandates for federal agencies conducting surveys, an investigation into Nonresponse Bias is necessary to understand if it exists and how to help account for it. Without such an investigation, one cannot properly address Nonresponse Bias, whether by weighting the responses or through other means.

11. Failing to investigate and adjust for Nonresponse Bias creates additional problems for the accuracy of CAHPS data. First, CMS may be failing to adjust for all the Nonresponse Biases that may occur. And second, CMS may unnecessarily adjust for respondent characteristics that do not require adjustments if they are not causing Nonresponse Biases. And worse yet, if CMS is needlessly adjusting/weighting for unnecessary characteristics, then they are likely increasing the *deffs* in their findings thereby reducing the effective sample sizes of their CAHPS surveys by increasing their variances.

12. As I noted in my original declaration, CMS does not report that they have carried out any Nonresponse Bias investigations (cf. Montaquila and Olsen, 2012) for CAHPS surveying as has been required by the OMB for federal surveys since 2006. It is only through the use of Nonresponse Bias investigations that survey researchers can determine if there is likely to be non-ignorable Nonresponse Biases in their final data. And it is only through these investigations that researchers will know with confidence what are the respondent characteristics (e.g., Age? Sex? Education? Race? Income? etc.) that should be adjusted for, in order to try to reduce or eliminate the Nonresponse Biases.

13. Thus, to correctly deal with Nonresponse Bias, CMS would need to stop adjusting for Nonresponse, carry out Nonresponse Bias investigations, and make adjustments for respondent characteristics that are found to be associated with the Nonresponse Biases.

14. Since CMS does not report carrying out any Nonresponse Bias investigations as required by the OMB it has no reliable and valid method to adjust CAHPS data for Nonresponse Biases that may be present in the data used to create its Star Ratings.

III. Why Confidence Intervals (CIs) are Central to Understanding Sampling Error and Survey Accuracy

15. Sampling Error, in the form of imprecision/variance caused in all sample surveys due to sampling, occurs by mere chance because only a sample of the target population is studied. Thus, merely by chance, the initially selected sample and the final sample that provided data may be unrepresentative of the target population and the extent of this uncertainty is quantified in the form of Confidence Intervals when the survey's sample is a probability-based one. [3]

16. CMS's brief and Ms. Goldstein's declaration does not appear to understand Confidence Intervals, their usage, and their value to decision-makers in survey research. In survey research, including the CAHPS surveys, it is widely recognized that there are no post-survey adjustments, including the CMS's case-mix adjustment, that eliminate the need to consider confidence intervals or to "make them go away" whilst one is making a decision about a survey's findings.

[3] "A probability sample can provide a point estimate of an unknown population parameter [e.g., proportion of the target population that is satisfied with their health insurance provider] and the standard error of that point estimate. This information can be used to construct a confidence interval to give an estimated range of values around the point estimate [found by a CAHPS survey] that is likely to include the unknown population parameter." Vaish, A. (2008). Confidence Interval. In P.J. Lavrakas editor, *Encyclopedia of Survey Research Methods*. Thousand Oaks CA: Sage Publishing, pp. 126-130.

17. The size of the margin of sampling error, and resulting Confidence Intervals, in all CAHPS surveys are such that they make invalid any comparisons of means or percentages smaller than several integers in the size of the difference, and thus it is statistically incorrect to draw conclusions about survey-based differences that are far less than one integer in size, let alone differences that are as small as CMS does for some Elevance Health plans. In particular, no CAHPS survey data can validly be used to conclude that 3.749565 is reliably different from 3.750000.

IV. Question Reliability and Measurement Error in CAHPS Data

18. It is widely understood in survey research that the data gathered (including data for the questionnaire items used in creating the Stars Ratings) are imperfect in regards to their accuracy (i.e., less than perfect validity and reliability). They may be "good" quality survey questions, but they are *fallible and imperfect measures* of the concepts that CAHPS is trying to measure.

19. In survey research, the Total Survey Error framework (Groves et el., 2014; Lavrakas, 2013) that I described in my original declaration (see Section II, paragraphs 11 & 12). Figure 2 in that declaration shows that Measurement Error occurs in all surveys. This form of error can, and most often does, occur because of multiple factors, including *questionnaire-related error*[4] and *respondent-related error*.[5] CMS does not address this in its response. And there is no evidence presented indicating that CMS does that when they use the CAHPS data.

20. Regarding the imperfect reliability of the data gathered by the CAHPS and used by CMS to create the Star Ratings there are several articles that address these matters that have been

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[4] Basson, D. (2008). Questionnaire-Related Error. In P.J. Lavrakas editor, *Encyclopedia of Survey Research Methods*. Thousand Oaks CA: Sage Publishing, pp. 660-663.

[5] Dykema, J., Blizt, S. & Stevenson, J. (2008), Respondent-Related Error. In P.J. Lavrakas editor, *Encyclopedia of Survey Research Methods*. Thousand Oaks CA: Sage Publishing, pp.745-748.

published by researchers using CAHPS data. In publications using CAHPS data, researchers have reported on the reliability of CAHPS measures and have *never reported that a measure is perfectly reliable*. Granted many CAHPS measures have strong reliability, but all are imperfect (i.e., all are in error) to some extent (see Table 4, Hargraves et al. (2003)[6]; p. 689, Hays et al. (2014)[7]; pp 6-7, Dyer et al.(2012)[8]; Table 3, Maldonado, et al. (2012)[9]; Table 2 in Roberts et al., (2019)[10]; and Figure 2 in Orr et al., (2023)[11]).

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on April 11, 2025, in Evanston, Illinois.

Paul J. Lavrakas, Ph.D.

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[6] Hargraves, J. L., Hays, R.D., Cleary, P.D. (2003). Psychometric properties of the Consumer Assessment of Health Plans Study (CAHPS) 2.0 Adult Core Survey. Health Services Research, 38(6), 1509-1528.

[7] Hays, R.D., Berman, L.J., Kanter, M.H., Hugh, M., Oglesby, R.R., et al. (2014). Evaluating the Psychometric Properties of the CAHPS Patient-Centered Medical Home Survey. *Clinical Theraputics*, 36(5), 689-696.

[8] Dyer, N. Sorra, J.S., Smith, S.A., Cleary, P. & Hays, R. (2012). Psychometric Properties of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Clinician and Group Adult Visit Survey. *Medical Care,* 50(Suppl): S28–S34. doi:10.1097/MLR.0b013e31826cbc0d.

[9] Maldonado, R.W., Carle, A., Weidmer, B., Hurtado, M., Ngo-Metsger, Q., et al. (2012). The Consumer Assessment of Healthcare Providers and Systems (CAHPS) Cultural Competence (CC) Item Set. *Medical Care*, 50(9 0 2), 1-22.

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
FORT WORTH DIVISION

ELEVANCE HEALTH, INC.; COMMUNITY INSURANCE COMPANY; FREEDOM HEALTH, INC.; GROUP RETIREE HEALTH SOLUTIONS, INC.; WELLPOINT INSURANCE COMPANY; and WELLPOINT TEXAS, INC., Plaintiffs, v. ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; and STEPHANIE CARLTON, in her official capacity as Acting Administrator of the Centers for Medicare & Medicaid Services, Defendants.[1]	Civil Action No. 4:24-cv-01064-P

DECLARATION OF ELIZABETH GOLDSTEIN

I, Elizabeth Goldstein, declare pursuant to 28 U.S.C. § 1746 as follows:

1. I am the Director, Division of Consumer Assessment and Plan Performance, Medicare Drug Benefit and C & D Data Group, Center for Medicare, Centers for Medicare & Medicaid Services ("CMS"), United States Department of Health and Human Services. I have held this position since October 2000. In my role, I oversee and administer the calculation of Star Ratings for Medicare Advantage and Medicare Part D Plans. The statements made in this

[1] Xavier Becerra has been substituted with Robert F. Kennedy, Jr. as Secretary of the United States Department of Health and Human Services, and Chiquita Brooks-LaSure has been substituted with Stephanie Carlton as Acting Administrator of the Centers for Medicare & Medicaid Services, pursuant to Federal Rule of Civil Procedure 25(d).

declaration are based on my personal knowledge, information contained in agency files, and information furnished to me in the course of my official duties.

2. The rounding rules that translate overall Star Rating score ranges to the final rounded overall Star Rating are displayed in CMS's Medicare 2025 Part C & D Star Ratings Technical Notes. See A.R. 31. Contracts' overall scores are also displayed in the Health Plan Management System for contracts to view. When CMS calculates overall scores, those scores are calculated out to at least six decimal places such that the overall score can be rounded once to the half star. In rounding to the half star, the second, hundredth decimal place determines the rounding. In order to round once to the half star, it is necessary to carry enough decimal places throughout each step of the overall score calculation such that the second, hundredth decimal place is not rounded. CMS calculates each step out to the sixth decimal place because nothing that happens at the sixth decimal place ever impacts the second, hundredth decimal place. Practically, this is no different than if the calculations were completed with infinite decimal places but is computationally more efficient. When those overall scores are displayed in CMS's technical guidance or for contracts to view, CMS displays only the six decimal places.

3. When calculating non-CAHPS measure Star Ratings, CMS's regulations require that mean resampling be used to achieve a random separation of applicable contracts into ten equal-sized groups. Those ten groups are random. To create those random groups, CMS uses a seed. The seed is a sequence of numbers that serves as the starting point for mean resampling. Every year, CMS uses the same seed: 8-6-7-5-3-0-9. While the seed is the same, because the set of contracts subject to mean resampling differs from year to year, the ten groups generated by mean resampling are random and non-predictable.

4. To test its calculation of non-CAHPS measures, CMS's Star Ratings contractor, RAND, ran 1,000 simulations using 1,000 randomly generated seeds for mean resampling for non-CAHPS measure cut points and recalculated the overall Star Ratings across all contracts for each of the 1,000 simulations. The analyses demonstrate strong stability in the Star Ratings mean resampling methodology with respect to the choice of random seed. On average across contracts, 92.4% of simulations/seeds resulted in the same 2025 overall Star Ratings as the 2025 overall Star Ratings calculated using the original seed. This result means that changing the seed used in the Star Ratings methodology would not change the 2025 overall Star Ratings for 92.4% of contracts on average across simulation seeds. The most common overall Star Rating assigned to each contract across the 1,000 simulations was the same as the 2025 overall Star Rating for 92% of contracts. Only 45 contracts (8%) had a different most common overall Star Rating across the 1,000 simulations compared to their 2025 overall Star Rating. Twenty-four contracts had a most common overall Star Rating across the 1,000 simulations that was a half star lower than their 2025 overall Star Rating. Twenty-one contracts had a most common overall Star Rating across the 1,000 simulations that was a half star higher than their 2025 overall Star Rating.

5. Elevance's contract H3655 received 3.5 stars for its 2025 overall Star Rating. In CMS's simulations for Elevance's H3655 contract, the contract with an overall score of 3.749565, 85% (or 850 simulations) resulted in an overall Star Rating of 3.5 stars and 15% (or 150 simulations) resulted in an overall Star Rating of 4.0 stars. Therefore, H3655's most common overall Star Rating across the simulations is 3.5 stars.

6. All surveys have sampling error. The most accurate, unbiased measure of a contract's performance is the mean. CMS uses weighted, case-mix adjusted means for most CAHPS measures which further improve the accuracy and comparability of scores compared to

simple means. Confidence intervals are a descriptive tool, but the upper confidence limit is a positively biased estimate of a contract's performance (and the lower confidence limit is a negatively biased estimate). On average, the mean will neither overestimate nor underestimate a contract's true performance. Thus, CMS's approach for measuring performance through the CAHPS survey results in accurate, unbiased assignment of contract scores to base groups. An approach using the upper confidence limit or the lower confidence limit would be biased and less accurate.

In accordance with 28 U.S.C. § 1746, I hereby declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed this 21st day of March, 2025, in Baltimore, Maryland.

Elizabeth H. Goldstein -S

Digitally signed by Elizabeth H. Goldstein -S
Date: 2025.03.21 07:32:15 -04'00'

Elizabeth Goldstein