

## 2023 Categorical Adjustment Index Measure Supplement

*This supplement provides details related to the adjusted measure set for the 2023 Categorical Adjustment Index (CAI).*

CMS has updated the analyses examining the variability of the within-contract differences in performance between low-income subsidy/dual eligible (LIS/DE) and non-LIS/DE beneficiaries for the candidate set of measures for informational purposes.

- Figure 1 depicts the within-contract LIS/DE and non-LIS/DE differences in performance for the contracts that received a measure Star Rating in the 2022 Star Ratings. The figure provides (1) the variability of the within-contract differences for MA contracts and (2) the variability for PDPs.
- Figure 2 is provided to aid in the interpretation of the visuals shown in Figure 1.
- Tables 1 through 4 provide descriptive statistics of the within-contract differences that underlie the visuals in Figure 1.
  - Tables 1 and 3 provide the overall summary statistics for central tendency and dispersion for MA and PDP contracts, respectively
  - Tables 2 and 4 provide specific percentiles of the distribution of the within-contract differences for MA and PDP contracts, respectively.
- Tables 5 through 16 provide the rating-specific categories for classification of contracts based on the percentage of LIS/DE and disabled beneficiaries along with the final adjustment categories.
  - Table 5 provides the range of the percentages that correspond to the LIS/DE categories determined by dividing the distribution of MA contracts' LIS/DE percentages into ten equal-sized groups.
  - Table 6 provides the range of the percentages that correspond to the disability quintiles for the categorization of MA contracts for the CAI for the overall Star Rating.
  - Table 7 provides the description of each of the final adjustment categories for the overall Star Rating for MA contracts and the associated values of the CAI.
  - Tables 8 through 10 provide CAI values for the Part C summary rating.
  - Tables 11 through 13 provide CAI values for the Part D summary rating for MA-PDs.
  - Tables 14 through 16 provide CAI values for the Part D summary rating for PDPs.

For the 2023 Star Ratings, the adjusted measures are: Annual Flu Vaccine, Breast Cancer Screening, Colorectal Cancer Screening, Diabetes Care – Blood Sugar Controlled, Diabetes Care – Eye Exam, Diabetes Care – Kidney Disease Monitoring, Improving Bladder Control, Medication Reconciliation Post-Discharge, MTM Program Completion Rate for CMR, Monitoring Physical Activity, Osteoporosis Management in Women who had a Fracture, Reducing the Risk of Falling, Medication Adherence for Diabetes Medications, Medication Adherence for Hypertension, Medication Adherence for Cholesterol, Statin Therapy for Patients with Cardiovascular Disease, and Statin Use in Persons with Diabetes.

Figure 1 shows distributions of within-contract LIS/DE and non-LIS/DE differences in performance for the contracts that received a measure Star Rating. The shaded area corresponds to worse performance for LIS/DE beneficiaries, and the non-shaded area corresponds to better performance for LIS/DE beneficiaries, relative to non-LIS/DE beneficiaries. Distributions of the within-contract differences are provided first for MA contracts, followed by PDPs.

**Figure 1: Distribution of Within-Contract LIS/DE Differences in Performance across MA and PDP Contracts**

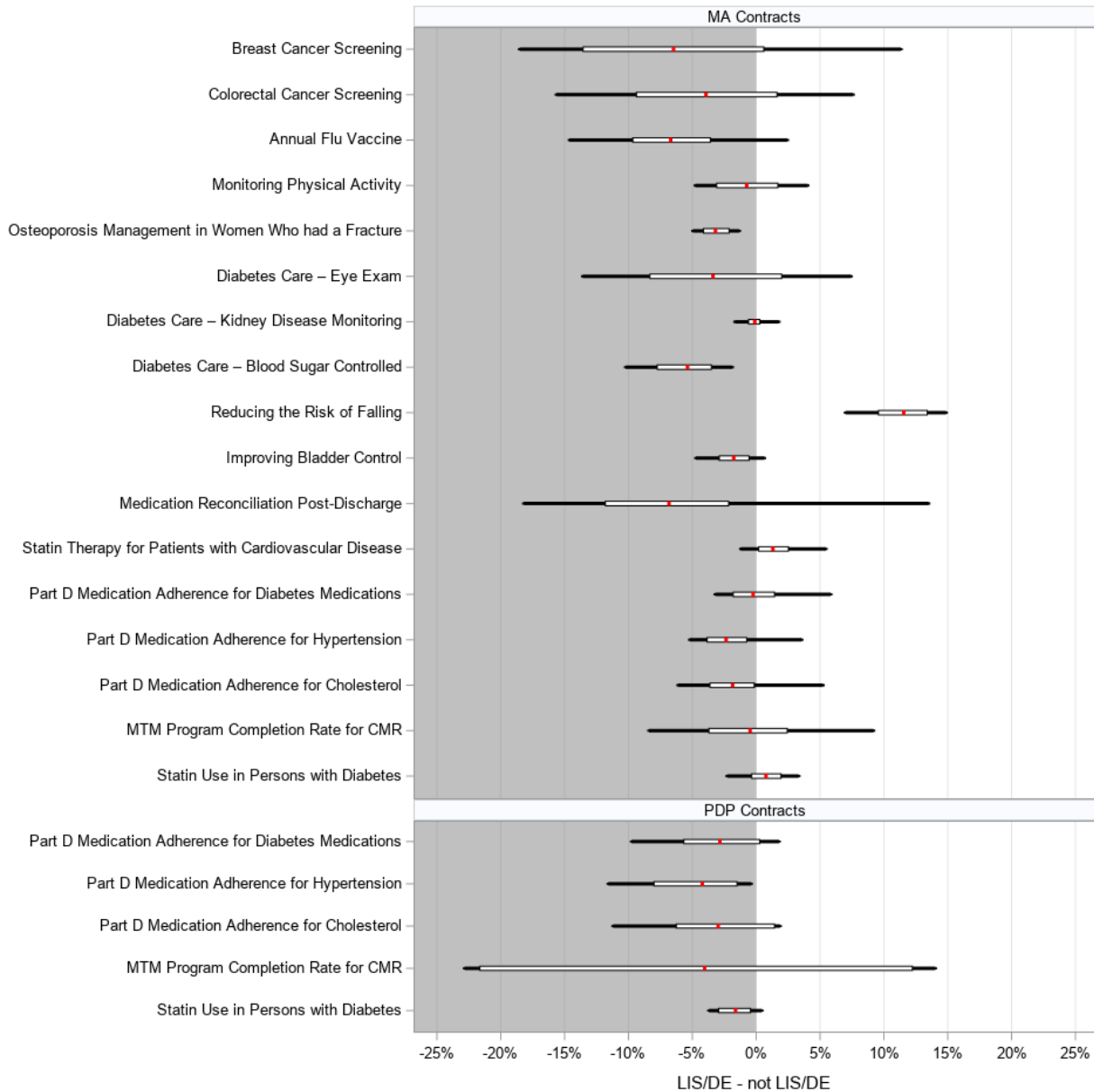
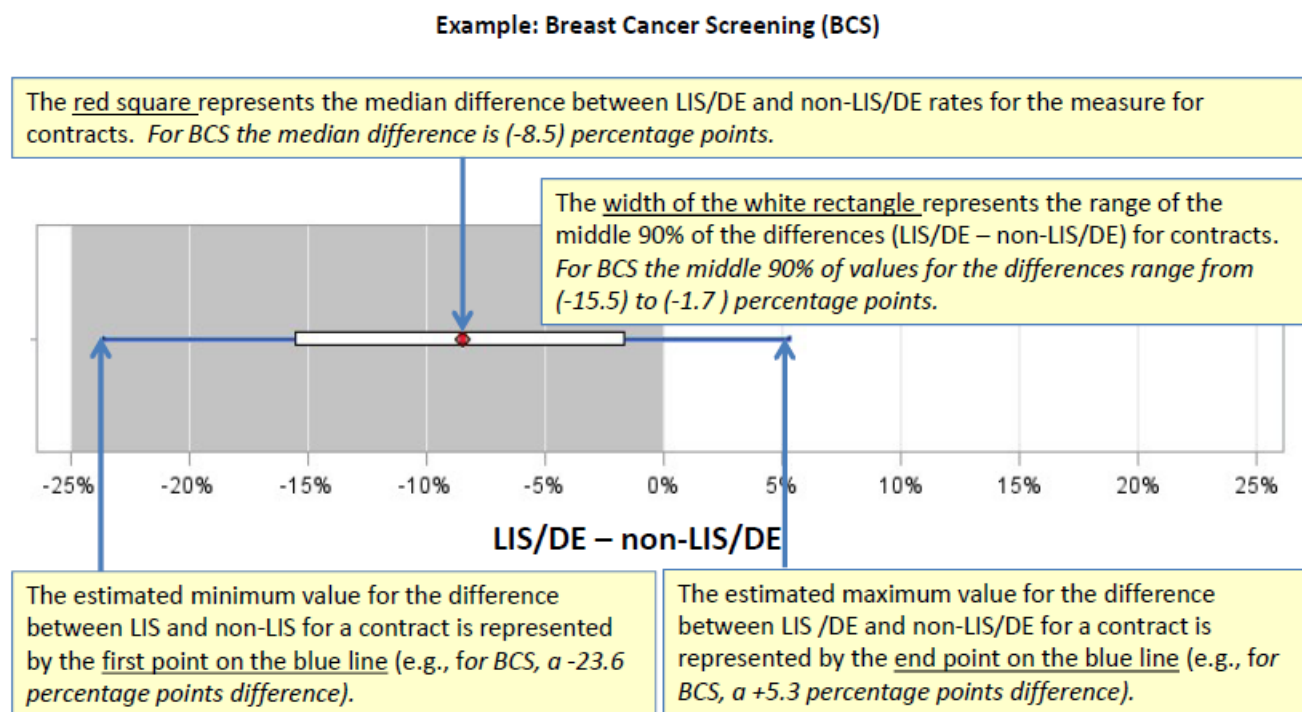


Figure 2 is provided to aid in the interpretation of the visuals shown in Figure 1.

**Figure 2: Interpretation of the Visual of the Distribution of Within-Contract LIS/DE Differences in Performance across Contracts \***



**The horizontal axis represents the difference in the LIS/DE and non-LIS/DE performance rates per contract.**  
The estimated (variance adjusted) difference is used to remove the effect of noise (sampling error). Unadjusted differences (without the correction for noise) upwardly bias the range and would result in a larger than true range for the LIS/DE – non-LIS/DE differences.

\* The example is not based on 2023 results and thus, the values in the visual do not match the values in Figure 1 or Tables 1 and 2.

Table 1 shows overall summary descriptive statistics of the within-contract differences for MA contracts, and Table 2 provides specific percentiles of the distribution of the within-contract differences for MA contracts.

**Table 1: Summary Statistics of the Within-Contract LIS/DE Differences for MA Contracts**

Measure Name	Mean	Median	Minimum	Maximum	Standard Deviation
Breast Cancer Screening	-0.06241	-0.06471	-0.18520	0.11337	0.04167
Colorectal Cancer Screening	-0.03816	-0.03933	-0.15647	0.07593	0.03216
Annual Flu Vaccine	-0.06635	-0.06698	-0.14619	0.02438	0.01970
Monitoring Physical Activity	-0.00740	-0.00744	-0.04766	0.04036	0.01387
Osteoporosis Management in Women Who had a Fracture	-0.03149	-0.03184	-0.04951	-0.01320	0.00601
Diabetes Care – Eye Exam	-0.03411	-0.03384	-0.13578	0.07425	0.03071
Diabetes Care – Kidney Disease Monitoring	-0.00125	-0.00112	-0.01666	0.01778	0.00300
Diabetes Care – Blood Sugar Controlled	-0.05519	-0.05376	-0.10220	-0.01872	0.01364
Reducing the Risk of Falling	0.11511	0.11553	0.06998	0.14875	0.01138
Improving Bladder Control	-0.01745	-0.01758	-0.04720	0.00640	0.00731
Medication Reconciliation Post-Discharge	-0.06707	-0.06824	-0.18202	0.13501	0.03082
Statin Therapy for Patients with Cardiovascular Disease	0.01344	0.01308	-0.01203	0.05460	0.00700
Part D Medication Adherence for Diabetes Medications	-0.00232	-0.00239	-0.03199	0.05837	0.00960
Part D Medication Adherence for Hypertension	-0.02313	-0.02356	-0.05204	0.03567	0.01024
Part D Medication Adherence for Cholesterol	-0.01809	-0.01850	-0.06118	0.05227	0.01149
MTM Program Completion Rate for CMR	-0.00552	-0.00472	-0.08395	0.09187	0.01830
Statin Use in Persons with Diabetes	0.00760	0.00768	-0.02273	0.03333	0.00663

**Table 2: Within-Contract LIS/DE Difference Distribution Values for MA Contracts<sup>1</sup>**

Measure Name	P2.5	P5	P10	P25	P50	P75	P90	P95	P97.5
Breast Cancer Screening	-0.14791	-0.13551	-0.11748	-0.08323	-0.06471	-0.04046	-0.01203	0.00592	0.02430
Colorectal Cancer Screening	-0.10603	-0.09381	-0.07885	-0.05219	-0.03933	-0.02223	0.00082	0.01631	0.03339
Annual Flu Vaccine	-0.10751	-0.09661	-0.09007	-0.07827	-0.06698	-0.05329	-0.04241	-0.03591	-0.02614
Monitoring Physical Activity	-0.03637	-0.03097	-0.02421	-0.01530	-0.00744	-0.00018	0.01013	0.01700	0.02257
Osteoporosis Management in Women Who had a Fracture	-0.04352	-0.04126	-0.03878	-0.03539	-0.03184	-0.02791	-0.02333	-0.02120	-0.01979
Diabetes Care – Eye Exam	-0.09853	-0.08320	-0.07075	-0.05352	-0.03384	-0.01921	0.00375	0.01997	0.03585
Diabetes Care – Kidney Disease Monitoring	-0.00851	-0.00597	-0.00433	-0.00219	-0.00112	0.00011	0.00154	0.00288	0.00416
Diabetes Care – Blood Sugar Controlled	-0.08444	-0.07753	-0.07337	-0.06465	-0.05376	-0.04550	-0.03902	-0.03504	-0.03159
Reducing the Risk of Falling	0.09342	0.09580	0.10168	0.10853	0.11553	0.12191	0.12886	0.13390	0.13709
Improving Bladder Control	-0.03242	-0.02891	-0.02682	-0.02191	-0.01758	-0.01281	-0.00910	-0.00559	-0.00198
Medication Reconciliation Post-Discharge	-0.12858	-0.11806	-0.10168	-0.08485	-0.06824	-0.04571	-0.03017	-0.02154	-0.01534
Statin Therapy for Patients with Cardiovascular Disease	-0.00025	0.00199	0.00592	0.01022	0.01308	0.01595	0.02101	0.02528	0.02910
Part D Medication Adherence for Diabetes Medications	-0.02186	-0.01804	-0.01363	-0.00617	-0.00239	0.00065	0.00786	0.01431	0.01852
Part D Medication Adherence for Hypertension	-0.04196	-0.03837	-0.03480	-0.02890	-0.02356	-0.01828	-0.01211	-0.00746	0.00079
Part D Medication Adherence for Cholesterol	-0.03851	-0.03625	-0.03119	-0.02394	-0.01850	-0.01277	-0.00637	-0.00149	0.00720
MTM Program Completion Rate for CMR	-0.05105	-0.03706	-0.02547	-0.01287	-0.00472	0.00216	0.01468	0.02434	0.02993
Statin Use in Persons with Diabetes	-0.00638	-0.00353	-0.00004	0.00480	0.00768	0.01007	0.01508	0.01949	0.02373

<sup>1</sup> The values provided in the table correspond to the percentiles in the distribution of the within-contract LIS/DE differences for MA contracts (these differences are also depicted in Figure 1).

Table 3 provides the overall summary statistics for central tendency and dispersion for PDP contracts, and Table 4 shows specific percentiles of the distribution of the within-contract differences for PDP contracts.

**Table 3: Summary Statistics of the Within-Contract LIS/DE Differences for PDPs**

Measure Name	Mean	Median	Minimum	Maximum	Standard Deviation
Part D Medication Adherence for Diabetes Medications	-0.02929	-0.02836	-0.09752	0.01790	0.01885
Part D Medication Adherence for Hypertension	-0.04479	-0.04222	-0.11580	-0.00388	0.02012
Part D Medication Adherence for Cholesterol	-0.03145	-0.02975	-0.11206	0.01873	0.02528
MTM Program Completion Rate for CMR	-0.04198	-0.04036	-0.22836	0.14029	0.08237
Statin Use in Persons with Diabetes	-0.01606	-0.01613	-0.03705	0.00450	0.00710

**Table 4: Within-Contract LIS/DE Difference Distribution Values for PDPs<sup>2</sup>**

Measure Name	P2.5	P5	P10	P25	P50	P75	P90	P95	P97.5
Part D Medication Adherence for Diabetes Medications	-0.07679	-0.05663	-0.04692	-0.03714	-0.02836	-0.02231	-0.00574	0.00281	0.00473
Part D Medication Adherence for Hypertension	-0.08724	-0.08005	-0.06865	-0.05628	-0.04222	-0.03315	-0.02276	-0.01499	-0.01282
Part D Medication Adherence for Cholesterol	-0.08839	-0.06262	-0.05865	-0.04993	-0.02975	-0.01599	0.00145	0.01431	0.01636
MTM Program Completion Rate for CMR	-0.22039	-0.21632	-0.14525	-0.09010	-0.04036	0.00702	0.05945	0.12237	0.12472
Statin Use in Persons with Diabetes	-0.02955	-0.02942	-0.02481	-0.01946	-0.01613	-0.01326	-0.00607	-0.00443	-0.00184

<sup>2</sup> The values provided in the table correspond to the percentiles in the distribution of the within-contract LIS/DE differences for PDP contracts (these differences are also depicted in Figure 1).

Table 5 provides the range of the percentages that correspond to the initial LIS/DE groups for the determination of CAI values for the overall rating. With the exception of the highest category, the upper limit for each category is not included in that category, but rather the next (higher) category. For example, in Table 5, if the percentage of beneficiaries who are LIS/DE in a contract is 50.303478%, the contract's LIS/DE initial category is L8. Table 6 shows disability quintiles for the determination of the CAI values for the overall rating.

**Table 5: Categorization of MA Contracts into Initial LIS/DE Groups for the Overall Rating**

LIS/DE Initial Group	Percentage of Contract's Beneficiaries who are LIS/DE
1	0.000000 to less than 6.636703
2	6.636703 to less than 8.833416
3	8.833416 to less than 12.406991
4	12.406991 to less than 17.221680
5	17.221680 to less than 22.740404
6	22.740404 to less than 31.938126
7	31.938126 to less than 50.303478
8	50.303478 to less than 77.133401
9	77.133401 to less than 100.000000
10	100.000000

**Table 6: Categorization of MA Contracts into Disability Quintiles for the Overall Rating**

Disability Quintile	Percentage of Contract's Beneficiaries who are Disabled
1	0.000000 to less than 15.332047
2	15.332047 to less than 21.434998
3	21.434998 to less than 29.201102
4	29.201102 to less than 43.125000
5	43.125000 to 100.000000

Table 7 provides the description of each of the final adjustment categories for the overall Star Rating for MA contracts and the associated values of the CAI.

**Table 7: Final Adjustment Categories and CAI Values for the Overall Rating**

Final Adjustment Category	LIS/DE Initial Group	Disability Quintile	CAI Value
1	L1	D1	-0.044794
2	L2-L8	D1	-0.016360
	L1-L7	D2	
	L1-L2	D3	
3	L9-L10	D1	0.008196
	L8-L10	D2	
	L3-L8	D3	
	L1-L5	D4-D5	
4	L6-L8	D4	0.045676
	L6	D5	
5	L9-L10	D3-D4	0.077717
	L7-L9	D5	
6	L10	D5	0.142258

Tables 8 and 9 provide the range of the percentages that correspond to the initial LIS/DE groups and disability quintiles for the initial categories for the determination of the CAI values for the Part C summary rating.

**Table 8: Categorization of MA Contracts into Initial LIS/DE Groups for the Part C Summary Rating**

LIS/DE Initial Group	Percentage of Contract's Beneficiaries who are LIS/DE
1	0.000000 to less than 5.844156
2	5.844156 to less than 8.692308
3	8.692308 to less than 11.865055
4	11.865055 to less than 16.507177
5	16.507177 to less than 22.201963
6	22.201963 to less than 31.440558
7	31.440558 to less than 50.133240
8	50.133240 to less than 76.898900
9	76.898900 to less than 100.000000
10	100.000000



**Table 9: Categorization of MA Contracts into Disability Quintiles for the Part C Summary Rating**

Disability Quintile	Percentage of Contract's Beneficiaries who are Disabled
1	0.000000 to less than 14.996720
2	14.996720 to less than 21.145603
3	21.145603 to less than 29.176165
4	29.176165 to less than 42.283120
5	42.283120 to 100.000000

Table 10 provides the description of each of the final adjustment categories for the Part C summary rating and the associated values of the CAI.

**Table 10: Final Adjustment Categories and CAI Values for the Part C Summary Rating**

Final Adjustment Category	LIS/DE Initial Group	Disability Quintile	CAI Value
1	L1	D1	-0.021744
2	L2-L7	D1-D2	-0.002883
	L1	D2	
3	L8-L10	D1-D2	0.007550
	L1-L9	D3	
4	L1-L8	D4	0.020107
	L1-L6	D5	
5	L9	D4	0.076339
	L7-L9	D5	
6	L10	D3-D5	0.126289

Tables 11 and 12 provide the range of the percentages that correspond to the initial LIS/DE groups and the disability quintiles for the initial categories for the determination of the CAI values for the Part D summary rating for MA-PDs.

**Table 11: Categorization of MA-PD Contracts into Initial LIS/DE Groups for the Part D Summary Rating**

LIS/DE Initial Group	Percentage of Contract's Beneficiaries who are LIS/DE
1	0.000000 to less than 6.776647
2	6.776647 to less than 9.259475
3	9.259475 to less than 13.325541
4	13.325541 to less than 18.778871
5	18.778871 to less than 25.422963
6	25.422963 to less than 35.273728
7	35.273728 to less than 58.639605
8	58.639605 to less than 97.117517
9	97.117517 to less than 100.000000
10	100.000000

**Table 12: Categorization of MA-PD Contracts into Disability Quintiles for the Part D Summary Rating**

Disability Quintile	Percentage of Contract's Beneficiaries who are Disabled
1	0.000000 to less than 16.180982
2	16.180982 to less than 23.081612
3	23.081612 to less than 31.298400
4	31.298400 to less than 45.808383
5	45.808383 to 100.000000

Table 13 provides the description of each of the final adjustment categories for the Part D summary rating for MA-PDs and the associated values of the CAI.

**Table 13: Final Adjustment Categories and CAI Values for the Part D Summary Rating for MA-PDs**

Final Adjustment Category	LIS/DE Initial Group	Disability Quintile	CAI Value
1	L1	D1	-0.036570
2	L2-L7	D1-D2	-0.023380
	L1	D2	
3	L8-L10	D1-D2	0.025305
	L1-L8	D3	
	L1-L6	D4	
	L1-L5	D5	
4	L9-L10	D3	0.074240
	L7-L10	D4	
	L6-L9	D5	
5	L10	D5	0.137103

Tables 14 and 15 provide the range of the percentages that correspond to the LIS/DE and disability quartiles for the initial categories for the determination of the CAI values for the Part D summary rating for PDPs. Quartiles are used for both dimensions (LIS/DE and disability) due to the limited number of PDPs as compared to MA contracts.

**Table 14: Categorization of PDP Contracts into LIS/DE Quartiles for the Part D Summary Rating**

LIS/DE Quartile	Percentage of Contract's Beneficiaries who are LIS/DE
1	0.000000 to less than 1.435897
2	1.435897 to less than 3.064169
3	3.064169 to less than 8.762958
4	8.762958 to 100.000000

**Table 15: Categorization of PDP Contracts into Disability Quartiles for the Part D Summary Rating**

Disability Quartile	Percentage of Contract's Beneficiaries who are Disabled
1	0.000000 to less than 6.753247
2	6.753247 to less than 10.728911
3	10.728911 to less than 15.021379
4	15.021379 to 100.000000

Table 16 provides the description of each of the final adjustment categories for the Part D summary rating for PDPs and the associated values of the CAI.

**Table 16: Final Adjustment Categories and CAI Values for the Part D Summary Rating for PDPs**

Final Adjustment Category	LIS/DE Initial Group	Disability Quintile	CAI Value
1	L1	D1-D3	-0.301451
2	L2-L4 L1-L3	D1-D3 D4	-0.135053
3	L4	D4	0.069749

Please note that the CAI values for the Part D summary rating for PDPs are different from the CAI values for the Part D summary rating for MA contracts. Under §§ 422.166(f)(2)(i)(A) and 423.186(f)(2)(i)(A), categories are chosen to enforce monotonicity (i.e., values increase as percent LIS/DE and disabled increases) in the final adjustment categories. There are three final adjustment categories for PDPs for the Part D summary rating.