The Menges Group

Strategic Health Policy & Care Coordination Consulting

Medicaid Prescription Drug Management: Quality Scores Compared Across Different Approaches

Produced for: Elevance Health Public Policy Institute

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I. Introduction and Executive Summary

A. Purpose of Report

The Elevance Health Public Policy Institute enlisted our organization to compare Medicaid managed care organization (MCO) pharmacy-related quality outcomes between two policy settings:

a) Health plans operating in states where the pharmacy benefit is managed by the MCOs, commonly referred to as a "carve-in" model; and
b) Health plans operating in states where the pharmacy benefit is "carved out," meaning that MCOs are not responsible for prescription drug costs nor management of the drug benefit.

This project assesses the hypothesis that the more integrated the pharmacy benefit is (fostered by state policies) in a Medicaid managed care program, the better pharmacy-related quality outcomes will be.

B. Summary of Approach

The Menges Group performed an extensive set of tabulations using the NCQA Quality Compass data set, containing the Healthcare Effectiveness Data and Information Set (HEDIS) data that Medicaid MCOs shared with NCQA across the 2014 – 2020 reporting years' timeframe. We selected and performed our analyses across 29 pharmacy-related HEDIS measures.

Weighted average scores, using each MCO's Medicaid enrollment in each year as the "weights," were calculated for each year across the MCOs operating in carve-in states, and separately across MCOs operating in carve-out states. Comparisons were tabulated on a nationwide basis, and also on a regional cluster basis by comparing average carve-in scores in all neighboring states to the three states using the carve-out model throughout the 2014-2020 timeframe: Missouri, Tennessee, and Wisconsin.

The analyses focused on reporting years 2014 – 2020 (MCO performance years 2013 – 2019) in order to avoid the potential distortions that the COVID-19 pandemic may have caused with regard to HEDIS quality scores. However, tabulations were also conducted across reporting years 2014-2022 and the findings including the first two years of the pandemic were similar to those across the 2014-2020 timeframe.

Comparisons were tabulated across the selected 29 HEDIS pharmacy-related measures, and were rolled up into a subset of 16 measures that did not duplicate the same measure for multiple age cohorts.

Comparisons were also tabulated separately across behavioral health (BH) pharmacy-related measures, relative to physical health (PH) pharmacy-related measures. In addition, distinctions were drawn within the carve-in model between states regarding the degree of latitude over the Preferred Drug List (PDL) that MCOs were afforded by the Medicaid agency.

C. Summary of Key Findings

The extensive array of comparisons conducted consistently found average HEDIS scores to be better[1] under the carve-in model than in the carve-out setting. Key findings include:

- 34 large-scale comparisons were made between the carve-in and carve-out settings (with each of these considering a broad set of HEDIS measures and years – and with each individual measure comparison based upon an enrollment-weighted score across a very large set of Medicaid enrollees). In 33 of these instances (97%), the MCOs operating under the pharmacy carve-in model outperformed MCOs operating in the carve-out setting.
- Tabulating all the measures and years being compared, the most common outcome was that average score was superior in the carve-in setting 60-69% of the time. This result occurred in 24 of the 34 large-scale comparisons. In six additional large-scale comparisons, the carve-in setting had a superior score more than 70% of the time.
- HEDIS scores were more favorable in the carve-in setting than the carve-out setting for both BH and PH measures, with the differential particularly wide/favorable across the BH measures.
- Regarding the PDL latitude models within the carve-in setting, HEDIS quality scores were most favorable across MCOs operating in states where the health plans had full latitude to manage medication mix.

An overview of the nationwide comparisons is presented in Exhibit 1, and an overview of the regional comparisons is presented in Exhibit 2.

Exhibit 1. National Comparison Summary Across 29 Pharmacy-Related HEDIS Measures, and Across 2014-2020 Timeframe

	Number of HEDIS Measures and Years		Percentage of HEDIS Measures and Years	
	Across All 29 HEDIS Measures	Across 16 HEDIS Measures (removing age cohort specific measures)	Across All 29 HEDIS Measures	Across 16 HEDIS Measures (removing age cohort specific measures)
Average Score Higher in Carve-In Setting	94	44	65.3%	63.8%
Average Score Higher in Carve-Out Setting	50	25	34.7%	36.2%
Total	**144**	**69**	**100%**	**100%**

[1] Note that in making the comparisons across HEDIS scores we use the term "better" rather "higher" to depict performance throughout the report. This terminology was used because for a few of the measures a lower numerical score represents more favorable performance.

Note: If there were not at least 10 MCOs reporting a score for a given measure in a given year, outcomes for that measure and year were excluded in the above tabulations.

Exhibit 2. Regional Cluster Comparison Summary Across 2014-2020 Timeframe

Carve Out State	Adjacent Carve-In States Creating Comparison Group	Percentage of Comparisons Where Carve-In MCOs' Weighted Average Score Was Better Than Carve Out MCOs' Score, Across All 29 HEDIS Pharmacy-Related Measures	Percentage of Comparisons Where Carve-In MCOs' Weighted Average Score Was Better, Across 16 HEDIS Measures (removing age-cohort specific and other subset measures)
Missouri	**AR, IL, IA, KS, KY, NE**	81.5%	86.9%
Tennessee	**AR, GA, KY, MS, VA**	60.4%	55.9%
Wisconsin	**IL, IA, MI, MN**	61.4%	67.7%
Total		**67.5%**	**69.6%**

Note: No minimum number of reporting MCOs was used for the regional cluster analyses.

Section II describes the analytical approaches taken in further detail. The ensuing sections of the report present detailed findings for each of the component assessments mentioned above.

II. Data Sources and Analytical Approach

The selected 29 HEDIS measures that are related to medication access and usage are listed in Exhibit 3. This exhibit also conveys whether the measure was deemed to involve BH or PH related medications and/or conditions, and whether the measure was included in the 16 measure "roll-up" group (which excludes measures that are focused on one age cohort).

We performed calculations only for measures that an MCO reported on. Across all selected measures, we did not identify whether the same plans reported a score for each measure in every year. This assessment only considered the number of plans reporting on a measure across each year, removing those measures with low reporting, which we defined as under 10 plans per state.

Exhibit 3. List of HEDIS Measures Included in the Comparative Analyses

Behavioral Health Measures	Included or Excluded in "Roll- up" Analyses
Adherence to Antipsychotic Medications for Individuals With Schizophrenia	Included
Antidepressant Medication Management - Effective Acute Phase Treatment	Included
Antidepressant Medication Management - Effective Continuation Phase Treatment	Included
Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications	Included
Follow-Up Care for Children Prescribed ADHD Medication - Initiation Phase	Included
Medical Assistance with Smoking and Tobacco Use Cessation - Discussing Cessation Medications	Included
Pharmacotherapy for Opioid Use Disorder (16-64)	Excluded
Pharmacotherapy for Opioid Use Disorder (Total)	Included
Use of Opioids at High Dosage	Included
Use of Opioids From Multiple Providers - Multiple Pharmacies	Excluded
Use of Opioids From Multiple Providers - Multiple Prescribers	Excluded
Use of Opioids From Multiple Providers - Multiple Prescribers and Multiple Pharmacies	Included
Physical Health Measures	
Annual Monitoring for Patients on Persistent Medications - ACE or ARB	Excluded
Annual Monitoring for Patients on Persistent Medications - Diuretics	Excluded
Annual Monitoring for Patients on Persistent Medications - Total	Included
Asthma Medication Ratio (5-11)	Excluded
Asthma Medication Ratio (12-18)	Excluded
Asthma Medication Ratio (19-50)	Excluded
Asthma Medication Ratio (51-64)	Excluded
Asthma Medication Ratio (Total)	Included
Medication Management for People With Asthma: Medication Compliance 75% (5-11)	Excluded
Medication Management for People With Asthma: Medication Compliance 75% (19-50)	Excluded
Medication Management for People With Asthma: Medication Compliance 75% (12-18)	Excluded
Medication Management for People With Asthma: Medication Compliance 75% (51-64)	Excluded
Medication Management for People With Asthma: Medication Compliance 75% (Total)	Included
Pharmacotherapy Management of COPD Exacerbation - Bronchodilator	Included
Pharmacotherapy Management of COPD Exacerbation - Systemic Corticosteroid	Included
Statin Therapy for Patients With Cardiovascular Disease Statin Adherence 80% - Total	Included
Statin Therapy for Patients With Diabetes - Statin Adherence 80%	Included

Note: With the exception of the four 'Use of Opioids" measures, a higher score is better than a lower score.

A. Methodology for Calculating Enrollment-Weighted HEDIS Scores

Comparisons were segmented by year and by measure, by comparing the weighted average HEDIS score between the carve-in and carve-out MCOs that reported data on that measure in that year. The methodology for calculating the enrollment weighted average scores is depicted in Exhibit 4.

Exhibit 4. Enrollment Weighted Average Scores – Hypothetical Example of Derivation

Measure:	Annual Monitoring for Patients on Persistent Medications - ACE or ARB						
Year:	2016						
Carve-In State Health Plan	Reported Score	Medicaid Enrollment During Year	Score Times Enrollment	Carve-Out State Health Plan	Reported Score	Medicaid Enrollment During Year	Score Times Enrollment
Health Plan A	61.28	26,567	1,628,026	Health Plan M	58.51	321,257	18,796,747
Health Plan B	59.77	125,678	7,511,774	Health Plan N	70.66	54,159	3,826,875
Health Plan C	71.56	78,560	5,621,754	Health Plan O	59.38	21,478	1,275,364
Health Plan D	65.89	94,555	6,230,229	Health Plan P	64.57	89,492	5,778,498
Health Plan E	56.08	144,324	8,093,690	Health Plan Q	55.22	107,248	5,922,235
Total or Weighted Average	**61.93**	**469,684**	**29,085,472**	**Total or Weighted Average**	**59.97**	**593,634**	**35,599,719**

The weighted average score is derived by dividing the total in the "Score Times Enrollment" column by the total in the "Medicaid Enrollment During Year" column. In the hypothetical example in Exhibit 4, there were five MCOs contributing to the weighted average score in both the carve-in and carve-out MCO groups. For this analysis, the actual number of MCOs contributing scores for a particular measure and year was far higher. For the national analysis, the number of carve-in MCOs reporting a score on one of our selected pharmacy-related measures in a given year ranged from 81 in 2014 and 198 in 2020. The average number of carve-out MCOs was smaller, ranging from 14 in 2014 to 24 in 2020, due to there being far fewer prescription drug carve-out states than carve-in states.

In a small number of cases (less than 50 out of more than 25,000 scores being assessed), there were outliers in which an MCO's reported score was deemed invalid by virtue of being far above the next-highest MCO, or far below the next-lowest MCO. The example below conveys one MCO's reported score progression (in the NCQA Quality Compass data set) on a certain HEDIS measure across time.

2014	2015	2016	2017	2018	2019
66.02	58.25	5.04	69.41	71.14	69.31

In this instance, the 5.04 figure highlighted in yellow was deemed invalid. Such scores were not included in the weighted average calculation for that measure and year. Otherwise, all reported Medicaid MCO scores were factored into the tabulations.

The example in Exhibit 4 represents one comparison outcome in our analyses. In this hypothetical example, the weighted average scores (highlighted in green) were higher in the carve-in setting. At the national level, there were 184 group comparison outcomes where at least 10 MCOs contributed scores in both the carve-in and carve-out groups across 2014-2022. If there were not at least 10 MCOs reporting on a given measure in a given year in **both** the aggregate carve-in and aggregate carve-out groups, that comparison was not included in the report.

The above approach was used for the comparisons across all 29 measures, as well as for the 16 "roll-up" measures. This approach was also used in comparing carve-in setting and carve-out setting performance across the BH and PH measures.

The only methodological difference in the approach used involved the regional cluster comparisons, such as the score comparison between MCOs operating in Wisconsin (a carve-out state) and Medicaid MCOs operating in Wisconsin's neighboring carve-in states. For these comparisons, we did not exclude measures and years with fewer than 10 MCOs reporting a score, as this would drastically reduce our sample size. Further, there were few cases where the reporting size of an MCO in a carve-out state was above 10. The regional cluster assessments seek to control for the fact that HEDIS scores vary by region across the USA – e.g., they tend to be higher in the northeastern states and lower in southern states.

B. Methodology for Managing Overlapping Measures

For measures that were broken into different cohorts, including age and medication type, we incorporated scores from the measure's total, which captures all available age cohorts. Doing so, we avoid over-weighing the impact of a single measure. This measure "roll-up" impacted 4 different measures that were broken into age cohorts or drug classes.

When assessing how the carve-in and carve-out states performed across the observed time period, the roll-ups only counted the totals, and the other measures that were not broken out into a cohort. This removed the following 13 measures, keeping 16 measures in our roll-up analyses:

1. Annual Monitoring for Patients on Persistent Medications - ACE or ARB
2. Annual Monitoring for Patients on Persistent Medications – Diuretics
3. Asthma Medication Ratio (5-11)
4. Asthma Medication Ratio (12-18)
5. Asthma Medication Ratio (19-50)
6. Asthma Medication Ratio (51-64)
7. Medication Management for People With Asthma: Medication Compliance 75% (5-11)
8. Medication Management for People With Asthma: Medication Compliance 75% (12-18)
9. Medication Management for People With Asthma: Medication Compliance 75% (19-50)
10. Medication Management for People With Asthma: Medication Compliance 75% (51-64)
11. Pharmacotherapy for Opioid Use Disorder (16-64)
12. Use of Opioids From Multiple Providers - Multiple Pharmacies
13. Use of Opioids From Multiple Providers - Multiple Prescribers

III. National Assessment – Comparing Carve-In and Carve-Out Model

We have identified states that provided pharmacy services under a carve-in or carve-out model, throughout the 2014-2022 timeframe. We also defined several groups of states based on their Medicaid pharmacy benefits management approach. These groupings included: 1) pharmacy carve-out states; and various carve-in states based on their PDL policy; 2) full MCO PDL latitude; 3) uniform PDL in selected drug classes; 4) uniform PDL in all drug classes; and 5) a blended model of two or more of above approaches.

For each year and state group (also including all carve-in states as a large group), we calculated enrollment weighted average HEDIS scores across the MCOs operating in these states, for each pharmacy-related HEDIS measure.

Our tabulations excluded situations where fewer than 10 MCOs in the carve-out group (which included only three states) reported scores on a given measure in a given year. Across the carve-in states, there were always more than 10 MCOs reporting on each measure that was in use in any given year.

A. Quality Performance Results

Exhibits 5 and 6 summarize the quality performance comparisons made between MCOs operating in pharmacy carve-in and carve-out states. The raw figures represent the number of comparisons made across the carve-in and carve-out MCO groups, across each of the HEDIS measures and years where a weighted average score was derived for each group of MCOs. The figures in the bottom row of Exhibits 5 and 6 indicate the degree to which the carve-in score was superior to the carve-out score.

Separate comparisons were derived across all years (2014-2022) and separately across non COVID-19 impacted reporting years (2014-2020).

Exhibit 5. Quality Performance Outcomes Across Carve-In and Carved-Out States

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	120	94
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	64	50
Total	184	144
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**65.2%**	**65.3%**

Many of the HEDIS measures repeat for multiple age cohorts or for different therapeutic drug classes. Exhibit 6 shows the comparison results for the 16 "roll-up measures" – excluding the measures that focus only on a single age cohort or single therapeutic class when another measure captures performance more broadly in the same area.

All four of the comparisons summarized in Exhibits 5 and 6 found pharmacy related HEDIS scores to be better in the carve-in setting than in the carve-out setting. In approximately two-thirds of the comparisons, MCOs operating in the carve-in setting had a better score than the carve-out MCOs' weighted average score.

Exhibit 6. Quality Performance Comparisons Across 16 "Roll-Up" Measures

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	58	44
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	31	25
Total	89	69
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**65.2%**	**63.8%**

B. Comparison Results for Behavioral Health and Physical Health HEDIS Measures

The 29 HEDIS measures were comprised of 12 BH-focused and 17 PH-focused items. These HEDIS measures were categorized as "BH" or "PH" as shown earlier in Exhibit 3. Exhibits 7-10 summarize performance comparison tabulations across the BH measures, and across the PH measures.

All findings again showed the carve-in setting to outperform the carve-out setting. The differential was widest in the BH arena, with the carve-in setting delivering better performance on approximately 67% of the comparisons made. Exhibit 7 summarizes the performance for these measures for all years (2014-2022) and for non-COVID-19 impacted reporting years (2014-2020).

Exhibit 8 shows that the carve-in setting also yielded stronger performance on physical health HEDIS measures, with a favorable weighted average HEDIS score occurring for approximately 63% of the comparisons.

Exhibit 7. Quality Performance Outcomes — Behavioral Health Measures

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	47	32
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	23	14
Total	70	46
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**67.1%**	**69.6%**

Exhibit 8. Quality Performance Outcomes — Physical Health Measures

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	73	62
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	43	36
Total	116	98
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**62.9%**	**63.3%**

Exhibits 9 and 10 are similar to the previous two exhibits, but these "roll-up" analyses remove HEDIS measures specific to just a single age cohort, or to a specific therapeutic class – and include only the "Totals" for their respective measures. The findings are similar to those in Exhibits 7 and 8, consistently demonstrating more favorable quality scores in the carve-in setting, for both BH and PH measures.

Exhibit 9. Quality Performance Outcomes — Rolled up Behavioral Health Measures

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	39	28
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	19	14
Total	58	42
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**67.2%**	**66.7%**

Exhibit 10. Quality Performance Outcomes — Rolled up Physical Health Measures

	Count of Group Comparison Outcomes, All Years	Count of Group Comparison Outcomes, 2014-2020 (non-COVID years)
Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	29	24
Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score Carved Out Count	16	11
Total	45	35
% Of Comparisons Where Carve-In MCOs' Score was More Favorable	**64.4%**	**68.6%**

IV. Regional Cluster Analysis

To seek to control for regional variations that could potentially be distorting the nationwide analyses in our previous analyses, we compared HEDIS scores in each carve-out state with the collective (weighted average) scores across all MCOs operating a carve-in model in an adjacent state.

In the following tables, we compared:

- Missouri with Arkansas, Illinois, Iowa, Kansas, Kentucky, and Nebraska
- Tennessee with Arkansas, Georgia, Kentucky, Mississippi, and Virginia
- Wisconsin with Illinois, Iowa, Michigan, and Minnesota

All assessments showed the surrounding carve-in states to be outperforming the carve-out state.

A. Overall Regional Cluster Analysis Findings Across all Rx Measures -- 2014-2022

Exhibit 11 demonstrates that average HEDIS scores were more favorable across the surrounding carve-in states than in the carve-out state for each of the three regional cluster analyses conducted. The differential was widest in Missouri (carve-in scores were better in 86% of the comparisons) and narrowest in Wisconsin (carve-in scores were better in 59% of the comparisons). Across all three regional analyses, the carve-in setting's weighted average score was better than the carve-out score in 68% of the comparisons.

Exhibit 11. Regional Cluster State Comparison, All Years (2014-2022)

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	139	29	82.7%
Tennessee	120	67	64.2%
Wisconsin	103	75	57.9%
Total	**362**	**171**	**67.9%**

We also assessed the outcomes for non-COVID-19 impacted years, as shown in Appendix A, Exhibit A-1. These comparison outcomes were nearly identical to those shown above in Exhibit 11 (where the COVID-19 impacted years were included).

B. Regional Cluster Analysis: Rolled-Up Measures

Exhibits A-2 and A-3 in Appendix A summarize the neighboring state analysis findings, removing measures that broke out scores by age cohorts and multiple medication types. These findings were nearly identical to those above – consistently showing better average HEDIS scores across the carve-in states that were adjacent to each carve-out state.

C. Regional Cluster Analysis: Behavioral and Physical Health Rolled-Up

Exhibit 12 summarizes the regional cluster analysis for HEDIS measures that were classified as related to behavioral health. Exhibit 13 presents corresponding tabulations across the physical health measures. These findings generally show better average HEDIS scores across the carve-in states than their adjacent carve-out state. However, there was one instance where an exception to the findings pattern occurred. Wisconsin's MCOs, operating in the carve-out environment, secured better scores slightly more often than the surrounding carve-in states' MCO average for physical health measures. Wisconsin's MCOs (along with Missouri's and Tennessee's) performed worse than their neighboring carve-in states when only the non-COVID years were assessed.

Exhibit 12. Regional Cluster Comparison, All Years—Behavioral Health "Roll-Up" Measures

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	48	7	87.3%
Tennessee	31	27	53.4%
Wisconsin	37	21	63.8%
Total	**116**	**55**	**67.8%**

Exhibit 13. Regional Cluster Comparison, All Years—Physical Health "Roll-Up" Measures

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	36	9	80.0%
Tennessee	34	12	73.9%
Wisconsin	17	28	37.8%
Total	**87**	**49**	**64.0%**

V. Assessment of Quality Scores Along PDL Latitude Continuum

We grouped states by the level of PDL latitude they afford Medicaid MCOs, to assess if there were any patterned differences in pharmacy-related quality scores. Exhibit 14 conveys the PDL latitude state groupings that were created.

Exhibit 14. Grouping of States According to Medicaid Pharmacy Policy Approach

State Grouping	States In This Group
MCOs Have Latitude to Establish and Manage PDL	HI, IL, IN, KY, NH, NJ, NM, NY, OH, OR, PA, RI
MCOs Must Use State's Medicaid PDL	AR, DE, IA, KS, LA, MN, MS, TX
MCOs Must Use State's Medicaid PDL in Some Therapeutic Drug Classes	AZ, FL, NE, SC, VA, WA
Blended Model of Above Approaches is Used	CA, DC, GA, MD, MA, MI, NV, UT
Drug Benefit is Carved Out – Not Managed by MCOs	TN, MO, WI

Enrollment-weighted average scores were tabulated across the MCOs operating in each of the above state groups, in each year. These tabulations yielded a wide array of 84 average score comparisons. In order to create a consolidated summary of these comparisons, each state group was ranked on a 1-5 scale for each HEDIS measure and each year.

A rank of "1" denotes the state group with the highest (most favorable) average score for a given HEDIS measure and year, and a rank of "5" denotes the state group with the lowest average score. These rankings were then averaged together across all the measures and years assessed. The tabulation findings are summarized in Exhibit 15.

Exhibit 15. Average Ranking of HEDIS Scores Across PDL Latitude Policy Spectrum (lower ranking denotes better performance across the HEDIS measures)

AVERAGE RANK ACROSS 2014-2020 Reporting Years (non-COVID years)	MCO PDL Latitude	Uniform PDL (some drug classes)	Carved Out	Blended Model	Uniform PDL
All 29 Pharmacy-Related HEDIS Measures	2.01	2.87	3.11	3.16	3.66
16 Roll-Up Measures	2.24	2.66	3.17	3.00	3.76

The results in Exhibit 15 indicate that among MCOs managing the drug benefit to any extent, MCOs operating with PDL latitude have achieved considerably better HEDIS scores on pharmacy-related

measures than MCOs operating with less PDL latitude. The lowest-performing group was health plans operating with no PDL latitude (i.e., uniform PDL).

The MCO PDL latitude group had an average ranking of 2.01 (on the 1-5 scale) across the five state groups across all 29 measures and across all seven years assessed. The state group with the next-best ranking, Uniform PDL in Some Drug Classes, was far behind (0.86 points on this limited scale). At the other end of the rankings, the Uniform PDL state group's average ranking was 0.50 worse than the next-nearest state group.

VI. Summary Observations

The strength of this report lies in the number of different ways that pharmacy-related quality was compared between the carve-in and carve-out settings, and the remarkable consistency with which the carve-in setting demonstrated superior performance.

Large and Diverse Set of Comparison Points

MCO performance was compared across:

- **QUALITY METRICS**. We evaluated 29 different pharmacy-related HEDIS measures, 12 of which were related to behavioral health and 17 of which were related to physical health.

- **REPORTING YEARS**. We included seven pre-COVID calendar years in our analysis. (Note that we also assessed the first two years of the pandemic and found highly similar outcomes.)

- **GEOGRAPHIC REGIONS**. In addition to analyzing the entire United States, we conducted three separate regional cluster analyses comparing the states adjacent to three states that used the carve-out model throughout the assessment timeframe (Kentucky, Missouri, and Wisconsin).

Additionally, because many of the 29 measures assessed were nearly identical with other measures (e.g., there were several age cohort specific measures, and some measures that focused in specific therapeutic drug classes), we also conducted "roll-up" assessments looking at the subset of 16 distinct measures that were not closely related to any of the others.

All the assessments conducted also utilized a large sample of comparison points and had a large volume of Medicaid enrollees contributing to the measurement score. The smallest number of comparisons made in any of the above tables was 35 and the largest was 184. Each of these comparisons reflected a large volume of Medicaid MCO enrollees. Each comparison represented a specific calendar year and a specific HEDIS measure, tabulating the enrollment weighted score of a large group of carve-in MCOs for comparison with the similar figure across several carve-out MCOs.

Findings Consistently Demonstrated Better Performance in the Carve-In Setting

The numerous comparison analyses conducted yielded highly consistent results. Regardless of how the carve-in vs. carve-out comparison was organized, the results favored the carve-in setting. One way to aggregate the findings is that the carve-in setting outperformed the carve-out setting in approximately two thirds of all the comparisons, with the carve-out setting achieving better results in one-third.

Another way to aggregate the many analyses conducted is that the above tables include 34 sets of findings summarizing various types of comparative analyses. In 33 of these instances the scores were superior in the pharmacy carve-in setting. The distribution of the findings is shown below:

Carve-In Setting "Won" 70% or More of the Specific Comparisons Tabulated: 6

Carve-In Setting "Won" 60-70% of the Specific Comparisons Tabulated: 24

Carve-In Setting "Won" 50-60% of the Specific Comparisons Tabulated: 3

Carve-Out Setting "Won" More of the Specific Comparisons Tabulated: 1

The above findings appear to be conclusive that the pharmacy carve-in setting has yielded better performance than the carve-out setting across the pharmacy-related quality measures that differences in prescription drug management can reasonably be expected to influence. Policymakers are encouraged to take this programmatic evidence into consideration as they weigh the pros and cons of each approach.

Appendix A: Additional Regional Cluster Analytical Findings

Exhibit A-1. Regional Cluster Comparison Outcomes, 2014-2020

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	106	24	81.5%
Tennessee	84	55	60.4%
Wisconsin	86	54	61.4%
Total	**276**	**133**	**67.5%**

Exhibit A-2. Regional Cluster Comparison, All Years—"Roll-Up" Measures

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	72	8	90.0%
Tennessee	54	37	59.3%
Wisconsin	52	28	65.0%
Total	**178**	**73**	**70.9%**

Exhibit A-3. Regional Cluster Comparison, 2014-2020—"Roll-Up"

Carve Out State	Comparisons Where Carve-In MCOs' Weighted Average Score was Better than Carve-Out MCOs' Score	Comparisons Where Carve-Out MCOs' Weighted Average Score was Better than Carve-In MCOs' Score	% Of Comparisons Where Carve-In MCOs' Score was More Favorable
Missouri	53	8	86.9%
Tennessee	38	30	55.9%
Wisconsin	42	20	67.7%
Total	**133**	**58**	**69.6%**

Appendix B: State Medicaid Pharmacy Policy Approaches

States	Carve-In	MCO PDL Latitude	Uniform PDL	Uniform PDL (some drug classes)	Blended Model	Carve-Out	Excluded
Alabama							x
Alaska							x
Arizona	x			x			
Arkansas	x		x				
California	x				x		
Colorado							x
Connecticut							x
Delaware	x		x				
District of Columbia	x				x		
Florida	x			x			
Georgia	x				x		
Hawaii	x	x					
Idaho							x
Illinois	x	x					
Indiana	x	x					
Iowa	x		x				
Kansas	x		x				
Kentucky	x	x					
Louisiana	x		x				
Maine							x
Maryland	x				x		
Massachusetts	x				x		
Michigan	x				x		
Minnesota	x		x				
Mississippi	x		x				
Missouri						x	
Montana							x
Nebraska	x			x			
Nevada	x				x		
New Hampshire	x	x					
New Jersey	x	x					
New Mexico	x	x					
New York	x	x					
North Carolina							x
North Dakota							x
Ohio	x	x					
Oklahoma							x
Oregon	x	x					
Pennsylvania	x	x					
Rhode Island	x	x					
South Carolina	x			x			
South Dakota							x
Tennessee						x	
Texas	x		x				
Utah	x				x		
Vermont							x
Virginia	x			x			
Washington	x			x			
West Virginia							x
Wisconsin						x	
Wyoming							x

NOTES: Highlighted states did not have a Medicaid MCO program during the timeframe assessed and therefore could not be included in this assessment. West Virginia is also excluded, despite having a Medicaid MCO program, because the state switched from a pharmacy carve-in to a carve-out model during the assessment timeframe.