

Health Care Costs in Baltimore Relative to Other Urban Areas in Maryland

A Study for the Maryland Health Services Cost Review Commission (HSCRC)

March 24, 2023



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About This Study

This study was conducted by Abt Associates for the Maryland Health Services and Cost Review Commission (HSCRC), under contract # HSCRC-TO-2018-2-0601, in partnership with Milliman, Optimal Solutions Group, and SAG Corporation.

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Caveats and Limitations

Milliman prepared the 2019 benchmark and Maryland APCD processed and summarized data for the use of the Maryland HSCRC. This information is intended solely for educational purposes and presents information of a general nature. It is not intended to guide or determine any specific individual situation and persons should consult qualified professionals before taking specific actions. Milliman does not intend to benefit or create a legal duty to any third-party recipient of its work. This information is subject to the terms and conditions of the Task Order Agreement (#50209) effective March 1, 2019.

In preparation of the analysis, Milliman relied upon the accuracy of data and information gathered from or provided to us by the Centers for Medicare and Medicaid Services (CMS), Department of Health and Human Services (HHS), and our data partners. Milliman has not audited this information, although it has been reviewed for reasonableness. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

Milliman has also relied on the data and other information provided by the HSCRC for this analysis. Milliman has performed a limited review of this data and other information and checked for reasonableness and consistency. Milliman has not found material defects in the data or information used other than those described in this report, which also describes how those defects were addressed to enable this analysis to be reliably performed. If there are other material defects in the data or other information, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of this assignment.

For more information about the data and process used by Milliman, Inc. please see the report available at:

<https://www.milliman.com/en/insight/cy-2019-milliman-benchmark-and-maryland-all-payer-claims-database-cost-and-utilization-exhibits>.

Background

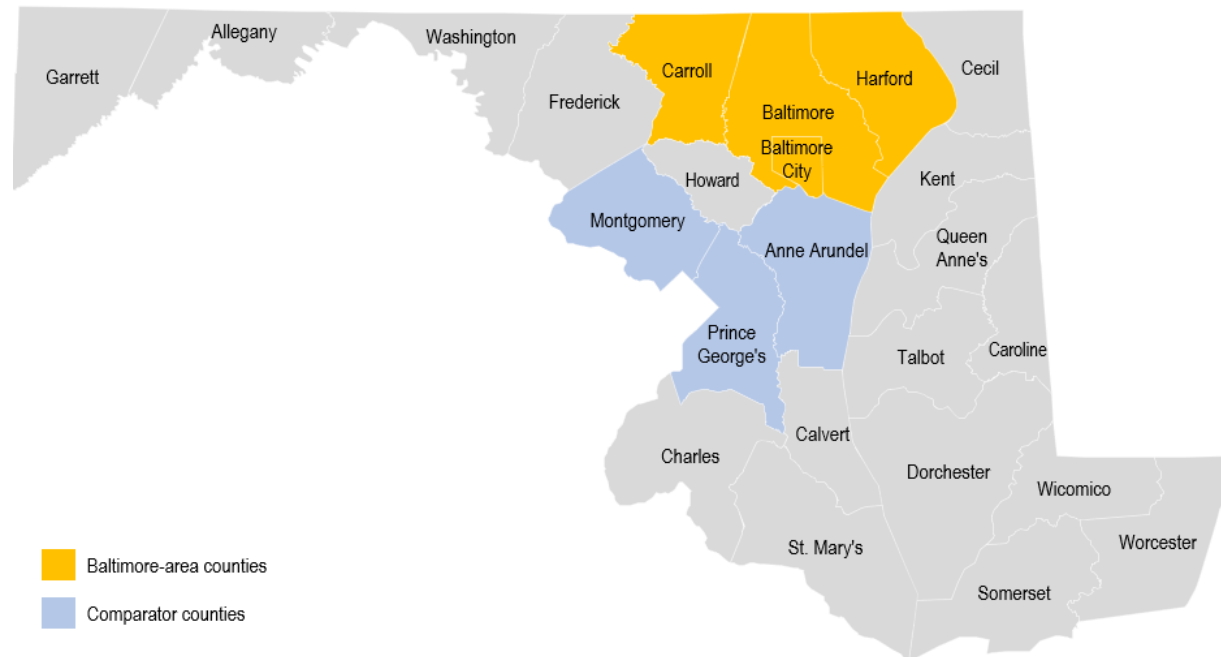
- From 2014-2018, Maryland implemented the Maryland All-Payer Model (MDAPM) in partnership with the Centers for Medicaid and Medicare Services (CMS), to establish global budgets for hospital inpatient and outpatient hospital services.
 - MDAPM successfully reduced costs and improved the quality of care for both inpatient and outpatient services.
- In 2019, the state of Maryland and the Center for Medicare and Medicaid Innovation (CMMI) began implementing the Total Cost of Care (TCOC) Model.
 - TCOC Model includes new opportunities for non-hospital health care providers to participate in care redesign and receive value-based payments.
- HSCRC identified that the costs of providing health care in the Baltimore area were higher than for other urban areas in Maryland.
 - This report explores the extent of differences in per-capita costs of care between Baltimore-area and other urban counties in Maryland, relative to similar communities in other states, before and after risk adjustment for patient complexity.

Methodology: Overview

- We calculated population-weighted averages of unit costs, utilization (RVUs), and total PMPM allowed costs for Baltimore area counties and non-Baltimore area counties, as well as for their respective benchmarks.
- Comparing costs and utilization between Baltimore and non-Baltimore areas, relative to their respective benchmarks, included three sets of comparisons:
 - a. Between the Baltimore-areas and non-Baltimore areas
 - b. Between each Maryland group (Baltimore and non-Baltimore areas) and their benchmarks
 - c. The net difference between Baltimore and non-Baltimore areas, relative to their respective benchmark areas
- If a difference was identified, the factors (unit cost and utilization) contributing to the cost difference were decomposed.

Methodology: Defining Areas

- We identified Baltimore-area counties and other comparison counties in Maryland counties (see map).
- We further compared Maryland communities with similar benchmark communities. For each MSA in Maryland, we matched 20 non-Maryland MSAs on several geographic characteristics.*



Methodology: Measuring Costs and Utilization

- We used 2019 data from from Milliman's Consolidated Health Cost Guidelines Sources Database (CHSD) and the Maryland All Payer Claims Database (APCD) to measure health care costs and utilization for commercially insured patients.
 - Measures of health care costs and utilization included:
 - a. Average per-member-per-month (PMPM) allowed costs
 - b. Average PMPM relative value units (RVUs), a measure of healthcare utilization
 - c. Average PMPM unit costs (total costs / RVUs)
 - We assessed total allowed costs in three ways:
 - a. Unadjusted allowed costs
 - b. Allowed costs adjusted for differences in Hierarchical Condition Categories (HCC) scores (risk-score adjusted costs)
 - c. Allowed costs adjusted for differences in HCC scores and insurance plan benefits level (risk-score and benefit adjusted costs)
 - We assessed costs overall and for the following sub-total line items:
 - a. Facility inpatient (IP)
 - b. Facility outpatient (OP)
 - c. Professional
 - d. Other professional
 - e. Additional benefits
- We conducted similar analysis using Medicare Fee-For-Service (FFS) data.

Findings

- The main set of findings cover employer-sponsored health insurance

Findings: Total Unadjusted Costs

- In the Baltimore area, average total allowed costs PMPM were \$375.81 and unit costs were \$56.86.
- In the non-Baltimore area, average total allowed costs PMPM were \$329.39 and unit cost were \$53.00.
- Accordingly, the difference in average total allowed costs PMPM between the Baltimore and non-Baltimore areas was \$46.42.

Unadjusted Costs	Maryland		
	Unit Cost	Utilization (RVUs)	Total Allowed Costs PMPM
Baltimore-area	56.86	6.61	375.81
Non-Baltimore-area	53.00	6.21	329.39
Difference	3.86	0.40	46.42

Findings: Total Unadjusted Costs

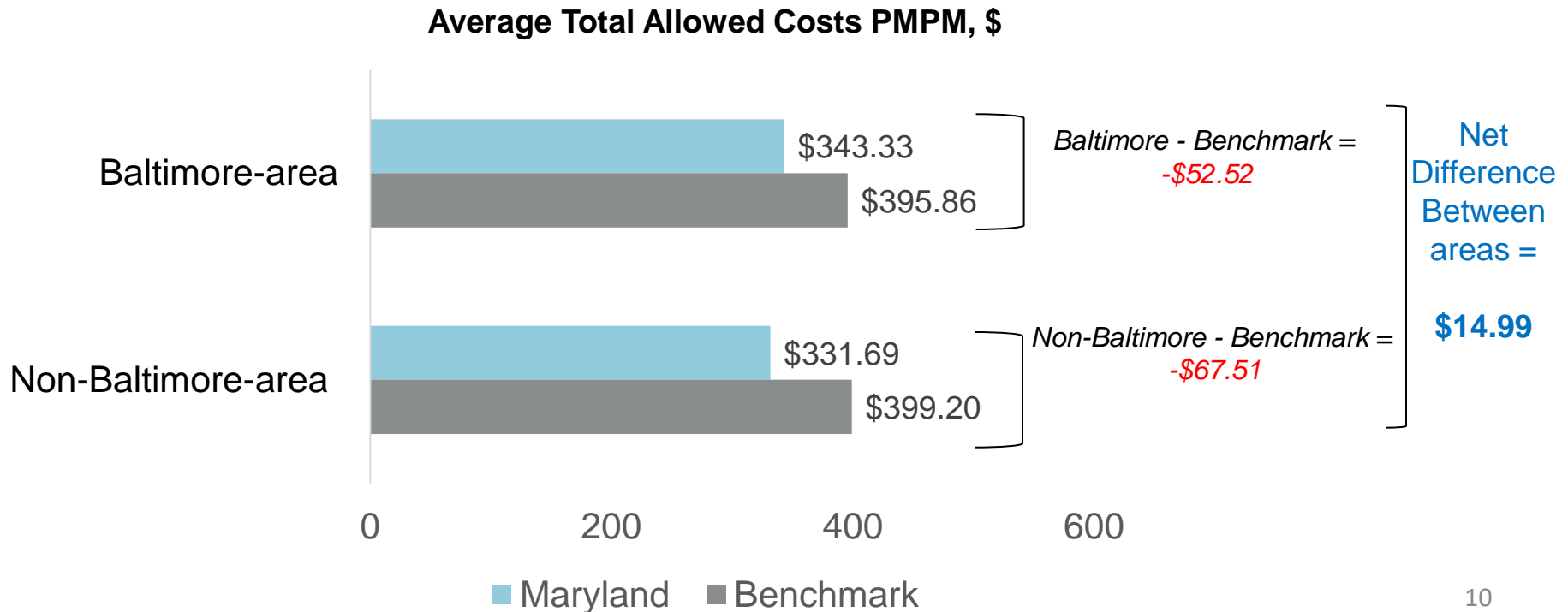
- Both the Baltimore area and the non-Baltimore area had lower costs than their benchmark areas.
 - Differences in total allowed costs PMPM between the Maryland and benchmark areas were -\$20.61 for the Baltimore area and -\$64.89 for the non-Baltimore area.

Unadjusted Costs	Maryland			Benchmark			Difference (Maryland - Benchmark)		
	Unit Cost	Utilization (RVUs)	Total Allowed Costs PMPM	Unit Cost	Utilization (RVUs)	Total Allowed Costs PMPM	Unit Cost	Utilization (RVUs)	Total Allowed Costs PMPM
Baltimore-area	56.86	6.61	375.81	70.43	5.63	396.42	-13.58	0.98	-20.61
Non-Baltimore-area	53.00	6.21	329.39	72.09	5.47	394.28	-19.09	0.75	-64.89
Difference	3.86	0.40	46.42	-1.66	0.16	2.14	5.51	0.24	44.28

- Although both areas had lower costs than their respective benchmarks, costs for the Baltimore area were \$44.28 PMPM higher than in the non-Baltimore area relative to the benchmarks ($-\$20.61 - -\$64.89 = \$44.28$).

Findings: Total Risk-Score and Benefit Adjusted Costs

- After risk-score and benefit adjustment, total costs remained lower in both the Baltimore and the non-Baltimore areas relative to their respective benchmark areas.
- Although both areas had lower costs than their respective benchmarks, costs for the Baltimore area were \$14.99 PMPM higher than in the non-Baltimore area, relative to the benchmarks.



Findings: Contribution to Variation

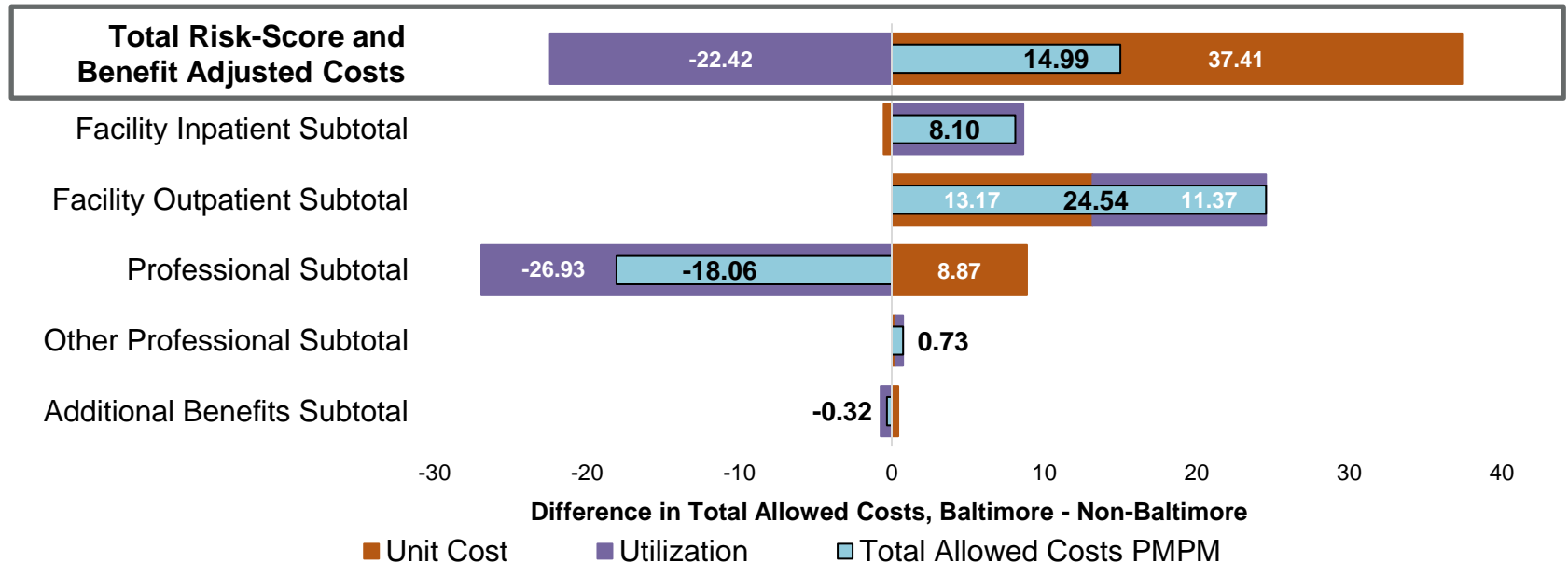
- We decomposed differences in allowed costs between the Maryland and benchmark areas by identifying the extent of variability due to differences in underlying unit costs and utilization.
- For both the Baltimore and the non-Baltimore areas, differences in allowed risk-score and benefit adjusted costs between the Maryland and benchmark areas were driven by relatively lower unit costs.
 - As shown previously allowed costs were \$14.99 PMPM higher in the Baltimore area than in the non-Baltimore area, relative to the benchmarks.
 - Decomposing this difference, unit cost accounted for +\$37.41 of the difference, and utilization accounted for -\$22.42 of the difference.

Risk Score and Benefit Adjusted Costs	Contribution to Variation		
	Total Allowed Costs PMPM	Unit Cost	Utilization
Baltimore-area	-52.52	-86.48	33.96
Non-Baltimore-area	-67.51	-123.89	56.38
Difference	14.99	37.41	-22.42

Findings: Costs by Line-Item Groups

- Differences in total allowed costs between the Baltimore and non-Baltimore areas *and* the relative contribution of unit cost and utilization to those differences varied by line-item groups.
 - The difference in allowed costs was greatest for the facility outpatient setting, where unit costs and utilization contributed roughly evenly to the difference.
 - Professional costs were lower for the Baltimore area than the non-Baltimore area, driven by lower utilization.

Contribution to Variation, Difference Between Baltimore and Non-Baltimore Areas



Findings: Facility outpatient line items

- Facility outpatient line items:** Further analysis showed that, out of the 14-line items in the Facility Outpatient setting, “Other Outpatient Facility” services accounted for nearly half of the difference between the Baltimore and non-Baltimore areas (\$10.45 out of \$24.54), relative to the difference in costs between their respective benchmarks. This difference was driven almost entirely by unit costs.
 - Dialysis comprised over half of the Other Outpatient Facility PMPM spending for both the Baltimore and non-Baltimore areas (result not shown).
 - Preliminary analysis indicates that unit costs for dialysis services were roughly twice as expensive in the Baltimore area than in the non-Baltimore area.

Risk Score and Benefit Adjusted Costs	Difference (Maryland - Benchmark)		
	Unit Cost	Utilization (RVUs)	Total Allowed Costs PMPM
Baltimore-area			
Facility Outpatient Subtotal	-12.92	-0.10	-26.78
<i>Other Outpatient Facility</i>	76.10	0.03	13.01
Non-Baltimore-area			
Facility Outpatient Subtotal	-26.10	-0.21	-51.32
<i>Other Outpatient Facility</i>	-11.45	0.03	2.56
Difference			
Facility Outpatient Subtotal	13.17	0.11	24.54
<i>Other Outpatient Facility</i>	87.56	0.00	10.45

Findings: Medicare

- Medicare Fee-For-Service costs
 - After risk adjustment for HCC mix, the difference in total PMPM cost between the Baltimore and non-Baltimore areas, relative to their respective benchmarks, was \$197 per beneficiary per month (PBPM). This difference was explained roughly equally by both higher unit costs (+\$86.97, not shown) and higher utilization (+\$110.00, not shown).
 - This represents a 17% relative difference compared to the average total of \$1,167.82 PBPM for Medicare FFS beneficiaries in the Baltimore area.

Total Payments	Maryland			Benchmark			Difference (Maryland - Benchmark)		
	Unit Cost	Utilization (Monthly Admissions per 1000)	Total Payments PBPM	Unit Cost	Utilization (Monthly Admissions per 1000)	Total Payments PBPM	Unit Cost	Utilization (Monthly Admissions per 1000)	Total Payments PBPM
Baltimore-area	46.06	25.35	1167.82	37.71	25.95	978.69	8.35	-0.60	189.14
Non-Baltimore-area	48.51	20.95	1016.03	42.55	24.06	1023.86	5.96	-3.12	-7.83
Difference	-2.44	4.41	151.79	-4.84	1.89	-45.17	2.39	2.52	196.97

Discussion

- Both the Baltimore area and the non-Baltimore area had lower costs than their respective benchmark areas for their employer-sponsored health insurance populations. Nonetheless, relative to the non-Baltimore area, the Baltimore area had higher costs, relative to the benchmark areas.
- After risk-score and plan benefit adjustments, total costs for employer-sponsored health insurance in 2019 in the Baltimore area were roughly \$15 PMPM or 4% higher than in non-Baltimore areas, relative to their benchmarks.
- This suggests an additional health care spending of roughly \$73 million covered by employer-sponsored health insurance in the Baltimore area compared to other urban areas in Maryland.

Discussion

- Utilization was lower in the Baltimore area than the non-Baltimore area, relative to the benchmarks, while unit costs were higher in the Baltimore area.
 - This indicates that relatively higher unit costs in the Baltimore area, especially for outpatient services, could be offsetting lower utilization.
- It is possible that reductions in health care spending for the commercially insured population from the Maryland All-Payer Model and Total Cost of Care Model have accrued unevenly across the state.

Limitations

- The data available presents cost and utilization data, overall and by line items, without risk adjustment and by two risk adjustment methodologies.
 - The risk-score and benefit adjustments were calculated by adjusting the total cost and utilization measures across all line items and may not accurately reflect variation across sub-total line items.
- For the Medicare FFS data, inpatient admissions as the utilization measure was used as RVUs were not accessible and this may not accurately reflect utilization in outpatient settings.

Questions?



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