

MILLIMAN REPORT

# CY 2019 Milliman Benchmark and Maryland All-Payer Claims Database Cost and Utilization Exhibits

Commercial and individual population, under age 65

Commissioned by the Maryland Health Services Cost Review Commission

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## Background

Under the Total Cost of Care (TCOC) Model<sup>1</sup>, the Maryland Health Services Cost Review Commission (HSCRC) is expanding its evaluation of medical cost from hospital costs only to all non-pharmacy components of medical cost, which includes hospital and other facility, professional, and ancillary costs. Prescription drug costs are excluded from this analysis. The HSCRC developed methods to benchmark Maryland's cost and utilization for medical services against other areas of the United States. The HSCRC engaged Abt Associates (Abt) and Milliman to assist in benchmarking Maryland's cost and utilization for medical services using metropolitan statistical area (MSAs) in the United States with similar population characteristics.

To assist in this benchmarking effort, we have prepared calendar year (CY) 2019 cost and utilization summaries of members under age 65 with commercial and individual insurance, based on the Maryland All-Payer Claims Database (APCD) data and Milliman's commercial benchmark data. Abt is using the results of this work to create comparisons between the cost and utilization from the Maryland APCD data and the Milliman commercial benchmark data.

In general, the results presented in this report were produced using the same methodology as our reports summarizing the CY 2017 and CY 2018 cost and utilization results. We updated the underlying data sources to CY 2019 for this report.

## Summary

The HSCRC defined a set of five broad geographic Maryland regions (referred to as "MD regions"). These regions are Western, Capital, Southern, Central, and Eastern Shore.<sup>2</sup> Additionally, the HSCRC defined a set of Maryland hospital service areas; each is called a Provider Service Area Plus (PSAP).

Each PSAP is defined by the HSCRC based on hospital utilization by Maryland ZIP Code. These assignments are based on HSCRC's study of inpatient and outpatient utilization for Maryland fiscal year 2014 and 2015. Each ZIP Code is allocated among Maryland hospitals based on residents' utilization patterns and drive times. ZIP Code to PSAP assignment based on utilization patterns is given the highest priority.<sup>3</sup>

Milliman summarized Maryland's CY 2019 medical cost and utilization from the Maryland APCD data by ZIP Code and aggregated the results to the county and to the PSAP level using the mapping and weightings defined by the HSCRC. In parallel, for each of the five MD regions, Abt matched multiple benchmark non-Maryland MSAs based on population, morbidity (risk score), socioeconomic, demographic, and payer mix variables. To perform the matching, Abt collected the population, socioeconomic and demographic information. To facilitate this, Milliman prepared the risk score and payer mix information.

**Figure 1** below shows the risk and benefit adjusted per member per month (PMPM) medical cost and utilization for each Maryland PSAP based on the CY 2019 Maryland APCD data. Costs are risk adjusted using the U.S. Department of Health and Human Services Hierarchical Condition Categories (HHS-HCC) 2017 platinum risk adjustment model and benefit adjusted using the methodology described below in the *Data sources and data processing* section. The benefit adjustment adjusts for the estimated service utilization impact of variation in member cost sharing levels by area (also known as an induced utilization adjustment). Utilization is measured using relative value units (RVUs), a case-mix and severity adjusted utilization measure that is comparable across service types. Attachment A describes the RVU measure in more detail.

<sup>1</sup> See *Maryland's Total Cost of Care Model: Background and Summary* available at: [https://hscrc.maryland.gov/Documents/Modernization/Total%20Cost%20of%20Care%20Model%20-%20Background%20and%20Summary\\_7\\_26\\_17.pdf](https://hscrc.maryland.gov/Documents/Modernization/Total%20Cost%20of%20Care%20Model%20-%20Background%20and%20Summary_7_26_17.pdf)

<sup>2</sup> Please see the "Healthcare Cost Benchmarking for Commercial Programs" documentation letter from Abt for a map defining the five MD regions.

<sup>3</sup> Based on documentation of PSAP assignment provided by the HSCRC. The assignments reflect use in the HSCRC's FY2014 and FY 2015 inpatient and outpatient hospital experience data as of July 2017.

**FIGURE 1: CY 2019 SUMMARY OF MARYLAND APCD DATA ALLOWED COSTS AND UTILIZATION (RVUS) BY MARYLAND PSAP – COMMERCIAL AND INDIVIDUAL POPULATION, LIMITED TO UNDER AGE 65**

PSAP	MEMBER MONTHS	ALLOWED PMPM <sup>A</sup>	BENEFIT & RISK ADJ. ALLOWED PMPM <sup>B</sup>	RVU PMPM	BENEFIT & RISK ADJ. RVU PMPM
1. ANNE ARUNDEL	1,073,069	\$329.39	\$335.17	6.43	6.59
2. SHADY GROVE	984,610	\$318.71	\$340.08	6.23	6.69
3. FREDERICK MEMORIAL	929,869	\$337.34	\$346.67	6.63	6.87
4. HOWARD COUNTY	923,636	\$303.27	\$330.94	6.01	6.61
5. BALTIMORE WASHINGTON	755,488	\$353.93	\$324.30	6.78	6.26
6. SUBURBAN	754,922	\$320.96	\$378.89	5.99	7.10
7. HOLY CROSS	724,756	\$307.84	\$322.79	5.88	6.22
8. UPPER CHESAPEAKE HEALTH	716,674	\$336.97	\$339.55	6.31	6.40
9. CARROLL COUNTY	663,015	\$332.31	\$333.85	6.39	6.46
10. UM ST. JOSEPH	527,534	\$346.94	\$340.79	6.29	6.21
11. WASHINGTON ADVENTIST	500,230	\$309.10	\$306.16	5.83	5.82
12. SINAI	451,073	\$416.40	\$361.50	6.98	6.10
13. G.B.M.C.	430,108	\$333.85	\$343.35	6.12	6.32
14. MERITUS	416,506	\$334.86	\$317.82	6.29	6.01
15. PENINSULA REGIONAL	413,692	\$363.59	\$319.65	6.94	6.15
16. DOCTORS COMMUNITY	413,025	\$329.72	\$299.25	6.15	5.63
17. SOUTHERN MARYLAND	394,434	\$367.46	\$328.11	6.18	5.57
18. CHARLES REGIONAL	387,349	\$369.27	\$358.43	6.36	6.23
19. ST. AGNES	384,057	\$361.03	\$323.19	6.54	5.90
20. FRANKLIN SQUARE	347,729	\$407.12	\$341.91	7.05	5.97
<b>APCD TOTAL<sup>C</sup></b>	<b>15,953,462</b>	<b>\$348.21</b>	<b>\$337.32</b>	<b>6.40</b>	<b>6.25</b>

Data Source: Maryland All Payer Claims Database

(A) Allowed amount is the total amount of fee-for-service payments for covered medical services including the amount that the plan pays, the patient pays, and any other payer pays for covered services. Provider bonus, capitation, and risk sharing payments are not included. Prescription drug cost and utilization are also not included.

(B) Risk adjusted with the 2017 HHS-HCC model platinum risk scores and normalized to the statewide average risk. Benefit adjusted using the methodology described below in the *Data sources and data processing* section. Adjusted values are normalized to a national risk and benefit profile.

(C) APCD TOTAL includes PSAPs not displayed in Figure 1. Please see exhibits 2a and 2b for more information.

Milliman summarized cost and utilization data for the Abt-matched non-Maryland MSAs to create an aggregated benchmark for each of the five MD regions. Abt then compared the cost and utilization results for each PSAP with the MD region benchmarks based on the MD region containing the PSAP. PSAPs that span multiple regions were compared to a blended benchmark based on the portion of each MD region overlapping the PSAP.

**Figure 2** below shows the benchmark risk and benefit adjusted PMPM medical cost and utilization for each MD region. As in Figure 1, costs are risk adjusted using the HHS-HCC 2017 platinum risk adjustment model. The benefit adjustment adjusts for the estimated impact on utilization of member cost sharing levels by area (also known as an induced utilization adjustment). Utilization is measured using RVUs.

**FIGURE 2: BENCHMARK SUMMARY OF ALLOWED COSTS AND UTILIZATION (RVUS) BY MD REGION – COMMERCIAL POPULATION, LIMITED TO UNDER AGE 65**

MARYLAND REGION		MEMBER MONTHS <sup>A</sup>	ALLOWED PMPM <sup>B</sup>	BENEFIT & RISK ADJ. ALLOWED PMPM <sup>C</sup>	RVU PMPM	BENEFIT & RISK ADJ. RVU PMPM
MD1	SOUTHERN MD	134,982,095	\$388.67	\$391.19	5.46	5.51
MD2	WESTERN MD	15,860,683	\$374.09	\$372.21	5.56	5.54
MD3	EASTERN SHORE	18,220,057	\$388.63	\$377.83	5.68	5.53
MD4	NORTHERN DC SUBURBS	99,644,389	\$398.27	\$415.68	5.21	5.42
MD5	BALTIMORE AREA	167,396,232	\$396.42	\$395.86	5.63	5.62
<b>BENCHMARK TOTAL<sup>D</sup></b>		<b>258,466,523</b>	<b>\$403.93</b>	<b>\$403.43</b>	<b>5.65</b>	<b>5.64</b>

Data Source: Milliman Consolidated Health Sources Database

(A) Member months reported are the sum of all member months included in each region. The Benchmark Total member months is less than the sum of the five regions as some MSAs were identified as part of the benchmark basis for multiple MD regions (i.e., the sum of the member months above would result in double-counting).

(B) Allowed amount is the total amount of fee-for-service payments for covered medical services including the amount that the plan pays, the patient pays, and any other payer pays for covered services. Provider bonus, capitation, and risk sharing payments are not included. Prescription drug cost and utilization is also not included.

(C) Risk adjusted with the 2017 HHS-HCC model platinum risk scores and normalized to the APCD data statewide average risk. Benefit adjusted using the methodology described below in the *Data sources and data processing* section.

(D) MD region benchmarks are based on a straight average of the MSAs included in each region. The Benchmark Total is based on a member-weighted average across all of the MSAs included in the MD region benchmarks.

In addition to the risk and benefit adjustment described above and prior to comparing the Maryland and benchmark cost and utilization results, Abt normalized the benchmark cost and utilization results for differences in median income, deep poverty percentage, risk score, and benefit levels. These adjustments are not included in the Figure 2. The final benchmark metrics appearing in Abt's report are calculated as an average of the normalized metrics for each of the selected benchmark MSAs. Please see the "Healthcare Cost Benchmarking for Commercial Programs" documentation letter from Abt for a complete discussion of the benchmark MSA selection and normalization methodology.

Abt has further refined the benchmark comparison using MSA selection criteria and regression adjustments that consider the following characteristics of each Maryland PSAP and potential benchmark MSA:

- Total population
- Population density
- Median income
- Deep poverty percentage
- Regional price parities (RPP)
- HHS platinum risk score

## Payer mix summary exhibits

Milliman prepared a set of summary exhibits for each Maryland county and PSAP. Additionally, Milliman prepared summary exhibits for each benchmark Maryland region. All exhibits reflect CY 2019 fee-for-service (FFS) experience, adjusted for estimated incurred but not reported (IBNR) claims, for the commercial and individual population under age 65. Outlined below is a brief description of each exhibit.

### 1. Maryland summary by county:

- a. Exhibit 1a summarizes the CY 2019 Maryland APCD data cost and utilization (RVUs) for medical services by county. The following information is included: member months, allowed, allowed PMPM, RVUs PMPM, and allowed per RVU. Costs and RVUs are shown for all medical services and by major

- service category (inpatient facility, outpatient facility, professional/other). Risk score and benefit adjusted costs and RVUs are shown in total<sup>4</sup>.
- b. Exhibit 1b summarizes the same information on a PMPM basis and illustrates risk and benefit normalization by service category and in total.
2. Maryland summary by PSAP:
    - a. Exhibit 2a summarizes the CY 2019 Maryland APCD data cost and utilization (RVUs) and costs for medical services by PSAP. Each PSAP includes the membership, cost, and utilization for each ZIP Code within the PSAP. Some ZIP Codes are split between multiple PSAPs using the weighting provided by the HSCRC.
    - b. Exhibit 2b summarizes the same information on a PMPM basis and illustrates risk and benefit normalization by service category and in total.
  3. Benchmark summary by MD regions: Exhibits 3a and 3b mirror exhibits 1a through 2b but show the State of Maryland total and benchmark MD regions' totals based on a summary of the adjusted MSAs as selected by the HSCRC and Abt. Results reflect the normalized CY 2019 utilization and costs for medical services from Milliman's benchmark data sources.
    - a. The State of Maryland benchmark is a member-weighted average of all of the normalized benchmark MSAs selected for inclusion in any of the five regional benchmarks.
    - b. The five MD region benchmarks are averages of the selected and normalized MSAs for each region.

## Data sources and data processing

### SUMMARY OF CHANGES FROM PRIOR REPORTING

For the reader's convenience, this section summarizes methodological changes since the 2017 and 2018 reports were published in 2020. These changes are discussed in more detail in the following subsections.

1. Changes between 2018 and 2019 processing
  - a. Annual updates to the risk normalization factor, completion factors, and teaching cost estimates
  - b. Federal Employees Health Benefits Program (FEHBP) data is now excluded from all APCD carriers' results. In prior reports, this data was excluded for only Aetna Health Inc. Starting in 2019, FEHBP no longer submits claims to the APCD for any carriers and is therefore no longer available for inclusion.
  - c. We relied on APR DRGs contained in the APCD data provided by HSCRC, as well as a supplemental file containing corrected DRGs for some claims provided by HSCRC on January 26, 2022. For prior reports, Milliman reassigned APR DRGs as part of our processing. The supplemental file used more detailed information contained in the HSCRC's Casemix hospital discharge dataset to re-assign DRGs where the HSCRC believes limitations on data contained in APCD resulted in suboptimal mapping.
  - d. The 2019 Maryland benchmarks were built on the "unversioned" APCD data. This is a change from 2018 which was built on the "versioned" data. The difference is in how a small percentage of overlapping claims are treated. The process of reconciliation with a major carrier conducted as part of the 2019 benchmarking showed that the "unversioned" data was a better match for the correct total received from the carrier.

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<sup>4</sup> By normalizing RVUs by risk score, we assume that the risk score relationships capture case-mix and utilization differences, but not differences in case-mix adjusted unit price.

- e. Other minor processing changes including slight changes to the area information used to identify Maryland claims, changes to the data cleaning process, etc.
2. Changes between 2018 and 2017 processing
    - a. Annual updates to the risk normalization factor, completion factors, and teaching cost estimates
    - b. For the purposes of risk score development, the member identifier MUID was used. For the 2017 report, PIDBDGP was used for the development of risk scores.

### MARYLAND APCD DATA

Maryland's 2019 APCD data is used to calculate the 2019 Maryland commercial and individual medical cost and utilization. Milliman processed the APCD eligibility and detailed claims information and calculated metrics consistent with the 2019 Milliman Benchmark Database. The data used in this analysis are limited to commercial and individual members under age 65. Milliman worked with the HSCRC to perform the following steps:

1. **Import APCD data:** Import APCD data and process the eligibility and detailed claims data. We utilized the data dictionaries, guidance, and other information about the Maryland APCD data provided by the HSCRC.
2. **Limit the APCD data to commercial and individual experience:** Limit the APCD data to commercial and individual experience using the "COVTYP\_E\_EDT" field. Specifically, we limit the APCD data to the subset listed below:

COVTYP_E_EDT	DESCRIPTION	INCLUDED MEMBER MONTHS BY COVTYP_E_EDT
3	Individual Market (not sold on MHBE)	830,184
5	Private Employer Sponsored or Other Group	4,730,507
7	Public Employee – Other	6,695,726
8	Small Business Health Options Program (SHOP) not sold on MHBE	2,640,057
A	Student Health Plan	186,035
B	Individual Market (sold on MHBE)	868,863
C	Small Business Health Options Program (SHOP) sold on MHBE	2,676
Missing	Other enrollment months for members identified for inclusion	246
<b>Total Included</b>		<b>15,954,294</b>

Individual and ASO experience are excluded for the purpose of reconciliation to financial statements (see below). Non-commercial and non-individual benefit plans are excluded: Medicaid, Medicare Advantage, and Medicare Supplement. Additionally, we understand that some self-funded employers do not submit experience data to the Maryland APCD, and therefore will not be included in our summaries.

Due to inconsistent reporting of FEHBP data by the APCD contributors, we also excluded FEHBP claims and membership (COVTYP\_E\_EDT = "6"). In our prior reports for CY 2017 and CY 2018, FEHBP claims and membership were excluded for Aetna Health, Inc. and Aetna Life Insurance Co. because Aetna stopped reporting FEHBP data to the APCD from October 2017 onward, and therefore the available Aetna FEHBP experience was incomplete. The primary remaining contributors of this data, CareFirst Blue Choice, Inc., CareFirst of Maryland, Inc., and Group Hospitalization and Medical Services, Inc. did not report it in CY 2019 FEHBP experience.

3. **Reconcile and validate the APCD data:** Review the APCD data for reasonableness and compare the medical code values with current coding standards for validity and consistency. We did not audit the APCD data. To reconcile the APCD data, we compared the commercial enrollment and paid claim cost amounts for each APCD contributor to readily available carrier financial statement reports for the State of Maryland. We worked with the HSCRC to exclude payers with incomplete or invalid APCD data submissions.



4. **Complete the APCD data for IBNR:** Calculate and apply completion factors for IBNR amounts. The CY 2019 APCD data has three months of runout, so we reviewed the completion patterns for the 2017, 2018, and 2019 APCD data sets and developed an overall CY 2019 completion factor of 0.9865 (i.e., we estimate that the data is 98.65% complete). We applied the completion factors to the allowed, utilization, and RVU amounts.
5. **Assign metrics:** Process the Maryland APCD data and assign analytic measures using:
  - a. The Milliman Health Cost Guidelines™ (HCG) Grouper™ to assign service category and standard utilization counts
  - b. The Milliman GlobalRVUs™ to assign RVUs to all medical services
  - c. The 2017 HHS-HCC platinum risk score model to assign risk score

Additionally, benefit adjustment factors were assigned based on the observed average member cost sharing levels in order to adjust for the estimated impact of benefit levels on member utilization.

6. **Remove estimated teaching costs:** Remove teaching costs from the detailed APCD data using the hospital identifier in the APCD data and HSCRC’s estimate of hospital teaching costs per bed day. The HSCRC provided the estimated teaching costs per inpatient bed day for each Maryland hospital. These teaching costs were assigned for all inpatient bed days except residential treatment, normal newborn, and skilled nursing days.
7. **Develop cost-model summaries:** Tabulate results by area and service category. The area-level results include county and PSAP-level summaries and cost models. Cost and utilization are reported by service category. Risk and benefit adjusted costs and RVUs are calculated overall for each area.

Outlined below are the major defects we found with the APCD data, and how they were resolved:

1. **Incomplete data for some contributors:** As discussed above, we compared the commercial membership and costs for each contributor to readily available financial reports. We worked with the HSCRC to review inconsistencies and the HSCRC determined the final set of payers’ APCD experience to include. Kaiser Permanente was not part of the 2018 Maryland APCD data set we received and continues to be excluded in the 2019 analyses.
2. **CareFirst reconciliation:** CareFirst’s APCD experience (including the data for CareFirst of Maryland, Inc. and Group Hospitalization & Medical Services, Inc.) does not reconcile to their National Association of Insurance Commissioners (NAIC) Annual Statement for the Year 2019 or their NAIC 2019 Supplemental Health Care Exhibit Report. For CareFirst of Maryland Inc. and Group Hospitalization and Medical Services Inc. contributors to the APCD, the total paid dollars reported in the APCD data is approximately 5% higher than the paid amounts in the NAIC Annual Statement after accounting for prescription drug rebates. In contrast, reported member months in the APCD data is 16% higher than the member months reported in the NAIC statement. The CareFirst organizations represent almost half of the total paid dollars included in the APCD data and the results in this report are sensitive to errors contained in this data. The HSCRC worked directly with CareFirst to reconcile the APCD data to CareFirst’s internal reporting, and the findings of this reconciliation process were implemented into the processing of the APCD data for this report..

Attachment B-1 shows our comparison of the Maryland APCD data with CY 2019 financial statement data. Attachment B-2 details the exclusions applied to the APCD data.

**Figure 3** below shows the starting allowed amounts and the allowed amounts added for the IBNR amounts.

**FIGURE 3: SUMMARY OF 2019 MARYLAND APCD DATA ADJUSTMENTS**

ADJUSTMENT	ALLOWED	PERCENT OF TOTAL
Total	\$ 13,915,763,213	100.0%

Payer, data quality, and line of business exclusions	8,361,888,784	60.1%
<b>Commercial and Individual Subtotal</b>	<b>\$ 5,553,874,429</b>	<b>39.9%</b>
+ Estimated IBNR	75,871,354	0.5%
- Estimated Teaching Costs	74,418,181	0.5%
<b>= Amounts in Summaries</b>	<b>\$ 5,555,327,602</b>	<b>39.9%</b>

## COMMERCIAL BENCHMARK DATABASE

We developed the benchmark cost and utilization metrics from the 2019 Milliman Consolidated Health Cost Guidelines Sources Database and IBM's MarketScan® Database (together referred to as the CHSD). The CHSD contains enrollment and claims cost experience for multiple contributors including insurance companies, third party administrators (TPAs), and large employers across the United States. For CY 2019, the experience for approximately 99 million commercial insured individuals is available nationwide. We processed the CHSD eligibility and detailed claims information, and using a process consistent with the process applied to the Maryland APCD data we used:

1. The Milliman HCG Grouper to assign service category and standard utilization counts
2. The Milliman GlobalRVUs to assign RVUs to all medical services
3. The 2017 HHS-HCC platinum risk score model<sup>5</sup> to assign risk scores

Additionally, benefit adjustment factors and teaching cost amounts were applied to the CHSD using a process consistent with the Maryland APCD data. Teaching costs were assigned based on MSA-level per day averages developed by the HSCRC, rather than by hospital, because hospital-specific identifiers were not readily available in the CHSD.

The enrollment, risk score, cost, and utilization metrics were summarized by the MSA of the individual's residence. For this analysis, the benchmark data is limited to commercially insured individuals under age 65. The reported allowed amounts reflect CY 2019 dates of service and are adjusted for the estimated IBNR claims costs, based on claims completion patterns in the data.

## DEFINITION OF COST

For the purposes of this analysis, cost refers to the allowed FFS payments to providers including primary insurer payments, member payments, and payments from secondary sources of coverage. Payments outside of the administrative claims data are not included. Specifically, capitation, bonus or provider risk sharing settlement payments and refunds are not included.

## SERVICE CATEGORY ASSIGNMENT

Service category was assigned using the Milliman HCG Grouper software. The HCG Grouper assigns each claim service line to a Health Cost Guidelines (HCG) service cost category based on the medical coding on the claim. In general, the following claims elements are used to assign service category:

1. **Inpatient:** Inpatient claims are identified based on the presence of room and board revenue codes and are categorized based on the diagnosis related group (DRG) present on the claim.
2. **Outpatient:** Outpatient claims are identified based on the presence of revenue codes on the claim or based on the provider type (e.g., ambulatory surgical center). Outpatient claims are categorized primarily based on the revenue codes and Healthcare Common Procedure Coding System (HCPCS) or Common Procedure Terminology (CPT) codes on the claim.
3. **Professional/other:** Professional/other claims are identified based on the lack of revenue codes or based on the provider type. Physician revenue code line items billed as part of a facility claim are categorized as

<sup>5</sup> Because the 2018 and 2019 HHS-HCC model requires prescription drug data and Milliman has not processed or validated that data, the 2017 HHS-HCC model was used for 2019 medical claim data risk adjustment. The 2017 HHS-HCC model requires only member demographic and diagnostic information.

professional/other. Professional/other claims are categorized primarily based on the HCPCS/CPT code, place of service, and provider type (e.g., home health provider) information.

### RISK SCORE NORMALIZATION

Risk scores were assigned using the 2017 HHS-HCC platinum risk score model. We understand that the HSCRC selected the HHS platinum risk score model for the following reasons:

1. The model is publicly available
2. The model is intended to be used on individual and small group populations
3. The model is concurrent (i.e., it predicts costs for the same time period as the diagnosis collection period)
4. The model is diagnosis-based
5. The model reflects an average member cost sharing of approximately 90%, which is similar to being calibrated on allowed cost and is generally consistent with the relatively rich benefit levels found in employer sponsored health plans

The HHS platinum risk scores predict aggregate costs for all services, not costs by service category. However, we use the risk scores to normalize cost and utilization (RVUs) for each major service category (inpatient, outpatient, and professional/other). Caution should be used when interpreting these results because costs by service category may not vary linearly with risk score.

### UNIT PRICE NORMALIZATION

Case mix was measured using the Milliman *GlobalRVUs™* and Milliman *Resource Based Relative Value Scale for Hospitals™ (RBRVS for Hospitals™)* to assign RVUs to inpatient, outpatient, and professional/ancillary services. RVUs represent the relative amount of work required for each service. Dividing allowed charges by RVUs yields a conversion factor that measures the relative case mix and severity adjusted reimbursement. An area with a higher conversion factor has higher reimbursement per unit of work than an area with a lower conversion factor.

The inpatient RVUs are assigned based on the All-Patient Refined (APR) DRG and length of stay of each admission. The outpatient RVUs are assigned based on the HCPCS/CPT code, modifier, and unit coding for each service line. The professional RVUs are assigned based on the HCPCS/CPT code, modifier, unit coding, and place of service for each service line.

Because the CHSD is comprised of multiple contributors, we reviewed the data quality for each contributor. Some contributors are excluded based on this review. For example, we excluded contributors when the International Classification of Diseases (ICD) coding was not complete enough for DRG assignment. Additionally, we reviewed the data quality for specific service categories and if insufficient information was available to assign RVUs accurately, we imputed RVUs based on the provider type and payment information for these services. For example, we imputed RVUs when specific outpatient service categories had HCPCS/CPT codes and modifiers that were not reliably populated.

Assignment of RVUs for home health services was based on high-level assumptions because detailed coding was not consistently available in the Maryland APCD data and the CHSD. This limits the accuracy of the RVUs and unit price results for this service category. Skilled nursing facility (SNF) RVUs were assigned based on length of stay.

## PLAN BENEFIT NORMALIZATION<sup>6</sup>

We have developed plan benefit normalization factors to account for allowed cost and utilization differences caused by plan design. The allowed PMPM cost factors normalize both utilization and unit price. The RVU PMPM factors normalize utilization and service intensity, but not unit price. The plan benefit factors were developed as follows:

1. We calculated average coinsurance at the employer group and product level using the 2017 CHSD benchmark data. This process effectively assumes that all members with the same product and employer have the same benefit levels, which is a simplification.
2. The plan benefit factors are calculated as the ratio of the risk adjusted amount for each coinsurance level to the total risk adjusted amount. These factors are calculated for both allowed dollars and RVUs and by inpatient, outpatient, and professional service categories separately.
3. We reviewed the results with the HSCRC and made one smoothing adjustment: the coinsurance 95% plan benefit factor for professional services was increased by refining the data contributors included in the calculation.

Figure 4 below shows the plan benefit factors based on the 2017 CHSD benchmark data.

**FIGURE 4: BENCHMARK PLAN BENEFIT FACTORS - INPATIENT, OUTPATIENT, AND PROFESSIONAL COINSURANCE RANGE COMMERCIAL POPULATION, ALL MSAS, LIMITED TO UNDER AGE 65**

2017 MILLIMAN BENCHMARK (NATIONWIDE) PLAN COINSURANCE RANGE	PLAN BENEFIT FACTORS					
	RVU			ALLOWED		
	IP	OP	PROF	IP	OP	PROF
95%+	1.142	1.061	1.070	1.216	1.063	1.050
85%-95%	1.043	1.039	1.032	1.054	1.037	1.046
75%-85%	0.992	0.987	0.989	0.973	0.995	0.986
65%-75%	0.850	0.910	0.942	0.821	0.895	0.934

To apply the normalization factors, we calculated the average overall coinsurance by area and interpolated between the plan benefit factors. For example, (values are illustrative):

1. For an MSA, the average overall coinsurance is 84% and the risk adjusted inpatient (IP) RVU PMPM is 0.70
2. We interpolate from midpoint to midpoint:
  - a. Midpoint of range [85% - 95%] = 90% (high bound)
  - b. Midpoint of range [75% - 85%] = 80% (low bound)
  - c. The weight given to the factors in the [85% – 95%] range is (4 / 10) which is calculated as  $(84\% - 80\%) / (90\% - 80\%) = [(actual\ overall\ coinsurance) - (low\ bound)] / [(high\ bound) - (low\ bound)]$
  - d. The weight given to the factors in the [75% – 85%] range is (6 / 10) which is calculated as  $1 - (4 / 10)$
3. The plan benefit factor is  $[(4 / 10) \times (1.043)] + [(6 / 10) \times (0.992)] = 1.012$
4. The plan benefit adjusted IP RVU is calculated as (risk adjusted IP RVU PMPM) x (interpolated plan benefit factor) =  $0.70 \times 1.012 = 0.71$

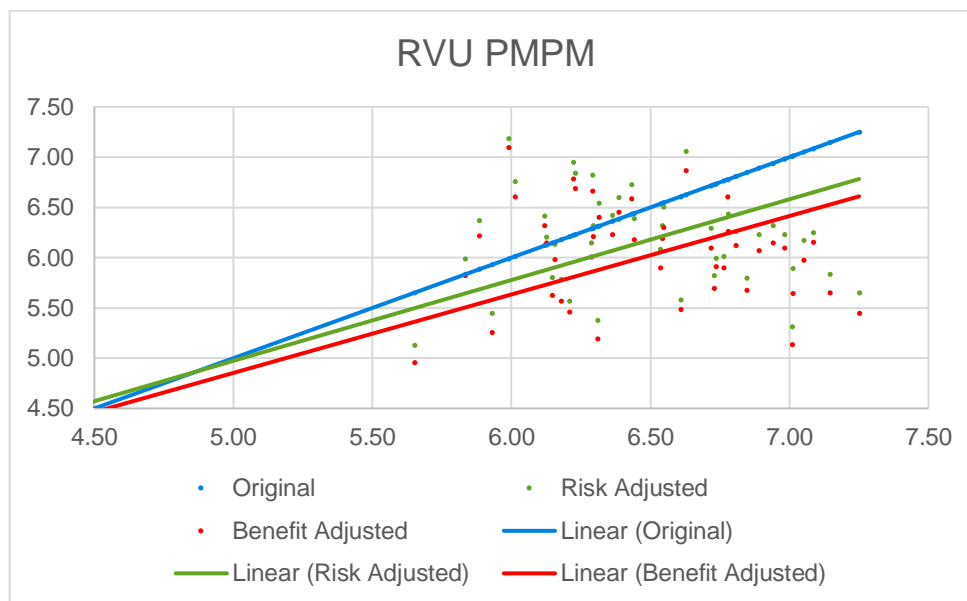
<sup>6</sup> Milliman and Abt benefit normalization factors may show slight differences due to the order in which results were summarized for the PSAP exhibit. Milliman's benefit normalization factor is calculated based on the average paid to allowed ratio for each PSAP whereas Abt's benefit normalization factor is calculated for each ZIP Code and aggregated to the PSAP level.

Using the benefit factors developed from the CHSD, we have calculated the benefit normalization factors by area for both the CHSD benchmark results and the Maryland APCD data.

**Figure 5** below shows the impact of risk and plan benefit adjusting the RVU PMPMs on the 2019 CHSD benchmark MSAs:

1. The blue line is the original RVU PMPM
2. The green line is the risk adjusted RVU PMPM, which has a flatter slope than the original unadjusted RVU PMPM line
3. The red line is the risk and plan benefit adjusted RVU PMPM

**FIGURE 5: SCATTERPLOT OF APCD DATA RVU PMPM FOR EACH PSAP, RISK ADJUSTED RVU PMPM, AND RISK & PLAN BENEFIT ADJUSTED RVU PMPM, FROM 2019 BENCHMARK EXHIBIT 2**



This figure shows that after normalizing for risk score, the RVUs PMPM move towards the average RVUs PMPM across all areas with limited exceptions – resulting in a more horizontal linear fit line. The results are similar for allowed PMPM (not shown in the chart above), but the benefit normalization has a more significant effect in that case.

## Data reliance and limitations

The 2019 benchmark and Maryland APCD data processed and summarized data have been prepared for the internal use of the Maryland HSCRC and Abt Associates. 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 and amended on September 30, 2021.

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

We have also relied on the data and other information provided by the HSCRC for this analysis. We have performed a limited review of this data and other information and checked for reasonableness and consistency. We have 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.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. Peter Hallum, Mark Franklin, Lance Anderson, and Charlie Mills are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses in this report.

## Attachments

**GLOSSARY**

**EXHIBITS 1 - 3: APCD AND BENCHMARK EXPERIENCE SUMMARIES**

**ATTACHMENT A: MILLIMAN WHITE PAPER: MILLIMAN GLOBALRVUS**

**ATTACHMENT B: APCD DATA RECONCILIATION AND EXCLUSIONS**



Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

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## Glossary

Term	Description
Annual Admits per 1,000	This is calculated as $(\text{annual admit counts}) / (\text{annual member months}) \times 12,000$ .
Average Length of Stay	This is calculated as $(\text{annual day counts}) / (\text{annual admit counts})$ .
Annual Utilization per 1,000	This is calculated as $(\text{annual utilization counts}) / (\text{annual member months}) \times 12,000$ . The utilization measure varies by service type (i.e. days, visits, procedures).
Average Allowed per Service	This is calculated as $(\text{annual allowed total}) / (\text{annual utilization counts})$ . The utilization measure varies by service type (i.e. days, visits, procedures).
Allowed PMPM	This is calculated as $(\text{annual allowed total}) / (\text{annual member months})$ .
RVU	Relative value unit is a measure for the care severity and it is comparable across all service categories.
RVU PMPM	This is calculated as $(\text{annual rvu total}) / (\text{annual member months})$ .
Unit Price	This is calculated as $(\text{annual allowed total}) / (\text{annual rvu total})$ .
Patient Pay Utilization per 1,000	This is calculated as $(\text{annual utilization counts where patient paid}) / (\text{annual member months}) \times 12,000$ . The utilization measure varies by service type (i.e. days, visits, procedures).
Average Patient Pay	This is calculated as $(\text{annual patient paid total}) / (\text{annual utilization counts})$ . The utilization measure varies by service type (i.e. days, visits, procedures).
Patient Pay PMPM	This is calculated as $(\text{annual patient paid total}) / (\text{annual member months})$ .
Paid PMPM	This is calculated as $(\text{annual paid total}) / (\text{annual member months})$ .
COB PMPM	These are coordination of benefit claims and it is calculated as $(\text{annual allowed totals for COB claim type}) / (\text{annual member months})$ .
Risk Score	2017 model HHS Platinum risk score (calculated based on 2018 diagnosis and membership information)
Benefit Normalization Factor	Benefit richness factor based on member coinsurance. A higher factor indicates richer benefits and higher expected utilization.
APCD	Maryland All Payer Claims Database.
CHSD	Milliman's Consolidated Health Cost Guidelines (HCGs) Sources Database (CHSD): A comprehensive, longitudinal, health care experience data containing detailed enrollment and medical claims data.
PSAP	Provider Service Area Plus. Each PSAP is a hospital service area made up by a group of ZIP codes. If two or more hospitals shares a ZIP code, the experience for the ZIP code is allocated between the hospitals.

**Exhibit 1a**  
**Abt Associates**  
**Maryland APCD: Incurred 1/2019 through 12/2019, Paid through 3/2020 (Adjusted to Estimated Ultimate Incurred)**  
**Summary of Experience by County and MSA**  
**Commercial and Individual, Limited to Members Under Age 65 (Excludes Prescription Drugs)**

- (1) Risk Score is calculated based on Medical eligibility with valid risk scores, i.e. the risk score shown equals total risk score over total Medical. Risk scores are normalized to All MD County risk score of 1.373062.  
(2) Completion factors used are: Inpatient = 0.9865, Outpatient = 0.9865, and Professional = 0.9865. Risk normalized to All MD Counties  
(3) The plan benefit factors for the total amounts are calculated on the combined coinsurance level.  
(4) Teaching hospital amounts are removed from Inpatient allowed and paid amounts (except SNF, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HCRCR on 12/11/2019 named "Hospital file for commercial removal of GME 12-09.xlsx." For benchmark results, this adjustment was made at the MSA level.

County	County Name	Member Months and Risk		Total Allowed (2)						Allowed PMPM (2)				RVUs PMPM (2)				Allowed Per RVU							
		Medical MMs	2017 HHS Model Platinum Risk Score (1)	Inpatient	Teaching Adjustment (4)	Inpatient w/ Teaching Adjustment	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total
Total - All Counties		15,954,294	1.373	\$1,163,139,706	\$74,418,181	\$1,088,721,525	\$1,601,892,859	\$2,864,713,220	\$5,555,327,604	\$68.24	\$100.41	\$179.56	\$348.20	\$348.21	\$337.31	0.93	1.26	4.22	6.40	6.40	6.25	\$73.60	\$79.94	\$42.56	\$54.39
24001	Alliancy	171,049	1.629	\$14,658,457	\$412,731	\$14,245,727	\$34,943,339	\$28,465,212	\$67,654,278	\$83.28	\$145.83	\$166.42	\$395.53	\$333.42	\$316.46	1.11	1.91	4.08	7.10	5.99	5.73	\$74.82	\$76.29	\$40.81	\$55.69
24003	Anne Arundel	1,638,339	1.371	\$114,727,138	\$7,730,852	\$106,996,286	\$151,445,144	\$299,135,426	\$557,576,856	\$65.31	\$92.44	\$182.58	\$340.33	\$340.96	\$330.68	0.93	1.28	4.40	6.61	6.62	6.47	\$70.28	\$72.21	\$41.49	\$51.48
24005	Baltimore	2,282,285	1.453	\$183,538,672	\$14,139,776	\$169,398,896	\$262,559,983	\$411,205,003	\$843,163,881	\$74.22	\$115.04	\$180.17	\$369.44	\$349.18	\$338.86	1.05	1.37	4.18	6.59	6.23	6.09	\$70.80	\$83.97	\$43.14	\$56.02
24009	Calvert	298,118	1.382	\$21,193,540	\$1,097,031	\$20,096,509	\$29,533,827	\$55,260,212	\$104,890,547	\$67.41	\$99.07	\$185.36	\$351.84	\$349.51	\$334.81	0.89	1.27	4.28	6.44	6.39	6.18	\$75.77	\$78.21	\$43.31	\$54.66
24011	Caroline	98,027	1.358	\$6,304,256	\$214,075	\$6,090,181	\$10,190,426	\$17,989,986	\$34,270,593	\$62.13	\$103.96	\$183.52	\$349.60	\$353.48	\$340.16	0.79	1.37	4.47	6.63	6.70	6.50	\$79.58	\$75.64	\$41.02	\$52.74
24013	Carroll	614,010	1.339	\$42,970,836	\$2,565,189	\$40,405,647	\$54,582,871	\$110,742,727	\$206,131,245	\$65.81	\$88.55	\$180.36	\$335.71	\$344.29	\$334.42	0.94	1.31	4.17	6.42	6.58	6.43	\$70.07	\$68.59	\$43.23	\$52.32
24015	Cecil	220,590	1.383	\$20,366,603	\$997,781	\$19,468,822	\$32,297,665	\$33,984,747	\$66,751,236	\$86.26	\$146.41	\$154.06	\$398.74	\$385.84	\$374.45	0.95	1.52	3.73	6.19	6.15	6.00	\$82.70	\$96.63	\$41.35	\$62.77
24017	Charles	388,110	1.362	\$32,577,449	\$1,843,263	\$30,734,186	\$40,983,404	\$71,655,494	\$143,373,084	\$79.19	\$105.60	\$184.63	\$369.41	\$372.36	\$358.11	0.92	1.23	4.22	6.37	6.42	6.23	\$86.26	\$85.68	\$43.79	\$58.02
24019	Dorchester	71,857	1.502	\$5,354,486	\$167,844	\$5,186,642	\$9,172,816	\$12,958,435	\$27,317,893	\$72.18	\$127.65	\$180.34	\$380.17	\$347.58	\$334.48	1.01	1.65	4.43	7.09	6.48	6.28	\$71.30	\$77.47	\$40.74	\$53.64
24021	Frederick	934,801	1.289	\$69,267,389	\$3,763,012	\$65,504,376	\$67,394,370	\$182,369,069	\$315,267,816	\$70.07	\$72.09	\$195.09	\$337.26	\$339.13	\$346.41	0.95	1.04	4.63	6.62	7.05	6.86	\$73.72	\$69.29	\$42.13	\$50.94
24023	Garrett	75,697	1.543	\$5,139,083	\$36,922	\$5,176,005	\$6,082,160	\$13,406,304	\$10,125,454	\$80.35	\$177.10	\$133.76	\$391.22	\$348.02	\$333.59	0.75	1.89	3.03	5.67	5.05	4.57	\$107.08	\$93.81	\$44.09	\$68.97
24025	Harford	806,878	1.331	\$64,403,065	\$3,805,103	\$60,597,962	\$81,901,655	\$140,116,183	\$272,615,799	\$62.72	\$101.53	\$173.70	\$337.95	\$348.75	\$339.04	0.90	1.28	4.17	6.34	6.54	6.40	\$70.04	\$79.54	\$41.69	\$53.32
24027	Howard	1,014,060	1.206	\$66,034,061	\$4,859,797	\$51,174,263	\$74,915,071	\$178,188,833	\$304,278,167	\$50.46	\$73.88	\$175.72	\$300.06	\$341.61	\$331.98	0.71	1.06	4.20	5.97	6.80	6.65	\$70.99	\$69.72	\$41.81	\$50.23
24029	Kent	63,508	1.486	\$5,945,488	\$332,402	\$5,613,086	\$7,308,712	\$11,818,089	\$24,739,886	\$88.38	\$115.08	\$186.09	\$389.56	\$360.00	\$346.08	1.10	1.36	4.33	6.80	6.28	6.09	\$80.13	\$84.65	\$42.94	\$57.32
24031	Montgomery	2,840,986	1.220	\$168,810,992	\$8,371,352	\$160,439,640	\$213,438,671	\$525,798,884	\$899,677,195	\$56.47	\$75.13	\$185.08	\$316.68	\$356.52	\$347.34	0.73	1.03	4.31	6.07	6.83	6.70	\$77.10	\$73.15	\$42.94	\$52.18
24033	Prince Georges	1,796,918	1.452	\$138,456,122	\$8,375,340	\$130,080,783	\$174,931,539	\$305,050,925	\$610,063,246	\$72.39	\$97.35	\$169.76	\$339.51	\$321.11	\$307.88	0.96	1.18	3.95	6.08	5.75	5.57	\$75.32	\$62.73	\$43.02	\$55.80
24035	Queen Annes	174,832	1.275	\$11,703,828	\$762,167	\$10,941,661	\$15,240,007	\$32,082,469	\$59,244,135	\$62.58	\$87.17	\$183.39	\$333.14	\$359.84	\$347.37	0.81	1.23	4.39	6.42	6.92	6.75	\$77.66	\$70.77	\$41.81	\$51.86
24037	Saint Marys	272,556	1.382	\$23,402,793	\$1,452,104	\$21,950,690	\$30,939,430	\$51,776,682	\$104,666,802	\$80.54	\$113.52	\$189.97	\$384.02	\$381.41	\$366.44	0.98	1.42	4.15	6.55	6.50	6.30	\$82.33	\$80.18	\$45.74	\$58.65
24039	Somerset	50,120	1.807	\$4,188,057	\$168,529	\$4,019,528	\$6,879,521	\$20,398,361	\$48,200,000	\$80.20	\$153.62	\$173.17	\$406.99	\$309.27	\$295.20	1.36	1.77	5.49	9.52	5.71	5.49	\$69.08	\$86.59	\$39.49	\$54.15
24041	Talbot	113,963	1.410	\$8,121,892	\$578,922	\$7,542,969	\$11,632,479	\$22,156,732	\$41,332,181	\$66.19	\$102.07	\$194.42	\$362.68	\$353.10	\$344.50	0.90	1.42	4.73	7.05	6.86	6.73	\$73.18	\$72.09	\$41.12	\$51.45
24043	Washington	411,598	1.493	\$27,485,660	\$1,062,012	\$26,423,648	\$36,127,005	\$75,356,561	\$137,867,213	\$64.15	\$87.77	\$163.08	\$335.00	\$327.81	\$316.00	0.95	1.28	4.07	6.29	6.16	6.02	\$67.64	\$66.69	\$45.00	\$53.22
24045	Wicomico	266,422	1.477	\$20,713,203	\$774,090	\$19,939,113	\$27,336,120	\$48,969,035	\$94,304,267	\$74.94	\$102.83	\$176.30	\$353.97	\$329.03	\$317.84	1.07	1.38	4.49	6.94	6.45	6.27	\$70.06	\$74.49	\$39.30	\$51.03
24047	Worcester	172,992	1.411	\$12,399,346	\$397,325	\$12,002,021	\$20,015,793	\$28,162,183	\$60,179,998	\$69.38	\$115.70	\$162.79	\$347.88	\$332.47	\$331.48	0.95	1.38	4.12	6.44	6.27	6.17	\$73.23	\$83.93	\$39.55	\$54.00
24510	Baltimore City	1,176,778	1.619	\$114,377,292	\$10,570,562	\$103,806,730	\$203,436,917	\$204,685,360	\$511,929,007	\$88.21	\$172.88	\$173.94	\$435.03	\$369.00	\$359.62	1.23	1.63	4.07	6.93	5.88	5.75	\$71.87	\$105.98	\$42.76	\$62.81

**Maryland APCD (Maryland MSAs)**

MSA	MSA Name	Member Months and Risk		Total Allowed (2)						Allowed PMPM (2)				RVUs PMPM (2)				Allowed Per RVU							
		Medical MMs	2017 HHS Model Platinum Risk Score	Inpatient	Teaching Adjustment (4)	Inpatient w/ Teaching Adjustment	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total
12580	Baltimore-Columbia-Towson, MD	7,706,982	1.402	\$577,754,892	\$44,433,447	\$533,321,445	\$844,841,647	\$1,376,135,999	\$2,753,939,091	\$69.20	\$109.57	\$178.56	\$357.33	\$349.90	\$339.89	0.98	1.33	4.21	6.52	6.39	6.24	\$70.92	\$82.27	\$42.37	\$54.79
15680	California-Levinton Park, MD	272,556	1.382	\$23,402,793	\$1,452,104	\$21,950,690	\$30,939,430	\$51,776,682	\$104,666,802	\$80.54	\$113.52	\$189.97	\$384.02	\$381.41	\$366.44	0.98	1.42	4.15	6.55	6.50	6.30	\$82.33	\$80.18	\$45.74	\$58.65
19060	Cumberland, MD	171,049	1.629	\$14,658,457	\$412,731	\$14,245,727	\$34,943,339	\$28,465,212	\$67,654,278	\$82.28	\$145.83	\$166.42	\$395.53	\$333.42	\$316.46	1.11	1.91	4.08	7.10	5.99	5.73	\$74.82	\$76.29	\$40.81	\$55.69
24999	Non-MSA Area, MD	423,052	1.449	\$31,865,203	\$1,350,165	\$30,515,038	\$51,710,737	\$75,048,697	\$157,274,472	\$73.13	\$122.23	\$177.40	\$371.76	\$352.30	\$339.93	0.90	1.52	4.26	6.67	6.32	6.15	\$80.47	\$80.33	\$41.68	\$55.70
25180	Hagerstown-Martinsburg, MD	411,598	1.493	\$27,485,660	\$1,062,012	\$26,423,648	\$36,127,005	\$75,356,561	\$137,867,213	\$64.15	\$87.77	\$163.08	\$335.00	\$327.81	\$316.00	0.95	1.28	4.07	6.29	6.16	6.02	\$67.64	\$66.69	\$45.00	\$53.22
41540	Salisbury, MD	489,534	1.488	\$37,300,606	\$1,339,944	\$35,960,662	\$55,111,225	\$93,810,738	\$174,862,626	\$73.46	\$112.88	\$171.21	\$357.24	\$329.73	\$319.36	1.05	1.42	4.35	6.82	6.30	6.14	\$89.64	\$73.22	\$39.40	\$52.37
43524	Silver Spring-Frederick-Rockville, MD	3,775,787	1.237	\$238,078,380	\$12,134,365	\$225,944,016	\$280,833,041	\$708,167,954	\$1,214,945,011	\$59.84	\$74.38	\$187.56	\$321.77	\$357.19	\$347.10	0.79	1.03	4.39	6.21	6.89	6.74	\$76.09	\$72.19	\$42.73	\$51.85
47894	Washington-Arlington-Alexandria, MD	2,483,146	1.429	\$192,227,111	\$11,315,633	\$180,911,478	\$245,448,769	\$431,966,630	\$858,326,878	\$72.86	\$98.85	\$173.96	\$345.66	\$332.04	\$318.49	0.95	1.20	4.03	6.17	5.93	5.74	\$77.03	\$82.63	\$43.18	\$56.02
48864	Wilmington, MD	220,590	1.383	\$20,366,603	\$997,781	\$19,468,822	\$32,297,665	\$33,984,747	\$66,751,236	\$86.26	\$146.41	\$154.06	\$398.74	\$385.84	\$374.45	0.95	1.52	3.73	6.19	6.15	6.00	\$82.70	\$96.63	\$41.35	\$62.77
Total		15,954,294	1.373	\$1,163,139,706	\$74,418,181	\$1,088,721,525	\$1,601,892,859	\$2,864,713,220	\$5,555,327,604	\$68.24	\$100.41	\$179.56	\$												

**Exhibit 1b**  
**AB Associates**  
**Maryland APCD: Incurred 1/2019 through 12/2019, Paid through 3/2020 (Adjusted to Estimated Ultimate Incurred)**  
**Plan Benefit Normalization Factors by Maryland County and MSA**  
**Commercial and Individual, Limited to Members Under Age 65 (Excludes Prescription Drugs)**

- (1) Linearly interpolated between coinsurance ratios.  
(2) Risk adjusted amounts are normalized to All MD Counties which has a 2017 HHS Platinum risk score of 1.373692.  
(3) Risk adjusted and benefit adjusted amounts are calculated as (risk adjusted amount) / (benefit normalization factor).  
(4) Teaching hospital amounts are removed from Inpatient allowed and paid amounts (except SNF, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HSCRC on 12/11/2019 named "Hospital file for commercial removal of GME 12-09.xls". For benchmark results, this adjustment was made at the MSA level.

County	County Name	Member Months, Risk, and Plan Coinsurance			RVU Plan Benefit Normalization Factors (1)			Allowed Plan Benefit Normalization Factors (1)			Allowed PMPM			Risk Adj Allowed PMPM (2)			Risk Adj and Benefit Adj Allowed PMPM (3)			RVU PMPM			Risk Adj RVU PMPM (2)			Risk Adj and Benefit Adj RVU PMPM (3)								
		Medical MMs	Model Platinum Risk Score	Plan Coinsurance Range	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total				
		Total - All Counties	15,954,294	1.373	85%-95%	1.032	1.028	1.023	1.036	1.028	1.033	\$68.24	\$100.41	\$179.56	\$348.20	\$68.24	\$100.41	\$179.56	\$348.21	\$65.84	\$97.68	\$173.80	\$337.31	0.93	1.26	4.22	6.40	0.93	1.26	4.22	6.40	0.90	1.22	4.13
24001	Allegheny	171,049	1.629	85%-95%	1.064	1.044	1.040	1.088	1.042	1.047	\$83.28	\$145.83	\$166.42	\$395.53	\$70.21	\$122.93	\$140.29	\$333.42	\$64.53	\$117.93	\$134.00	\$316.46	1.11	1.91	4.08	7.10	0.94	1.61	3.44	5.99	0.88	1.54	3.31	5.73
24003	Anne Arundel	1,638,339	1.371	85%-95%	1.031	1.027	1.022	1.035	1.027	1.032	\$65.31	\$92.44	\$182.58	\$340.33	\$65.43	\$92.61	\$182.92	\$340.96	\$63.23	\$90.17	\$177.28	\$330.68	0.93	1.28	4.40	6.61	0.93	1.28	4.41	6.62	0.90	1.25	4.32	6.47
24005	Baltimore	2,282,285	1.453	85%-95%	1.031	1.027	1.021	1.034	1.027	1.031	\$74.22	\$115.04	\$180.17	\$368.44	\$70.15	\$108.73	\$170.29	\$348.18	\$67.84	\$105.91	\$165.11	\$338.86	1.05	1.37	4.18	6.59	0.99	1.29	3.95	6.23	0.96	1.26	3.86	6.09
24009	Calvert	295,118	1.382	85%-95%	1.042	1.038	1.031	1.052	1.036	1.045	\$67.41	\$99.07	\$165.36	\$351.84	\$66.96	\$98.41	\$164.14	\$343.51	\$63.64	\$94.98	\$176.19	\$334.91	0.89	1.27	4.28	6.44	0.88	1.26	4.25	6.39	0.85	1.21	4.12	6.18
24011	Caroline	98,027	1.358	85%-95%	1.038	1.034	1.028	1.046	1.033	1.040	\$62.13	\$103.96	\$163.52	\$349.60	\$62.82	\$105.11	\$185.56	\$355.48	\$60.05	\$101.76	\$178.35	\$340.16	0.78	1.37	4.47	6.63	0.79	1.39	4.52	6.70	0.76	1.34	4.40	6.50
24013	Carroll	814,010	1.339	85%-95%	1.030	1.026	1.021	1.033	1.026	1.030	\$65.81	\$98.55	\$160.36	\$335.71	\$67.49	\$91.84	\$164.97	\$344.29	\$65.36	\$98.52	\$179.54	\$334.42	0.94	1.31	4.17	6.42	0.96	1.34	4.28	6.58	0.94	1.31	4.19	6.43
24015	Cecil	220,550	1.393	85%-95%	1.031	1.027	1.021	1.034	1.027	1.032	\$69.26	\$146.41	\$154.06	\$388.74	\$67.60	\$145.32	\$152.91	\$385.84	\$64.69	\$141.53	\$148.23	\$371.45	0.95	1.52	3.73	6.19	0.94	1.50	3.70	6.15	0.92	1.46	3.62	6.00
24017	Charles	388,110	1.362	85%-95%	1.039	1.035	1.028	1.047	1.033	1.041	\$79.19	\$105.60	\$164.63	\$366.41	\$79.82	\$106.44	\$186.10	\$372.36	\$76.27	\$103.03	\$178.81	\$356.11	0.92	1.23	4.22	6.37	0.93	1.24	4.25	6.42	0.89	1.20	4.13	6.23
24019	Dorchester	71,857	1.502	85%-95%	1.038	1.035	1.028	1.046	1.033	1.041	\$72.19	\$127.65	\$180.34	\$380.17	\$65.99	\$116.71	\$164.86	\$347.58	\$63.07	\$112.98	\$158.44	\$334.48	1.01	1.65	4.43	7.09	0.93	1.51	4.05	6.48	0.89	1.46	3.94	6.28
24021	Frederick	934,801	1.289	85%-95%	1.035	1.032	1.025	1.042	1.031	1.037	\$70.07	\$72.09	\$156.09	\$337.26	\$74.62	\$76.77	\$207.74	\$359.13	\$71.62	\$74.49	\$200.30	\$346.41	0.95	1.04	4.63	6.62	1.01	1.11	4.93	7.05	0.98	1.07	4.81	6.86
24023	Garrett	75,697	1.543	85%-95%	1.043	1.039	1.032	1.053	1.037	1.046	\$80.35	\$177.10	\$133.76	\$391.22	\$71.48	\$157.55	\$118.99	\$344.02	\$67.85	\$151.97	\$113.77	\$335.59	0.75	1.89	3.03	5.67	0.67	1.68	2.70	5.05	0.64	1.62	2.62	4.87
24025	Harford	806,678	1.331	85%-95%	1.029	1.025	1.020	1.032	1.025	1.029	\$66.72	\$101.53	\$173.70	\$337.95	\$64.73	\$104.76	\$170.26	\$341.61	\$66.25	\$102.18	\$174.32	\$339.04	0.90	1.28	4.17	6.34	0.92	1.30	4.30	6.54	0.90	1.29	4.31	6.40
24027	Howard	1,014,060	1.206	85%-95%	1.029	1.025	1.020	1.032	1.025	1.030	\$60.46	\$73.88	\$175.72	\$300.96	\$67.45	\$84.11	\$200.05	\$341.61	\$66.68	\$92.01	\$194.29	\$331.98	0.71	1.06	4.20	5.97	0.81	1.21	4.78	6.80	0.79	1.16	4.65	6.65
24029	Kent	63,508	1.486	85%-95%	1.039	1.035	1.028	1.047	1.033	1.041	\$88.38	\$115.08	\$186.09	\$389.56	\$81.68	\$106.35	\$171.97	\$360.00	\$78.00	\$102.91	\$165.17	\$348.08	1.10	1.36	4.33	6.80	1.02	1.26	4.00	6.28	0.98	1.21	3.89	6.09
24031	Montgomery	2,840,986	1.220	85%-95%	1.027	1.023	1.018	1.028	1.024	1.027	\$55.47	\$75.13	\$165.08	\$316.68	\$63.58	\$84.58	\$206.38	\$356.62	\$61.63	\$82.62	\$202.88	\$347.34	0.73	1.03	4.31	6.07	0.82	1.16	4.85	6.83	0.80	1.13	4.77	6.70
24033	Prince Georges	1,796,918	1.452	85%-95%	1.041	1.038	1.030	1.051	1.035	1.044	\$72.39	\$97.35	\$169.76	\$339.51	\$68.47	\$92.07	\$160.56	\$321.11	\$65.15	\$88.93	\$153.80	\$307.88	0.96	1.18	3.95	6.08	0.91	1.11	3.73	5.75	0.87	1.07	3.62	5.57
24035	Queen Annes	174,832	1.275	85%-95%	1.033	1.029	1.023	1.037	1.028	1.034	\$65.99	\$87.17	\$183.39	\$333.14	\$67.41	\$93.89	\$197.53	\$358.84	\$64.88	\$91.30	\$191.08	\$347.37	0.81	1.23	4.39	6.42	0.87	1.33	4.72	6.92	0.84	1.29	4.62	6.78
24037	Saint Marys	272,556	1.382	85%-95%	1.040	1.036	1.029	1.048	1.034	1.042	\$81.54	\$113.52	\$189.87	\$384.02	\$79.99	\$112.75	\$188.68	\$381.41	\$76.31	\$109.04	\$181.08	\$366.44	0.98	1.42	4.15	6.56	0.97	1.41	4.12	6.50	0.93	1.36	4.01	6.30
24039	Somerset	50,120	1.807	85%-95%	1.051	1.041	1.035	1.067	1.039	1.046	\$80.20	\$153.62	\$173.17	\$406.99	\$60.94	\$116.73	\$131.59	\$309.27	\$67.10	\$112.34	\$125.75	\$295.20	1.36	1.77	4.39	7.52	1.03	1.35	3.53	5.71	0.98	1.29	3.22	5.49
24041	Talbot	113,963	1.410	85%-95%	1.026	1.022	1.017	1.027	1.023	1.026	\$68.19	\$102.07	\$184.42	\$362.88	\$64.44	\$99.38	\$189.28	\$355.10	\$62.57	\$97.17	\$184.56	\$344.50	0.90	1.42	4.73	7.05	0.88	1.38	4.60	6.86	0.86	1.35	4.53	6.73
24043	Washington	411,588	1.403	85%-95%	1.031	1.027	1.021	1.034	1.027	1.032	\$64.15	\$87.77	\$183.08	\$338.00	\$62.77	\$85.89	\$179.15	\$327.81	\$60.88	\$83.64	\$173.67	\$318.00	0.95	1.28	4.07	6.29	0.93	1.25	3.98	6.16	0.90	1.22	3.90	6.02
24045	Wicomico	268,422	1.477	85%-95%	1.035	1.032	1.025	1.042	1.031	1.037	\$74.84	\$102.83	\$176.30	\$353.97	\$65.57	\$95.58	\$163.87	\$329.03	\$66.78	\$92.74	\$158.01	\$317.54	1.07	1.38	4.49	6.94	0.99	1.28	4.17	6.45	0.96	1.25	4.07	6.27
24047	Worcester	172,992	1.411	85%-95%	1.022	1.018	1.014	1.021	1.020	1.022	\$69.38	\$115.70	\$162.79	\$347.88	\$67.50	\$112.57	\$158.39	\$338.47	\$66.09	\$110.36	\$155.03	\$331.48	0.95	1.38	4.12	6.44	0.92	1.34	4.01	6.27	0.90	1.32	3.95	6.17
24510	Baltimore City	1,176,778	1.619	85%-95%	1.027	1.023	1.018	1.029	1.024	1.027	\$88.21	\$172.88	\$173.94	\$438.03	\$74.82	\$146.64	\$147.54	\$386.00	\$72.75	\$143.23	\$143.64	\$359.62	1.23	1.63	4.07	6.93	1.04	1.38	3.45	5.88	1.01	1.35	3.39	5.75

**Maryland APCD (Maryland MSAs)**

MSA	MSA Name	Member Months, Risk, and Plan Coinsurance			RVU Plan Benefit Normalization Factors (1)			Allowed Plan Benefit Normalization Factors (1)			Allowed PMPM			Risk Adj Allowed PMPM (2)			Risk Adj and Benefit Adj Allowed PMPM (3)			RVU PMPM			Risk Adj RVU PMPM (2)			Risk Adj and Benefit Adj RVU PMPM (3)							
		Medical MMs	Model Platinum Risk Score	Plan Coinsurance Range	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total			
		Total	15,954,294	1.373	85%-95%	1.032	1.028	1.023	1.036	1.028	1.033	\$68.24	\$100.41	\$179.56	\$348.20	\$68.24	\$100.41	\$179.56	\$348.21	\$65.84	\$97.68	\$173.80	\$337.31	0.93	1.26	4.22	6.40	0.93	1.26	4.22	6.40	0.90	1.22

**Exhibit 2a**  
**Abt Associates**  
**Maryland APCD: Incurred 1/2019 through 12/2019, Paid through 3/2020 (Adjusted to Estimated Ultimate Incurred)**  
**Summary of Experience by PSAP**  
**Commercial and Individual, Limited to Members Under Age 65 and Commercial LOB**

- (1) Risk Score is calculated based on Medical eligibility with valid risk scores, i.e. the risk score shown equals total risk score over total Medical. Risk scores are normalized to All MD county risk score of 1.373062.  
(2) Completion factors used are: Inpatient = 0.9605, Outpatient = 0.9605, and Professional = 0.9605.  
(3) The plan benefit factors for the total amounts are calculated based on the combined concourse level.  
(4) Teaching hospital amounts are removed from Inpatient allowed and paid amounts (except SNF, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HSCRC on 12/11/2019 named "Hospital file for commercial removal of GME 12-09.xlsx." For benchmark results, this adjustment was made at the MSA level.  
(5) Cost and utilization data are aggregated for each hospital's Primary Service Area Plus (PSAP). The hospital PSAP is based on the zip code and hospital share mapping provided by HSCRC from file named "All payer and Medicare PSAP 4.2.2019.xlsx."  
For each hospital's PSAP, the cost and utilization values are calculated as the sum of the PSAP zip's (cost or utilization value at the zip) x (hospital % share at the zip).  
(6) PSAPs with fewer than 120 member months have their results censored in this summary and associated cost models.

Hospital ID	Hospital Name (5)	Member Months and Risk		Total Allowed (2)							Allowed PMPM (2)				RVUs PMPM (2)				Allowed Per RVU						
		Medical MMs	2017 HHS Model Platinum Risk Score (1)	Inpatient	Teaching Adjustment (4)	Inpatient w/ Teaching Adjustment	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted	Total - Risk & Benefit Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total				
																						Inpatient	Outpatient	Prof / Other	Total
	Total - All ZIP Codes	15,953,462	1.373	\$1,163,116,961	\$74,417,054	\$1,088,699,907	\$1,601,828,255	\$2,864,585,940	\$5,555,114,103	\$68.24	\$100.41	\$179.56	\$348.21	\$348.21	\$337.32	0.93	1.26	4.22	6.40	6.40	6.25	\$73.60	\$79.94	\$42.56	\$54.39
210023	ANNE ARUNDEL	1,073,069	1.313	\$69,038,388	\$4,341,249	\$64,697,140	\$96,204,514	\$192,556,397	\$353,458,050	\$60.29	\$89.65	\$179.44	\$329.39	\$344.49	\$335.17	0.85	1.28	4.30	6.43	6.59	6.59	\$70.69	\$70.26	\$41.70	\$51.21
210061	ATLANTIC GENERAL	69,432	1.355	\$4,807,539	\$186,094	\$4,621,446	\$6,892,259	\$10,585,795	\$22,119,500	\$66.85	\$99.27	\$152.46	\$318.58	\$322.79	\$318.84	0.88	1.35	3.90	6.13	6.21	6.15	\$75.54	\$73.80	\$39.13	\$52.00
210043	BALTIMORE WASHINGTON	755,488	1.447	\$4,287,982	\$4,287,982	\$4,287,982	\$4,287,982	\$4,287,982	\$4,287,982	\$72.04	\$95.74	\$186.15	\$353.93	\$335.93	\$324.30	1.03	1.27	4.49	6.78	6.43	6.26	\$70.15	\$75.63	\$41.49	\$52.21
210013	BON SECOURS	25,701	1.612	\$2,711,278	\$263,166	\$2,448,112	\$2,608,112	\$4,201,440	\$11,131,455	\$97.59	\$179.83	\$314.47	\$440.89	\$334.17	\$320.65	1.45	1.70	3.86	6.21	5.31	5.14	\$67.47	\$105.62	\$42.38	\$62.91
210039	CALVERT	298,879	1.384	\$21,281,246	\$1,099,848	\$20,181,397	\$29,593,217	\$55,453,445	\$105,228,059	\$67.52	\$99.01	\$185.54	\$352.08	\$349.19	\$334.50	0.89	1.27	4.28	6.40	6.39	6.18	\$75.81	\$78.19	\$43.31	\$54.66
210033	CARROLL COUNTY	663,015	1.329	\$45,303,437	\$2,688,390	\$42,615,047	\$68,576,694	\$119,132,526	\$220,324,266	\$64.27	\$88.35	\$179.68	\$332.31	\$343.38	\$333.85	0.92	1.30	4.17	6.39	6.60	6.46	\$70.05	\$67.97	\$43.10	\$52.04
210035	CHARLES REGIONAL	387,349	1.360	\$32,489,743	\$1,840,445	\$30,649,298	\$40,924,014	\$71,462,261	\$143,035,572	\$79.13	\$105.65	\$184.49	\$369.27	\$372.69	\$358.43	0.92	1.23	4.21	6.36	6.42	6.23	\$86.26	\$85.70	\$43.79	\$58.03
210030	CHESTERTOWN	84,303	1.466	\$7,622,273	\$400,238	\$7,222,035	\$9,597,239	\$15,511,151	\$32,330,424	\$85.67	\$113.84	\$183.99	\$383.50	\$352.39	\$344.93	1.06	1.35	4.31	6.72	6.29	6.09	\$81.04	\$84.05	\$42.73	\$57.09
210051	DOCTORS COMMUNITY	413,025	1.453	\$29,388,739	\$1,638,907	\$27,749,832	\$39,479,286	\$69,954,486	\$136,183,603	\$64.77	\$95.59	\$169.37	\$329.72	\$311.49	\$299.25	0.89	1.21	3.99	6.12	6.41	6.32	\$69.01	\$82.39	\$42.82	\$54.56
210037	EASTON	327,076	1.373	\$21,323,094	\$1,076,714	\$20,246,380	\$34,271,221	\$60,714,711	\$115,232,312	\$61.90	\$104.78	\$185.63	\$352.31	\$352.34	\$340.81	0.84	1.42	4.52	6.78	6.78	6.60	\$74.07	\$73.55	\$41.10	\$51.99
210015	FRANKLIN SQUARE	347,729	1.568	\$34,381,834	\$2,712,510	\$31,669,324	\$41,494,264	\$68,403,534	\$141,567,122	\$91.07	\$119.33	\$196.72	\$407.12	\$356.46	\$341.91	1.29	1.51	4.25	7.05	6.17	5.97	\$70.50	\$78.95	\$46.31	\$57.74
210005	FREDERICK MEMORIAL	929,869	1.269	\$68,793,172	\$3,743,276	\$65,049,896	\$67,075,403	\$181,556,328	\$313,681,626	\$69.96	\$72.13	\$195.25	\$337.34	\$359.39	\$346.67	0.95	1.04	4.64	6.63	6.06	6.07	\$87.55	\$69.30	\$42.12	\$50.90
210060	FT. WASHINGTON	32,023	1.495	\$9,384,638	\$429,935	\$8,954,704	\$10,139,118	\$16,213,562	\$35,307,384	\$97.31	\$110.18	\$176.19	\$383.68	\$352.39	\$336.75	1.12	1.17	3.64	5.93	5.45	5.26	\$86.85	\$83.92	\$48.45	\$64.70
210044	G.B.M.C.	430,108	1.310	\$29,395,100	\$2,177,722	\$27,217,378	\$42,913,051	\$73,661,503	\$143,691,932	\$63.28	\$99.54	\$171.03	\$333.85	\$349.85	\$343.35	0.92	1.21	3.99	6.12	6.41	6.32	\$69.01	\$82.39	\$42.82	\$54.56
210017	GARRETT COUNTY	63,029	1.514	\$4,915,388	\$31,486	\$4,883,902	\$11,369,049	\$8,503,974	\$24,756,925	\$77.49	\$180.38	\$134.92	\$392.79	\$356.31	\$342.29	0.70	1.92	3.03	5.65	5.13	4.96	\$110.39	\$94.03	\$44.52	\$69.51
210056	GOOD SAMARITAN	195,651	1.682	\$19,091,282	\$1,466,330	\$17,624,952	\$28,518,521	\$36,101,653	\$82,245,126	\$90.08	\$145.76	\$184.52	\$420.37	\$343.21	\$329.65	1.31	1.58	4.26	7.14	5.83	5.65	\$69.02	\$92.16	\$43.34	\$58.84
210034	HARBOR	90,079	1.543	\$7,574,846	\$696,873	\$6,877,973	\$11,474,740	\$15,687,091	\$34,049,805	\$76.47	\$127.39	\$174.15	\$378.00	\$338.33	\$328.11	1.12	1.49	4.15	6.76	6.02	5.90	\$68.30	\$85.31	\$41.97	\$55.90
210066	HARFORD	96,805	1.422	\$7,672,701	\$431,494	\$7,241,207	\$10,769,929	\$17,028,167	\$35,037,304	\$74.80	\$111.25	\$175.88	\$361.93	\$349.49	\$340.43	0.96	1.29	4.29	6.54	6.32	6.19	\$77.83	\$85.93	\$41.93	\$55.32
210065	HC-GERMANTOWN	140,642	1.267	\$8,743,638	\$371,021	\$8,372,616	\$10,100,488	\$36,829,415	\$46,301,520	\$93.53	\$71.82	\$190.76	\$322.10	\$348.18	\$338.59	0.83	0.99	4.47	6.29	6.82	6.66	\$62.50	\$72.27	\$42.72	\$51.20
210004	HOLY CROSS	724,756	1.268	\$44,029,853	\$2,329,842	\$41,700,011	\$53,881,267	\$127,524,743	\$223,106,021	\$57.54	\$74.34	\$175.96	\$307.84	\$333.36	\$322.79	0.75	0.99	4.14	5.88	6.37	6.22	\$76.44	\$75.08	\$42.49	\$52.32
210029	HOPKINS BAYVIEW MED CTR	146,687	1.587	\$13,541,130	\$1,249,324	\$12,291,806	\$21,296,680	\$25,459,219	\$59,047,705	\$83.80	\$145.18	\$173.56	\$402.54	\$348.28	\$338.70	1.20	1.57	3.97	6.73	5.82	5.69	\$70.09	\$92.71	\$43.75	\$59.83
210048	HOWARD COUNTY	923,636	1.221	\$51,914,390	\$1,542,672	\$47,371,718	\$69,109,326	\$163,607,555	\$280,109,599	\$51.31	\$74.82	\$177.13	\$303.27	\$340.97	\$330.94	0.72	1.06	4.23	6.01	6.76	6.61	\$71.13	\$70.60	\$41.85	\$50.43
210059	JOHNS HOPKINS	165,863	1.542	\$14,974,183	\$1,540,222	\$13,433,961	\$27,031,349	\$28,687,012	\$69,132,323	\$80.99	\$162.97	\$172.84	\$416.80	\$371.08	\$364.57	1.14	1.59	4.00	6.74	6.00	5.91	\$71.10	\$102.26	\$43.17	\$61.88
210055	LAUREL REGIONAL	0	0.000	\$0	\$0	\$0	\$0	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0.00	\$0.00	\$0.00	\$0.00	
210064	LEVIDALE	87	1.492	\$7,446	\$592	\$6,854	\$11,919	\$15,661	\$34,434	\$78.92	\$137.24	\$180.33	\$396.49	\$364.85	\$354.49	1.04	1.46	4.31	6.81	6.26	6.12	\$75.96	\$94.11	\$41.83	\$58.24
210045	McCready	9,248	1.622	\$713,670	\$17,099	\$696,571	\$1,509,948	\$1,516,165	\$3,722,684	\$75.32	\$163.27	\$163.94	\$402.54	\$313.77	\$299.97	1.18	1.84	4.23	7.25	5.65	5.44	\$63.67	\$88.81	\$38.77	\$55.52
210008	MERCY	186,010	1.622	\$17,429,031	\$1,573,503	\$15,855,528	\$32,147,597	\$32,133,812	\$80,136,937	\$85.24	\$172.83	\$172.75	\$430.82	\$364.71	\$355.60	1.20	1.62	4.03	6.85	5.79	5.68	\$71.05	\$106.99	\$42.86	\$62.93
210001	MERTUIS	416,506	1.403	\$27,959,877	\$1,101,748	\$26,858,128	\$36,445,973	\$76,167,941	\$139,472,042	\$64.48	\$87.50	\$162.87	\$334.86	\$327.65	\$317.52	0.95	1.27	4.06	6.29	6.15	6.01	\$66.10	\$68.67	\$44.99	\$53.27
210018	MONTGOMERY GENERAL	255,916	1.229	\$14,590,655	\$817,472	\$13,773,183	\$21,005,637	\$48,285,618	\$63,064,438	\$53.82	\$82.08	\$188.68	\$324.58	\$362.62	\$351.35	0.73	1.08	4.42	6.22	6.95	6.79	\$74.07	\$75.94	\$42.74	\$57.94
210040	NORTHWEST	249,182	1.519	\$20,533,000	\$1,632,248	\$18,900,753	\$43,796,704	\$45,792,297	\$99,489,735	\$75.85	\$139.64	\$183.77	\$399.27	\$360.99	\$349.33	1.06	1.47	4.36	6.89	6.23	6.07	\$71.39	\$94.85	\$42.19	\$57.94
210019	PENNSILVA REGIONAL	332,096,439	1.509	\$32,096,439	\$1,185,203	\$30,911,236	\$47,235,456	\$72,268,881	\$150,415,573	\$74.72	\$114.18	\$174.69	\$363.59	\$330.92	\$319.65	1.08	1.43	4.43	6.94	6.32	6.15	\$68.95	\$79.78	\$39.48	\$52.39
210003	PRINCE GEORGE	244,893	1.612	\$20,291,583	\$1,064,305	\$19,227,279	\$28,044,794	\$41,500,733	\$88,772,805	\$78.51	\$114.52	\$169.46	\$362.50	\$300.82	\$295.55	1.08	1.29	3.94	6.31	5.38	5.19	\$72.82	\$88.57	\$43.01	\$57.44
210057	SHADY GROVE	994,610	1.251	\$57,625,587	\$3,431,158	\$54,194,428	\$72,453,886	\$186,153,108	\$313,801,423	\$56.06	\$73.59	\$189.06	\$318.71	\$349.92	\$340.08	0.75	1.03	4.44	6.23	6.84	6.69	\$74.42	\$71.16	\$42.57	\$51.17
210012	SINAI	451,073	1.538	\$41,348,825	\$3,293,832	\$38,054,993	\$67,232,550	\$92,537,803	\$187,625,346	\$84.37	\$149.05	\$182.98	\$416.40	\$371.65	\$361.50	1.09	1.54	4.36	6.98	6.23	6.10	\$77.50	\$86.98	\$41.99	\$56.63
210062	SOUTHERN MARYLAND	394,434	1.467	\$36,109,788	\$2,033,457	\$34,076,330	\$41,931,774	\$68,932,140	\$144,940,244	\$86.39	\$106.31	\$174.76	\$367.4												

Exhibit 2b

All Associates  
 Maryland APCD: Incurred 1/2019 Paid through 3/2020 (Adjusted to Estimated Ultimate Incurred)  
 Plan Benefit Normalization Factors by PSAP  
 Commercial and Individual, Limited to Under Age 65 (Excludes Prescription Drugs)

- (1) Linearly interpolated between coinsurance ranges.
- (2) Risk adjusted amounts are normalized to All MD Counties with a 2017 HHS Platinum risk score of 1.373022.
- (3) Risk adjusted and benefit adjusted amounts are calculated as (risk adjusted amount) / (benefit normalization factor).
- (4) Teaching hospital amounts are removed from Inpatient allowed and paid amounts (except SNF, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HSCRRC on 12/11/2019 named "Hospital file for commercial removal of GME 12-2019.xlsx". For benchmark results, this adjustment was made at the HSA level.
- (5) Cost and utilization data are aggregated for each hospital's Primary Service Area Plus (PSAP). The hospital PSAP is based on the zip code and hospital share mapping provided by HSCRRC from file named "All payer and Medicare PSAP 4.2.2019.xlsx".
- (6) For each hospital's PSAP, the cost and utilization values are calculated as the sum of the PSAP zip's (cost or utilization value at the zip) x (hospital share mapping provided).
- (7) PSAPs with fewer than 120 member months have their results censored in this summary and associated cost models.

Hospital ID	Hospital Name	Member Months, Risk, and Plan Coinsurance		RVU Plan Benefit Normalization Factors (1)					Allowed Plan Benefit Normalization Factors (1)			Allowed PMPM			Risk Adj Allowed PMPM (2)			Risk Adj and Benefit Adj Allowed PMPM (3)			RVU PMPM			Risk Adj RVU PMPM (2)			Risk Adj and Benefit Adj RVU PMPM (3)							
		Medical MMs	Plan Coinsurance Range	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient (4)	Outpatient	Prof / Other	Inpatient (4)	Outpatient	Prof / Other	Inpatient (4)	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other	Inpatient	Outpatient	Prof / Other				
		2017 HHS Risk Score																																
Total - All MD ZIP Codes		15,953,462	1.373	85%-95%	1,032	1,028	1,023	1,036	1,028	1,033	\$68.24	\$100.41	\$179.56	\$348.21	\$68.24	\$100.41	\$179.56	\$348.21	\$65.84	\$97.68	\$173.80	\$337.32	0.93	1.26	4.22	6.40	0.93	1.26	4.22	6.40	0.90	1.22	4.13	6.25
210023 ANNE ARUNDEL		1,073,069	1.313	85%-95%	1,028	1,024	1,019	1,030	1,025	1,029	\$60.29	\$89.65	\$179.54	\$329.39	\$63.06	\$93.76	\$187.67	\$344.49	\$61.20	\$91.50	\$182.47	\$335.17	0.85	1.28	4.30	6.43	0.89	1.33	4.50	6.73	0.87	1.30	4.41	6.59
210061 ATLANTIC GENERAL		96,432	1.355	75%-85%	1,015	1,011	1,008	1,009	1,014	1,013	\$66.85	\$99.27	\$152.46	\$318.58	\$67.13	\$100.58	\$154.48	\$322.79	\$67.10	\$99.20	\$152.54	\$318.84	0.88	1.35	3.90	6.13	0.90	1.36	3.95	6.21	0.88	1.35	3.92	6.15
210043 BALTIMORE WASHINGTON		755,488	1.447	85%-95%	1,035	1,031	1,025	1,041	1,030	1,037	\$72.04	\$95.74	\$186.15	\$353.93	\$68.38	\$90.87	\$176.68	\$335.93	\$65.67	\$86.20	\$170.43	\$324.30	1.03	1.27	4.49	6.78	0.97	1.20	4.26	6.43	0.94	1.17	4.15	6.26
210013 BON SECOURS		25,701	1.812	85%-95%	1,041	1,038	1,031	1,051	1,035	1,044	\$97.69	\$179.93	\$163.47	\$440.89	\$73.96	\$136.30	\$153.90	\$334.17	\$70.37	\$131.63	\$118.66	\$300.65	1.45	1.70	3.86	7.01	1.10	1.29	2.93	5.31	1.05	1.24	2.84	5.14
210029 CALVERT		298,879	1.384	85%-95%	1,042	1,038	1,031	1,052	1,036	1,045	\$67.52	\$98.20	\$185.54	\$352.08	\$66.97	\$98.20	\$184.02	\$349.19	\$65.64	\$94.78	\$176.09	\$334.50	0.89	1.27	4.28	6.44	0.88	1.26	4.25	6.39	0.85	1.21	4.12	6.16
210033 CARROLL COUNTY		663,015	1.329	85%-95%	1,029	1,025	1,020	1,031	1,025	1,029	\$64.22	\$86.36	\$179.68	\$332.31	\$66.42	\$91.25	\$185.67	\$343.38	\$64.40	\$86.05	\$180.40	\$333.85	0.92	1.30	4.17	6.39	0.95	1.34	4.31	6.20	0.92	1.31	4.22	6.46
210036 CHARLES REGIONAL		387,349	1.360	85%-95%	1,039	1,035	1,030	1,047	1,033	1,041	\$75.13	\$105.65	\$184.49	\$369.27	\$78.66	\$106.63	\$186.20	\$372.69	\$76.31	\$103.21	\$178.91	\$358.43	0.92	1.23	4.21	6.36	0.93	1.24	4.25	6.42	0.89	1.20	4.14	6.23
210030 CHESTERTOWN		84,303	1.466	85%-95%	1,040	1,036	1,029	1,049	1,034	1,043	\$85.67	\$113.84	\$183.99	\$383.50	\$80.26	\$106.65	\$172.37	\$359.28	\$76.50	\$103.10	\$180.42	\$344.93	1.06	1.35	4.31	6.72	0.99	1.27	4.03	6.29	0.95	1.22	3.92	6.09
210051 DOCTORS COMMUNITY		413,025	1.453	85%-95%	1,040	1,036	1,029	1,048	1,034	1,042	\$64.77	\$95.59	\$169.37	\$329.72	\$61.18	\$90.30	\$160.00	\$311.49	\$58.37	\$87.33	\$153.55	\$299.25	0.89	1.21	4.05	6.15	0.84	1.14	3.83	5.81	0.80	1.10	3.72	5.63
210027 EASTON		327,076	1.373	85%-95%	1,034	1,030	1,024	1,039	1,029	1,035	\$61.90	\$104.78	\$185.63	\$352.31	\$61.91	\$104.79	\$185.64	\$352.34	\$59.60	\$101.83	\$179.39	\$340.81	0.84	1.42	4.52	6.78	0.84	1.42	4.52	6.78	0.81	1.38	4.41	6.60
210015 FREDERICK SQUARE		347,729	1.568	85%-95%	1,041	1,037	1,030	1,050	1,035	1,044	\$91.07	\$119.33	\$196.72	\$407.12	\$79.74	\$104.48	\$172.24	\$356.46	\$75.92	\$100.94	\$165.05	\$341.91	1.29	1.51	4.25	7.06	1.13	1.32	3.72	6.17	1.09	1.28	3.61	5.97
210025 FREDERICK MEMORIAL		629,869	1.289	85%-95%	1,035	1,032	1,025	1,042	1,031	1,037	\$69.96	\$72.13	\$186.25	\$337.34	\$74.53	\$76.85	\$208.01	\$359.69	\$71.54	\$74.56	\$200.56	\$346.67	0.95	1.04	4.64	6.63	1.01	1.11	4.94	7.06	0.96	1.07	4.82	6.87
210060 FT. WASHINGTON		92,023	1.495	85%-95%	1,045	1,040	1,033	1,057	1,037	1,046	\$97.31	\$110.18	\$176.19	\$333.68	\$89.37	\$101.20	\$161.82	\$332.39	\$84.54	\$97.55	\$154.67	\$336.75	1.12	1.17	3.64	5.93	1.03	1.08	3.34	5.45	0.98	1.04	3.23	5.26
210044 G.M.C.		430,108	1.310	85%-95%	1,020	1,016	1,013	1,018	1,018	1,019	\$63.28	\$89.54	\$171.03	\$333.45	\$66.31	\$104.31	\$179.23	\$349.85	\$65.12	\$102.42	\$175.81	\$343.35	0.92	1.21	3.99	6.12	0.99	1.26	4.19	6.41	0.94	1.25	4.13	6.32
210027 GARRETT COUNTY		63,969	1.514	85%-95%	1,041	1,037	1,030	1,050	1,035	1,044	\$77.49	\$146.38	\$134.92	\$392.79	\$70.29	\$163.63	\$122.39	\$356.31	\$66.92	\$108.08	\$117.28	\$342.29	0.70	1.92	3.03	5.66	0.64	1.74	2.75	5.13	0.61	1.68	2.67	4.96
210026 GOOD SAMARITAN		95,661	1.682	85%-95%	1,040	1,036	1,030	1,048	1,034	1,043	\$90.06	\$145.78	\$194.52	\$430.37	\$73.55	\$119.01	\$160.65	\$343.21	\$70.11	\$104.92	\$144.49	\$326.65	1.31	1.98	4.16	6.42	1.02	1.25	3.48	5.83	1.02	1.25	3.38	5.65
210034 HARBOR		90,079	1.543	85%-95%	1,026	1,022	1,017	1,027	1,023	1,026	\$76.47	\$127.39	\$174.15	\$378.00	\$68.04	\$113.34	\$154.95	\$336.33	\$66.26	\$110.80	\$151.04	\$328.11	1.12	1.49	4.15	6.76	1.00	1.33	3.69	6.02	0.97	1.30	3.63	5.90
210036 HARFORD		96,906	1.422	85%-95%	1,027	1,023	1,018	1,029	1,024	1,027	\$74.80	\$111.25	\$175.98	\$331.93	\$72.23	\$107.43	\$169.83	\$349.49	\$70.20	\$104.92	\$153.31	\$340.43	0.96	1.29	4.29	6.54	0.93	1.25	4.14	6.28	0.90	1.22	4.06	6.19
210065 HC-GERMANTOWN		140,642	1.267	85%-95%	1,031	1,027	1,022	1,035	1,027	1,032	\$59.53	\$77.82	\$190.76	\$322.10	\$64.54	\$77.85	\$206.79	\$348.18	\$62.37	\$75.81	\$200.41	\$338.59	0.83	0.99	4.47	6.29	0.90	1.08	4.84	6.82	0.88	1.05	4.74	6.66
210004 HOLY CROSS		724,756	1.268	85%-95%	1,032	1,028	1,023	1,037	1,028	1,033	\$67.54	\$74.34	\$175.96	\$307.84	\$62.31	\$80.51	\$190.54	\$333.36	\$60.09	\$78.31	\$184.38	\$322.79	0.75	0.99	4.14	5.88	0.82	1.07	4.48	6.37	0.79	1.04	4.38	6.22
210025 HOPKINS BAYVIEW MED CTR		146,887	1.587	85%-95%	1,029	1,025	1,020	1,031	1,025	1,029	\$63.80	\$145.16	\$173.56	\$402.54	\$72.50	\$125.81	\$150.16	\$348.28	\$70.29	\$122.52	\$145.89	\$336.70	1.20	1.57	3.97	6.73	1.03	1.35	3.43	5.62	1.01	1.32	3.37	5.69
210048 HOWARD COUNTY		823,636	1.221	85%-95%	1,030	1,026	1,021	1,034	1,026	1,031	\$51.31	\$74.82	\$177.13	\$303.27	\$57.69	\$84.12	\$199.15	\$340.97	\$56.81	\$81.96	\$193.17	\$330.94	0.72	1.06	4.23	6.01	0.81	1.19	4.76	6.76	0.70	1.16	4.66	6.61
210009 JOHNS HOPKINS		165,883	1.542	85%-95%	1,020	1,015	1,012	1,017	1,016	1,018	\$60.99	\$162.97	\$172.84	\$416.80	\$72.11	\$145.10	\$153.87	\$371.08	\$70.91	\$142.56	\$151.10	\$364.67	1.14	1.59	4.00	6.74	1.01	1.42	3.56	6.00	0.99	1.40	3.52	5.91
210055 LAUREL REGIONAL		0	0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$0.00	\$0.00	\$0.00	\$0.00	n/a	n/a	n/a	\$0.00	n/a	n/a	n/a	0.00	0.00	0.00	0.00	n/a	n/a	n/a	n/a	0.00	n/a	n/a	0.00	
210064 LEVINGDALE		8	1.462	85%-95%	1,030	1,026	1,021	1,033	1,026	1,030	\$72.62	\$129.24	\$180.33	\$396.49	\$72.62	\$128.29	\$165.94	\$384.85	\$70.33	\$123.10	\$161.07	\$354.49	1.04	1.46	4.31	6.81	0.96	1.34	3.97	6.26	0.93	1.31	3.89	6.12
210045 Medway		9,248	1.762	85%-95%	1,048	1,041	1,034	1,062	1,038	1,046	\$75.32	\$163.27	\$173.94	\$402.54	\$68.71	\$127.27	\$172.79	\$313.77	\$56.26	\$122.58	\$162.19	\$299.97	1.18	1.84	4.23	7.25	0.92	1.43	3.30	5.65	0.88	1.38	3.19	5.44
210008 MERY		186,010	1.622	85%-95%	1,027	1,023	1,018	1,028	1,023	1,027	\$85.24	\$123.83	\$172.75	\$430.82	\$72.16	\$146.31	\$148.24	\$384.71	\$70.20	\$142.95	\$142.45	\$355.60	1.20	1.62	4.03	6.85	1.02	1.37	4.11	5.79	0.99	1.34	3.35	5.68
210001 MERITUS		416,506	1.403	85%-95%	1,031	1,027	1,022	1,034	1,027	1,032	\$64.48	\$89.50	\$182.87	\$334.86	\$63.10	\$85.62	\$178.94	\$327.65	\$60.99	\$83.38	\$173.45	\$317.82	0.95	1.27	4.06	6.29	0.93	1.25	3.98	6.15	0.90	1.21	3.89	6.01
210018 MONTGOMERY GENERAL		255,918	1																															

**Exhibit 3a**  
**Abt Associates**  
**CHSD Claims Incurred 1/2019 through 12/2019 (Adjusted to Estimated Ultimate Incurred)**  
**Summary of Experience by Maryland Region**  
**Commercial, Limited to Under Age 65 (Excludes Prescription Drugs)**

- (1) Risk Score is calculated based on Medical eligibility with valid risk scores, i.e. the risk score shown equals total risk score over total Medical.  
(2) Maryland regional benchmark totals are based on an average of the benchmark MSA results. The total across all MSAs is a member-weighted average across all MSAs used in the regional benchmarks.  
(3) Normalized to 2019 APCD data for all Maryland counties which has a risk score of 1.373062.  
(4) Teaching hospital amounts are removed from Inpatient allowed and paid amounts (except SNF, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HSCRC on 12/11/2019 named "Hospital file for commercial removal of GME 12-09.xlsx." For benchmark results, this adjustment was made at the MSA level.

MSA	MSA Name (2)	Member Months and Risk		Allowed PMPM					RVUs PMPM					Allowed Per RVU			
		Medical MMs	2017 HHS Model Platinum Risk Score (1)	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total	Total - Risk Adjusted (3)	Inpatient	Outpatient	Prof / Other	Total
All	All MSAs in this Exhibit	258,466,523	1.360	\$90.22	\$139.88	\$173.83	\$403.93	\$407.81	0.92	1.35	3.37	5.65	5.70	\$97.62	\$103.31	\$51.56	\$71.50
MD1	MD1 (Southwestern MD)	6,749,105	1.339	\$86.83	\$133.32	\$168.52	\$388.67	\$398.62	0.89	1.34	3.23	5.46	5.60	\$98.11	\$99.46	\$52.11	\$71.19
MD2	MD2 (Western MD)	793,034	1.379	\$87.53	\$143.94	\$142.63	\$374.09	\$372.61	0.98	1.50	3.08	5.56	5.54	\$89.63	\$95.80	\$46.23	\$67.24
MD3	MD3 (Eastern Shore)	911,003	1.411	\$89.53	\$149.80	\$149.31	\$388.63	\$378.31	1.00	1.52	3.16	5.68	5.53	\$89.92	\$98.33	\$47.18	\$68.38
MD4	MD4 (Northern DC Suburbs)	4,982,219	1.286	\$90.11	\$134.57	\$173.59	\$398.27	\$425.27	0.83	1.26	3.13	5.21	5.57	\$108.97	\$106.99	\$55.47	\$76.38
MD5	MD5 (Baltimore Area)	8,369,812	1.357	\$84.56	\$139.51	\$172.35	\$396.42	\$401.20	0.92	1.40	3.31	5.63	5.70	\$92.42	\$99.76	\$51.99	\$70.43

**Exhibit 3b**  
**Abt Associates**  
**CHSD Claims Incurred 1/2019 through 12/2019 (Adjusted to Estimated Ultimate Incurred)**  
**Plan Benefit Normalization Factors by Maryland Region**  
**Commercial, Limited to Under Age 65 (Excludes Prescription Drugs)**

- (1) Maryland regional benchmark totals are based on an average of the benchmark MSA results. The total across all MSAs is a member-weighted average across all MSAs used in the regional benchmarks.  
(2) Linearity interpolated between coinsurance rates.  
(3) Risk adjusted amounts are normalized to All MSA which has a 2017 HHS Platinum risk score of 1.373062.  
(4) Risk adjusted and benefit adjusted amounts are calculated as (risk adjusted amount) / (benefit normalization factor).  
(5) Teaching hospital amounts are removed from inpatient allowed and paid amounts (except SNE, newborn, and residential treatments) based on the FY2017 per diem rates (trended to FY2019 with an annual rate 2.29%) at the provider level from file we received from Maryland HSCRC on 12/11/2019 named "Hospital file for commercial removal of GME 12-09.xlsx." For benchmark results, this adjustment was made at the MSA level.

MSA	MSA Name (1)	2017 HHS Model Platinum Risk Score	RVU Plan Benefit Normalization Factors (2)				Allowed Plan Benefit Normalization Factors (2)				Allowed PMPM				Risk Adj Allowed PMPM (3)				Risk Adj and Benefit Adj Allowed PMPM (4)				RVU PMPM				Risk Adj RVU PMPM (3)				Risk Adj and Benefit Adj RVU PMPM (4)			
			Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total	Inpatient	Outpatient	Prof / Other	Total				
All	All MSAs in this Exhibit	1.360	1.017	1.012	1.009	1.009	1.012	1.011		\$90.22	\$139.88	\$173.83	\$403.93	\$91.09	\$141.22	\$175.50	\$407.81	\$90.28	\$139.53	\$173.62	\$403.43	0.92	1.35	3.37	5.65	0.93	1.37	3.40	5.70	0.92	1.35	3.37	5.64	
MD1	MD1 (Southwestern MD)	1.339	1.025	1.020	1.013	1.017	1.022	1.018		\$86.83	\$133.32	\$168.52	\$388.67	\$89.06	\$136.73	\$172.84	\$398.62	\$87.69	\$133.83	\$169.77	\$391.19	0.89	1.34	3.23	5.46	0.91	1.37	3.32	5.60	0.89	1.35	3.27	5.51	
MD2	MD2 (Western MD)	1.379	1.004	0.998	1.002	0.994	1.004	1.002		\$87.53	\$143.94	\$142.63	\$374.09	\$87.18	\$143.37	\$142.06	\$372.61	\$87.72	\$142.75	\$141.73	\$372.21	0.98	1.50	3.08	5.56	0.97	1.50	3.07	5.54	0.97	1.50	3.07	5.54	
MD3	MD3 (Eastern Shore)	1.411	1.005	1.001	0.999	0.992	1.007	1.001		\$89.53	\$149.80	\$149.31	\$386.63	\$87.15	\$145.82	\$145.34	\$378.31	\$87.82	\$144.80	\$145.20	\$377.83	1.00	1.52	3.16	5.68	0.97	1.48	3.08	5.53	0.96	1.48	3.08	5.53	
MD4	MD4 (Northern DC Suburbs)	1.286	1.036	1.030	1.024	1.021	1.020		\$90.11	\$134.57	\$173.59	\$388.27	\$86.22	\$143.70	\$185.36	\$425.27	\$84.25	\$140.83	\$180.60	\$415.68	0.93	1.26	3.13	5.21	0.88	1.34	3.34	5.67	0.85	1.30	3.27	5.42		
MD5	MD5 (Baltimore Area)	1.357	1.020	1.015	1.011	1.011	1.016	1.013		\$84.56	\$139.51	\$172.35	\$396.42	\$85.58	\$141.19	\$174.42	\$401.20	\$84.64	\$139.01	\$172.21	\$395.86	0.92	1.40	3.31	5.63	0.93	1.42	3.35	5.70	0.91	1.39	3.32	5.62	

# Milliman GlobalRVUs

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## What are GlobalRVUs?<sup>1</sup>

GlobalRVUs are a relative value unit system covering the entire range of services, from hospital to physician, durable medical equipment (DME) to lab, even pharmacy. Use of Relative Value Units (RVUs) is a common practice with payment schedules. The RVUs define cost relativities between services enabling entire schedules to be easily compared. The most well-known examples of this are Medicare's physician RBRVS and Medicare's inpatient diagnosis-related group (DRG) weights. These RVU systems are limited since they focus on a particular type of provider, such as physician or inpatient hospital, and do not relate services across provider types. GlobalRVUs solve this disconnect by providing an RVU system that covers all healthcare services.

GlobalRVUs permit different services to be combined for analysis and have a wide variety of applications, including:

- **Analyzing claims experience.** GlobalRVUs allow you to separate unit cost versus utilization efficiency.
- **Evaluating provider contracts.** GlobalRVUs allow for unit cost aggregation of hospital and physician services.
- **Developing episodes of care and bundled payments.** GlobalRVUs allow the user to understand and remove the unit cost biases in the experience data.
- **Setting and analyzing global risk targets,** particularly across multiple provider organizations with differing contract structures, such as accountable care organizations. GlobalRVUs can be used to analyze opportunities for improvement—for example, identifying high-cost specialists or hospitals in the experience data.

Allowed dollar claims data can be normalized with GlobalRVUs to put the services on a common basis permitting this range of analyses. If charges are not available, GlobalRVUs can still be used as a proxy for charge levels, allowing for different types of utilization efficiency analyses (e.g., episodes and PMPM) and case mix studies.

An added advantage of GlobalRVUs in utilization analyses is that, since potentially confidential average charges are not being used, results can be released externally without breaching confidentiality provisions. The RVUs have taken the place of the allowed charges, thus removing the limitations that might be placed on distributing the analysis.

## About GlobalRVUs

GlobalRVUs consist of three separate components:

- **Medicare physician RVUs.** Physician claims are assigned GlobalRVUs based on Medicare's fee schedules, including DME, lab, ambulance and anesthesia. For services paid using Medicare's RBRVS RVUs for physicians, the GlobalRVUs are equal to Medicare's RVUs. The RVU adjudication process reflects Medicare's claim adjudication rules to adjust the assigned RVUs for modifiers, multiple procedure discounting, and bundling.
- **RBRVS for Hospitals™.** RBRVS for Hospitals is a proprietary Milliman product that contains a RVU schedule for hospitals that is consistent with Medicare's physician RVU schedule. A more detailed description of RBRVS for Hospitals is available on the Milliman website.<sup>2</sup>
- **Prescription drug RVUs.** Prescription drug RVUs are developed based upon average wholesale price (AWP) information. AWP is assigned to each claim by National Drug Code (NDC), adjusted for discounts, dispensing fees and anticipated rebates, then converted to an RVU that is consistent with Medicare's physician RVUs and the RBRVS for Hospitals RVUs.

1 Milliman solutions: GlobalRVUs. <http://milliman.com/GlobalRVUs>

2 Milliman RBRVS for Hospitals. <http://www.milliman.com/expertise/healthcare/products-tools/rbrvs/pdfs/milliman-rbrvs-for-hospitals.pdf>



## Using GlobalRVUs

### TABLE A: CALCULATING A CONVERSION FACTOR

Once RVUs are assigned to services, conversion factors are calculated by dividing total dollars by the RVUs. This can be done by individual procedure or aggregated at any level, even in total across all services.

**TABLE A: CALCULATING A CONVERSION FACTOR**

	ALLOWED CHARGES	GLOBAL RVUS
INPATIENT SERVICES		
APR 047-1	\$8,000	131.583
OUTPATIENT SERVICES		
82441	\$20	.0241
74150	\$425	3.600
PROFESSIONAL SERVICES		
99284	\$122	3.370
PRESCRIPTION DRUGS		
00037580030	\$62	1.477
<b>TOTAL</b>	<b>\$8,629</b>	<b>140.271</b>
CONVERSION FACTOR (ALLOWED CHARGES/RVUS)		\$61.52

Once conversion factors are calculated, they can be compared and analyzed. Due to the multiple applications of GlobalRVUs, a variety of analyses may be performed. Two examples are provided below.

### TABLE B: BENCHMARKING PROVIDER CONTRACTS BY CARRIER

For this example, different types of provider contracts are evaluated for multiple carriers and benchmarked to a base contract. Using GlobalRVUs, average conversion factors are calculated for inpatient, outpatient, and physician services, and can be combined for an overall comparison between carriers. The GlobalRVUs provide case-mix adjustment across contracts with different service mixes without requiring claims under one contract to be repriced under a different contract.

### TABLE C: COMPARISON OF DELIVERY SYSTEMS

For this example, the claims experience for six provider groups is normalized with the GlobalRVUs to isolate unit cost and utilization differences. Conversion factors are calculated as the average allowed charge per RVU. These conversion factors are then benchmarked relative to the area average, thus showing the unit price difference between groups. When this relativity is divided out of the starting allowed PMPM, the adjusted allowed

**TABLE B: BENCHMARKING PROVIDER CONTRACTS BY CARRIER**

TYPE OF SERVICE	BASE	CARRIER 1		CARRIER 2	
	CONVERSION FACTOR	CONVERSION FACTOR	RELATIVE TO BASE	CONVERSION FACTOR	RELATIVE TO BASE
FACILITY INPATIENT	\$62.40	\$65.58	1.05	\$66.58	1.07
FACILITY OUTPATIENT	\$64.09	\$64.23	1.00	\$68.23	1.06
PROFESSIONAL	\$55.98	\$57.25	1.02	\$62.07	1.11
<b>TOTAL</b>	<b>\$60.09</b>	<b>\$61.52</b>	<b>1.02</b>	<b>\$65.10</b>	<b>1.08</b>

**TABLE C: COMPARISON OF DELIVERY SYSTEMS**

PRIMARY CARE GROUP	RISK-ADJUSTED PMPM ALLOWED	RELATIVE COST	PMPM RVUS	UTILIZATION EFFICIENCY	CONVERSION FACTOR	RELATIVE UNIT PRICE
AREA AVERAGE	\$373.70	1.000	6.175	1.000	\$60.52	1.000
GROUP A	\$344.38	0.922	6.196	1.004	\$55.58	0.918
GROUP B	\$421.67	1.128	6.447	1.044	\$65.41	1.081
GROUP C	\$344.95	0.923	5.902	0.956	\$58.45	0.966
GROUP D	\$371.92	0.995	6.042	0.979	\$61.56	1.017
GROUP E	\$366.31	0.980	5.908	0.957	\$62.00	1.024
GROUP F	\$393.11	1.052	6.439	1.043	\$61.05	1.009

PMPM between groups represents differences in resource utilization. This is shown in the last column benchmarked relative to the area average. Note that the utilization efficiency can also be derived directly from the PMPM RVUs if no allowed charge information is available.

## Implementing GlobalRVUs

The GlobalRVUs can be easily attached to any data set using Milliman software. In addition to an interface to run the RVU assignment software, we provide a series of reports, available through Microsoft Excel, that allow you to review the quality of the data input, ensure that the RVUs have been properly assigned, and review the results of the RVU assignments.



Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

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Attachment B-1  
 Abt Associates  
 2019 Maryland APCD - Data Validation  
 Summary of Membership, Medical Paid, and Medical Paid PMPM  
 Comparison of Maryland APCD and NAIC Annual Statement  
 Limited to Commercial Line of Business (1)

	Aetna Life			UnitedHealthcare			MD-Individual			Group			Cigna Health & Life Insurance Co., Inc.		Connecticut General Life Ins. Co.		Golden Rule Insurance Co.		Excluded from Total	
	Insurance Co.	Aetna Health, Inc.	Aetna Subtotal	Insurance Co.	of the Mid-Atlantic, Inc. HBX	MAMSI Life and Health Ins. Co.	Practice Association, Inc.	United Subtotal	CareFirst BlueChoice, Inc.	CareFirst of Maryland, Inc.	Hospitalization & Medical Services, Inc. (GHMSI)	CareFirst Subtotal	Co., Inc.	Co.	Insurance Co.	Optimum Choice, Inc.	Total			
<b>Member Months</b>																				
APCD (2)	527,334	362,884	890,218	1,904,120	118,697	256,225	0	2,279,042	3,867,927	153,417	446,721	4,468,065	994,231	386,911	0	464,184	9,482,651			
NAIC Annual Statement (3)	n/a	221,292	221,292	n/a	102,725	255,000	n/a	357,725	3,386,721	165,185	300,139	3,852,045	n/a	n/a	0	428,423	4,859,485			
Difference	n/a	141,592	668,926	n/a	15,972	1,225	n/a	1,921,317	481,206	-11,768	146,582	616,020	n/a	n/a	n/a	35,761	4,623,166			
% Difference	n/a	64.0%	302.3%	n/a	15.5%	0.5%	n/a	537.1%	12.2%	-7.1%	48.8%	16.0%	n/a	n/a	n/a	8.3%	95.1%			
<b>Total Paid Medical and Rx - Exclusions</b>																				
APCD - Medical and Rx	695,350,003	174,935,502	870,285,505	1,466,135,082	31,502,581	90,073,305	58,195,199	1,645,906,167	1,875,077,960	3,249,197,684	1,376,598,286	6,500,873,930	994,531,236	152,290,246	9,827,322	145,879,545	10,319,593,951			
Excluded - MA, Med Sup, Unknown	166,721,992	27,395,373	194,117,365	21,212	64	258	0	21,534	328	90,557,541	9,285,816	99,843,685	4,010,090	470,574	202,817	43	298,666,108			
Excluded - ASO, FEB	320,410,555	5,841,956	326,252,511	777,454,028	4,566	0	58,084,841	835,543,435	54,790,062	2,803,272,566	938,552,627	3,796,615,255	617,037,651	12,046,281	0	0	5,587,495,133			
Excluded - No Membership	3,138,848	138,654	3,277,502	3,197,025	32,505	140,703	110,358	3,480,591	3,828,801	99,453,568	98,155,000	201,437,369	5,697,446	-15,951	0	194,564	214,071,521			
Excluded - IND	3,915,460	0	3,915,460	0	0	0	0	0	623,520,120	173,499,223	98,606,043	895,625,386	0	0	9,624,505	0	909,165,351			
Exclusion Summary Subtotal (2)	528,628,011	147,540,129	676,168,140	1,466,113,870	31,502,517	90,073,047	58,195,199	1,645,884,647	1,875,077,632	3,158,640,143	1,367,312,470	6,500,873,930	990,521,146	151,819,672	9,624,505	145,879,502	10,319,593,951			
<b>Paid Medical and Rx and NAIC Annual Statement</b>																				
APCD - Medical (3)	145,887,253	107,110,284	252,997,537	512,605,490	23,428,158	67,452,809	0	603,486,457	929,335,759	62,243,689	164,401,467	1,155,980,915	259,705,370	98,712,596	0	110,399,224	2,481,282,099			
APCD - Rx (2)	55,275,895	34,449,235	89,725,130	172,857,327	8,037,288	22,479,535	0	203,374,150	263,602,890	20,171,097	67,597,333	351,371,320	108,080,679	41,076,746	0	35,285,714	828,913,739			
Rx Rebate Estimate (4)	18%	16%	17%	n/a	36%	32%	n/a	5%	30%	20%	21%	27%	24%	n/a	n/a	33%				
APCD - Total (Net of Rx Rebates)	191,318,296	136,065,823	327,384,119	685,462,817	28,590,053	82,836,278	0	796,861,147	1,114,109,659	78,478,665	218,138,710	1,410,727,035	341,995,298	139,789,342	0	133,929,379	3,150,706,320			
NAIC Annual Statement (5)	269,272,215	76,919,517	345,191,732	0	28,702,439	88,090,458	-66,547	118,726,350	1,118,789,220	81,416,254	146,752,810	1,346,955,284	389,150,101	508,478	7,919,528	136,559,839	2,343,011,312			
Difference	-76,953,919	58,146,306	-17,807,613	685,462,817	-122,386	-5,252,180	66,547	680,154,797	-4,676,561	-2,937,589	71,385,900	-63,771,751	-47,154,803	139,280,864	-7,919,528	-2,630,460	807,695,008			
% Difference	-28.7%	76.9%	-5.2%	n/a	-0.4%	-6.0%	-100.0%	582.7%	-0.4%	-3.6%	48.6%	-4.7%	-12.1%	27391.7%	-100.0%	-1.9%	34.5%			
<b>Paid Medical and Rx PMPM</b>																				
APCD (3)	362.80	374.96	367.76	359.99	240.78	323.30	n/a	349.66	330.34	511.54	488.31	315.74	343.98	361.30	n/a	288.53	332.26			
NAIC Annual Statement (5)	508.73	347.59	n/a	n/a	279.41	346.45	n/a	326.30	n/a	492.88	488.95	349.67	391.41	n/a	n/a	318.75	345.15			
Difference	-145.93	27.36	n/a	n/a	-38.63	-22.15	n/a	23.35	n/a	18.66	-0.64	-33.94	-47.43	n/a	n/a	-30.22	-12.89			
% Difference	-28.7%	7.9%	n/a	n/a	-13.8%	-6.4%	n/a	7.2%	n/a	3.8%	-0.1%	-9.7%	-12.1%	n/a	n/a	-9.5%	-3.7%			

Notes:  
 1.) For the APCD, commercial claims are identified by the COVTPY\_E\_EDT data field. The following types are considered commercial:

COVTYPE_E_EDT	Description
5	Private Employer Sponsored or Other Group
7	Public Employees - Other
8	Small Business Options Program (SHOP) not sold on MHBE
C	Small Business Options Program (SHOP) sold on MHBE

- Total reported paid amount minus excluded lines of business (Medicare Advantage, Med Sup, and Unknown). Ties to "Exclusion Summary - by Payer" subtotal.
- Incurred in CY 2019, paid through March 2020. From the 2019 annual data file received on 10/29/2020. Excludes claim records with no corresponding membership.
- Rx rebate estimated from the supplemental healthcare exhibit part 1 from lines 2.2 and 2.3 for the small and large group lines of business.
- Estimated incurred (i.e. paid plus change in reserve). For the following carriers, we used APCD member months because NAIC member month values are unavailable: Aetna Life Insurance Co. and Cigna Health.

Attachment B-2  
 Aetna Associates  
 2019 Maryland APCD - Data Validation  
 Summary of Data Exclusions  
 Paid Amounts By Payers

Prnum	Payers Included in Attachment B-1															Payers Excluded from Attachment B-1										
	P020	P030	P060	P070	P090	P130	P131	P132	P160	P180	P220	P520	P620	P133	P624	P760	T031	T060	T090	T120	T140	T620				
Payer Name	Aetna Life Insurance Co.	Aetna Health Inc.	UnitedHealthcare Insurance Co.	United Healthcare of the Mid-Atlantic, Inc. (UHL)	MMSI Life and Health Ins. Co.	CareFirst BlueCross of Maryland, Inc.	CareFirst of Maryland, Inc.	Group Hospitalization & Medical Services, Inc. (GHS)	Cigna Health & Life Insurance Co. Inc.	Connecticut General Life Ins. Co.	Golden Rule Insurance Co.	MD Individual Practice Association, Inc.	Optimum Choice, Inc.	FirstCare	United Healthcare - United Health	State Farm Mutual Automobile Ins. Co.	CFA LLC/CareFirst Administrators	Group Benefit Services, Inc.	Harrington Health and Health Plan Services, Inc.	HealthSmart Benefit Solutions, Inc.	The Loomis Company	American Specialty Health	HealthSCOPE Benefits, Inc.	1965, Inc.	All	
Reported Raw Total (Medical + Rx)	\$ 791,488,215	\$ 191,964,345	\$ 1,623,450,710	\$ 35,249,749	\$ 97,186,527	\$ 1,902,988,009	\$ 3,708,920,000	\$ 1,527,012,200	\$ 1,007,799,862	\$ 150,016,733	\$ 10,879,729	\$ 69,981,231	\$ 162,027,005	\$ 17,877,191	\$ 9,176,960	\$ 3,614,566	\$ 29,950,078	\$ 18,834,595	\$ 2,470,058	\$ 5,219,624	\$ 14,087,184	\$ 42,492	\$ 16,894	\$ 36,191,528	\$ 1,120,977,824	
Medical	580,695,319	144,339,475	1,229,848,232	27,039,713	73,717,487	1,467,549,419	2,260,296,022	966,486,439	765,527,117	111,879,053	10,084,272	32,599,404	125,378,230	17,869,487	7,706,732	3,614,566	21,965,406	18,834,595	2,208,878	2,828,912	14,087,184	23,472	11,052	27,489,401	7,911,879,857	
Rx	180,792,896	47,624,870	423,602,478	8,210,036	23,468,040	495,438,590	1,448,255,978	560,525,821	302,272,745	38,337,680	796,486	27,381,827	36,648,775	7,704	1,470,228	-	7,984,672	-	261,180	2,390,712	-	39,180	5,942	8,612,127	3,614,097,967	
Exclude Service Dates not in CY 2019 Versioned Records	3,432,832	793,080	-	-	-	-	-	2,426,815	7,712,916	708,965	-	-	-	24,598	-	1,340	8,294	101,771	-	4,896	-	-	3,070	307,455	36,706,732	
	42,917,684	12,034,496	123,009,831	2,615,001	3,707,501	54,673,085	307,173,298	99,299,088	53,176,427	(6,043,431)	929,261	1,148,569	8,069,448	274,492	241,502	96,662	534,881	180,516	69,255	489,743	2,135,487	4,185	16	371,993	707,109,110	
<b>Subtotal (Starting Point)</b>	<b>934,344,603</b>	<b>131,511,899</b>	<b>1,106,838,401</b>	<b>24,424,712</b>	<b>70,009,986</b>	<b>1,404,055,271</b>	<b>1,940,723,087</b>	<b>859,474,435</b>	<b>709,923,875</b>	<b>117,013,519</b>	<b>9,156,011</b>	<b>31,450,815</b>	<b>117,308,782</b>	<b>17,070,397</b>	<b>7,465,230</b>	<b>3,516,664</b>	<b>21,422,231</b>	<b>18,652,298</b>	<b>2,139,623</b>	<b>2,334,273</b>	<b>11,951,697</b>	<b>19,287</b>	<b>7,966</b>	<b>26,809,953</b>	<b>7,168,064,015</b>	
<b>Claim Detail Exclusions</b>																										
Institutional Data BillType Exclusions	13,347,840	2,440,957	54,056,685	986,311	3,118,186	13,690,258	111,922,907	32,599,728	2,047,489	2,846,664	-	539,875	7,204,534	399,886	245,109	38,231	311,889	-	35,423	58,952	361,330	-	-	220,073	246,272,326	
Professional Non-OP Claims	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-	-	-	-	12,702
Routine Dental and Orthodontic	171,117	19,860	70,923	-	-	3,671,207	1,772,771	2,019,813	17	1,573	-	-	-	-	-	194,101	4,285	-	-	120	891	-	-	25,450	7,952,128	
Capitated Claims	90,876	-	14,335	44	2,108	-	-	-	234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	295,886	
<b>Initial LOB exclusions</b>																										
Medicare Advantage	166,896,545	27,419,201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194,315,746
Medicare Supplement	6,003,110	1,716,622	10,185,066	145,876	284,685	7,092,334	26,887,358	8,781,503	19,627,734	883,290	127,400	97,568	685,232	17,155,516	-	1,414,568	-	-	-	-	-	-	-	-	-	113,904,725
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	22,461	250,619	3,015	404,072	302,173	130,890	54,302	24,653	2,078	-	-	200,729	83,912,770
<b>Subtotal</b>	<b>528,628,011</b>	<b>147,540,129</b>	<b>1,466,113,870</b>	<b>31,502,517</b>	<b>90,073,047</b>	<b>1,875,077,632</b>	<b>3,158,640,143</b>	<b>1,367,312,470</b>	<b>990,521,146</b>	<b>151,819,672</b>	<b>9,624,505</b>	<b>58,195,199</b>	<b>145,879,502</b>	<b>238</b>	<b>8,232,971</b>	<b>2,060,816</b>	<b>28,666,657</b>	<b>19,250,125</b>	<b>2,234,490</b>	<b>4,611,611</b>	<b>11,564,823</b>	<b>56,389</b>	<b>13,908</b>	<b>34,975,828</b>	<b>10,131,595,699</b>	
Rx Exclusion	146,777,095	36,164,430	362,788,771	8,043,292	22,481,046	478,277,910	1,114,818,865	461,904,971	293,604,863	44,814,855	779,740	26,681,500	35,301,310	196	1,322,031	-	7,652,078	-	244,565	1,988,951	-	39,180	5,942	8,489,159	3,052,180,740	
Subtotal	381,850,916	111,375,699	1,103,325,099	23,459,225	67,592,001	1,396,799,722	2,043,821,278	905,407,499	686,916,293	107,004,817	8,844,765	31,513,689	110,578,192	42	6,910,340	2,060,816	21,014,579	19,250,125	1,989,925	2,622,660	11,564,823	17,209	7,866	26,486,669	7,079,414,959	
<b>Invalid Data</b>																										
Zero Allowed	13,912	3,428	-	-	-	2,593	(38,025)	(2,584)	-	3,680	(2,686)	-	-	-	(7,257)	-	-	-	-	-	-	-	-	-	-	(26,939)
Missing Membership	2,266,819	134,950	2,768,364	30,888	139,192	3,427,058	45,880,950	44,350,241	5,515,447	(16,287)	-	8,333	178,968	42	23,453	-	757,921	18,150	7,390	1,825	27,824	-	-	27,092	106,548,630	
<b>LOB Exclusions</b>																										
FEHB (1)	-	-	-	-	-	32,644,072	111,241,866	66,889,410	-	-	-	31,505,366	-	-	-	-	-	-	-	-	-	-	-	-	-	253,220,626
Exclude 65 and Over Members	38,202,120	9,267,910	118,824,225	671,818	4,184,294	70,707,934	302,818,869	117,206,566	89,137,878	6,696,614	341,488	-	6,598,014	-	-	635	910,753	3,044,964	1,904,777	169,084	108,350	2,834,848	108	5,755	1,271,649	774,901,443
<b>Payer Exclusions</b>	<b>5.0%</b>	<b>4.8%</b>	<b>7.2%</b>	<b>1.9%</b>	<b>4.3%</b>	<b>3.6%</b>	<b>8.2%</b>	<b>7.7%</b>	<b>8.3%</b>	<b>4.5%</b>	<b>3.1%</b>	<b>0.0%</b>	<b>4.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>25.2%</b>	<b>10.2%</b>	<b>10.1%</b>	<b>6.8%</b>	<b>2.1%</b>	<b>20.1%</b>	<b>0.2%</b>	<b>33.9%</b>	<b>3.5%</b>		
Optimum Choice, Inc. (P620)	-	-	-	-	-	-	-	-	-	-	-	-	103,801,210	-	-	-	-	-	-	-	-	-	-	-	-	103,801,210
American Specialty Health (T120)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17,101	-	-	-	17,101	
HealthSmart Benefit Solutions, Inc. (T070)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,512,485	-	-	-	-	2,512,485	
Non-Maryland Residents	31,519,038	16,441,827	439,957,527	4,262,756	15,328,654	174,672,996	167,005,975	98,290,406	138,572,848	36,160,797	2,177,662	-	-	-	3,367	-	3,468,188	4,906,523	-	-	911	-	-	1,626,188	1,134,426,663	