



## Claims Reserve Margin in the Health Annual Statement: A Review of 2016-2021

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### Background

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Appointed actuaries are required to opine on the adequacy of reserves held in the year-end financial statement. In preparing claims reserves in the annual statement, health insurers and their opining actuaries will generally include a provision for adverse deviation (PAD) in their reserved amount in order to satisfy language in both the NAIC Health Annual Statement Instructions and in Actuarial Standards of Practice. More specifically, the NAIC instructions state that for an unqualified opinion,

*“the amounts carried in the balance sheet ... make a good and sufficient provision for all unpaid claims and other actuarial liabilities of the organization under the terms of its contracts and agreements<sup>1</sup>.”*

Actuarial Standard of Practice (ASOP) 28 expands further on the NAIC instructions by stating:

*“In order to issue such actuarial opinion that uses the language “good and sufficient,” the actuary should determine that the assets and liabilities are sufficient to cover obligations under moderately adverse conditions and be satisfied that the actuarial judgments made give recognition to any relevant factors, including the time periods over which the assets and liabilities will extend.”<sup>2</sup>*

Per the above, ASOP 28 provides some latitude in professional judgement in determining the levels of (PAD) to be included in the reserve estimates to cover “moderately adverse conditions.”

While it is not possible to distinguish the explicit PAD from the implied conservatism in Incurred But Not Paid (IBNP) estimates from historical, available data, we can calculate the total ultimate margin in the claims reserve estimates that occurred by comparing original booked estimates to actual claim runoff. Unless otherwise stated, PAD and margin are used interchangeably throughout this article are meant to indicate the sum of explicit and implicit conservatism in the reserve estimate.

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<sup>1</sup> 2022 NAIC Health Annual Statement Instructions – Actuarial Opinion Section – Page 14

<sup>2</sup> <https://www.actuarialstandardsboard.org/asops/statements-of-actuarial-opinion-regarding-health-insurance-assets-and-liabilities/>

This whitepaper explores the total level of margin (both implicit and explicit margin combined) included in the reported claims reserves by examining NAIC filing data from 2016 through 2022.

We also summarize the range of unpaid claims adjustment expense (CAE) as a percentage of the unpaid claims reserve since this is readily available as a separate line item in the annual financial statements.

## Summary of Results

The results in Table 1 come from the S&P Global Market Intelligence database of NAIC filings and represent 5-year averages (excluding 2020) of the quartiles, averages, and weighted averages of the PADs by block of business. For example, the dental, 25<sup>th</sup> percentile cell (0.2%) is calculated by taking a simple average of companies in the 25<sup>th</sup> percentile of margin percentages from 2016 through 2019 and 2021 for dental blocks of business.

From Table 1, the margin levels, as determined through restated claims levels, vary considerably both by block of business and within a block of business. The differential between the 25<sup>th</sup> and 75<sup>th</sup> percentiles is the lowest for Vision (2000 basis points) and highest for Medicare (3800 basis points).

<b>Block of Business</b>	<b>25th Percentile</b>	<b>50th Percentile</b>	<b>75th Percentile</b>	<b>Average</b>	<b>Weighted Average</b>
Comprehensive (Hosp, Med)	2.2%	16.1%	39.9%	22.9%	21.3%
Dental Only	0.2%	10.4%	27.5%	17.1%	15.3%
Disability, LTC, Stop Loss, Other	-7.9%	4.5%	26.5%	11.5%	9.5%
Federal Employee Health Benefits	-4.6%	5.0%	20.1%	10.0%	7.6%
Medicare Supplement	0.8%	10.0%	21.7%	12.6%	9.6%
Title XIX Medicaid	1.7%	12.9%	27.9%	16.4%	13.0%
Title XVIII Medicare	2.2%	18.6%	40.3%	24.0%	29.3%
Vision Only	-4.6%	3.5%	15.5%	5.9%	6.9%
<b>Total Health</b>	<b>2.1%</b>	<b>14.1%</b>	<b>32.8%</b>	<b>20.2%</b>	<b>20.1%</b>

For the larger blocks representing traditional health insurance (Comprehensive, Medicare and Medicaid), the average margin fluctuates from around 12.9% to 18.6% at the 50<sup>th</sup> percentile. The range in margin is even greater when measured by the member-weighted average, varying from 13.0% to 29.3% implying that larger companies tend towards higher margins than smaller companies. Additionally, of those three blocks, Medicare also has the largest differential between the 50<sup>th</sup> percentile results and the Weighted Average (18.6% versus 29.3%). Other blocks seem to have more nuanced, block-specific patterns in their margin levels but in general, they all have lower margin levels at each quartile compared to the three traditional blocks.

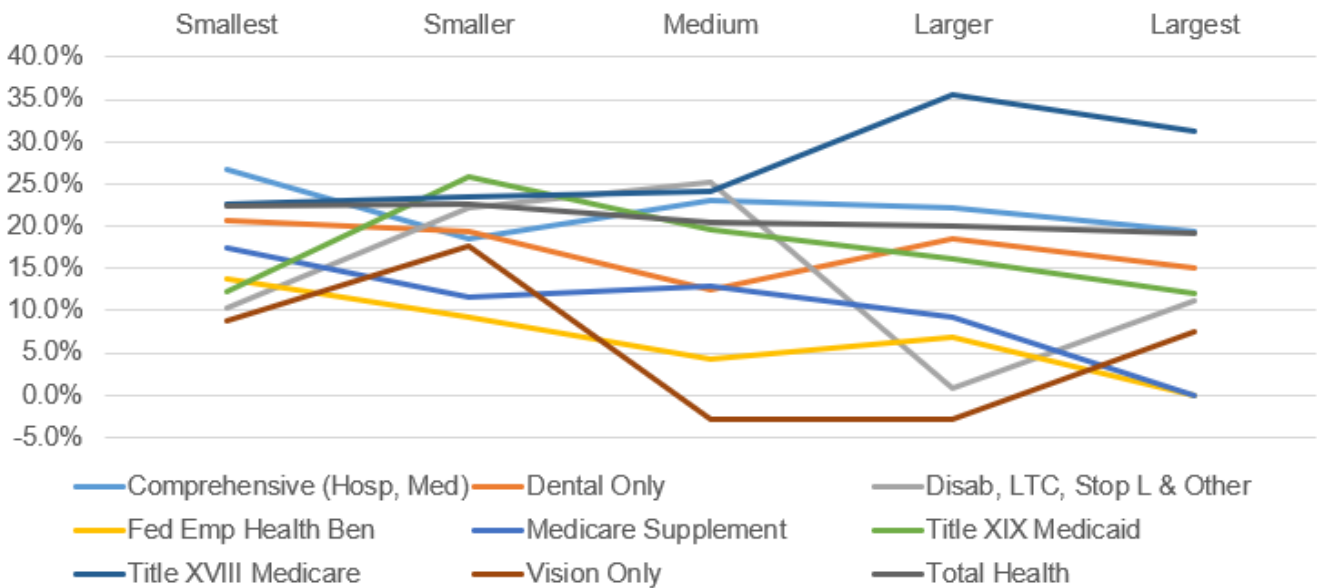
Table 2 shows the five-year average of member month-weighted averages for each combination of block of business and size of those blocks as determined by member months (MMs). For example, the dental, smallest cell (20.7%) is calculated by taking a simple average of the member month weighted average

margins from 2016 through 2019 and 2021 for dental blocks of business with less than 100K MMs. Note that some data is not reported due to a low number of reporting entities in select cells of the table.

Table 2: Five-year Average of the Weighted Average Margins at Varying Block Sizes					
Block of Business	Smallest (0-100K MMs)	Smaller (100K-500K MMs)	Medium (500K-1.5M MMs)	Larger (1.5M-4M MMs)	Largest (4M+ MMs)
Comprehensive (Hosp, Med)	26.8%	18.5%	23.0%	22.3%	19.4%
Dental Only	20.7%	19.4%	12.5%	18.6%	15.1%
Disability, LTC, Stop Loss, Other	10.3%	22.2%	25.2%	0.9%	11.2%
Federal Employee Health Benefits	13.9%	9.2%	4.3%	6.9%	*
Medicare Supplement	17.3%	11.5%	12.9%	9.2%	*
Title XIX Medicaid	*	25.8%	19.6%	16.1%	12.0%
Title XVIII Medicare	22.7%	23.5%	24.2%	35.5%	31.3%
Vision Only	8.9%	17.7%	-2.8%	-2.8%	*
<b>Total Health</b>	<b>22.4%</b>	<b>22.5%</b>	<b>20.4%</b>	<b>20.1%</b>	<b>19.2%</b>

As a general rule of thumb, we would expect that margin levels decrease with increasing block size within a given block of business category. This is because larger blocks of business should theoretically have less volatility and therefore lower PAD levels (as a percentage). What we see in Table 2 is that while this holds to some degree, there are numerous examples where this isn't the case and at least for the Medicare and Disability blocks, results are opposite of this expectation. We've placed the information from Table 2 into Chart 1 to provide a more visual look at the results.

Chart 1: Five-year average of the weighted avg margin at varying block sizes



We also reviewed CAE as a percentage of total unpaid claim reserve. Unlike the results shown in Tables 1 and 2, the CAE analysis is not a lookback comparison of results. It is a report of the CAE booked in the financial statement and does not evaluate the adequacy of the CAE that is booked. Table 3 presents those results by company size. Similar to above, 2020 is excluded from the 5-year average.

<b>Company Size (MMs)</b>	<b>25th Percentile</b>	<b>50th Percentile</b>	<b>75th Percentile</b>	<b>Average</b>	<b>Weighted Average</b>
Smallest	0.3%	1.6%	3.0%	2.7%	2.9%
Smaller	1.0%	2.0%	3.1%	2.6%	2.6%
Medium	1.2%	1.9%	3.0%	2.7%	2.8%
Larger	1.2%	1.9%	2.8%	2.6%	2.6%
Largest	1.3%	2.1%	3.5%	3.8%	3.3%

There are two main observations with the CAE results. First, unlike PAD, there isn't a lot of variation across the industry as a whole. We can see in the table that CAE as a percentage of initial booked unpaid claim liabilities generally range from about 1.0% up to about 3.0% with some outliers below and above that range. Second, we observe that the CAE percentage generally increases with company size. The increasing CAE percentage may be because companies devote increased administrative efforts to review and negotiate claims as size increases. Therefore, additional funds would need to be held for administrative costs related to adjudicating the unpaid claims liability compared to smaller organizations.

Note, CAE is not available by block of business.

Appendices A and B include the results from Tables 1, 2, and 3 broken out by year for margin and CAE, respectively. Appendix C shows the number of distinct organizations represented in each cell of Appendices A and B.

## **Comparison to Yearend 2020**

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The results shown above are summaries from 2016 through 2019 and 2021. 2020 is intentionally excluded due to the extraordinary circumstances surrounding COVID-19 and how organizations adjusted their margin policy to the unusual situation. That said, it is interesting to review how companies on the whole adjusted their conservatism in their yearend financial statements in response to COVID-19.

Like Table 1, Table 4 below is reporting the quartiles, averages, and weighted averages of the PADs by block of business. With some exceptions, the margin percentages in 2020 are materially higher than those from prior years. The majority of results in Table 4 materially exceed the PAD levels from their prior year counterparts from Table 1 with many cells being 500 basis points or more higher. The overall weighted average from the prior years was 20.1% compared to 23.1% in 2020 (a 14.6% increase).

<b>Table 4: 2020 Margins at Varying Percentiles by Block of Business</b>					
<b>Block of Business</b>	<b>25th Percentile</b>	<b>50th Percentile</b>	<b>75th Percentile</b>	<b>Average</b>	<b>Weighted Average</b>
Comprehensive (Hosp, Med)	3.5%	21.6%	49.2%	28.6%	25.9%
Dental Only	0.0%	11.0%	29.8%	15.8%	19.0%
Disability, LTC, Stop Loss, Other	-1.9%	10.0%	25.5%	14.5%	7.0%
Federal Employee Health Benefits	-0.7%	9.5%	30.5%	20.8%	7.8%
Medicare Supplement	6.9%	16.2%	31.8%	21.1%	20.4%
Title XIX Medicaid	7.8%	23.0%	36.2%	24.7%	24.1%
Title XVIII Medicare	4.7%	20.6%	45.9%	27.9%	34.3%
Vision Only	-8.4%	0.0%	17.4%	3.7%	4.0%
<b>Total Health</b>	<b>3.2%</b>	<b>18.6%</b>	<b>39.8%</b>	<b>24.4%</b>	<b>23.1%</b>

## Data and Methodology

In order to perform the analysis, we used S&P Global Market Intelligence to collect data for all organizations filing the NAIC Health Annual Statement (the Orange Blank). The prior year's claim liability is restated in the next year's annual statement which provides the opportunity to evaluate the overall levels of conservatism (or lack thereof) that was built into the estimation of the claim liability.

Using S&P Global Market Intelligence, it is possible to aggregate multiple years of information. We pulled six years of financial information together (2016-2021) for all organizations filing the Orange Blank. We aggregated information at the block of business level where it was available. Specifically, we extracted information from the "Underwriting and Investment Exhibit, Part 2B – Analysis of Claims" for information regarding the statement year's estimate of unpaid claims and the prior year's restatement of unpaid claims. We pulled data from page 3, line 3 to analyze CAE percentages. Lastly, we pulled membership information by block of business from the Exhibit of Premiums, Enrollment and Utilization. Information was extracted for each company filing an annual statement and was not rolled up to the parent-organization level.

We excluded as outliers any organizations where the absolute value of the initial estimate over the restatement was greater than 150%. We also excluded instances where the initial estimate or the restatement indicated a negative claims reserve which mostly had an impact on the Disability, LTC, Stop Loss block. The total number of organizations varied from year to year but ranged from 733 distinct annual statements to 856 after applying the exclusion. We do not report any cells with less than ten organizations represented so as to not misrepresent the information as indicative of how the industry determines margin and CAE when only a small number of companies are being reported.

Margin was determined at the organization level by dividing the reserve in a given year's annual statement, the sum of columns 3 and 4 of the Underwriting and Investment Exhibit, Part 2B, by the restatement in the following year's annual statement in exhibit 2B, the sum of columns 1 and 3. More succinctly,

$$\frac{\text{Year X Exhibit 2B columns 3 and 4}}{\text{Year X+1 Exhibit 2B Columns 1 and 3}}$$

CAE was determined by dividing the unpaid claims adjustment expense (line 3, page 3 liabilities, capital and surplus) by claims unpaid (line 1, page 3 liabilities, capital and surplus).

While margin can be assessed by line of business, CAE is only reported in aggregate. Both metrics were examined in total and by organization size, as determined by total member months (MMs). Margin levels were further reported by block of business and block size. The groupings were:

- Smallest – less than or equal to 100,000 MMs.
- Smaller – greater than 100,000 and less than or equal to 500,000 MMs.
- Medium – greater than 500,000 and less than or equal to 1,500,000 MMs.
- Larger – greater than 1,500,000 and less than or equal to 4,000,000 MMs.
- Largest – greater than 4,000,000 MMs.

Both margin and CAE were aggregated and summarized at the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> quartiles, by average, and weighted average (by MMs).

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## Caveats

This whitepaper makes no recommendation as to the appropriateness of including PAD or whether any such guidance is consistent with local or federal rules and regulations.

The results in this whitepaper make no recommendations as to the amount of PAD that any organization should establish in their reserve setting process.

This analysis relied on information from the S&P Global Market Intelligence database. We made no attempt to audit that data for accuracy. In addition, this analysis only includes data from S&P for companies filing the orange blank. Therefore, organizations filing health claims on the blue blank or the California department of Managed Healthcare Filings would not be included and may represent a material portion of the insurance market.

This analysis inherently assumes that the restated claim amounts in Exhibit 2B (columns 1 & 3) are generally complete and include relatively little PAD. Results will be impacted to the extent that there are widespread, high levels of PAD incorporated into the restated estimates of prior year unpaid claims.

Variance in margin results may be partially driven by differences in the methodology used to incorporate PAD between organizations.

Geographical variances in business operations or applicable state rules and regulations are not accounted for in the summarization of results. For example, claims processing patterns may vary by region or size of the MCO. Additionally, certain states may have specific rules that impact the levels of PAD in the statement.

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## Conclusion

To reiterate, the results in this whitepaper are purely for informational purposes and should be considered only as a data point when considering and establishing margin policy within your organization. Wakely

has ample experience analyzing historical claims patterns that could inform your margin policy.

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## Appendix A Margin Percentages Split by Block and Block Size Displayed by Year

All Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	3.3%	3.7%	3.4%	1.1%	3.5%	-0.5%	17.8%	17.8%	14.6%	15.6%	21.6%	14.6%	40.5%	38.4%	39.4%	42.2%	49.2%	39.0%
Dental Only	0.0%	0.1%	0.0%	1.0%	0.0%	0.0%	8.1%	10.1%	9.5%	13.0%	11.0%	11.5%	24.8%	28.6%	24.1%	32.4%	29.8%	27.4%
Disability, LTC, Stop Loss, Other	-15.4%	-4.5%	-10.0%	-4.7%	-1.9%	-4.8%	5.3%	4.3%	6.8%	3.6%	10.0%	2.5%	25.9%	29.3%	31.0%	23.4%	25.5%	22.8%
Federal Employee Health Benefits	-0.7%	-2.1%	-6.2%	-4.3%	-0.7%	-9.6%	9.0%	6.4%	1.9%	7.8%	9.5%	0.0%	19.7%	27.9%	18.5%	19.4%	30.5%	14.8%
Medicare Supplement	0.6%	1.6%	0.3%	2.9%	6.9%	-1.5%	10.5%	8.9%	10.6%	10.7%	16.2%	9.3%	20.9%	20.4%	25.4%	24.3%	31.8%	17.4%
Title XIX Medicaid	3.0%	4.2%	1.5%	0.0%	7.8%	0.0%	15.8%	16.7%	12.5%	10.2%	23.0%	9.3%	30.9%	31.0%	30.9%	20.2%	36.2%	26.4%
Title XVIII Medicare	3.8%	4.4%	2.6%	2.0%	4.7%	-1.9%	20.4%	17.5%	17.4%	19.6%	20.6%	18.3%	35.8%	36.3%	40.4%	40.9%	45.9%	48.0%
Vision Only	-10.3%	-6.0%	-6.5%	-0.1%	-8.4%	0.0%	0.0%	0.2%	3.9%	6.1%	0.0%	7.5%	8.0%	17.9%	15.7%	17.7%	17.4%	17.9%
Total Health	2.7%	3.0%	2.9%	2.0%	3.2%	0.0%	14.9%	14.6%	14.0%	14.4%	18.6%	12.5%	31.3%	32.0%	32.0%	33.4%	39.8%	35.6%

All Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	24.2%	23.5%	22.1%	23.4%	28.6%	21.3%	21.6%	23.4%	21.5%	19.0%	25.9%	21.0%
Dental Only	16.1%	18.5%	14.3%	19.6%	15.8%	17.0%	9.2%	15.1%	13.6%	21.1%	19.0%	17.5%
Disability, LTC, Stop Loss, Other	7.8%	14.0%	13.6%	11.2%	14.5%	10.7%	10.6%	6.5%	6.9%	3.8%	7.0%	19.7%
Federal Employee Health Benefits	12.5%	13.8%	7.6%	11.3%	20.8%	4.6%	15.1%	8.3%	1.8%	9.7%	7.8%	3.1%
Medicare Supplement	12.3%	13.3%	15.0%	13.5%	21.1%	8.8%	10.3%	8.3%	11.6%	8.2%	20.4%	9.7%
Title XIX Medicaid	18.8%	21.6%	16.3%	12.7%	24.7%	12.7%	16.8%	15.8%	16.5%	9.6%	24.1%	6.3%
Title XVIII Medicare	22.7%	22.9%	24.4%	25.0%	27.9%	24.9%	25.5%	28.3%	29.2%	30.5%	34.3%	32.7%
Vision Only	-3.0%	6.6%	9.2%	8.0%	3.7%	8.9%	-1.5%	6.0%	6.8%	9.9%	4.0%	13.4%
Total Health	19.9%	20.8%	19.9%	21.1%	24.4%	19.3%	18.1%	22.8%	20.2%	19.9%	23.1%	19.7%

Smallest Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	-3.2%	3.0%	-8.8%	-3.3%	-11.5%	-7.9%	19.3%	30.5%	18.0%	17.8%	14.0%	12.6%	46.9%	62.9%	56.9%	54.8%	56.5%	56.4%
Dental Only	-0.2%	-0.8%	0.0%	0.0%	-1.1%	0.0%	0.0%	0.4%	9.7%	3.0%	0.0%	7.7%	31.5%	40.9%	31.0%	20.6%	34.9%	39.0%
Disability, LTC, Stop Loss, Other	-30.6%	-3.0%	-3.6%	-4.1%	-6.1%	0.0%	0.0%	3.2%	6.8%	0.7%	1.5%	2.0%	9.3%	25.6%	42.1%	33.0%	37.4%	38.1%
Federal Employee Health Benefits	-10.5%	-11.2%	-22.5%	-11.4%	0.0%	-20.6%	9.0%	25.9%	1.9%	10.0%	27.6%	3.0%	35.3%	62.6%	24.1%	37.2%	75.2%	31.6%
Medicare Supplement	-7.2%	-0.5%	-5.8%	0.0%	0.0%	-8.2%	6.1%	14.0%	15.3%	14.6%	11.9%	3.6%	25.7%	30.4%	43.4%	31.8%	36.6%	25.0%
Title XIX Medicaid	-3.3%	5.9%	-16.1%	-21.0%	-7.3%	-20.9%	16.0%	16.0%	9.1%	1.7%	2.7%	-0.9%	47.1%	26.4%	19.7%	13.6%	6.4%	7.3%
Title XVIII Medicare	-1.9%	-0.3%	-1.3%	-0.9%	0.0%	-10.3%	17.2%	12.8%	16.9%	20.6%	20.3%	9.5%	36.0%	31.5%	40.1%	42.0%	54.0%	45.3%
Vision Only	-22.9%	0.0%	0.0%	-3.3%	-25.6%	-3.0%	0.0%	0.1%	5.7%	0.0%	-3.6%	6.4%	3.3%	19.6%	35.0%	9.8%	24.5%	24.0%
Total Health	-0.1%	-0.2%	-4.6%	-0.6%	-0.2%	-7.7%	9.7%	13.0%	14.0%	17.0%	15.0%	8.4%	35.9%	43.3%	34.2%	47.4%	49.6%	47.5%

Smallest Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	22.3%	32.8%	21.2%	27.8%	21.9%	22.5%	13.7%	38.8%	27.4%	31.1%	29.0%	22.8%
Dental Only	19.3%	22.7%	17.8%	14.1%	14.5%	16.3%	19.9%	18.4%	19.0%	23.4%	14.8%	22.7%
Disability, LTC, Stop Loss, Other	-5.1%	15.2%	21.3%	15.0%	12.1%	19.0%	-8.6%	1.1%	18.2%	18.1%	13.6%	22.5%
Federal Employee Health Benefits	14.2%	26.4%	10.8%	18.1%	38.9%	8.0%	18.1%	20.9%	-4.6%	16.1%	28.2%	18.8%
Medicare Supplement	12.1%	17.5%	16.6%	14.1%	19.5%	7.7%	11.0%	21.9%	19.9%	20.4%	24.0%	13.5%
Title XIX Medicaid	23.4%	18.4%	8.8%	2.9%	-1.0%	0.9%	20.2%	11.1%	12.4%	7.8%	-3.6%	9.8%
Title XVIII Medicare	19.7%	18.8%	22.1%	23.9%	26.1%	19.5%	17.8%	18.4%	21.8%	30.5%	33.3%	24.9%
Vision Only	-2.7%	11.1%	25.4%	0.5%	-6.0%	11.6%	1.9%	11.8%	11.5%	3.8%	7.1%	15.4%
Total Health	18.9%	22.6%	17.1%	23.3%	22.8%	20.7%	20.2%	21.4%	14.6%	31.5%	28.5%	24.3%



## Appendix A Margin Percentages Split by Block and Block Size Displayed by Year

Smaller Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	1.5%	1.0%	2.4%	0.6%	7.8%	-6.4%	16.9%	14.8%	14.4%	14.7%	28.3%	9.3%	38.9%	32.4%	39.5%	31.8%	53.5%	30.5%
Dental Only	0.0%	0.8%	-2.8%	0.4%	0.1%	1.2%	16.0%	12.2%	14.8%	11.3%	9.8%	13.3%	40.8%	38.4%	28.1%	41.7%	36.2%	33.7%
Disability, LTC, Stop Loss, Other	-6.7%	-1.3%	5.3%	-7.4%	5.2%	-17.7%	8.7%	20.6%	9.9%	4.2%	11.1%	6.3%	14.5%	61.3%	48.1%	41.2%	24.8%	15.5%
Federal Employee Health Benefits	-1.9%	-7.9%	-1.2%	-6.1%	0.8%	-16.7%	8.2%	7.5%	11.1%	8.3%	13.1%	5.4%	21.1%	21.2%	29.0%	17.8%	34.3%	33.7%
Medicare Supplement	5.4%	3.4%	3.4%	6.5%	12.1%	3.3%	12.3%	8.2%	8.1%	11.7%	18.1%	9.4%	17.3%	13.0%	14.9%	24.3%	35.8%	14.8%
Title XIX Medicaid	1.9%	3.1%	0.0%	5.6%	6.5%	4.8%	23.1%	25.1%	3.9%	10.5%	21.3%	16.7%	46.1%	54.3%	33.4%	19.2%	50.9%	40.0%
Title XVIII Medicare	3.8%	6.2%	1.6%	5.0%	8.3%	4.1%	21.4%	15.5%	13.6%	15.0%	21.4%	24.5%	35.9%	37.6%	37.4%	39.6%	44.7%	48.8%
Vision Only	3.8%	-0.3%	-4.7%	-0.8%	-4.9%	2.0%	9.2%	8.9%	0.0%	8.9%	0.0%	9.6%	19.8%	36.7%	24.0%	30.4%	17.5%	21.0%
Total Health	2.1%	3.5%	5.7%	2.7%	6.2%	1.2%	19.1%	14.5%	19.7%	14.6%	21.7%	14.2%	38.2%	35.6%	47.9%	40.1%	45.9%	32.6%

Smaller Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	24.2%	18.6%	22.8%	18.9%	32.1%	14.7%	15.7%	18.4%	22.7%	20.0%	32.6%	15.6%
Dental Only	21.2%	20.9%	16.9%	25.5%	17.6%	20.8%	17.2%	19.0%	13.1%	26.8%	18.0%	20.9%
Disability, LTC, Stop Loss, Other	13.7%	35.8%	18.5%	14.8%	13.7%	4.4%	24.4%	35.4%	27.2%	17.5%	15.4%	6.5%
Federal Employee Health Benefits	8.2%	11.4%	15.0%	10.3%	22.0%	6.2%	3.4%	9.4%	17.0%	10.5%	20.5%	5.5%
Medicare Supplement	10.7%	8.6%	13.5%	16.9%	25.9%	10.1%	11.3%	8.2%	11.9%	16.3%	26.8%	10.0%
Title XIX Medicaid	21.8%	28.6%	17.9%	16.5%	27.9%	31.3%	36.4%	26.6%	18.3%	15.9%	27.1%	31.9%
Title XVIII Medicare	23.3%	24.1%	23.5%	26.1%	29.3%	29.2%	17.7%	23.4%	24.4%	25.2%	29.5%	26.9%
Vision Only	11.8%	28.4%	10.8%	19.7%	14.4%	15.1%	15.1%	22.9%	9.6%	23.7%	13.5%	17.3%
Total Health	23.8%	21.3%	28.6%	24.2%	27.4%	18.7%	22.7%	20.5%	25.7%	24.2%	28.3%	19.5%

Medium Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	5.0%	3.1%	5.0%	6.5%	8.5%	7.0%	20.4%	18.6%	15.6%	21.9%	28.6%	22.5%	40.6%	33.0%	36.6%	37.5%	49.4%	49.3%
Dental Only	-1.4%	2.6%	-1.1%	5.6%	-0.6%	0.5%	5.8%	12.2%	8.8%	13.9%	14.6%	10.0%	17.1%	23.4%	23.7%	24.2%	27.2%	22.1%
Disability, LTC, Stop Loss, Other	6.5%	-27.2%	-10.2%	-2.3%	9.0%	-6.6%	16.7%	0.7%	5.9%	14.0%	11.2%	2.4%	46.8%	18.1%	45.2%	24.6%	39.2%	14.1%
Federal Employee Health Benefits	3.4%	-0.3%	-8.7%	-3.8%	-3.5%	-6.6%	9.5%	4.5%	-1.5%	5.5%	2.3%	-0.4%	17.2%	14.0%	6.3%	12.4%	13.2%	7.1%
Medicare Supplement	6.9%	6.7%	6.3%	4.8%	11.4%	0.2%	12.8%	8.7%	13.2%	10.7%	16.2%	12.7%	26.2%	13.2%	19.5%	15.0%	22.7%	16.3%
Title XIX Medicaid	6.8%	3.9%	1.3%	-0.1%	8.4%	1.6%	20.3%	21.0%	13.0%	15.2%	23.2%	9.4%	40.8%	35.5%	27.0%	26.3%	34.7%	28.2%
Title XVIII Medicare	9.8%	7.3%	8.2%	-0.7%	4.9%	7.4%	24.4%	20.9%	18.0%	12.1%	16.2%	15.8%	34.9%	35.8%	44.1%	39.7%	39.8%	45.3%
Vision Only	-39.6%	-5.8%	-12.6%	-0.8%	-8.2%	-4.6%	-2.2%	0.1%	4.3%	4.6%	6.4%	5.6%	2.5%	8.0%	10.7%	15.2%	17.2%	9.7%
Total Health	6.0%	6.4%	2.5%	2.5%	5.6%	3.2%	20.5%	20.2%	13.4%	13.9%	16.6%	12.2%	33.4%	33.8%	33.1%	27.6%	34.7%	35.1%

Medium Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	27.2%	20.7%	22.3%	26.6%	35.2%	29.6%	18.4%	20.6%	22.6%	25.4%	35.0%	27.9%
Dental Only	11.1%	16.5%	10.6%	14.4%	14.0%	16.3%	7.0%	14.9%	12.0%	14.5%	14.4%	14.1%
Disability, LTC, Stop Loss, Other	27.7%	3.1%	22.2%	14.7%	31.9%	7.3%	58.5%	8.4%	33.8%	13.8%	30.5%	11.4%
Federal Employee Health Benefits	11.8%	7.3%	-0.6%	5.1%	5.0%	1.4%	7.9%	6.1%	-0.7%	5.8%	4.1%	2.3%
Medicare Supplement	15.7%	11.6%	14.5%	10.8%	18.3%	10.1%	14.5%	13.5%	15.0%	11.2%	17.3%	10.3%
Title XIX Medicaid	22.5%	27.5%	17.2%	17.2%	22.4%	13.0%	27.8%	24.7%	16.8%	15.8%	23.0%	12.9%
Title XVIII Medicare	26.8%	25.8%	26.6%	20.5%	27.1%	26.9%	21.8%	26.7%	26.8%	20.8%	29.2%	24.7%
Vision Only	-14.6%	-2.5%	-2.7%	2.6%	-4.2%	1.6%	-16.8%	-2.9%	1.4%	2.6%	-1.8%	1.7%
Total Health	23.9%	24.5%	19.7%	19.6%	23.9%	20.6%	19.3%	23.5%	20.2%	19.8%	23.6%	18.9%

## Appendix A Margin Percentages Split by Block and Block Size Displayed by Year

Larger Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	6.2%	8.1%	4.5%	8.0%	6.5%	6.5%	17.6%	19.7%	13.2%	14.4%	16.1%	15.1%	42.6%	37.0%	32.4%	30.3%	37.5%	33.9%
Dental Only	4.5%	0.4%	0.4%	5.1%	3.0%	2.7%	10.0%	9.0%	11.5%	16.7%	11.8%	7.6%	22.1%	26.5%	20.4%	27.3%	30.5%	20.7%
Disability, LTC, Stop Loss, Other	-15.6%	-13.2%	-28.9%	-10.3%	5.4%	-7.5%	-2.4%	3.3%	-8.5%	3.2%	18.9%	8.5%	13.4%	18.1%	15.0%	6.1%	31.4%	29.5%
Federal Employee Health Benefits	5.1%	-2.7%	-4.8%	6.8%	-1.5%	-6.8%	13.1%	5.1%	0.4%	10.8%	8.1%	-4.1%	15.7%	8.6%	3.8%	16.5%	18.7%	3.4%
Medicare Supplement	6.8%	5.9%	6.7%	5.4%	12.8%	8.9%	10.1%	10.0%	8.5%	6.7%	18.3%	10.5%	11.4%	12.9%	11.2%	7.1%	36.8%	15.2%
Title XIX Medicaid	2.3%	7.7%	1.2%	1.5%	12.7%	-1.2%	13.0%	17.4%	13.8%	9.4%	24.9%	14.7%	27.0%	28.4%	32.0%	18.2%	36.5%	27.7%
Title XVIII Medicare	18.8%	10.6%	13.3%	14.5%	15.0%	7.9%	25.9%	22.8%	31.2%	30.1%	31.1%	34.7%	43.4%	43.1%	54.0%	46.2%	45.2%	56.7%
Vision Only	-13.5%	-9.7%	-13.2%	-2.7%	-10.9%	-0.8%	-0.3%	-3.7%	-7.1%	3.0%	-0.3%	1.1%	1.9%	6.0%	7.3%	8.3%	2.0%	10.9%
Total Health	5.2%	4.3%	3.4%	6.0%	10.7%	4.5%	14.8%	13.7%	15.0%	15.7%	25.7%	16.5%	28.4%	28.5%	31.4%	30.1%	41.0%	34.5%

Larger Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	26.3%	23.2%	20.5%	23.4%	24.9%	23.5%	22.3%	22.8%	20.1%	23.3%	23.8%	22.8%
Dental Only	19.1%	16.8%	14.2%	23.4%	17.6%	14.0%	26.4%	16.6%	13.5%	23.7%	17.8%	12.8%
Disability, LTC, Stop Loss, Other	0.9%	3.4%	-7.6%	3.2%	18.0%	9.2%	3.7%	-0.9%	-7.8%	-2.6%	14.1%	12.0%
Federal Employee Health Benefits	20.1%	2.0%	-0.8%	11.0%	9.9%	1.2%	21.0%	2.0%	-0.5%	11.0%	9.0%	1.1%
Medicare Supplement	14.1%	8.8%	11.2%	5.6%	23.5%	11.3%	8.8%	9.0%	11.1%	5.6%	23.0%	11.7%
Title XIX Medicaid	14.8%	19.7%	16.6%	12.3%	28.5%	13.4%	16.2%	20.6%	17.1%	12.8%	28.6%	13.7%
Title XVIII Medicare	28.5%	32.8%	35.0%	36.3%	34.2%	38.2%	31.6%	34.0%	34.8%	38.0%	33.4%	38.8%
Vision Only	-7.5%	-5.5%	-4.1%	5.4%	-0.1%	6.1%	-10.2%	-7.6%	-6.3%	3.3%	-1.6%	6.7%
Total Health	18.0%	19.0%	18.8%	22.4%	27.3%	20.4%	17.7%	19.6%	19.8%	23.1%	28.2%	20.3%

Largest Block Sizes																		
LOB	25th percentile of Margin Percentage						50th percentile of Margin Percentage						75th percentile of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	3.7%	9.4%	6.0%	1.6%	-0.1%	0.2%	13.7%	17.0%	12.2%	8.8%	16.3%	11.4%	30.5%	24.4%	27.7%	40.5%	32.8%	24.7%
Dental Only	1.3%	6.0%	1.6%	6.8%	3.0%	4.9%	7.5%	11.8%	7.9%	16.2%	12.6%	14.2%	12.8%	20.0%	15.8%	24.4%	27.1%	23.8%
Disability, LTC, Stop Loss, Other	-4.7%	-1.8%	-2.7%	-2.5%	-4.4%	-6.9%	5.4%	3.9%	1.1%	7.6%	3.6%	3.6%	35.7%	19.4%	17.2%	11.2%	17.1%	18.2%
Federal Employee Health Benefits	1.8%	0.5%	-0.4%	7.3%	1.9%	-5.3%	4.9%	5.6%	2.1%	12.6%	5.4%	-4.5%	17.5%	15.1%	5.4%	18.0%	7.3%	11.8%
Medicare Supplement	-0.8%	-1.0%	2.7%	-2.3%	16.3%	1.2%	-0.4%	-0.7%	5.6%	-0.1%	16.4%	3.6%	0.0%	-0.3%	8.6%	2.1%	16.5%	6.0%
Title XIX Medicaid	5.1%	2.4%	6.7%	-2.2%	9.4%	-2.7%	11.7%	10.3%	13.6%	7.1%	22.3%	7.4%	20.8%	19.5%	21.7%	15.0%	35.8%	18.7%
Title XVIII Medicare	7.9%	17.8%	17.9%	19.7%	24.3%	32.2%	17.5%	30.9%	24.6%	21.1%	38.2%	36.2%	25.9%	33.3%	30.3%	46.7%	51.1%	40.2%
Vision Only	-6.5%	-7.4%	2.4%	7.2%	0.2%	3.8%	0.3%	6.4%	10.2%	9.5%	4.9%	13.5%	6.3%	17.5%	15.7%	14.8%	20.7%	21.9%
Total Health	4.4%	4.6%	4.6%	3.7%	4.6%	1.9%	11.5%	12.1%	11.4%	11.9%	17.8%	10.8%	23.0%	23.3%	20.7%	23.9%	34.7%	26.4%

Largest Block Sizes												
LOB	Average of Margin Percentage						Weighted Average of Margin Percentage					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	18.0%	25.4%	23.5%	19.5%	24.7%	18.6%	16.9%	25.1%	21.8%	14.6%	23.5%	18.8%
Dental Only	5.7%	13.2%	10.4%	18.6%	14.8%	16.0%	7.5%	14.5%	13.8%	20.8%	19.7%	18.7%
Disability, LTC, Stop Loss, Other	10.3%	5.4%	6.4%	4.2%	2.9%	6.0%	18.1%	6.7%	6.3%	3.7%	4.7%	21.4%
Federal Employee Health Benefits	14.5%	9.9%	2.9%	12.7%	5.5%	1.2%	-1.1%	13.8%	1.7%	12.0%	7.1%	3.6%
Medicare Supplement	-0.4%	-0.7%	5.6%	-0.1%	16.4%	3.6%	NA	-0.8%	7.0%	0.9%	16.5%	4.7%
Title XIX Medicaid	17.6%	13.6%	16.8%	6.5%	22.9%	5.3%	26.7%	10.5%	15.9%	6.1%	21.5%	0.7%
Title XVIII Medicare	17.7%	24.8%	23.6%	35.0%	39.9%	39.6%	NA	28.5%	27.8%	33.4%	40.9%	35.4%
Vision Only	-1.2%	6.5%	20.0%	10.6%	14.0%	11.8%	-3.0%	7.5%	8.2%	10.6%	4.6%	14.4%
Total Health	14.7%	17.3%	15.6%	15.9%	21.0%	16.1%	13.6%	23.5%	20.2%	19.1%	22.0%	19.6%

## Appendix B CAE Percentages Split by Block Size Displayed by Year

Bucket Size	25th percentile of CAE % by Group Size						50th percentile of CAE % by Group Size						75th percentile of CAE % by Group Size					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Smallest	0.0%	0.1%	0.5%	0.8%	0.7%	0.9%	1.5%	1.5%	1.7%	2.0%	1.8%	1.6%	2.9%	2.8%	3.0%	3.1%	3.5%	3.0%
Smaller	1.0%	1.0%	0.9%	0.9%	0.9%	1.2%	2.1%	1.8%	2.0%	2.0%	1.7%	2.0%	3.2%	3.1%	3.0%	3.2%	3.0%	3.1%
Medium	1.1%	1.2%	1.2%	1.1%	1.0%	1.1%	1.8%	2.0%	2.0%	1.8%	1.7%	2.0%	2.9%	2.9%	3.0%	3.0%	3.1%	3.0%
Larger	1.3%	1.1%	1.1%	1.1%	1.1%	1.0%	1.8%	1.9%	2.1%	1.9%	2.0%	1.6%	2.9%	2.9%	2.9%	2.8%	3.0%	2.6%
Largest	1.3%	1.2%	1.3%	1.3%	1.1%	1.0%	2.1%	2.0%	2.3%	2.0%	2.2%	2.0%	3.8%	3.3%	3.5%	3.6%	3.5%	3.3%
Total	1.1%	1.1%	1.0%	1.0%	1.0%	1.0%	1.8%	1.8%	2.0%	2.0%	1.9%	1.8%	3.0%	3.0%	3.1%	3.0%	3.2%	3.0%

Bucket Size	Average of CAE % by Group Size						Weighted Average of CAE % by Group Size					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Smallest	2.7%	2.2%	3.4%	3.0%	4.8%	2.3%	2.9%	2.4%	3.6%	3.0%	5.1%	2.6%
Smaller	2.7%	2.4%	2.4%	2.5%	2.5%	2.9%	2.8%	2.4%	2.3%	2.5%	2.6%	3.1%
Medium	2.4%	2.8%	2.5%	2.7%	3.0%	3.0%	2.4%	2.8%	2.7%	2.9%	3.3%	3.4%
Larger	2.6%	2.6%	2.8%	2.6%	2.8%	2.3%	2.5%	2.5%	2.8%	2.7%	2.8%	2.3%
Largest	3.9%	3.6%	3.4%	3.7%	4.5%	4.5%	3.3%	3.0%	3.1%	3.5%	3.8%	3.9%
Total	2.9%	2.7%	2.9%	2.9%	3.6%	3.0%	3.1%	2.9%	3.0%	3.3%	3.6%	3.6%



## Appendix C Number of Entities with Active Business in each Block Displayed by Year

Count of Entities with Business in Each Block																		
LOB	All Group Sizes						Smallest Group Sizes						Smaller Group Sizes					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	376	376	370	371	383	391	67	82	77	86	96	98	121	115	112	118	126	128
Dental Only	204	200	199	195	193	199	47	46	46	37	39	40	53	48	48	51	48	52
Disability, LTC, Stop Loss, Other	88	90	85	83	88	86	28	32	27	30	27	29	18	17	13	12	13	16
Federal Employee Health Benefits	114	107	106	106	103	99	40	32	29	31	34	32	30	31	34	32	25	23
Medicare Supplement	112	109	117	117	124	130	56	53	59	55	61	66	27	28	30	33	31	29
Title XIX Medicaid	196	197	198	191	198	198	15	12	16	9	7	7	23	28	23	27	31	19
Title XVIII Medicare	316	312	331	351	401	437	127	125	144	158	194	213	100	93	92	98	110	121
Vision Only	63	64	69	71	75	73	13	11	12	13	14	14	12	11	15	16	16	14
Total Health	733	740	747	763	823	856	122	138	143	159	198	216	150	148	148	154	171	168

Count of Entities with Business in Each Block																		
LOB	Medium Group Sizes						Larger Group Sizes						Largest Group Sizes					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Comprehensive (Hosp, Med)	90	85	92	81	80	84	58	57	55	55	53	52	40	37	34	31	28	29
Dental Only	39	40	39	37	37	36	34	33	30	36	34	34	31	33	36	34	35	37
Disability, LTC, Stop Loss, Other	15	13	15	14	14	13	12	12	13	12	15	12	15	16	17	15	19	16
Federal Employee Health Benefits	31	31	31	30	30	29	9	9	8	9	9	10	4	4	4	4	5	5
Medicare Supplement	19	19	19	19	21	25	8	7	7	8	9	8	2	2	2	2	2	2
Title XIX Medicaid	51	46	52	53	49	51	74	74	71	65	70	75	33	37	36	37	41	46
Title XVIII Medicare	71	68	65	62	62	65	13	21	26	27	28	30	5	5	4	6	7	8
Vision Only	13	14	18	17	16	18	12	13	11	12	15	12	13	15	13	13	14	15
Total Health	152	139	146	143	147	148	155	162	151	153	143	150	154	153	159	154	164	174