Plan Management Navigator
*Analytics for Health Plan Administration*

Healthcare Analysts

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*Please see page 8 for our invitation to participate in the 2024 or license the 2023* Sherlock Benchmarks.

# The Relationship between Scale, Staffing Ratios and Compensation

## *Introduction and Conclusion*

In early November, we wrote about economies of scale in health insurance. In this analysis, we look at two related factors, economies of scale in staffing ratios and compensation levels. We conclude that larger plans tend to have fewer employees but compensate them at a higher rate. This is true for reported compensation and also when we control for cost-of-living differences for Independent / Provider – Sponsored plans and the combined universe. In other words, the lower costs that arise from lower staffing ratios are diminished by the higher levels of compensation.

The source of the information used in these analyses is from the 2023 *Sherlock Benchmarks*, reflecting 2022 costs. Staffing Costs per FTE (Compensation), Member Months (Scale), and FTEs per 10,000 members (Staffing Ratio) data is comprised from the 17 Blue Cross Blue Shield Plans ("Blue") and 11 Independent / Provider – Sponsored plans (IPS), as well as the combined 28 plan universe.

Each column in each of the figures shows the results of our regression analyses for each function and for each universe. All the percents describe the slopes of the regression lines, expressed as the BCG Slope, and models the effect of doubling the membership of a health plan. A value of less than 100% shows economies of scale, a negative slope, and a value of greater than 100% shows diseconomies of scale, a positive slope. In this analysis, we use the *term* economies of scale broadly to include both negative and positive slopes. A more complete description of the BCG slope and its interpretation may be found in the November *Plan Management Navigator*. Please note that these slopes of economies of scale are calculated to eliminate the effect of product mix differences between the plans.

We considered the relationship between membership and the dependent variable to be significant if it displayed p-values of less than 0.1. If they are shaded, they are *not* significant. Functions were included if they were significant in any regression analysis in their universe.

Each of the figures has four columns with the analyses described below.

**Economies of Scale PMPM Costs.** These model the effect of higher membership on PMPM costs in each function. This is the same as analysis that we provided in the November *Navigator* and provide context for the other regressions.

**Economies of Scale in Staffing Ratios.** This is similar to Economies of Scale PMPM Costs except that the dependent variables are the staffing ratios. It measures the effect of higher membership on Staffing Ratios so that a BCG Slope of 90% means that doubling of membership is associated with a staffing ratio of 90% of the pre-doubling value. The Staffing Ratios used in this analysis include the effect of outsourced activities expressed as FTEs. As with PMPM costs, Staffing Ratios eliminate the differences in product mix between the plans. The negative slopes are generally steeper than for costs.

**Economies of Scale in Staffing Costs per FTE.** This is conceptually similar to the previous two columns of regressions but the Staffing Costs per FTE, or compensation, is the dependent variable. Staffing Costs per FTE usually have a positive relationship to scale, so BCG slopes of greater than 100% is common.

**Economies of Scale in Staffing Costs per FTE, COLA.** The difference between these regressions and the previous ones above is that the dependent variables of Staffing Costs per FTE are adjusted to eliminate local cost differences. We adjust by dividing actual per FTE staffing costs by the index of local costs of living used by the Centers for Medicare and Medicaid Services for hospital payment calculations. The BCG slopes are frequently positive but less so than without the COLA adjustment.

## Conclusions

1. From the *Navigator* earlier this month, we identified economies of scale in some activities of health insurers. This is apparent in the functional PMPM costs, shown in that edition and shown in these three figures, in their first columns.

2. In this *Navigator* we show that economies of scale are more evident in staffing ratios.

    a. Overall, more functions have Staffing Ratios displaying economies of scale than they do PMPM costs.

    b. In most functions displaying economies of scale in PMPM cost also display staffing economies of scale.

    c. Where economies of scale in PMPM costs are evident, staffing ratio economies of scale are usually steeper. That is, a plan whose scale is double that of its peer will have lower costs but will often have staffing ratios that are proportionally lower still.

3. One reason why scale-linked lower staffing ratios are not fully realized with lower PMPM costs is that the scale effect on compensation offsets it. In other words, it is commonplace for per FTE Staffing Costs to display a *positive* relationship with scale. While this positive relationship between plan size and compensation (BCG Slope >100%) is the typical pattern, statistical significance is unusual for either of the two industry segments but is very common for the set of all plans. There may be a complicating factor in these analyses in that compensation tends to be higher among Blue Cross Blue Shield Plans which are three times the size of their Independent / Provider – Sponsored peers.

4. When we back out the effect of differences in cost of living between the plans, we still found an inverse relationship between compensation and scale. The effect was often muted after this adjustment and was less likely to be statistically significant. One possible explanation for higher compensation being associated with low staffing ratios in larger health plans, even after excluding the effect of cost of living, is those fewer employees in larger organizations may be more highly skilled.

## *Blue Cross Blue Shield Results*

The results of the Blue Cross Blue Shield regression analyses are shown in Figure 1.

- For the Blue Plans, Economies of Scale in Staffing Ratios were more likely to be significant than PMPM costs. There were 29 significant relationships between scale and staffing ratios as against 16 for PMPM costs. Every significant scale/cost relationship also had a significant scale/staffing ratio relationship.

- The Economies of Scale slopes also tended to be steeper for Staffing ratios. That is, staffing ratios were less as the plan size increased, even more so than PMPM costs. For instance, the BCG slope for Provider Contracting staffing ratios was 81.8% as against 83.5% for PMPM costs.

- There was usually a positive, though typically statistically insignificant, relationship between Scale and Staffing Costs per FTE, based on their as-reported compensation. In other words, larger plans tended to pay their staff more. A doubling of the size of the plan was associated with as-reported per FTE compensation in Enrollment of 107.0% of the pre-doubling value.

- The relationship between size and compensation was diminished after compensation was adjusted to back out the effect of cost of living differences. The slope often remained positive but was diminished compared with the as-reported compensation. For instance, the BCG slope for Other Provider Contracting's relationship with size declined from 109.0% to 104.0%, and the COLA compensation was not significant.

**Figure 1. The Relationship Between Scale, Staffing Ratios, and Compensation**
Scalar Effect on Mix-Adjusted Staffing Ratios and Compensation
*Blue Cross Blue Shield Plans*

| Functions | Economies of Scale PMPM Costs | Economies of Scale in Staffing Ratios | Economies of Scale in Staffing Costs per FTE | Economies of Scale in Staffing Costs per FTE, COLA |
|---|---|---|---|---|
| 2. Marketing | 81.0% | 83.7% | 102.3% | 99.0% |
| (a) Product Development and Market Research | 81.4% | 77.7% | 108.4% | 105.2% |
| (c) Other Marketing | 76.6% | 90.5% | 90.8% | 87.8% |
| 3. Sales | 92.6% | 88.7% | 102.4% | 99.1% |
| (c) Other Sales | 98.0% | 84.9% | 103.0% | 99.6% |
| 5. Advertising and Promotion | 93.4% | 73.5% | 110.5% | 107.0% |
| (a) Media and Advertising | 92.5% | 73.5% | 110.5% | 107.0% |
| (b) Provider Contracting | 83.5% | 81.8% | 100.1% | 74.4% |
| (2) Other Provider Contracting | 96.4% | 85.5% | 109.0% | 104.0% |
| (a) Precertification | 86.9% | 77.7% | 98.7% | 95.6% |
| (c) Disease Management | 71.4% | 62.1% | 107.0% | 103.7% |
| (d) Nurse Information Line | 95.2% | 82.5% | 107.0% | 105.2% |
| (g) Medical Informatics | 80.9% | 77.4% | 101.3% | 98.2% |
| (i) Other Medical Management | 84.4% | 79.6% | 105.4% | 101.8% |
| 8. Enrollment / Membership / Billing | 95.4% | 85.8% | 107.0% | 103.8% |
| (a) Member Services | 104.5% | 93.4% | 104.9% | 101.5% |
| (a) Coordination Beneits (COB) and Subrogation | 80.1% | 62.7% | 107.7% | 104.3% |
| (d) Payment Integrity | 119.8% | 120.4% | 93.2% | 92.0% |
| 11. Information Systems Expenses | 80.4% | 84.0% | 97.7% | 91.6% |
| (b) Applications Maintenance | 60.2% | 64.3% | 101.2% | 84.2% |
| (1) Benefit Configuration | 57.4% | 59.3% | 104.8% | 98.6% |
| (2) Other Applications Maintenance | 73.5% | 69.6% | 104.8% | 98.6% |
| (c) Applications Acquisition and Development | 78.9% | 78.9% | 92.9% | 77.3% |
| (1) Applications Amortization and Licensing Expenses | 101.1% | 81.0% | 83.8% | 83.2% |
| (2) Pre-Planning Project Costs | 53.6% | 55.2% | 90.7% | 87.9% |
| 12. Finance and Accounting | 97.4% | 88.8% | 109.1% | 105.6% |
| (b) Other Finance and Accounting | 94.2% | 88.8% | 109.1% | 105.6% |
| 13. Actuarial | 85.0% | 86.4% | 102.0% | 98.8% |
| 14. Corporate Services Function | 86.8% | 80.3% | 102.4% | 99.1% |
| (a) Human Resources | 81.3% | 79.4% | 98.7% | 95.6% |
| (b) Legal | 83.0% | 82.8% | 95.7% | 92.6% |
| (5) All Other Legal | 69.2% | 73.3% | 95.2% | 92.0% |
| (c) Facilities | 90.7% | 66.2% | 110.2% | 106.7% |
| (i) Risk Management | 101.0% | 56.5% | 107.6% | 106.0% |
| Subtotal Expenses | 93.8% | 89.5% | 101.5% | 97.7% |
| Total Expenses | 95.9% | 89.5% | 101.5% | 97.7% |

**Shaded values are not significant.*

## *Independent / Provider - Sponosred Plan Results*

Figure 2 shows the results for Independent / Provider – Sponsored plans. There were more functional areas that were significant with scale compared to the Blues and Combined universes.

- Similar to the Blue analyses, half of IPS plans' slopes for scale and Staffing ratios were steeper negative slopes than those found in scale and PMPM analyses. The BCG slopes for Billing was 82.7% for PMPM costs and 79.3% for Staffing Ratios.
- For the IPS plans, Economies of Scale in PMPM costs were more likely to be significant than Staffing Ratio. There were 17 significant relationships between scale and staffing ratios as against 23 for PMPM costs. Nearly all significant scale staffing ratio relationships also had a significant scale/cost relationship.

**Figure 2. The Relationship Between Scale, Staffing Ratios, and Compensation**
Scalar Effect on Mix-Adjusted Staffing Ratios and Compensation
*Independent / Provider-Sponsored Plans*

| Functions | Economies of Scale PMPM Costs | Economies of Scale in Staffing Ratios | Economies of Scale in Staffing Costs per FTE | Economies of Scale in Staffing Costs per FTE, COLA |
|---|---|---|---|---|
| (b) Member and Group Communication | 80.8% | 71.8% | 109.6% | 112.0% |
| (a) Media and Advertising | 77.7% | 96.9% | 105.2% | 108.1% |
| 6. Provider Network Management and Services | 73.1% | 79.6% | 100.5% | 103.0% |
| (a) Provider Relations Services | 65.1% | 81.7% | 96.7% | 99.4% |
| (b) Provider Contracting | 65.1% | 74.5% | 103.2% | 105.4% |
| (1) Provider Configuration | 63.1% | 61.3% | 104.0% | 106.5% |
| (d) Nurse Information Line | 173.3% | NM | 105.9% | 110.8% |
| (e) Health and Wellness | 168.5% | 154.8% | 103.6% | 105.9% |
| (f) Quality Components | 85.6% | 80.2% | 102.1% | 104.9% |
| (b) Billing | 82.7% | 79.3% | 100.4% | 103.1% |
| 9. Customer Services | 81.4% | 80.3% | 102.7% | 105.1% |
| (a) Member Services | 81.8% | 81.0% | 103.4% | 105.8% |
| (c) Grievances and Appeals | 74.4% | 74.3% | 96.4% | 99.0% |
| 10. Claim and Encounter Capture and Adjudication | 83.4% | 83.6% | 98.4% | 100.6% |
| (e) Other Claim and Encounter Capture and Adjudication | 76.1% | 76.9% | 97.1% | 99.6% |
| 11. Information Systems Expenses | 90.7% | 87.1% | 104.9% | 107.3% |
| (b) Applications Maintenance | 92.1% | 80.0% | 102.6% | 105.0% |
| 13. Actuarial | 73.6% | 75.9% | 99.1% | 102.0% |
| (b) Legal | 82.9% | 77.2% | 103.7% | 106.4% |
| (1) Compliance | 73.9% | 72.7% | 100.4% | 103.2% |
| (2) Government Affairs | 72.7% | 72.3% | 116.3% | 117.8% |
| (5) All Other Legal | 94.4% | 83.3% | 121.4% | 124.3% |
| (e) Audit | 69.0% | 72.2% | 108.6% | 111.4% |
| (g) Imaging | 170.5% | 131.6% | 89.1% | 90.6% |
| (h) Printing and Mailroom | 58.0% | 49.7% | 95.9% | 104.8% |
| (i) Risk Management | 61.8% | 112.4% | 93.9% | 96.4% |
| 15. Corporate Executive & Governance | 77.7% | 66.8% | 115.3% | 118.3% |
| 16. Association Dues and License/Filing Fees | 54.0% | NM | NM | NM |
| Subtotal Expenses | 90.3% | 86.7% | 102.8% | 105.6% |
| Total Expenses | 90.5% | 86.7% | 102.8% | 105.6% |

**Shaded values are not significant.*

- The relationships between scale and staffing costs were generally positive for IPS plans, both on an unadjusted and cost of living adjusted basis, but only two were significant in each analysis. These relationships suggest that larger IPS plans compensate their FTEs more. A doubling of the size of the plan leads to 121.4% in per FTE Staffing Costs of the pre-doubling value in All Other Legal.

- The relationship between scale and Staffing Costs per FTE on a cost of living adjusted basis was a *steeper* positive slope than the as-reported values. For instance, All Other Legal's BCG slope for the cost of living adjusted compensation was 124.3% versus 121.4% on an as reported basis. This is the opposite of the Blue Cross Blue Shield relationship.

## *Combined Universe Results*

Figure 3 shows the results for the combined universe of 28 Blue and IPS plans. Results were similar to the previous two figures, but the combined universe holds more significant relationships between Scale and Staffing Costs per FTE, both unadjusted and cost of living adjusted. As described in the November 2023 *Plan Management Navigator*, the range of sizes of the health plans is much broader than either the Blue or IPS universes alone.

- For the combined universe, there were 14 significant Scale / Cost relationships, of which all but three had BCG slopes of less than 100%, that is, negative slopes.

- For the combined universe, there were 26 significant relationships between Scale and Staffing Ratios. Of these 26, eight functions were also significant between Scale and PMPM costs.

- The slopes modeling size and staffing ratios were generally steeper than the slopes in size and costs. For example, Provider Network Management and Services had a BCG slope of 87.3% for scale and PMPM costs and 84.1% for scale and staffing ratio. The only function that displayed significance in both relationships but was not steeper was Actuarial.

- Similar to the analyses of Blue and IPS plans alone, the relationship between scale and staffing costs per FTE were generally positive on both an unadjusted and cost of living adjusted basis. Provider Configuration represents a sort of ideal example: The Scale / Cost BCG slope of 64.7% is greater than the Scale / Staffing slope of 58.6%, likely reflecting the offsetting effect of a positive Scale / Compensation cost slope of 110.5%, or 110.1% after adjustments for cost of living.

**Figure 3. The Relationship Between Scale, Staffing Ratios, and Compensation**
Scalar Effect on Mix-Adjusted Staffing Ratios and Compensation
*Blue and IPS Plans*

| Functions | Economies of Scale PMPM Costs | Economies of Scale in Staffing Ratios | Economies of Scale in Staffing Costs per FTE | Economies of Scale in Staffing Costs per FTE, COLA |
|---|---|---|---|---|
| 1. Rating and Underwriting | 99.4% | 93.8% | 105.5% | 103.4% |
| (b) Risk Adjustment | 102.0% | 94.8% | 106.0% | 104.0% |
| (c) Other Rating and Underwriting | 92.3% | 90.7% | 104.5% | 102.7% |
| 2. Marketing | 96.3% | 92.9% | 106.8% | 104.9% |
| (a) Product Development and Market Research | 103.3% | 91.7% | 108.9% | 107.3% |
| (b) Member and Group Communication | 92.4% | 89.6% | 108.1% | 105.7% |
| 3. Sales | 99.1% | 89.9% | 106.1% | 104.2% |
| (a) Account Services | 97.0% | 89.8% | 106.6% | 104.9% |
| (c) Other Sales | 103.3% | 88.7% | 107.0% | 105.1% |
| 4. External Broker Commissions | 112.3% | NM | NM | NM |
| 5. Advertising and Promotion | 89.7% | 95.2% | 108.5% | 106.3% |
| (a) Media and Advertising | 87.8% | 95.2% | 108.5% | 106.3% |
| 6. Provider Network Management and Services | 87.3% | 84.1% | 106.0% | 103.5% |
| (a) Provider Relations Services | 84.5% | 86.3% | 104.6% | 102.6% |
| (b) Provider Contracting | 81.4% | 75.5% | 107.6% | 88.1% |
| (1) Provider Configuration | 64.7% | 58.6% | 110.5% | 110.1% |
| (2) Other Provider Contracting | 92.2% | 82.3% | 111.7% | 109.1% |
| (c) Other Provider Network Management and Services | 100.4% | 80.6% | 109.2% | 107.1% |
| 7. Medical Management / Quality Assurance / Wellness | 100.9% | 94.0% | 103.8% | 102.1% |
| (a) Precertification | 95.5% | 82.4% | 102.5% | 101.0% |
| (c) Disease Management | 111.1% | 80.5% | 106.8% | 104.9% |
| (d) Nurse Information Line | 91.7% | 76.7% | 106.7% | 105.1% |
| (e) Health and Wellness | 125.3% | 107.0% | 109.4% | 107.2% |
| (f) Quality Components | 99.7% | 91.8% | 105.6% | 103.9% |
| (g) Medical Informatics | 92.9% | 81.9% | 107.7% | 105.5% |
| (h) Utilization Review | 91.0% | 87.3% | 104.8% | 103.0% |
| (i) Other Medical Management | 92.8% | 85.3% | 106.7% | 104.5% |
| 8. Enrollment / Membership / Billing | 100.4% | 89.6% | 107.7% | 106.0% |
| 9. Customer Services | 101.2% | 92.4% | 106.1% | 104.3% |
| (a) Member Services | 101.8% | 92.6% | 106.4% | 85.6% |
| 10. Claim and Encounter Capture and Adjudication | 103.1% | 90.3% | 105.2% | 104.2% |
| (a) Coordination of Benefits (COB) and Subrogation | 87.6% | 77.7% | 105.8% | 103.9% |
| (e) Other Claim and Encounter Capture and Adjudication | 102.2% | 89.6% | 105.5% | 104.3% |
| 11. Information Systems Expenses | 92.6% | 91.4% | 103.6% | 99.7% |
| (b) Applications Maintenance | 78.6% | 75.3% | 105.9% | 94.8% |
| (1) Benefit Configuration | 69.0% | 66.2% | 106.4% | 103.9% |
| (2) Other Applications Maintenance | 98.3% | 83.2% | 109.6% | 106.9% |
| (c) Applications Acquisition and Development | 94.6% | 78.2% | 102.7% | 90.7% |
| (d) Security Administration and Enforcement | 114.6% | 111.2% | 105.9% | 104.4% |
| 13. Actuarial | 86.8% | 87.2% | 101.8% | 100.5% |
| 14. Corporate Services Function | 96.0% | 90.1% | 105.9% | 105.5% |
| (b) Legal | 91.4% | 81.5% | 107.0% | 105.3% |
| (1) Compliance | 76.8% | 73.7% | 105.3% | 103.6% |
| (3) Outside Litigation | 143.7% | NM | NM | NM |
| (5) All Other Legal | 94.8% | 93.8% | 108.3% | 106.6% |
| (c) Facilities | 97.1% | 85.2% | 112.5% | 110.4% |
| (e) Audit | 101.3% | 98.0% | 106.0% | 104.4% |
| (f) Purchasing | 134.4% | 134.5% | 108.2% | 105.0% |
| 15. Corporate Executive & Governance | 102.4% | 78.4% | 118.7% | 116.8% |
| Subtotal Expenses | 98.8% | 90.6% | 105.6% | 103.6% |
| Total Expenses | 100.1% | 90.6% | 105.6% | 103.6% |

**Shaded values are not significant.*

## *Sherlock Benchmarks: Participation and Licensing*

This *Plan Management Navigator* analysis relies on the results of the 2023 *Sherlock Benchmarks* for universes of Blue Cross Blue Shield Plans and Independent/Provider-Sponsored health plans, our 26th annual study.

In this analysis, all data is for the 2022 calendar year and has been subject to careful validation both by us and by the plans themselves. Collectively, the 28 plans served 61 million Americans in comprehensive products. The range of membership was from 400,000 to more than five million among Blue Plans and about 200,000 to 1.3 million among IPS plans. In addition to the Blue Cross Blue Shield and Independent / Provider – Sponsored universes, we also have universes of Medicare, Medicaid, and Larger plans.

**Benchmarking Study for 2024.** Your health plan is invited to participate in the 2024 cycle based on 2023 results. *You will be among good company.*

**Licensing the Sherlock Benchmarks.** For those that cannot participate, licensing is available. Please see the following link https://sherlockco.com/sherlock-benchmarks/ for additional information on the *Sherlock Benchmarks*. The Reports shown on that page are also the Reports received by the participants.

## *Contact*

Please do not hesitate to contact us with questions concerning this analysis, the *Sherlock Benchmarks* on which it is based, or your interest in licensing the 2023 edition or participating in the 2024 *Sherlock Benchmarks*. We can be reached at sherlock@sherlockco.com or (215) 628-2289.