Plan Management Navigator
Analytics for Health Plan Administration

Healthcare Analysts

Douglas B. Sherlock, CFA
sherlock@sherlockco.com

Christopher E. de Garay
cgaray@sherlockco.com

Erin Ottolini
erin.ottolini@sherlockco.com

John Park, CFA
jpark@sherlockco.com

Andrew L. Sherlock
asherlock@sherlockco.com

(215) 628-2289

Economies of Scale in Health Insurance

Conclusion

Cost efficiency in the core activities of health plans are central to their success. The medical loss ratio floors in the Affordable Care Act and recent vertical integration strategic initiatives by health plan competitors has amplified this by limiting the return on investment in the management of health benefits and possibly requiring greater internal financing of more capital-intensive efforts.

Despite its importance, not all managers agree that achieving efficiency is even possible for their plans because of economies of scale. The volume of health plan business combinations testifies to this skepticism. And indeed the experience of manufacturing, mining and many other industries supports a strategic framework that presumes economies of scale.

Our analysis shows that, if calculated based on *total* administrative costs, economies of scale of administrative expenses are not evident. However, on a function by function basis, some functions are apparently subject to economies of scale. As shown in Figure 1, functions comprising a range of approximately 20.2% to 24.7% of health plan administrative expenses demonstrated economies of scale in 2016. The scale slopes (expressed as BCG Slopes) are relatively modest so that a doubling of the plan will lead to those costs subject to economies of scale that are 80.4% to 90.2% of the pre-doubling PMPM costs. The proportion of the expenses subject to economies of scale, the functions subject to scale and their sensitivity to scale, varied by whether the set of plans analyzed was Independent/Provider–Sponsored (IPS) plans, Blue Cross Blue Shield (Blue) Plans or the combination of both.

For instance, suppose a health plan operated at $40 PMPM. Using the combined universe model shown in Figure 1, only $9.88 PMPM would be subject to economies of scale and, if the enterprise doubled in size, only $0.99 would be saved though pure scale advantages.

Figure 1. Economies of Scale
Administrative Expenses Subject to Economies of Scale and BCG Slopes
BCBS, IPS, and Combined

	Blue Cross Blue Shield Plans	Independent / Provider - Sponsored Plans	Combined Plans
Percent of Administrative Expenses Subject to Scale	21.2%	20.2%	24.7%
BCG Scale Slope of Functions Subject to Scale	80.4%	88.1%	90.2%

Background

Economies of scale occur when per unit costs decline as volume of output increases. Because the "output" of a health plan is health coverage services to its members, the specific definition of expenses subject to economies of scale is administrative costs, expressed in units of Per Member Per Month (PMPM). The costs that are the subject of this analysis are administrative: claims, customer services, enrollment and so forth. Each reporting plan reported its costs segmented into approximately fifty functions, allowing each of the activities to be analyzed individually.

An analysis of economies of scale is complicated by the extraneous factor of differences in the product mixes between the health plans. Fortunately, each organization participating in the Sherlock Benchmarks reported all fifty functional costs segmented by product, which captures demographic as well as other differences. This has allowed us to eliminate the effects of product mix differences. So, broadly speaking, we determine whether economies of scale exist by regressing mix-adjusted cost values in each function against member months.

Figure 2. Economies of Scale

Slopes of Significant Administrative Expense Economies of Scale

	Blue Cross Blue Shield Plans	Independent / Provider - Sponsored Plans	Combined Plans
(c) All Other Rating and Underwriting	Ø	↓	Ø
(a) Product Development and Market Research	Ø	↑	Ø
(b) Member and Group Communication	↑	Ø	Ø
(c) Other Marketing	↓	↑	Ø
External Broker Commissions	↑	Ø	Ø
Advertising and Promotion	Ø	↑	Ø
(a) Media and Advertising	↓	↑	Ø
(b) Provider Contracting	Ø	Ø	↓
Medical Management / Quality Assurance / Wellness	Ø	↓	↓
(a) Pre-Certification	↓	↓	↓
(c) Disease Management	Ø	Ø	↓
(i) Other Medical Management	Ø	↓	↓
Customer Services	↑	Ø	↑
(a) Operations and Support Services	Ø	↑	↑
(b) Applications Maintenance	↓	Ø	↓
(1) Benefit Configuration	↓	Ø	↓
Finance and Accounting	Ø	↓	↓
(b) All Other Finance and Accounting	Ø	↓	↓
Actuarial	Ø	↓	↓
Corporate Services Function	↓	Ø	Ø
(1) Compliance	↓	Ø	Ø
(e) Audit	↓	Ø	Ø
(g) Imaging	Ø	↓	Ø
Corporate Executive & Governance	Ø	↓	↓
Association Dues and License/Filing Fees	Ø	Ø	↑

We consider the relationship between membership and costs to be significant if it displays P-Values of less than 10%. Suppose a regression yields a 10% P-Value: it can be interpreted to mean "Assuming that there weren't economies of scale, you'd obtain the observed difference or more in 10% of such studies due to random sampling error." In other words, the lower the P-Value, the more reliable the results. The BCG (Boston Consulting Group) Slope is an intuitive way of expressing the slope of scale: it is the percent of the pre-doubling costs that the activity will exhibit if the plan doubles in size.

Figure 2 summarizes all functions that were sensitive to scale. A down arrow (↓) indicates that the function within the identified universe is subject to economies of scale. An up arrow (↑) indicates that the function is antiscalable in that universe. A null symbol (Ø) indicates that the function is not subject to either economies of scale or diseconomies of scale in that universe, but is in at least one other universe.

This is a summary of an analysis published last week in our *PULSE* newsletter. Its greater detail includes:

- Analyses of each function, including P-Values and slope values.
- More detail concerning our methodology, including the mix-adjustment.
- Analyses of universes of Blue Cross Blue Shield plans, Independent / Provider – Sponsored plans and a universe of combined organizations.
- The application of the economies of scale results in the case of a doubling of the size of the universe.
- Process for the more general application of the of the results to all sizes of business combinations and internal growth.

Both this and the *PULSE* analysis rely on the results of the 2017 Sherlock Benchmarks for universes of Blue Cross Blue Shield Plans and Independent/Provider-Sponsored health plans, our 20th annual study. Survey materials were distributed in February, collected in April, validated in May and published beginning in June. All data is for the 2016 calendar year and has been carefully validated both by us and by the plans themselves. Collectively, the 34 plans collectively served 48 million Americans. The range of membership was over 300,000 to more than 10 million among Blue Plans and about 65,000 to 2 million among IPS plans.

In 2018, we will conduct our 21st annual Benchmarking Study for health plans. This study will reflect 2017 calendar year results. We welcome Blue Cross Blue Shield Plans, Independent / Provider – Sponsored plans, Medicaid plans, Medicare plans and other plans.

Please do not hesitate to contact us with questions concerning this analysis, Sherlock Benchmarks on which it is based or your interest in participating in the 2018 Sherlock Benchmarking Study. We can be reached at sherlock@sherlockco.com or (215) 628-2289.

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