Plan Management Navigator
Analytics for Health Plan Administration

Douglas Sherlock, CFA
sherlock@sherlockco.com

Christopher de Garay
cgaray@sherlockco.com

Erin Ottolini
erin.ottolini@sherlockco.com

John Park, CFA
jpark@sherlockco.com

(215) 628-2289

Economies of Scale in Health Insurance

This edition of Plan Management Navigator *is a summary of a more extensive analysis recently published for* PULSE *subscribers.*

Technical and administrative economies of scale are factors in health plan strategy since they may arise through growth that is either organic or through acquisition. Automation of claims is an example of technical economies of scale. Investments in technical auto-adjudication systems and electronic claims submission systems should lead to declines in the end-to-end cost of processing and paying claims. An example of administrative economies of scale is covering relatively fixed finance and accounting costs with greater volumes of members.

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 Per Member Per Month (PMPM). The costs that are the subject of this analysis are technical or administrative: claims, customer services, actuarial, legal and so forth. All reporting plans reported costs segmented into approximately fifty functions, allowing each of the activities to be analyzed individually. Also, each function is segmented into up to twelve products, such as Medicare, Medicaid, Commercial Insured, Commercial ASO and so forth.

We employed three universes of participants in the Sherlock Benchmarks to perform these analyses: Independent/Provider–Sponsored plans, Blue Cross Blue Shield Plans and the combination of both. Collectively, the 35 plans reflected in this study served approximately 50 million people in 2015.

Economies of scale are calculated as the strength of the regression of costs and membership. If calculated based on *total* administrative costs, economies of scale of administrative expenses cannot be identified. However, on a function by function basis, some functions are apparently subject to economies of scale. Depending on the universe, functions comprising a range of approximately 16.1% to 31.6% of health plan administrative expenses demonstrated economies of scale.

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	16.1%	18.1%	31.6%
BCG Scale Slope of Functions Subject to Scale	81.2%	84.1%	89.7%

The BCG Slope is an intuitive way of expressing the slope of scale. It means the percent of the pre-doubling costs that the activity will exhibit if the plan doubles in size. It is calculated as 2 to the power of the slope of the regression line. The scale slope is relatively modest so that a doubling of the plan will lead to costs that are 81.2% to 89.7% of the pre-doubling PMPM cost value. Each of the functions has different elasticities, and each of those slopes vary between universes. Functions such as Corporate Services, Enrollment and the sub-function of Legal display economies of scale. The proportion of the expenses subject to economies of scale, the functions subject to scale and their sensitivity to scale, varied by the set of plans analyzed.

The fact only a minority of selling, general and administrative expenses are subject to economies of scale means that these economies of scale cannot alone create an overwhelming competitive advantage. In other words, firms of modest scale may well be on much the same competitive footing on these expenses as their larger peers.

This is a summary of an analysis published last week in our *PULSE* newsletter. Its development of this *Navigator* analysis 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 size business combinations.

This analysis of data drawn from the 19th Annual Sherlock Benchmarking study, which reflects calendar year 2015 results. Survey materials were distributed in February, collected in April, validated in May and published beginning in June.

Please do not hesitate to contact us with questions concerning this analysis, the larger *PULSE* analysis and the Sherlock Benchmarks on which these analyses are based. We can be reached at sherlock@sherlockco.com or (215) 628-2289.

Note: We are indebted to the Boston Consulting Group for introducing the BCG Slope and some technical aspects of estimating economies of scale to us many years ago. We also are very grateful to Stephen R. Niezgoda, Assistant Professor, Department of Materials Science and Engineering and Department of Mechanical and Aerospace Engineering, The Ohio State University for his review of our approach to this analysis as well as his insights on the premises underlying the calculations. All errors are the responsibility of Sherlock Company.