



WHY ISN'T HEALTH PLAN ADMINISTRATION SCALABLE?

For years we've been publishing the counter-intuitive findings that economies of scale in health plan administration are relatively limited. In this article we explore a paradox, then offer a theory of why this is the case.

The paradox is that, while economies of scale are modest for costs, they do appear in staffing ratios. So why is it that health plans are unable to realize economies of scale overall? We hypothesize that one factor may be a heightened propensity of large plans to be early adopters of cutting-edge technologies. The source of the data for this analysis is the *Sherlock Expense Evaluation Report* for 2007. The 2008 edition will be available shortly.

Background on Scalability of Health Plan Administration

Any way you look at it, health care administration involves few economies of scale. Over the past five years, typically less than 20% of administrative costs are scalable. Moreover the effect of scale even at those levels are not profound: A doubling of the size of the enterprise leads to per member costs of 85% of their original value in those scalable costs.

Broadly, economies of scale may be observed to occur if larger firms have lower costs than smaller firms. Specifically, in this event average costs would decline as the number of units produced by a firm increases. An example of an economy of scale includes the ability to use size to negotiate lower costs from vendors. For instance, in health insurance, large health plans may receive a better deal from doctors and hospitals than their smaller counterparts.

Continued on Page 2

BENCHMARK REPORT SCHEDULE

Our eleventh annual SEER benchmark reports are scheduled for release, beginning in the next few weeks. Health plans serving one in five insured Americans are included in this survey and health plans serving one in three insured Americans are users of these reports.

Figure 1. Plan Management Navigator Sherlock Expense Evaluation Status Report

Universe / Edition	Partici- pants	Median Membership	Availability
Blue Cross Blue Shield Provider-Sponsored	23	751,853	Week of June 30th
(Independent)Plans	13	252,699	Week of July 14th
Medicaid-Oriented Plans	8	109,900	Week of September 1st
Medicare Advantage Plans	8	109,556	Week of September 1st
Larger Plans	6	2,758,179	Week of June 30th

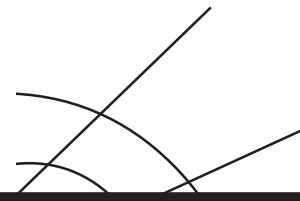
PRIVATE HEALTH PLAN TRENDS

For the trailing three months ended March 31st, 2008, the eleven health plans in our *Health Plan Dashboard* reported revenue growth of 9.1%, with indemnity growth of 52.0%, ASO/ ASC growth of 29.3% and Medicare Advantage growth of 16.1%, while managed care revenue decreased by 0.7%. Membership declined by 8.1% for managed care but increased by 73.3% in the indemnity business. Managed care and ASO had price increases of 8.6% and 24.6%, respectively, while Medicare Advantage posted an increase of 7.6%.

Health benefits ratios overall grew by 2.1 percentage points, but increased by 7.7% for ASO/ASC line and grew by 5.6 percentage points for indemnity. The number of scripts per person increased by 0.7 to 10.5 on an annualized basis. E/R visits per thousand members increased by 18.7 to an annual rate of 307.5 per thousand and hospital days increased by 2.0 days to 345.3 days per thousand.

The administrative expense to premium ratio decreased by 0.3% percentage points to 8.9%.

Continued on Page 4



Health Plan Scale: *Continued from Page 1*

Figure 2. Plan Management Navigator
Trends in Scalability

	2001	2002	2003	2004	2005	2006	Average
Slope of Significantly Scalable Administrative Costs	80.4%	83.1%	73.9%	87.9%	90.6%	96.0%	85.3%
Proportion of Administrative Costs that are Scalable	21.5%	34.1%	21.1%	17.8%	18.0%	12.7%	20.9%

Originally published in PULSE.

probability of there being no relationship between scale and costs to be less than 10%. Note that the proportion has remained fairly modest, from a high of 34.1% to a low of 12.7%.

This is of less interest in the current health plan environment in which provider rates may be affected by provider consolidation, the desire of employers to maximize the panel available to employees and government regulation. A more interesting economy of scale is technical, or the ability to make more intensive use of assets that have fixed costs. Industries whose participants must make substantial investments in machinery often exhibit economies of scale. Also, specialization by managers, available through scale, may improve their performance because they develop superior expertise. To the degree that this sort of scale economy is achievable, it is of particular interest to health plan managers and others with an interest in reducing health care costs because they are entirely “under the roof” of the health plan itself.

The Effect of Scale on Costs

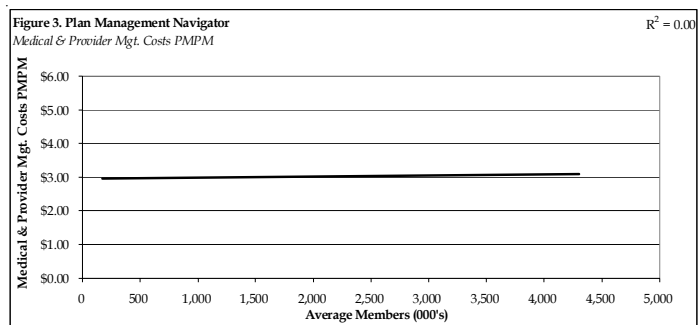
For a number of years, we have investigated economies of scale for universes of Blue Cross Blue Shield Plans. Such plans are relatively uniform in product mix, operate similarly due to Association licensure rules concerning the use of the name and mark, and are mature plans that have outgrown start-up costs.

In these analyses, we measure scale by taking costs per member to be a dependent variable and the number of member months served as the independent variable. For the “machinery” of health plans, the members served are its throughput.

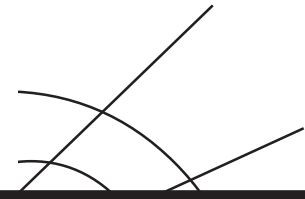
Figure 2 shows that the proportion of costs that are scalable. We considered costs to be scalable if, using the p-Value statistical measure, the

Note also that Figure 2 shows that the slope of the lines are fairly gentle. The slope can be intuitively understood as the amount that costs would be given a 100% increase in scale. Put a different way, if there is a doubling of the size of the plan, measured in members, on average you would expect to see costs equal to 85.3% of their original PMPM costs for the scalable functions.

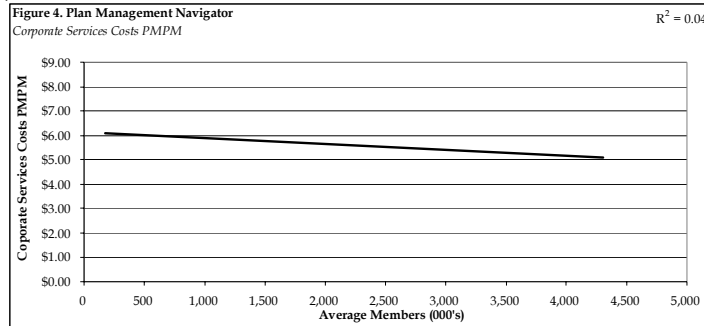
Expressed visually, in 2006, for instance, scale had no predictive power on medical and provider management costs, shown in Figure 3, but a modest effect on corporate services, shown in Figure 4. (The R² value is the proportion of the relationships between the variables explained by the regression line.) It may be that medical and provider management costs do not show scalability because they are provided to each member as needed. If you double the size of the enterprise, you will likely need to double the number of case and disease management people to serve them when they get sick. On the other hand corporate services may be scalable since health plans are likely to have one CEO and one set of GAAP financial statements to prepare.



Continued on Page 3



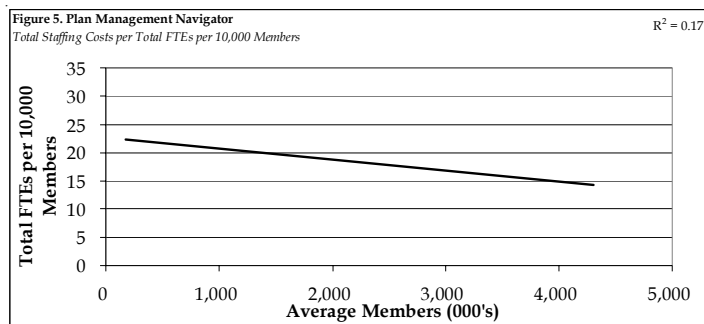
Health Plan Scale: Continued from Page 2



The Labor Paradox

The discussion above recognizes that the administrative costs of health plans are heavily dependent on the work force, and in 2006, 45% of health plan administrative costs were labor. But there is an apparent contradiction – it appears that the larger health plans tend to have fewer staff to serve each of their members. The regression line in Figure 5 shows that the predicted staffing for a plan for 200,000 members is 22 for every 10,000 members, while the predicted staffing for a two million member plan is 19 for every 10,000 members. The slope is 90.26%.

What is notable is how strong the p-Value is, at 0.01. Size explains 17% of the difference in staffing between the plans using the linear slope shown here. Using a logarithmic slope, the R² goes to 28%.



Segmented Effects

So what other factors of cost in larger plans offset the apparent economies of scale found in staffing? To organize our inquiry, we recognize that the total costs for a health plan is the sum of staffing costs and non-staffing costs. Further, staffing costs are the product of the staffing ratio and the costs per FTE.

Figure 6 summarizes how the various factors affect the overall costs. The total PMPM costs have a slope of 98.40%, notwithstanding a much steeper slope for staffing at 90.26%.

Staffing costs are actually higher in larger plans, and have a positive slope of 100.80%. This makes sense – larger plans serve larger metropolitan areas, and wage rates can be high there. But the low staffing ratio is also muted by the fact that the slope for non-staffing costs is 98.65%.

Figure 6. Plan Management Navigator
Factors of Overall Scalability

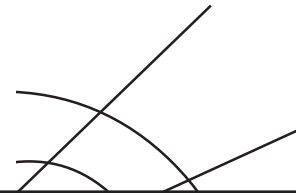
	Non-Staffing Costs PMPM	+	Staffing (Costs / FTE × Ratio)	=	Total Costs PMPM
Slope	98.65%		100.80%		98.40%
R ²	0.00		0.01		0.01
p-Value of Slope	0.85		0.72		0.65

How do Large Plans Behave Differently: The Example of Internet / eCommerce

Labor cost differences may be difficult to manage while keeping the work force in the health plan's service area. But perhaps the larger plans also operate differently than their smaller peers with respect to their non-labor costs. For instance, perhaps they have more expensive real estate and other infrastructure. Facilities costs in fact have a slope of 105.59% though very low p-Value.

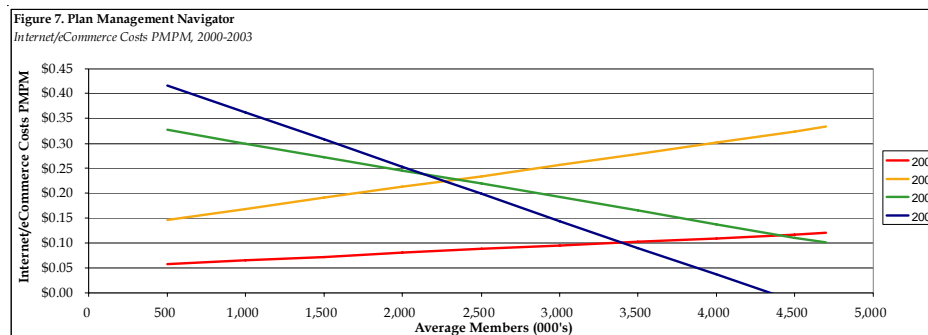
We cannot offer a definitive answer to this, but we do have a hypothesis which corresponds with the facts. We suggest that, just possibly, larger health plans are early adopters of technologies which have the effect of increasing their non-labor costs.

Continued on Page 4



Health Plan Scale: *Continued from Page 3*

Figure 7 shows the slopes of expenditures on internet / ecommerce between 2000 and 2003. This period was the genesis of the increasingly ubiquitous web portals offered by health plans. Note that in the early years, costs are anti-scalable. That is, the larger the plans were, the more likely that they incurred these costs. (Technology investments are often expensed.) As the years progressed, the slope flattened as smaller plans caught up with their larger peers. Most recently, scalability was evident as larger plans had costs that were modest relative to smaller ones. In summary, the clockwise rotation of the regression lines reflects the early adoption by larger plans of this technology and its subsequent use by smaller peers. (The y-intercept and the use of actual values versus logs creates a visual distortion in Figure 7.)



We hasten to add that this pattern is far from conclusive. The p-Values are in double-digits in 2000 and 2002. But the slope illustrates a behavior among larger plans that is consistent with industry lore. Perhaps the behavior described in Figure 7 is that larger firms invest in technologies because they both have a significant market share and are committed to reinvest their earnings in order to preserve it.

Implications

Investments in new technologies are risky since the returns are inherently uncertain. A number of factors affect larger plans' propensity to invest in these technologies, including subjective factors and perhaps greater awareness of these technologies in larger plans. Other factors that influence

these decisions may include that larger firms have greater financial resources at their disposal, and can also employ the technologies over larger base of customers. Similarly, large firms may view their scale as reducing the impact of a potential risk of failure in the performance of the new technologies. Market specific factors may also play a role - adoption of this particular technology, internet / ecommerce, has important labor savings which may be appealing in the larger plans that are concentrated in high labor cost areas. Recall that per FTE labor costs are anti-scalable.

By contrast, smaller plans may take a "wait and see" approach. This is especially the case if they believe that delay will not compromise their long-term competitive position in their markets. In addition, they may hope that early adopters will work out the bugs and that the price of the technology falls as it diffuses. Whether the strategy of early adoption or later adoption is better for the long-term performance of plans is beyond the scope of this article but the hypothesis that larger plans are early adopters, muting economies of scale, is consistent with the experience that we have observed in internet / ecommerce expenditures.

The Implications section of this analysis was informed in part by the paper, Adoption of New Technology, by Bronwyn H. Hall and Beethika Khan, both of University of California at Berkeley, published in November 2002. <http://elsa.berkeley.edu/~bhhall/papers/HallKhan03%20diffusion.pdf>

Private Health Care Trends: *Continued from Page 1*

Claims volumes increased by 0.7 to 15.0 per member per year while inquiries per member remained relatively unchanged at 1.9 per member per year. Staffing ratios increased by 0.98 FTEs to 18.5.

Health plans in our *Dashboard* universe are comprised of a mix of Blue Cross Blue Shield and Independent/Provider-Sponsored Plans.