Scale, Growth and Cost Management Strategy

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<Slide 1. Title Page>

Welcome to the Sherlock Company presentation concerning economies of scale, the effect of growth on costs and how outsourcing and compensation fit into this. I want to begin by thanking the 34 health plans whose information populates this analysis. Your participation, in addition to improving the performance of your organization, also contributes to knowledge that should be helpful to the industry as a whole.

It is often thought that larger health plans can operate at far lower cost than smaller plans. If true, this implies that managers and boards of smaller health plans can improve their performance, to the benefit of both customers and owners, by merging into larger suitors.

<Slide 2. Topic Slide>

In this presentation, we show that scale has a modest effect over the longer term and that there are countervailing effects and strategies that diminish the benefits of economies of scale. Notwithstanding, we show that managers actually do experience operating leverage when membership changes rapidly. We use information from the 2017 and 2016 Sherlock Benchmarks to perform these analyses.

INTUITIONS ABOUT ECONOMIES OF SCALE – THE EFFECTS OF VOLUME CHANGES

Health plan boards of directors coming from other industries sometimes assume that there are fixed costs in key health insurance activities. While board members with ranching, mining and manufacturing backgrounds may extrapolate from their own

experience, board members with a hospital background, which also have fixed costs, may view matters similarly. Information Systems and Facilities may be thought especially subject to this. However, industries do differ in their exposure to fixed costs.

Management teams who are much closer to the actual operational issues may also view their costs as being fixed, at least to some degree. Many health plan managers have seen significant changes in the membership served and have simultaneously seen a highly-leveraged effect on costs. They may have experienced a surge in Marketplace membership because of the Affordable Care Act. They may have entered or exited business lines like Medicaid or taken on a state account. Management directly witnesses the sharp decline in costs when membership surges, and sharp increases when membership declines.

<Slide 3. Figure 1. Effect of Growth on Costs.>

Figure 1 is based on the results of 24 health plans that participated in the Sherlock Benchmarks in both 2016 and in 2017. (There were 26 such plans but two outliers have been omitted from these analyses.) This dynamic view captures the effect of membership changes on trends in costs for each major function, based on the tendencies of those plans. The slope is the relationship between percentage point changes in membership growth and percentage point changes in per member cost growth. Thus, for Information Systems, a one percentage point increase in membership growth is associated with a 0.73 percentage point decline in expense. In other words, in a year in which your plan grows rapidly, in some functions, your plan will experience declines in costs.

The P-Value indicates the strength of the relationship with lower values indicating greater reliability. The P-Value is the chance that the relationship modeled by the regression line is inaccurate. I have highlighted in blue functions that have P-Values than 10% or less as most reliable. R^2 is how much of the relationship between the variables is explained by the regression line.

Every relationship is negative, meaning that faster growing plans had sharper declines in costs. The cost trends in the clusters of Account and Membership Administration, Corporate Services and the combination of them are all sensitive to growth. The effect of growth is especially evident in Information Systems and Corporate Services, where the

regression line explains more than 30% of the relationships between costs trends and membership growth.

<Slide 4. Figure 2. Information Systems Example.>

While Figure 1 summarizes all the analyses, Figure 2 illustrates it better. Each of the dots is a health plan. The horizontal axis shows the rate of change in membership, and the vertical axis shows the rate of change in costs. I have used Information Systems as an example, but the concept is the same for each of the functions summarized in Figure 1. That the slope is declining is what I mean when I say that the slope is negative.

The three functions that appear to be sensitive to membership change, Information Systems, Corporate Services and Customer Services, amount to 69% of all Account and Membership and Corporate Services costs. So, it is little wonder that managers of health plans, especially in the functional areas most susceptible to volume-related cost changes, regard their costs as having a large fixed cost component. In our experience, Information Systems leaders are especially likely to have this view. This perception of fixed costs may contribute to this function's high propensity to be outsourced: after all, if an outsourcer offers per member pricing of Information Systems, it converts costs that appear fixed to variable costs.

COST ECONOMIES OF SCALE

<Slide 5. Figure 3. Scale by Function. Show slopes, R2 and P-Values. 2017 Economies of Scale>

Yet when we measure economies of scale, the results conflict with these trends. Figure 3 is a static view showing each functions' susceptibility to economies of scale. In other words, we are focused on the relationship between *levels* of costs and *levels* of membership rather than the previous ones which focused on the effects of change. Put a different way, the first two figures showed changes in costs, irrespective of their PMPM values, and this chart shows how PMPM values *in a period* relate to levels of membership *in that period*.

In this chart, and other static charts like it, we are looking at all plans during one period, calendar 2016, and we show R^2 and P-Values as we did for Figures 1 and 2.

The slopes that you see here mean the percent of a smaller plan's per member costs that we would expect to find in a larger plan. The larger plan is assumed to be exactly twice the size of the smaller plan. Slopes expressed as less than 100% indicate that these larger plans have lower unit costs, the definition of economies of scale. The lower the value that expresses the slope, the more negative the slope and the more pronounced the advantage enjoyed by the larger plan. Simplifying a little, a graph of a slope less than 100%, with per member cost on the vertical axis and plan membership on the horizontal axis, would be downward sloping.

This way of expressing slope is known as the BCG slope, named after the Boston Consulting Group. The BCG slope is an intuitive way of thinking about a slope without having to resort to a graph. Let me offer an example based on the cut-out. Note that Actuarial has a BCG Slope of 86%. Suppose one health plan had one-half million members, and that its Actuarial expenses of $1.00 corresponded to the relationship modeled by the regression line. Then the regression line indicates that we can expect another much larger health plan with a million members to have Actuarial expenses of $0.86 PMPM, or 86% of the smaller plan's per member costs.

The analyses summarized in Figure 3 demonstrate that the modest overall economies of scale are far different than health plan industry lore, including lore informed by rates of change in costs associated with changes in membership. Notably, the overwhelming tendency is for there not to be economies of scale. Only the highlighted values are statistically significant, which we generously define as displaying a P-Value of less than 10%.

Fourteen of the functions or sub-functions appear subject to economies of scale, roughly one-fourth, such as Corporate Executive, Actuarial and Other Finance and Accounting. But most do not, including the high-profile Information Systems area. (Two sub-functions have low P-Values but they apparently counteract.) Of total expenses, only 21.2% are subject to economies of scale. Moreover, the BCG slope for those expenses as a whole that are subject to economies of scale is modest at 80.4%. In other words, if you were to compare two plans with one being twice the size of the other, this analysis indicates that larger plan would have per member administrative costs only 4.2% lower than the smaller one.

A few of the functions display dis-economies of scale such as Customer Services. I'm not going to focus much on this except to say that strategic investment among larger plans is a plausible explanation for this.

Figure 3 contains all the results from all 34 of the participants in last year's benchmarking study in the Blue Cross Blue Shield and the Independent / Provider Sponsored universes that have commercial business lines. Collectively they served 48 million people, so this is a very robust data set. By way of disclosure, we enjoy a business relationship with each of these plans.

You should know that we've been especially careful in the scale analyses by eliminating the effect of product mix differences, say between a health plan that has a heavy focus on Medicare with one over-weighted in ASO products. We have done this by expressing the costs as differences between each plans' values and universe norms by reweighting the universe costs to match the product mix of each plan. Then the *differences* are compared, which are the bases for the scale analyses.

Incidentally, the slopes shown in Figure 3 cannot be meaningfully compared with the slopes in Figures 1 and 2. Figure 1 has an actual slope, but Figure 3 is an intuitive description of a slope. Figure 1 is measuring percentage point changes, while Figure 3 is summarizing actual cost differences between the plans.

<Slide 6. Figure 4. Publicly traded companies, along with IPS and Blue Plans. The admin ratios for the publics are from PULSE, the admin ratios from the Benchmark universes are in premium equivalents and are from the Navigator presentations. >

As counter-intuitive as this infrequency of scale effect is, the less granular information from publicly-traded companies more or less supports it. Figure 4 shows the insured administrative expense to premium ratios of publicly-traded companies. In this figure, they are compared with the median values of the Independent / Provider – Sponsored plans and Blue Cross Blue Shield Plans in our universe, calculated on a premium equivalent basis. Despite their much greater scale than the plans populating the Sherlock Benchmarks, their administrative expense ratios are comparable.

I do want to qualify this comparison. First, while the Sherlock Benchmark plans are on a premium equivalent basis, the public companies reflect only the insured lines. The ASO products offered by the Sherlock Benchmark plans have lower administrative expense

ratios than their insured products, thereby favoring their apparent relative performance. Second, and by the same token, this chart does not consider the effect of mix differences between any of the plans: Medicaid plans have lower administration ratios and the individual market has higher ones. Third, the comparisons of the Sherlock Benchmarks plans are negatively affected by public company exclusion of medical management expenses from administration. In our universes, we include medical management as administrative. This can amount to 0.75-1.25% of premiums, depending on the product and universe. Fourth, I acknowledge the overall administrative expenses may obscure significant differences in the composition of expenses. For instance, we cannot rule out from publicly available information that large publicly traded companies enjoy economies of scale in Account and Membership Administration, which they reinvest in greater Sales and Marketing expenses. As a matter of full disclosure, many of the public companies are also our customers.

STAFFING ECONOMIES OF SCALE

Earlier we showed that one-year changes in membership can indeed have a substantial effect on per member costs, which could certainly help inform health plan managers' intuitions about economies of scale. Another source of their fixed cost intuitions may stem from their experience in managing their staff. Staffing costs represent 48% of Blue Cross Blue Shield Plan costs and 50% of Independent / Provider – Sponsored plan costs. Moreover, non-labor costs often track staffing costs: employees require desks, computers, chairs, etc. The task of managing staffing and operational processes to maximize productivity is a crucial toggle switch for cost management, so managers' focus on staffing is only natural. If the scale effects on staffing ratios is greater than costs, management intuitions about economies of scale may follow.

<Slide 7. Figure 5. Staffing Economies of Scale>

Figure 5 shows the effect of scale on staffing ratios. (For comparability, we have included outsourced staff into these metrics.) *Staffing ratios* are more frequently sensitive to differences in scale than are *costs*: 21 versus 14. Also, of the total staff, 34.2% are subject to economies of scale compared to only 21.2% of the costs.

The slope of the scale effect is shallower though: for those scalable activities, a plan twice the size may be expected to have staffing ratios that are 88.3% of the pre-doubling values, compared with the costs that would be 80.4% of the smaller plan's values.

Taking into account both how common staffing ratio economies of scale are, and their slopes, a plan that is twice the size can be expected to have staff that is 4.0% lower per member than the smaller plan.

In comparing this Figure 5 with the earlier Figure 3, staffing is more likely to be a driver of the costs than the other way around. Of the 14 functions displaying economies of scale in costs, eight of them, which is most, show economies of scale in staffing. But of the 21 functions that are subject to staffing economies scale, only a minority, those eight functions, were confirmed with cost economies of scale.

In other words, in the small world of health plan managers, they witness staffing levels that behave more like they are fixed than do costs. Perhaps this too leads to managements' intuition that fixed costs play a central role in operating costs.

<Slide 8. Figure 6. Membership Changes and Staffing Ratio Trends.>

The *sensitivity* of staffing ratios to growth parallels both the staffing scale results and the dynamic cost analyses summarized in Figure 1. In Figure 6, we revisit the effect of changes in membership on changes on the cost structure. But this differs from Figure 1 in that it measures costs by staffing ratios. Note that the slopes are generally negative, similar to the relationship between growth and cost. Again, for comparability, staffing ratios are calculated to include outsourced staff. The faster that membership grows in one year, the faster that staffing ratios decline during that year.

This figure has many similarities to Figure 1. Just like cost trends, changes in staffing in the *clusters* of Account and Membership Administration and Corporate Services is significantly subject to changes in membership. The Corporate Services function also displays significant sensitivity to growth. Staffing ratios in the function of Enrollment / Membership / Billing was narrowly outside the 10% significance threshold. But, while Information Systems and Customer Services *cost trends* were sensitive to growth, they are absent from the significant staffing ratio relationships in Figure 6. Information Systems was especially notable in the increase of its P-Value from 0.2% to 94.1%. In short, the common intuition of fixed costs may be reinforced by managers' experience with staffing ratios in their own clusters of functions in when membership changes.

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To recap, economies of scale in costs or staffing ratios are demonstrable in relatively few functions. Larger plans' advantages over their smaller peers are limited to areas like Finance and Accounting, Actuarial and Corporate Executive and Governance. Moreover, where economies of scale do exist, their slopes are gentle, not precipitous. Economies of scale tend to be more apparent for staffing ratios than for costs. Because managers manage people, this greater sensitivity to scale may magnify any intuitions of fixed costs in health plans.

The modest advantages of scale are loosely corroborated by comparison with the results for the public companies, especially after differences in reflecting medical management in the ratios are considered.

The overestimation of fixed costs may also stem from the actual experience of health plan managers in periods of rapid membership growth or decline. Both costs and staffing ratios reflect sensitivity to membership change. Both decline when membership grows.

THE OFFSETTING EFFECTS OF COMPENSATION

An important reason why (the limited) economies of scale are more evident in staffing ratios than in costs is that compensation is often subject to dis-economies of scale. That is, the larger the health plan, the higher the per-employee compensation.

<Slide 9. Figure 7. Table - Scale versus staffing costs per FTE for each function>

Almost without exception, the BCG scale slopes are greater than 100%. Figure 7 shows that, in nearly every functional area, larger size is associated with higher levels of compensation.

A little more than half of the functions or sub-functions show significant per-FTE staffing cost dis-economies of scale which we highlight in blue. This compares to the earlier slide showing only one-third of the functions or sub-functions had staffing ratio economies of scale and one-fourth showing cost economies of scale.

Notably, *every* area that displayed significant economies of scale in staffing (Figure 5), also had dis-economies of scale for compensation. This plays out in an interesting way.

For instance, Enrollment / Membership /Billing displayed a Staffing Ratio / Scale slope of 85.2% and, in this slide, a Staffing Cost per FTE / Scale slope of 105.9%. The P-Values are just over 1% in both cases. So perhaps it is not surprising that, as shown in Figure 3, there is no apparent relationship between Enrollment costs and scale. The diseconomies of scale in compensation offset the economies of scale in staffing.

The staffing costs shown in Figure 7 include the effect of outsourced FTEs. These are reported by the plans based on their own estimates or based on conversion factors that Sherlock Company develops and updates.

<Slide 10. Figure 8. Staffing Costs per FTE and Plan Size>

In Figure 8, we analyze the relationship between size of health plan and levels of compensation using only internal staffing costs per FTE. In nearly every case, the relationships between scale and compensation are corroborated: the larger the plan, the higher the compensation.

<Slide 11. Figure 9. Internal Staffing Costs and Member Months>

Figure 9 is a more general view of the relationship between scale and staffing costs per internal FTE. It shows total compensation per total FTE, by plan, arranged by size. This is simplified compared to the previous two figures, but the conclusion is the same: larger plans pay more to their employees.

Two potential sources of this scale-related higher compensation come to mind: cost of living effects and the need for higher-value employees. The cost of living effects seem plausible: larger plans serve larger populations and those larger populations may be located in high wage metropolitan areas.

<Slide 12. Figure 10. Scale versus wage index.>

Figure 10 suggests that there is indeed a relationship between cost of living and scale. Larger plans tend to be in high cost of living areas. So, to eliminate the effect of cost of living, we regressed the number of members against compensation *after having adjusted compensation to eliminate the effect of cost of living.*

<Slide 13. Figure 11. Scale versus staffing costs per FTE, cost of living adjusted>

This is shown in Figure 11. We used the CMS hospital cost of living index for this adjustment. We think that it is the best available and is of course subject to broad scrutiny. But we recognize that the adjustment is qualified by the difficulty in measuring those costs of living where the activities are being performed. In this instance, we used the cost of living index for the health plan headquarters. This may overstate the differences because organizations in high cost areas have a strong incentive to operate service centers in lower cost areas like outer suburbs.

After we adjust for cost of living the effect of scale on per FTE staffing costs is lessened. The slope is slightly positive, but the P-Value increases dramatically from 2.2% to 43.1%.

However, when we analyze staffing costs per FTE in each function, the effect of scale on compensation remains present, after excluding the effect of the higher cost of living often experienced by larger health plans.

<Slide 14. Figure 12. Scalar Effect on Combined Staffing Costs, Cost of Living Adjusted.>

In Figure 12, we regressed combined staffing costs per FTE (that is, including outsourced) against scale, after adjusting to back out the effect of cost of living. More than one-fourth of the functions and sub-functions report significant dis-economies of scale that in compensation even after the effect of cost of living has been removed. Many of the functions whose compensation levels were sensitive to scale remained sensitive to scale after the elimination of cost of living effects.

For instance, while Information Systems Combined staffing costs has a scale slope of 105.8%, shown in Figure 7, after the adjustment for cost of living, it falls to 103.3%. There is still a dis-economy of scale of compensation, though it is diminished. This leads to the interesting conclusion that larger plans' high compensation has two sources. One is a difference in pure cost of living. This factor might be managed through choices of geographic location of service centers. But there is also a residual difference in costs: the larger the plan, the greater the real compensation per member.

<Slide 15. Figure 13. Scalar Effect on Internal Staffing Costs, Cost of Living Adjusted.>

That larger plans pay more than their smaller peers is corroborated when we focus solely on internal staffing costs. Before cost of living adjustment, the scale slope for Information Systems, shown in Figure 8, is 107.3%, and after the cost of living adjustment it falls to 104.8%. To underscore, higher per FTE staffing costs remains an important effect, even after eliminating the effect of cost of living differences.

As previously noted, economies of scale are more visible in staffing ratios than in the per member costs. The offsetting effects of higher compensation levels suggests an important reason why this may be the case. While we cannot know precisely why real compensation is higher for larger plans, it is possible that, with the fewer staff that larger organizations require, they must hire more productive and hence more expensive employees. Such employees may be more experienced or possess greater skills. Imagine a health plan with a high autoadjudication rate; the few suspended claims require a high level of expertise to complete their processing.

This tendency for larger plans to have low staffing ratios and highly compensated employees may not be unique to those large plans. After all, we have been measuring the relationships between of staffing ratios and scale, and compensation and scale and concluded that they often offset each other.

But suppose these offsetting factors of staffing ratios and compensation actually occurred regardless of plan size? If so, then scale's role in both might better be described as a propensity of larger plans to operate in this high compensation / high productivity way, as opposed to scale being necessary for this strategy.

To test this, we analyzed the relationship between compensation and staffing ratios. This effect excludes size of the plan entirely from the analysis. In other words, irrespective of plan size, if a plan has a low staffing ratio, is it likely that it would have higher compensation among its fewer employees?

<Slide 16. Figure 14. Mix Adjusted Staffing Ratio versus Staffing Costs per Internal FTE for each function, Table>

Figure 14 shows some interesting relationships. By way of example, have a look at Corporate Services in the cut-out box: a one FTE per 10,000-member increase in the Corporate Services area is associated with $21 thousand decrease in compensation in

that function. The slopes are overwhelmingly negative, and every significant relationship has a negative slope.

<Slide 17. Figure 15. Mix Adjusted Staffing Ratio versus Staffing Costs per Internal FTE for each function, cost of living adjusted, Table>

We repeated this analysis after eliminating the effect of differences in geography-related wage differences, as shown in Figure 15. The trade-off persists plus there are a few additional significant relationships.

To recap the effects of compensation, they do appear to partially offset lower staffing ratios in larger plans. That this occurs even when cost of living is eliminated suggests that the higher compensation levels are "real." One possible explanation for this tendency is that the fewer employees in lower staffing ratio environments must be more expert, thereby requiring greater compensation. Moreover, the possibility of higher compensation being necessitated by lower staffing is supported by evidence of a trade-off between staffing ratios and compensation *regardless of plan size*.

The higher compensated employees may be higher skilled. They may have greater longevity with the health plan. For instance, perhaps a larger, more automated health plan will have higher paid employees because they are tasked with higher level activities.

In short, larger plans have higher productivity but at a cost: the more productive employees tend to cost more. This tendency for high productivity to be muted by greater compensation is not unique to larger organizations, but it does help to explain why economies of scale are less evident for costs than they are for staffing ratios.

COMPENSATION TRENDS WHEN MEMBERSHIP CHANGES

Earlier we showed that health plans experiencing sharp enrollment growth in a brief one-year period also experience sharp declines in their staffing ratios. But we could envision other effects of rapid growth, such as higher compensation per FTE. Perhaps sharp growth necessitates bulge hiring, and such hiring could at a premium. Alternatively, more members could lead to more overtime, which would also cause an increase in per FTE compensation.

<Slide 18. Figure 16. A Table showing membership growth and compensation growth in each functional area>

So we looked the 24 continuous plans and analyzed the relationships between compensation and growth. Compensation is per FTE, and here we are considering the relationships between percent changes in membership to percent changes in compensation.

The slope is the relationship between percentage point changes in membership growth and percentage point changes in compensation growth. But rapid growth is not associated with increases in compensation. None of the relationships shown here are significant. It is intriguing that many of the slopes are positive though. Thus, for Customer Services, if it were significant, a one percentage point increase in membership growth would be associated with a 0.17 percentage point increase in compensation growth.

The closest we get to a significant relationship would be in the Information Systems area, and this relationship is *negative*.

OUTSOURCING TRENDS WHEN MEMBERSHIP CHANGES

If growth is not associated with paying higher compensation to get health plan activities performed, perhaps the plans instead outsource more. Figure 17 summarizes the relationships in the clusters and functions for the continuously participating plans.

<Slide 19. Figure 17. Put the Outsourcing Graphs into a Table.>

This shows that there are indications of greater use of outsourcing when membership increases over a short period. Information Systems, Finance and Accounting and Corporate Executive and Governance appear to show a relationship, while the Corporate Services relationship is suggestive with its near significance.

The slope is the relationship between percentage point changes in membership growth and percentage point changes in the proportion of the FTEs that are outsourced. Thus, for Information Systems, a one percentage point increase in membership growth is associated with a 0.89 percentage point increase in the proportion of FTEs that are outsourced.

I want to highlight Information Systems for just a moment. During 2016, when membership surged, costs fell. But Information Systems staffing ratios, including outsourced staff, had no similar decline after the effect of this growth. Recall from the slide immediately before this that the only function that approached significance was Information Systems: it was actually negative, meaning compensation actually declined in faster growing plans. So, the trends in Information Systems suggests why this might be: The health plans showing the most rapid growth were those organizations which elected to increase their outsourcing. And compensation ran lower for these outsourced activities.

We haven't drilled into this much growth much. But we have noticed that the rapid growth of the fast-growing plans was usually concentrated in one product. Sometimes, such as for Medicare or Medicaid, the entire product can be outsourced. For a health plan experiencing rapid growth, perhaps these plans are paying for Business Process Outsourcing based on per member costs. This would turn costs viewed as fixed into variable costs.

Because we consider contract employees of the sort often found in Information Systems departments to be outsourced, growth in staffing by this means is also a possibility.

DOES OUTSOURCING ASSURE SAVINGS?

While outsourcing can be a solution to serving greater volume, we don't have much evidence that it results in lower per member costs.

<Slide 20. Figure 18. Outsourcing and PMPM Mix-Adjusted Costs. >

In fact, as shown in Figure 18, there is often a tendency for outsourcing to be associated with higher costs. The slope is the relationship between the proportion of the FTEs that are outsourced and the ratio of function costs to the mix-adjusted mean PMPM costs. Thus, for Information Systems, a one percentage point increase in outsourcing associated with a 0.86 percentage point increase in the proportion of Information Systems costs to its mix-adjusted mean PMPM costs. Most of the fourteen significant functional areas have positive slopes.

By the way, I do want to apologize for the complexity of this last interpretation. It is a mouthful. But it actually reflects the care with which we address the issue. By mix adjusting, we usually expressing costs relative to universe mean values having eliminated the effect of product mix differences. These values are therefore positive and negatives. But since we understand that it is appropriate to analyze these relationships through natural logs, which only work with positive values, we express the differences as percents of the norms.

To be clear, we do not know whether the higher costs are a cause or an effect of outsourcing. In other words, it may either be that outsourcing led to higher costs. Or it may be that high cost plans recognized their plight and sought a BPO solution. If the outsourcing is the cause of higher costs, then outsourcing could offset the impact of lower staffing ratios in the same way as does higher compensation.

IS PLAN SIZE ASSOCIATED WITH OUTSOURCING?

We were interested in learning whether smaller plans were more likely than their larger peers to engage in outsourcing. After all, a small plan might wish to ramp up quickly or "rent" economies of scale promised by BPOs.

<Slide 21. Figure 19. Outsourcing and Scale>

However, there appear to very few instances in which there is a significant relationship between scale and outsourcing. The slope is the relationship between the size of the health plans and the proportion of the FTEs in any given function that are outsourced. The slope is so shallow that we reflected them as "+" and "-" since the actual values are not illuminating.

The only slopes that are significant are positive ones in the Provider Network Management and Services and Sales areas. If this is accurate, then one could speculate that this outsourcing may related to business development in new geographic markets. I hasten to add that this is merest speculation since we are measuring scale not growth here.

While the relationships are overwhelmingly not significant, a scan through the functions shows that the slopes are more often positive in the Sales and Marketing and

Medical and Provider Management, and more often negative in the Account and Membership Administration clusters.

This is surprising if one assumes that economies of scale are present in health insurance. It is also surprising because of the way we measure outsourcing – it includes services provided by parent organizations in other business lines, such as HR or legal services provided by hospitals to their associated health plans. This is more commonly found in the smaller IPS plans than is found in the larger Blue plans.

SOME CONCLUSIONS

<Slide 22>

I want to close by offering a few conclusions.

1. Health plans do experience what amounts to operating leverage over the short term if their membership sharply increases or declines. One of the reasons for short-term operating leverage is that, in many functional areas, their staffing ratios decline as membership surges.

2. But when membership change is excluded, scale is only a modest factor in operational costs. Larger plans do operate differently – they tend to pay more to their employees and they have lower staffing ratios, that is, higher productivity. The higher compensation mutes the improved productivity. In other words, size is not in and of itself an assurance of lower costs.

3. The tradeoff between lower staffing ratios and higher compensation is irrespective of membership.

4. Over the short term, growth does not have a significant impact on compensation, but it sometimes affects the tendency to outsource. Outsourcing does not necessarily yield lower costs so, like scale, outsourcing is also not a panacea.

5. In the final analysis, most of the cost optimization is available to most health plans. Success is all about execution.

WHAT IS THE MEANING OF THESE COST AND TREND RELATIONSHIPS?

Benchmarks describe the actual behavior of health plans. Based on the adage that you manage what you measure, it would not be unreasonable to expect the plans that participate in the Sherlock Benchmarks to be better than average.

The regression lines that are summarized in this study represent consensus behavior in two business situations having to do with the size of health plans: the static case in which size is the basis for comparison of cost levels and the dynamic case in which size itself is unimportant but change in size helps to understanding cost trends. The former is a long-term view and the latter is short-term. They are related if a plan, because of growth, permanently changes its size.

These regression analyses summarize the behavior of health plans in these two business situations. The behaviors of the health plans themselves reflect individual decisions of numerous health plans, both as organizations and at the function level. This is what is captured in the Sherlock Benchmarks. The health plan decisions modeled by these regression lines are in turn based on the consumer requirements and the technical constraints of activities, as understood by these decision-makers.

In this way, the relationships modeled in this analysis and the Sherlock Benchmarks are analogous to stock prices. Stock prices reflect everything known about the underlying enterprises and represent consensus estimates of value. The efficient market hypothesis does not say that the stock values are never in error. Rather, because they represent consensus view of corporate enterprise value, they represent the collective wisdom of the market. It happens that imitating the collective wisdom of the market has proven to be an effective guide to consistently strong investment returns.

Likewise, the Benchmarks and the regression lines presented here represent the consensus behavior of health plan managers with respect to staffing ratios, compensation and outsourcing at an array of sizes and in situations of change. Prices, like all other metrics such as the Sherlock Benchmarks, are signals that can be a catalyst for change. Perhaps the insight from the efficient market hypothesis applies to health plan operational performance as well: managers should generally match the decisions of the market, except in situations in which they are highly confident that they possess superior insights.

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A transcript of this presentation will be posted on our web site in the next few hours. Two and a half months from now we will summarize the Blue Cross Blue Shield universe results, and we expect to host similar web conferences for Independent / Provider – Sponsored, Medicare and Medicaid plans later this summer. Additional information, including tables of contents on the benchmarks themselves are found on the website. Call me if we can elaborate.

Thank you for your attention to our presentation. Now I would like to open this for questions.

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Questions and Answers

1. Does the differing behavior between the economies of scale and effect of membership change on cost reveal anything about the nature of fixed costs in each function?

In principle, you should be able to back into fixed costs for a function, the Y-intercept. If you convert the BCG slope to a regular slope, and have a PMPM value, then you can do it that way.

2. How do you define "outsourcing"?

We distinguish outsourcing from consulting by being long-lived, core and significant. Contract employees are, for instance, considered outsourced.

3. Why does the Account and Membership Administration cluster of expenses as a whole look to be even more sensitive to membership change than any of the functions.

Every plan performs each of its activities differently, and we admit the possibility of classification differences such as in the case where claims are outsourced.

4. In your scale analyses of compensation, is this just wages and salaries?

This includes all form of compensation including Health Benefits, Net of Employee Contributions, Pension costs, Other Benefits (including payroll taxes), 401 (k) Expenses and Education Assistance.

5. How does Sherlock Company develop its outsourced staffing ratios?

The plans provide the outsourced staffing. However, we offer a table of total costs per FTE in each function based on the results of organizations outsource very little in those functions. Plans can take the BPO invoice, divide it by this ratio and derive the FTEs.

6. Can we have these slides?

We will make the transcripts available later today. The slides themselves will be available to subscribers of *PULSE*, participants in the 2018 Benchmarking study, or licensees of the 2017 Benchmarks.

7. If the P-Value is greatly lessened in Slide 13 (Figure 11) concerning wage adjusted compensation versus Figure 10, why does it hang in there for the individual functions in figures 12 and 13 when you look at individual functions.

We don't know. But there may be differences in the mix of the employees between the functions in the larger versus smaller plans.

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I want to again thank you for your participation in this web conference. If participation in either the Blue Cross Blue Shield universe or the Independent / Provider – Sponsored universe is of interest, do please let me know immediately. We have already begun the survey process, but if you have the bandwidth, it is possible to catch up. Licensing is also available.

Let me once again thank all of the participants for the hard work that goes into the Benchmarks that populated this analysis. We have some evidence that participation pays off in lower costs. But this presentation, a "by-product" of your efforts is something that benefits the industry as a whole. Thank you!

This is Douglas Sherlock of Sherlock Company.