

Plan Management Navigator

SCALE, GROWTH AND COST MANAGEMENT STRATEGY



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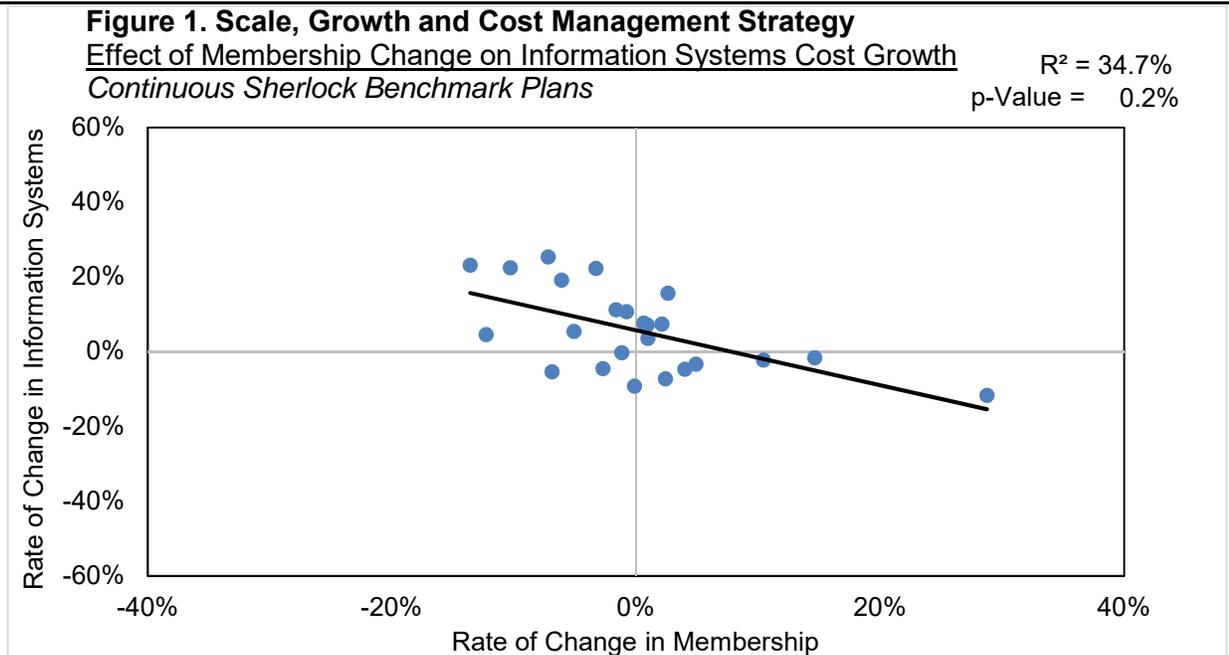
In our January *Plan Management Navigator*, we showed that economies of scale are relatively modest, with the implication that smaller health plans can be as successful as larger ones. Scale need not be the barrier to competitive success that is sometimes assumed.

In this edition of the *Navigator*, we flesh out new aspects of economies of scale. We consider the effects of growth on cost trends, how scale is reflected in staffing as well as costs, the offsetting effects of compensation and the effects of outsourcing.

This analysis is based on our analysis of the reports of 34 health plans that participating in the 2017 Sherlock Benchmarking Study, as well as 24 plans that participated in both 2017 and 2016.

Informing Intuitions

Notwithstanding the conclusions of January’s analysis concerning economies of scale, many health plan managers have seen significant changes in the membership 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.



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 membership trends explains more than 30% of the costs trends.

Using Information Systems as an example, 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.

Actual Economies of Scale

Yet when we measure economies of scale, the results conflict with these trends. Economies of Scale is measured when we measure the relationship between levels of costs and levels of membership. Previously, as shown in Figure 1, we focused on the effects of change.

Of total expenses, only 24.7% are subject to economies of scale. Moreover, the scale slope for those expenses as a whole that are subject to economies of scale is modest at 90.2%. 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 of 90.2% of the smaller plan, but only for those scalable expenses. Thus, overall administrative expenses for the larger plan would be only 2.4% lower than the smaller one.

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.

Take Actuarial expenses as an example. Actuarial has a scale 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.

Figure 2. Scale, Growth and Cost Management Strategy			
Publicly-Traded Health Plan Administrative Costs			
Company	Administrative Expense Ratio	Administrative Expense Ratio w/o Premium Tax	Administrative Expense Ratio w/o Premium Tax and MBT
Aetna Inc.	13.9%	13.6%	12.8%
Anthem, Inc.	8.8%	8.2%	6.7%
CIGNA Corporation	8.7%	8.3%	7.4%
Humana Inc.	7.8%	7.6%	7.1%
Triple-S Management Corporation	12.7%	11.8%	9.3%
UnitedHealth Group	11.5%	11.0%	9.5%
Centene Corporation	15.9%	10.3%	8.5%
Molina Healthcare, Inc.	11.2%	9.2%	7.3%
WellCare Health Plans, Inc.	9.9%	9.3%	7.8%
Blue Cross Blue Shield Plans			8.3%
Independent / Provider-Sponsored Plans			8.7%

Public Company Comparisons

As counter-intuitive as this infrequency of scale effect is, the less granular information from publicly-traded companies more or less supports it. Figure 2 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. The treatment of medical management expenses, the effect of product mix and other factors qualify this comparison.

Economies of Scale Measured by Staffing Ratios

Another way of evaluating economies of scale is through staffing ratios. Like costs, staffing ratios are a metric of resource use. 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. 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 24.7% of the costs. The slope of the scale effect is slightly steeper: 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 90.2% 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 as compared with costs being only 2.4% lower.

It is intuitive that staffing ratios likely power per member costs. Of the 14 functions displaying economies of scale in costs, eight of them, show economies of scale in staffing.

We also evaluated the sensitivity of staffing ratios to growth. It parallels the dynamic cost analyses exemplified by 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. But, while Information Systems and Customer Services cost trends were sensitive to growth, they are absent from the significant staffing ratio relationships.

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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 health plan 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 each employee appears to be paid.

Almost without exception, the scale slopes are greater than 100%. In other words, 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. This compares to the earlier analyses showing only one-third of the functions or sub-functions had staffing ratio economies of scale and one-fourth showing cost economies of scale.

Figure 3. Scale, Growth and Cost Management Strategy
Member Months and Internal Staffing Costs per Internal FTE
 2017 Sherlock Benchmark Plans

R² = 27.0%
 p-Value = 0.2%

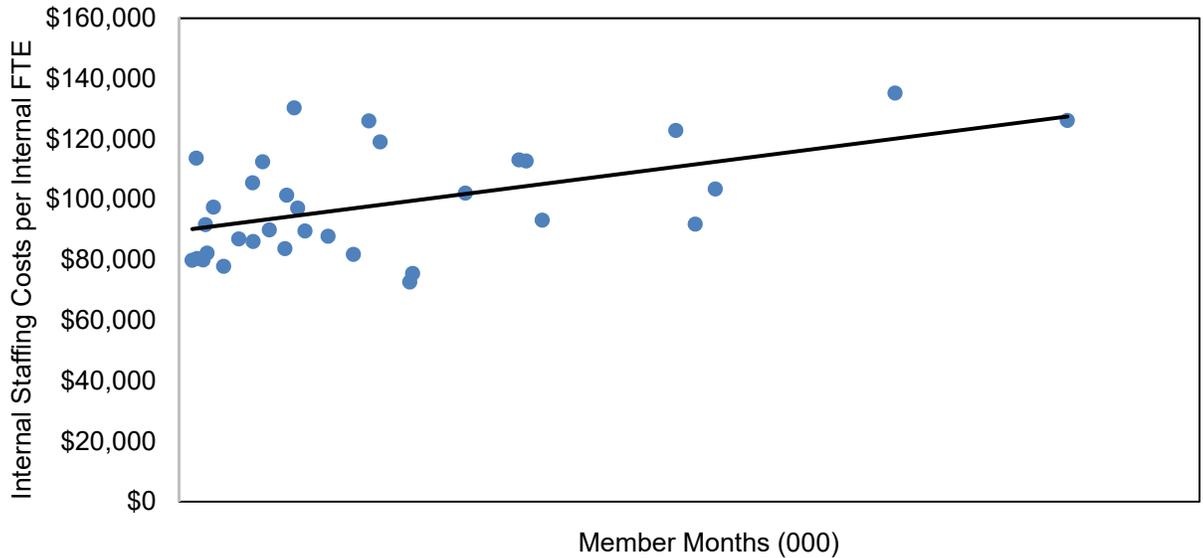


Figure 3 is a general view of the relationship between scale and staffing costs per internal FTE. It shows total compensation per total FTE, by plan, arranged by size. Larger plans pay more to their employees.

Enrollment / Membership / Billing provides an interesting example of the countervailing effects of scale. It displays a Staffing Ratio / Scale slope of 85.2%. But it also displays a Staffing Cost per FTE / Scale slope of 105.9%. The P-Values are just over 1% in both cases, meaning that the regression lines are likely reliable. So it is not surprising that there is *no* apparent relationship between Enrollment costs and scale: the diseconomies of scale in compensation offset the economies of scale in staffing.

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

Figure 4. Scale, Growth and Cost Management Strategy

Member Months and Wage Index

2017 Sherlock Benchmark Plans

R² = 15.9%
p-Value = 2.2%

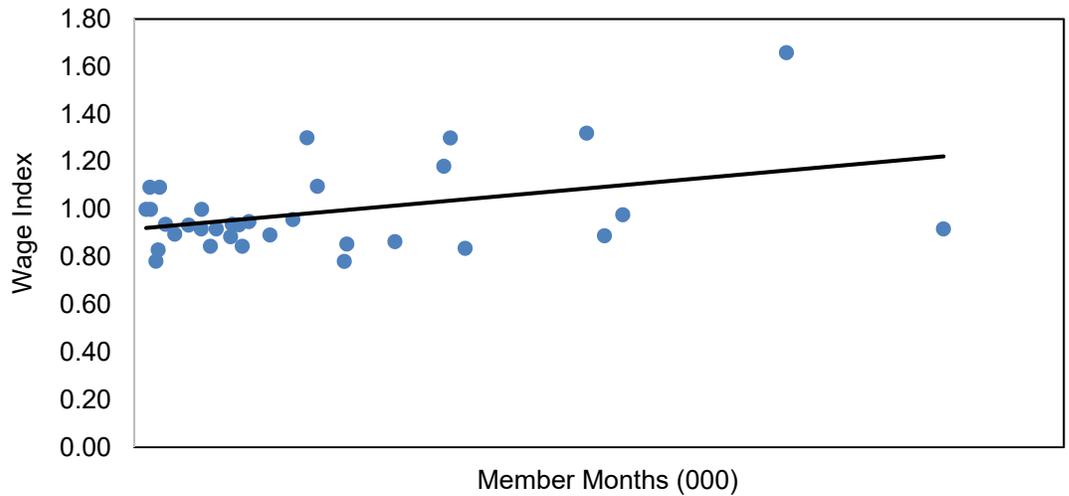


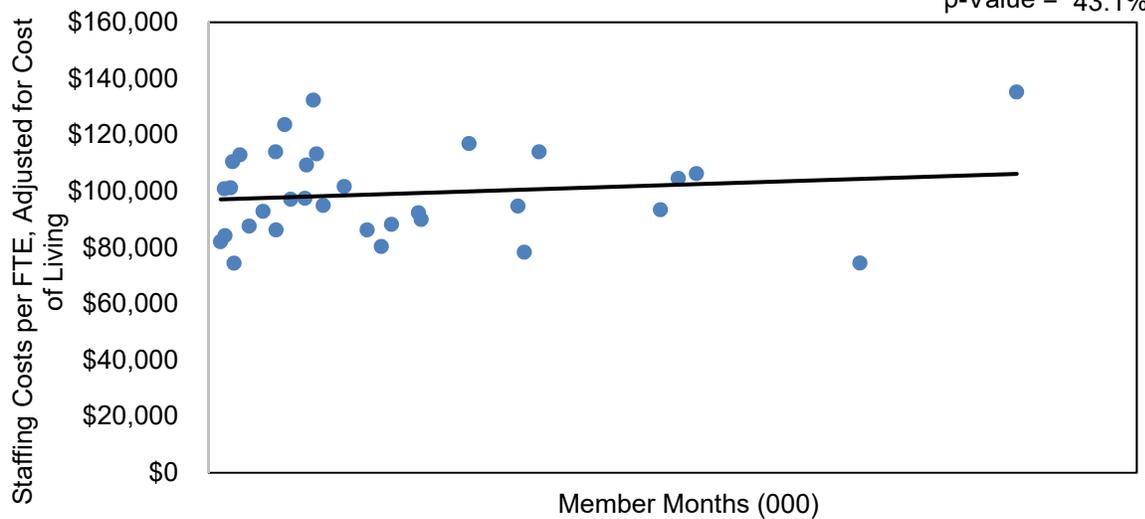
Figure 4 suggests that there is indeed a relationship between cost of living and scale. Larger plans tend to be in high cost of living areas.

Figure 5. Scale, Growth and Cost Management Strategy

Member Months and Staffing Costs per FTE, Adjusted for Costs of Living

2017 Sherlock Benchmark Plans

R² = 2.0%
p-Value = 43.1%



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, shown in Figure 5. We used the CMS hospital cost of living index for this adjustment. 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%.

We recognize that the adjustment is qualified by the difficulty in measuring those costs of living where the activities are actually 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.

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. 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%; after the adjustment for cost of living, it falls to 103.3%. There remains 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.

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. 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.

Is the Staffing Ratio / Compensation Tradeoff Only Related to Size?

This tendency for larger plans to have both 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. To test this, we analyzed the relationship between compensation and staffing ratios.

This analysis excludes size of the plan entirely. 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?

The slopes are overwhelmingly negative, and every significant relationship has a negative slope. We repeated this analysis after eliminating the effect of differences in geography-related wage differences. The trade-off persists plus there are a few additional significant relationships.

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To recap the effects of compensation, higher compensation appears 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 that a trade-off between staffing ratios and compensation occurs regardless of plan size.

The higher compensated employees may be higher skilled. They may have greater experience 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. So we looked the 24 continuous plans and analyzed the relationships between compensation and growth.

But rapid growth is not associated with increases in compensation. None of the relationships are significant. The closest we get to a significant relationship is 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. In fact, there are indications of greater use of outsourcing when membership rapidly increases. Information Systems, Finance and Accounting and Corporate Executive and Governance appear to show a relationship. For instance, 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.

Let's review Information Systems for just a moment. During 2016, when membership surged, per member costs fell. But Information Systems staffing ratios, including outsourced staff, had no similar decline after the effect of this growth. In fact, 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 the Information Systems activities that they outsourced.

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 often 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. In fact, 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.

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.

However, there appear to very few instances in which there is a significant relationship between scale and outsourcing. 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.

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.
3. Interestingly, the tradeoff between lower staffing ratios and higher compensation is irrespective of size of membership. So this tradeoff, while more common in larger plans, is not exclusive to them.

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.

For Additional Information

There is a wealth of additional information on this topic available from Sherlock Company.

- A transcript of our web conference on this topic held on Tuesday, April 3, 2018 is available [here](#).
- Charts concerning the results of this analysis are available through the Sherlock Company publication, *PULSE*. Annual subscriptions are \$375. Individual issues are not available.
- Summary cost information is available through past editions of *Plan Management Navigator*. The Blue Cross Blue Shield universe is [here](#) and the Independent / Provider - Sponsored universe is [here](#).
- The Sherlock Benchmarks, which summarize the data that populates these analyses, are available for license. Please contact sherlock@sherlockco.com for additional information.
- Participation in the Sherlock Benchmarks is also available. The universes are Blue Cross Blue Shield Plans, Independent / Provider Sponsored Plans, Medicaid Plans and Medicare Plans. The Blue Cross Blue Shield Plans and Independent / Provider Sponsored Plans surveys have already been distributed so, if you are interested in participating, you should contact us immediately at sherlock@sherlockco.com. The Medicaid and Medicare Plans' universes will begin their surveys in early June after the Medicare bids have been submitted.

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