Plan Management Navigator
Analytics for Health Plan Administration May 2013

Estimating Administrative Costs' Sensitivity to Group Size

One of the objectives of the Affordable Care Act is to lower administrative costs by health insurers. This is to be achieved in part through administrative simplification. The purchasing of products made more uniform through required benefit levels is an example of this because it reduces the complexity of the purchasing decision.

Another example is enrollment simplification. The Affordable Care Act provides that state insurance exchanges assume important elements of the enrollment process, thereby making the enrollment information more uniform to the health plan. In this way, from the health plans' perspective, small groups sold through exchanges are made more similar to large groups sold today.

More concretely, suppose the exchanges have the effect of making the costs to administer benefits of small groups resemble those of much larger organizations – what would their costs look like? In this analysis we apply regression analyses to evaluate the sensitivity of various functional costs to differences in average group size.

Progress on This Year's Sherlock Benchmarks

The **Medicare** and **Medicaid** universes are still forming. We launch in early June, after the Medicare bids have been submitted. Just to be clear, organizations that participate in these universes are only rarely solely focused on these products but are heavily committed to them. *If you have an interest in participating in either universe, please contact us soon.*

Blue Cross Blue Shield and **Independent/Provider–Sponsored** universes surveys have been received from most participants. Publication of the reports is expected to begin in early July. *If you have an interest in licensing the reports, please contact us.*

Background

Sherlock Company benchmarks provide a rich source of detailed administrative cost information for health plans. The 2012 editions comprised the results of health plans and TPAs serving nearly 50 million people. Costs are segmented by function, product and, importantly for this analysis, by segment, e.g., large and small groups.

Sherlock Company's Blue Cross Blue Shield universe is especially robust in market segmentation data. This universe contains data from most Blue Cross Blue Shield plans, and each participant submits detailed cost information, as well as the numbers of members and groups.

Figure 1. Plan Management Navigator
Administrative Expenses by Segment

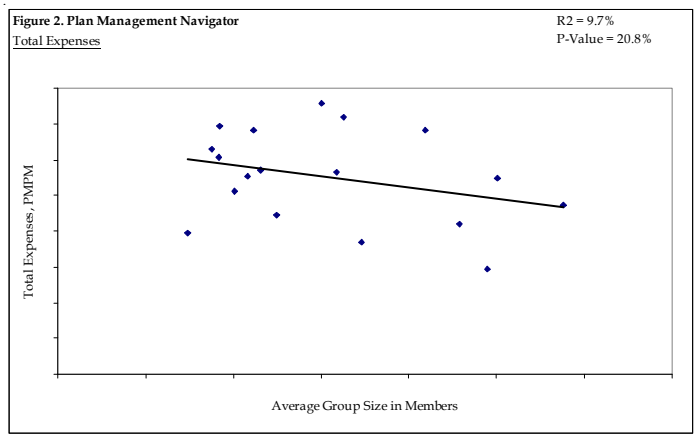
	Individual	Small Group	Middle Market	National Accounts Insured
Percent of Premium Equivalents	18.77%	13.89%	12.07%	11.40%
Per Member Per Month	$37.18	$45.14	$33.80	$28.42

Source: 2012 Sherlock Expense Evaluation Report, BCBS Edition

From this data we know that the costs to administer health benefits of small groups are considerably higher than for large groups. For Blue Cross Blue Shield Plans providing size segmented information, this is evident when one compares Individual, Small, Middle and National account cost values for insured products. The chief explanation of smaller organizations requirement for higher administrative costs stem from Sales and Marketing costs, although some other functions also tend to be higher.

Group Size Makes a Difference

To model the potential effect of administrative simplification under ACA, or any other exchanged-based market we analyzed the relationship between costs and group size. As shown in Figure 2, the negative slope for health plan expenses as a whole is tantalizing but not conclusive. The P-Value is 20.8% while the R^2 is 9.7%.



study we performed last September, as published in *PULSE*, the highest R^2 values were in the 20% range. The P-Value of 0.4% indicates the probability of there being no relationship between the average group size and PMPM costs of Enrollment / Membership / Billing. The negative slope indicates that the larger the average group size, the lower costs tend to be. This makes sense: larger groups have fewer group enrollment transactions per member and also fewer monthly invoices per member. According to the definitions employed by participants in our benchmarking study, this function installs, records and maintains relationships with customers and calculates, documents and submits invoices.

In analyzing the effect of group size on costs, the independent variable is the average group size, that is, group membership divided by the number of groups served. The average of the 18 plans for which we could calculate average group size was 62 members. Three other plans provided data that was incomplete so were not included. We also excluded three more plans whose average group size were outliers. We also excluded Individual members, which average 13.5% of total Blue Cross Blue Shield membership, from this analysis. We have refrained from eliminating other outliers unless we had suspicions about the data independent of this analysis. The dependent variable is commercial administrative costs per member per month for each function and in total.

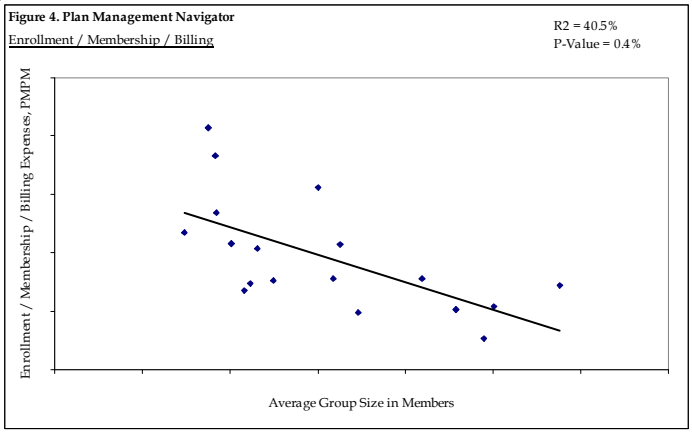
A closer look at each of the functions is necessary to provide greater insights to the drivers of these cost differences. Excluding miscellaneous business taxes, 15 functions comprise the administrative expenses necessary to serve customers of health plans. We have summarized all our regressions in the Appendix, highlighting those results we consider most meaningful. We list the 15 functions in Figure 3.

There is one functional area with a high probability of being affected by changes in average group size, Enrollment / Membership / Billing. This shown in Figure 4. We considered relationships to be likely size-sensitive if they have P-Values of 10% or less.

The relationship between group size and costs for Enrollment / Membership / Billing is a remarkably strong one compared with other regressions we have performed. The R^2 indicates that the line explains 40.5% of the differences between the two variables. To put that in some context, in the scale

Figure 3. Plan Management Navigator
List of Functional Areas

Rating and Underwriting
Marketing
Sales
Commissions (external)
Advertising and Promotion
Enrollment / Membership / Billing
Customer Services
Provider Network Management and Services
Medical Management / Quality Assurance / Wellness
Claim and Encounter Capture and Adjudication
Total Information Systems Expenditures (as expensed)
Finance and Accounting
Actuarial
Corporate Services
Corporate Executive & Governance
Association Dues and License/Filing Fees
Total



There were several functions that displayed an intriguing possibility of sensitivity to average group size. These relationships displayed P-Values greater than 10% and less than 20%. Functions included Finance and Accounting, Information Systems and Actuarial. These are shown in Figures 5, 6 and 7, respectively. It is important to bear in mind in each of these cases that, while the P-Values suggest the possibility of an effect, the low R^2s indicate that size explains relatively little of the differences.

A possible relationship is suggested in the relationship between average group size and Finance and Accounting costs. Size explains 13.3% of the differences between the plans in this function's costs, indicated by its R^2, with a P-Value of 13.6%. This is shown in Figure 5. The size of the plans may help to explain this in that large plans also have large groups – this function is typically subject to economies of scale. However, this function is also responsible for Fund Accounting for Self-Insured Accounts, which could directly be affected by the size of the group in the self-insured products.

Remarkably, Information Systems costs appear somewhat affected by average group size. The larger the average size of the group, the lower the costs, as shown in Figure 6. The R^2 is 13.2% and the P-Value is 13.8%. This suggests the possibility that serving small groups entails complexity that may require more elaborate and expensive Information Systems. For instance, this could occur in cases in which benefit designs are highly customized for each of the smaller groups.

The analysis of the Actuarial function, shown in Figure 7, similarly suggests sensitivity to the size of the group. The larger the organization served, the lower the per member costs, with a P-Value of 15.1%. Based on its R^2, the size of the group served explains 12.5% of the differences in costs. As with Finance and Accounting, it is possible that this relates in part to the economies of scale often found in this function. But if the benefit mix variation between groups is limited by the relatively small number of groups to which the members belong (giving rise to the large group size) then presumably this could translate into lower costs.

The size of the group typically served by the health plan appears to have an effect on the health plan's costs to serve them. In fact, as shown above, one-fourth of the functions required to serve employer sponsored health plans display possible sensitivity to the size of the groups they enroll.

Collectively, these four group size sensitive functions, Enrollment, Information Systems, Actuarial and

Figure 5. Plan Management Navigator
Finance and Accounting
R2 = 13.3%
P-Value = 13.6%

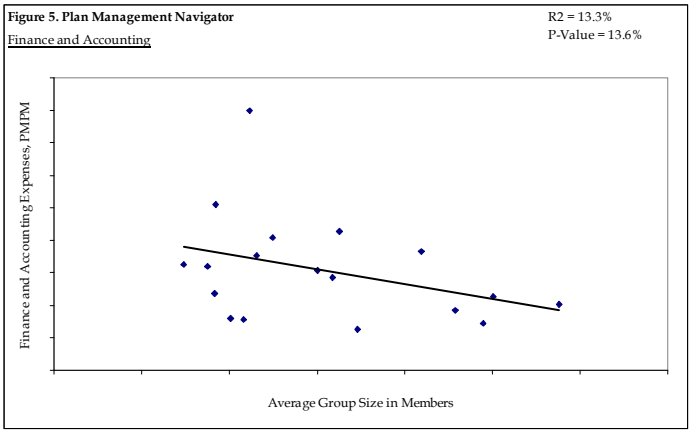


Figure 6. Plan Management Navigator
Total Information Systems Expenditures
R2 = 13.2%
P-Value = 13.8%

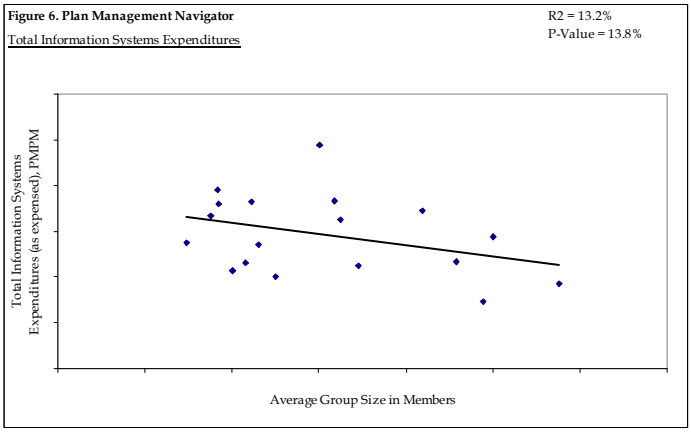
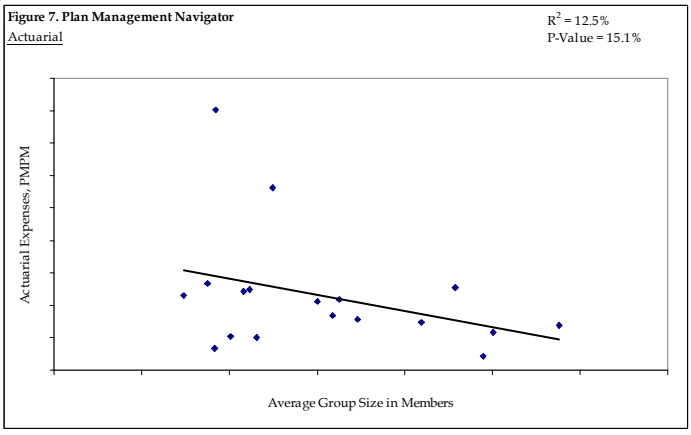
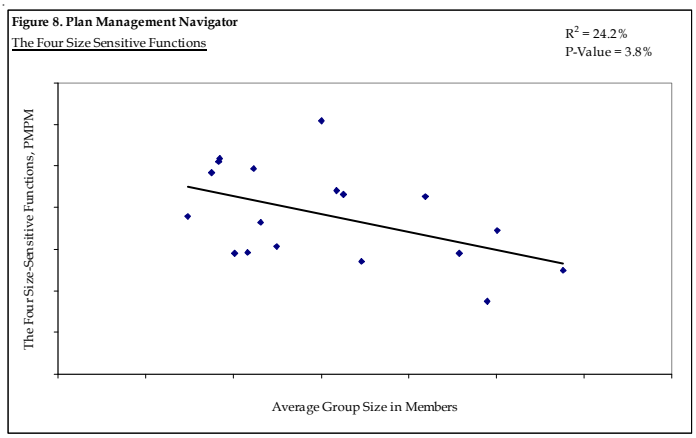


Figure 7. Plan Management Navigator
Actuarial
R^2 = 12.5%
P-Value = 15.1%



Finance and Accounting, comprise 25-30% of total health plan administrative costs. To measure the overall effects of group size on these functional areas, we regressed their total values against the average group size. This is shown in Figure 8. The R^2 is 24.2% and the P-Value is 3.8%.

It remains to be seen how health care reform will affect the costs to serve small groups, and whether the changes will simplify the activities in such a way as to make smaller groups look like larger ones from the perspective of health plan administrative costs. Moreover, the potential for adverse selection could overwhelm administrative costs as an economic factor. However, in planning for the costs under your own roof, these analyses provide a unique insight to the operational effects of exchanges on the costs to serve the small group market.



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Note on Sales and Marketing Costs

Earlier in this report, we noted that a key reason for cost differences between segments stem from Sales and Marketing. But this analysis does not indicate that any of the functions in this cluster have a relationship to costs.

The reason for this difference is that not all plans reported segments and three of those that did not operate in idiosyncratic markets. With these three organizations removed, Broker Commissions relationship to group size has a P-Value of 2.1% and an R^2 of 34.8%. The Sales and Marketing cluster's relationship has a P-Value of 3.5% and an R^2 of 29.9%. Both slopes were negative.

Note on Appendix

This table shows the results of each of the analyses measuring the effect of group size on function costs. The third column expresses the effect of size of group on costs, or slope. The values in that column is the change in the costs that result from a 10 member increase in the size of the groups, expressed as a percent of average of the average cost for the function.

Appendix. Plan Management Navigator
Regression Results

	P-Value	R^2	Cost Change*
Rating and Underwriting	21.7%	9.4%	-6.0%
Marketing	25.8%	7.9%	-5.0%
Sales	83.6%	0.3%	-0.8%
Commissions (external)	37.0%	5.0%	-5.8%
Advertising and Promotion	73.8%	0.7%	1.9%
Enrollment / Membership / Billing	0.4%	40.5%	-12.2%
Customer Services	25.0%	8.2%	-3.4%
Provider Network Management and Service	90.2%	0.1%	0.4%
Medical Management / Quality Assurance	97.7%	0.0%	0.1%
Claim and Encounter Capture and Adjudication	81.4%	0.4%	0.5%
Total Information Systems Expenditures (as expensed)	13.8%	13.2%	-4.2%
Finance and Accounting	13.6%	13.3%	-7.5%
Actuarial	15.1%	12.5%	-10.9%
Corporate Services	54.7%	2.3%	-1.2%
Corporate Executive & Governance	72.8%	0.8%	2.9%
Association Dues and License/Filing Fees	20.8%	9.7%	-2.9%
Total	17.2%	11.3%	-3.1%
Size-Sensitive Functions	3.8%	24.2%	-5.7%

**Cost reduction that results from an increase in 10 members per group. Shown as a percent of average function costs.*