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Massachusetts Payment Reform from an Actuarial Perspective

By Matthew Day and Jill Wilson



Matthew Day, FSA, MAAA, is vice president at Blue Cross Blue Shield of Massachusetts in Boston. He can be reached at matthew.day@bcbsma.com.



Jill Wilson, FSA, MAAA, is associate actuary at Blue Cross Blue Shield of Massachusetts in Boston. She can be reached at jill.wilson@bcbsma.com.

In 2009, Blue Cross Blue Shield of Massachusetts (BCBSMA) introduced a health care payment reform model called the Alternative Quality Contract (AQC) for managed care lines of business. The AQC employs a population-based global budget, coupled with significant financial incentives based upon performance on a broad set of quality measures. As of 2013, over 85 percent of the managed care business is under an AQC model, including over 700,000 members and their nearly \$4 billion in annual medical claims.

The twin goals of the AQC are to significantly reduce health care spending growth while improving quality and health outcomes. The spending goal of the AQC is centered on holding providers accountable for a global budget; providers are held responsible for all care delivered to their members, including hospital, pharmacy and specialty care. The quality incentives encompass a broad set of nationally accepted clinical process, outcome and patient experience measures. At its inception, the AQC stood in contrast to a landscape dominated by fee-for-service payment models where providers' earnings are based on the volume of services provided. Instead, AQC providers' earnings are based on a more comprehensive measure of value—the overall cost of their members and the quality of care delivered. This article will explore some of the actuarial issues present in the development and evolution of the AQC.

Separating Risk from Incentive

Payment reform models like the AQC are based on the premise that the health care system will respond to financial incentives. Fee-for-service payment incents more volume, more expensive services and higher costs overall. Early pay-for-performance models used a few discrete measures of quality (e.g., diabetes testing) or cost (e.g., generic prescribing rate) and saw improvements in the measured areas, but little overall improvement in cost or value. The AQC, with its global budget and broad quality measure set, looks to make the incentives complete—measuring and compensating

providers for global results.

Countering this aim for a broad-based incentive model is the concept of financial volatility we will call insurance risk. Insurance risk is the variation in total health care costs for a population outside of the cost variation caused by the choices of health care providers. This volatility comes from changes in the population (health status), macroeconomic conditions, new government mandates, epidemics and other factors. As an example, the costs from a member breaking his leg in an accident would be insurance risk. The difference in cost if the member's PCP chose to order an MRI or x-ray would be an appropriate decision to target with incentives. The AQC does not aim to influence the behavior and choices of health care providers due to the volatility of insurance risk, but to offer the broadest incentive possible outside this risk.

The distinction between incentive and insurance risk is not a clear line. BCBSMA examined the results of each model feature as these contracts unfolded. That experience informed future contracts and the introduction of new or refined features. Many actuarial features of the AQC model have evolved over time to refine and improve this distinction.

We will explore a few cases of this process below.

The Start of a Contract

BCBSMA considers it important that the starting budget for an AQC not demand immediate and dramatic savings from current spending levels. Capitation contracts that demanded such savings often resulted in member dissatisfaction and were seldom sustainable. The AQC looks to curb costs over time, by setting a slower rate of growth target.

With this structural goal in mind, the actuarial question remained: What was a fair measure of "current costs" on which to set this baseline? When first exploring this issue, the usual factors contributing to a stable base data set were considered: size of the population, number of years of experience, blending with a "manual rate," and truncating large claims.

Early discussions assumed that a very large population with at least two years of truncated data would yield the most stable starting point. The realities of the contracting process, however, pushed toward allowing smaller sizes and using only one year of data. To resolve this difference in approach, a Monte Carlo bootstrapping model was built to study the credibility of total medical expenses, adjusted for health status, at various provider group sizes. Contrary to expectations, that analysis showed that one year of untruncated, health-status-adjusted data was fairly stable at sizes as low as 5,000 members. As a result of this study and the prior experience, the preferred contract approach moved to one year of claims as a base budget (instead of more) from the year prior to the start of first performance period. This data becomes the basis for all budget calculations for the duration of the contract.

The Budget Calculation

The starting budget is trended into the first performance period where it is compared against actual claims in that period to determine the surplus or deficit for a provider group. The first AQC's relied on fixed trends for this calculation, negotiated based on historic experience and prospective financial objectives. The fixed trends created tangible and known targets for providers, as well as some pricing predictability for the plan. However, toward the goal to separate insurance from incentive risk, adjustment provisions were introduced that would alter the fixed trend for factors that might be outside of a provider's control, such as benefit mandates and epidemics.

As experience unfolded, the multiple adjustments essentially negated the predictability of the fixed trend model. In fact, they led to a great deal of cost uncertainty as they were often only determined at final settlement, which occurs well after the close of a performance period. The original goal of the adjustments was to isolate elements of insurance risk that would move broad health care costs outside of the actions of any one provider group. The same goal could be achieved by moving from fixed



trend targets to one based on broad network trend itself. The AQC model thereby moved to trend targets based on a regional or statewide average across the entire HMO business. Data on trends could be shared with the groups regularly, adding back a certain degree of predictability. The new model separates incentive and insurance risk even more finely, greatly simplifies the contract and administration, while only minimally sacrificing predictability that was less than perfect to begin with.

Simplistically, the first budget is trended into the next year of the performance period and so on for the duration of the contract. More specifically, budgets are adjusted annually for more than just trend. Since the basis for the starting budget is total allowed claims over a one-year period, it is inherently representative of the at-risk members' health and benefit selection at a point in time; however, these are dynamic in any panel of patients. Each year, the budget calculation also looks at how the health status and benefits of the covered membership have changed since the prior year. This change is factored into the annual budget calculation so that the budget will continue to be representative of the population in each performance period. As the model

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moved to network-based trends, the health status and benefit adjustments needed to not just consider the changes in the provider group, but normalize to the overall change in the network. This approach also neutralizes for any inherent inflation in risk scores year over year, a tendency we have seen in the underlying model.

All of these adjustments can account for various population shifts pertaining to the risk contract. These adjustments have also accurately handled large account losses or gains where the nature of the underlying at-risk population may drastically change in nature. Additionally, these adjustments have compensated for provider changes when a new medical practice with a moderate panel size is assumed or leaves an AQC group in the middle of the contract term. For very large changes in the provider group, such as a group that doubles in size due to a merger, the model looks at the claims experience of that new group explicitly and blends

it into the existing budget as if it were the start of a new contract. The terms of what is a large provider group change are specific for the group at hand since the underlying group size is critical.

Moderating the Results

Each year, the budget with its trend and adjustments is compared against total medical and pharmacy expenses of members who have chosen a PCP within the AQC group. AQC groups must perform better than average to earn a surplus under the current model. This gross result of budget minus actual expenses can then be altered in several ways before determining the final net surplus or deficit result.

First, the actual claims can be modified by individual reinsurance-like adjustments. Health status models exhibit lower predictive accuracy at catastrophic claim levels; a reinsurance mechanism does a better job for these events. The early AQC groups mostly obtained third party reinsurance contracts to address this risk. This approach allowed for customized terms and a competitive bid process. On the other hand, this approach treated the catastrophic adjustment in isolation, not allowing it to work cohesively with other model elements. For this reason, later agreements have mostly dealt with catastrophic adjustments as an integrated part of the contract.

The second element to adjust the gross results is the percentage share of the result that is allocated to the provider. Higher risk share creates a stronger incentive for a provider to perform, but also minimizes the net savings available to lower premiums. Early contracts were most concerned with determining if care could truly be materially changed through an incentive model; therefore, the risk share was very high, even 100 percent in some cases. As the results came in, it became clear that change was possible with the right incentives, and later contracts began to lower the provider share and thereby create more net value. Additionally, the AQC model now determines the share based on the groups' quality performance, creating a triple effect of incentive, net value creation, and reinforcing the quality of care.

The final modification of the results is the application of an aggregate limit. Early AQCs were



commonly unlimited, again looking to create the strongest incentive for performance. As the model developed, the incentive goal was balanced by the idea of mitigating extreme circumstances. If all of the other provisions and adjustments in the model still resulted in a very large surplus or deficit, the parties would agree on the maximum allowable net result. This limits the ultimate financial risk to the provider, and also creates a maximum cost possible for the plan.

Conclusion

While the focus of this article has been on the actuarial elements of the model, the many non-financial elements are also keys to success. Providers receive robust reporting and detailed claim extracts to focus and guide their activity. An interdisciplinary support team from BCBSMA meets regularly with each group to set goals, track progress, and collaboratively work through the unique challenges

of each group and population. The provider groups are also regularly brought together to share best practices and for focused user group discussions on specific subject areas.

To date, the results have been very encouraging. The AQC groups have delivered materially slower growth in their claim costs than non-AQC groups. Their quality has also increased faster and to higher levels than the broad network.

There is still a long road to make quality health care affordable to the entire population, but the AQC's progress to date has pointed toward a bright path forward. Maximizing incentives while minimizing the transfer of insurance risk has created a powerful yet sustainable model for change. Holding the twin goals in mind, while innovating and evolving the details, has allowed fast progress since 2009 and, hopefully, well into the future. ■

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