A M E R I C A N A C A D E M Y *of* A C T U A R I E S

May 12, 2010

To: Steve Ostlund
        Chair, Accident & Health Working Group
        National Association of Insurance Commissioners

From: Rowen Bell
        Chair, Medical Loss Ratio Regulation Work Group
        American Academy of Actuaries

Re: Maintaining Statistical Credibility in Rebate Calculations

Dear Steve:

I am writing on behalf of the American Academy of Actuaries'[1] (Academy) Medical
Loss Ratio Regulation Work Group in response to the request of the PPACA Actuarial
Subgroup to provide assistance in developing the NAIC's recommendation to the
Department of Health and Human Services regarding pooling for rebates based on
medical loss ratio (MLR) calculations. The issue requested of the Academy specifically
involves defining an appropriate way to maintain statistical validity within the rebate
process. In light of the tight timeframes involved with this project, I appreciate this
opportunity to provide these comments to you, subject to the relevant time constraints.

The new §2718(b)(1)(A) to the *Public Health Service Act*, as created by the *Patient
Protection and Affordable Care Act* (PPACA), requires a health insurance issuer to
provide an annual rebate under certain circumstances. While an insurer may report an
MLR for a block of business that is below the applicable minimum MLR requirement, it
is possible that the variance between the reported MLR and the required MLR represents
statistical fluctuation. It may not be good public policy to require the payment of rebates
based on essentially random results beyond the insurer's control, which underscores the
need for some method to maintain statistical validity in the rebate calculation process.
This need becomes greater to the extent that rebate calculations are made at a more
granular level. That is, statistical fluctuation is a more significant issue with state-level
calculations than with national-level calculations—or with policy form-level calculations
than with market-level calculations.

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[1] The American Academy of Actuaries is a 16,000-member professional association whose mission is to
serve the public on behalf of the U.S. actuarial profession. The Academy assists public policymakers on all
levels by providing leadership, objective expertise, and actuarial advice on risk and financial security
issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the
United States.

In this letter, we outline three approaches[2] for maintaining greater validity that could be used separately or in combination:

- Aggregation of Multiple Blocks of Business to Enhance Credibility. Under this approach, a carrier, based on its specific situation, would aggregate multiple blocks of business at a higher level of aggregation than under the general aggregation framework established by the rebate regulations.

- Application of Adjustments for Statistical Tolerance. Under this approach, a carrier would add to its actual MLR an adjustment, based on the size of the carrier's membership in the block of business for which the calculation is prepared, to reflect the potential impact of statistical fluctuation prior to comparison with the applicable minimum MLR standard.

- Application of Large Claim Pooling Mechanisms. Under this approach, carriers would be able to establish pooling mechanisms in order to spread the impact of large, or catastrophic, claims across their business. Allowing pooling of large claims, in conjunction with the application of adjustments for statistical tolerance, would reduce the magnitude of the tolerance adjustments.

Note that these methods are discussed independent of any provisions that may be considered with respect to the impact of policy duration on loss ratios in the individual market, based on the issues raised in our April 28 letter to you.

Aggregation of Multiple Blocks of Business for Credibility

There is no clear definition in §2718(b)(1)(A) for the level of aggregation at which rebate calculations are to be performed. We assume that the regulations to implement §2718 will specify a general aggregation framework. (Note that our group's views on the pros and cons of different approaches to aggregation will be discussed at length in our responses to Questions C.1 and C.2 of the request for comment on §2718, which will be filed by the May 14, 2010 comment deadline.) It is possible, however, that the application of that general aggregation framework could lead to the result, for some carriers, that a defined block of business for rebate calculation purposes is not statistically credible.

If, under a general aggregation framework, a carrier has multiple blocks of business and none are deemed to be individually credible, then one approach would be to allow that carrier to combine blocks in order to reach credibility. Guidelines would have to be provided to carriers on the number of "member months" needed for credibility, and on rules for combining non-credible blocks. We anticipate that the non-credible blocks would have to be combined with other blocks of business that are as similar as possible.

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[2] We have focused on these approaches because of readily available information. Under normal circumstances, given the appropriate amount of time, the Academy would review a number of potential approaches and provide comments on the value of each. The time required for our response was not sufficient to allow for such a review.

In addition, blocks should be combined only to the point where credibility was reached. This approach could result in some cross-subsidization across different risk pools.

Another possibility, especially when the rebate formula is on an annual basis, would be to delay the calculation and distribution of rebates until sufficient member months had accumulated for a block's experience to be considered credible. This could lead, for example, to the rebate calculation on a small block of business being performed less frequently than on an annual basis. While this approach could result in a delay in rebate issuance, it would eliminate the potential cross-subsidization that could result if multiple blocks of business were aggregated.

Adjustments for Statistical Tolerance

As described above, applying an adjustment for statistical tolerance would allow for the volatility inherent in health insurance, particularly for smaller and/or new blocks of business. The adjustment would vary based on the average number of lives covered in the block of business, similar in concept to the tolerance adjustment in the existing Medicare Supplement refund formula. But since volatility is higher for major medical claims than for Medicare Supplement claims, the values found in a major medical tolerance adjustment table would need to differ from those found in the existing Medicare Supplement tolerance adjustment table.

Two approaches might be considered to structuring the adjustment: a tabular approach, in which the adjustment is based on the ranges of covered lives, or a continuous approach, in which the adjustment is based on a formula applied to the actual number of covered lives in the block of business. We would tend to favor the use of a continuous formula to avoid cliffs in the determination of the adjustment.

In addition, it may be desirable to apply different weights to different types of enrollees. In light of the greater volatility inherent in higher deductible business, you may want to consider applying factors less than 1.0 when counting lives in policies that have high deductibles (e.g., greater than $2,000). Or, more generally, you may want to consider taking the actuarial value of the plan into account, to accommodate the additional volatility inherent in offering plans with different actuarial values (e.g., platinum, gold, silver, and bronze levels as defined by PPACA). Adjusted enrollment would be the total enrollment multiplied by factors based on the actuarial value of the benefit plans for the enrollment.

If regulators wish to explore this concept further, additional work will need to be performed in order to establish appropriate parameters for this approach. If desired, the Academy would approach the Society of Actuaries with a proposal to form a joint work group to further study the issue and return to the NAIC and/or HHS with recommendations.

With that caveat, the following table illustrates the approach using a potential set of adjustments for statistical tolerance. This information was provided to the work group by

a company that had already derived this information using its national experience and a methodology it devised. The table below must be viewed as entirely illustrative[3] in nature, particularly given that, in the limited time available to us, it was not possible to vet every aspect of the methodology underlying these figures.

Actual MLR – 90% Confidence Interval		
Average Members	**Credibility Adjustment to MLR (tabular)**	**Credibility Adjustment to MLR (continuous)***
200,000+	1.4%	1.6%
100,000 – 199,999	2.2%	2.3%
75,000 – 99,999	2.7%	2.6%
50,000 – 74,999	3.3%	3.2%
25,000 – 49,999	4.6%	4.6%
15,000 – 24,999	5.9%	5.9%
10,000 – 14,999	7.3%	7.3%
5,000 – 9,999	10.3%	10.3%
2,500 – 4,999	15.1%	14.7%
1,000 – 2,499	22.4%	22.9%
500 – 999	35.5%	32.4%
< 500	no credibility	no credibility

*Continuous credibility formula fitted to the tabular data; percentages shown are the value of the formula applied to the left-end of the membership range. Formula is: $1 \div$ square root of (1.9% x average members)

As an example of how a table like this would be applied, consider an insurer with 50,000 average covered lives in a year for a particular block of business subject to a rebate calculation. Suppose that the MLR for the insurer was 78 percent, and that the appropriate statutory MLR threshold was 80 percent. The MLR after adjustment for statistical tolerance and applying the continuous adjustment of 3.2 percent is 81.2 percent; therefore, no rebate would be made for that year. For an insurer with similar circumstances but an MLR of 76 percent instead of 78 percent, a rebate of 0.8 percent of premium would be made.

The table shown above reflects the theoretical perspective that there is no membership level at which a block of business becomes immune from the influence of statistical fluctuation. In practice, however, we recognize that regulators may want to establish an upper boundary at which the block of business is deemed to be fully credible for rebate calculation purposes, similar to what is done today with the Medicare Supplement rebate formula.

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[3] As noted, the Academy has not vetted the data and methodology provided. Additionally, the Academy is not necessarily endorsing the use of a 90 percent confidence interval or the use of 500 lives as the base for "no credibility." Along with items mentioned in the letter itself, these are variables for which further study can provide useful additional information.

To develop this table, analysis was done to determine the credibility of a market's loss ratio and related calculations, based upon its size by members. Small group experience covering 12 months was collected and random market sizes of approximately 5,000, 15,000, 25,000, 37,500, and 50,000 members were created using these data. For each of these market sizes, 1,000 simulations were run, and the average premium per member per month (PMPM), actual claims PMPM, and actual loss ratio, among other statistics, were calculated. Confidence intervals were calculated for each market size to determine with what certainty the mean loss ratio could be considered valid, and thus, how credible the market is based upon membership size. The adjustment factors presented above were developed to be consistent with a 90 percent confidence interval; different choices of the confidence level parameter would produce different results and would lead to different likelihoods of rebate issuance (as well as different rebate amounts when rebates are issued).

Pooling of Large Claims

Allowing carriers to establish pooling mechanisms for large claims would help to maintain statistical validity in the process and would allow for lower adjustments for statistical tolerance at a given size. Under this approach, carriers would remove the impact of claims over a certain threshold and replace these with a pooling charge.

As an example of how a large claim pooling mechanism would be applied, consider an insurer with 12,000 members in each of two blocks of business. Block A has one enrollee with claims of $338,000. Neither block has any other enrollees with claims above $50,000. Suppose for purposes of this example that the insurer applies a pooling mechanism with a $50,000 annual deductible. In calculating medical claims for the two blocks, a pooling charge of $1.00 PMPM [($338,000 - $50,000) divided by (12,000 x 12 x 2)] would be applied, and $288,000 would be removed from the experience of Block A.

Large claim pooling mechanisms could be applied independently or, alternatively, in conjunction with the adjustments for statistical tolerance concept discussed above. As illustrated by the table above, significant statistical fluctuation can arise even with comparatively large market sizes. Applying pooling of large claims within the context of a statistical tolerance adjustment framework would have the advantage of reducing the magnitude of the needed credibility adjustments.

For example, the table below takes the same data and methodology underlying the previous table (now with any claim amount above $60,000 in a month for a member pooled across all members) and produces a second set of illustrative tolerance adjustments. Different choices of the pooling point would produce different results. Note that, relative to the first table shown, the application of large claims pooling reduces both the adjustment factors for a given membership level and the level of membership for which a credibility adjustment of greater than 2 percent is needed at the 90 percent confidence level.

Pooled MLR – 90% Confidence Interval		
Average Members	**Credibility Adjustment to MLR (tabular)**	**Credibility Adjustment to MLR (continuous)***
200,000+	0.8%	1.2%
100,000 – 199,999	1.4%	1.7%
75,000 – 99,999	1.7%	1.9%
50,000 – 74,999	2.2%	2.3%
25,000 – 49,999	3.1%	3.3%
15,000 – 24,999	3.9%	4.3%
10,000 – 14,999	5.3%	5.2%
5,000 – 9,999	7.4%	7.4%
2,500 – 4,999	10.8%	10.7%
1,000 – 2,499	16.6%	16.6%
500 – 999	24.7%	23.5%
< 500	no credibility	no credibility

*Continuous credibility formula fitted to the tabular data; percentages shown are the value of the formula applied to the left-end of the membership range. Formula is:
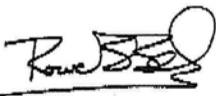$1 \div$ square root of (3.6% x average members)

Multi-Year Issues

Issues that would need to be explored within this framework include what interaction, if any, exists between the current year's rebate calculation and the prior year's rebate calculation, as well as the application of this framework after 2014 in light of the use of three years' data for rebate calculations as specified in §2718(b)(1)(B)(ii). Given the time constraints, we did not consider these issues.

Conclusion

We hope that these thoughts prove useful to your subgroup as you continue your deliberations around implementation of PPACA. As indicated above, if requested by the NAIC, the Academy would be willing to pursue further work, potentially in conjunction with the Society of Actuaries, to more completely consider the approaches outlined above (and possibly other approaches not considered in this letter) in order to produce a more concrete recommendation. If you have any questions, please contact Heather Jerbi, the Academy's senior health policy analyst, at 202.785.7869 or Jerbi@actuary.org.

Sincerely,

Rowen B. Bell, FSA, MAAA
Chairperson, Medical Loss Ratio Regulation Work Group
American Academy of Actuaries