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# PRINCIPLES OF ACTUARIAL SCIENCE AND THE NEW HEALTH CARE REFORM LAW

By Mark Litow

In late March of 2010, Congress passed and the President signed a massive health care reform bill that if fully implemented, will change the way in which health care is financed and delivered in the United States. The most salient features of the bill include an individual mandate to purchase coverage, underwriting and rating restraints, expansion of Medicaid eligibility and commercial benefits, increases in certain taxes and cuts in Medicare spending. Many perspectives have been offered on this bill as to the types of results it will deliver, but few if any of these have examined whether the law satisfies actuarial principles or not.

This paper focuses on some of the most debated aspects of the bill related to the actuarial principles of a Financial Security System. The issues and principles examined are:

- Whether the individual mandate to purchase coverage, in combination with the restraints on underwriting and rating, will comply with risk classification and anti-selection principles;
- Whether the expansion of Medicaid eligibility and commercial benefits required, plus the subsidies in the bill, will increase moral hazard; and
- Whether the scoring of the reform, which shows a net savings of more than \$100 billion over 10 years, and limitations on loss ratios and rate increases, are reasonable, or conforms to principles of an actuarially sound estimate.

The actuarial principles in this paper were first drafted in 1991 by the Society of Actuaries Committee on Actuarial Principles and accepted by the Board of Governors. Since then these principles have been exposed and discussed throughout the profession. In fact, the Actuarial Standards Board has published standards corresponding to the various principles and numerous educational pieces have been developed or continue to be in development related to specific topics. These principles are available in a paper on the SOA website and are summarized as part of a panel discussion from June 13, 2007 (session 22).



That paper presents four categories of actuarial principles, and all of these relate to health care reform to some degree. The last category in particular is paramount to this discussion and is the focus of the analysis below. The four categories are:

1. Statistical Framework,
2. Economic and Behavioral Framework,
3. Principles Underlying Risk Management and Actuarial Modeling, and
4. Principles Underlying Financial Security Systems.

The principles underlying Financial Security Systems are divided into: i) Risk Classification, ii) Risk Classification Refinement, iii) Anti-selection, iv) Moral Hazard and v) Actuarial Soundness. The questions to be addressed in this paper are linked with the principles underlying the Financial Security System as follows:

- a. Risk Classification, both before and with refinement, and anti-selection are assessed as part of the issues related to the individual mandate.
- b. Moral hazard is assessed as part of the issues related to expansion of Medicaid eligibility and commercial benefits.

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- c. Actuarial soundness is assessed relative to the scoring of the health care reform bill and the ability of insurers to satisfy loss ratio requirements and maintain solvency through adequate premiums.

As part of assessing each of the principles, the analysis also considers principles from the other categories to a limited degree, which is necessary due to the blend of commercial and governmental programs that are intertwined in many ways as part of the U.S. health care system.

The analysis undertaken in this paper is intended to present the primary issues and questions one should undertake to evaluate this reform, rather than to explicitly provide an answer. However, the complexity of the health care system and these reforms is such that a comprehensive and detailed analysis using substantial modeling of an actuarial nature should be employed, including statistical analysis of a stochastic nature with economic and behavioral factors/assumptions appropriate to the reforms in question. Such detailed modeling has not been undertaken in writing this paper. The discussion does rely on past observations and modeling experiences in health care with which the author is familiar. Everyone should think about the issues raised and evaluate whether the reform satisfies the relevant principles. Hereafter, the focus is on specific principles as relevant to Financial Security Systems on an ultimate basis, after all provisions are implemented.

**INDIVIDUAL MANDATE WITH RESTRICTIONS ON ELIGIBILITY AND RATING AND CONSISTENCY WITH PRINCIPLES OF RISK CLASSIFICATION, RISK CLASSIFICATION REFINEMENT AND ANTI-SELECTION**

The health care reform law includes an individual mandate supported by subsidies for those with low incomes and penalties to prevent people from jumping in and out of the system. The mandate is necessary because without it, the law does not allow sufficient latitude in regard to risk classification in commercial markets where individuals or employees are paying premiums. For instance, it does not allow health

status as a risk characteristic in writing initial coverage or in setting premiums. The required risk classification system also has limits on rating by age as well as some other limits. Without the mandate, serious anti-selection would occur, as has clearly been observed in numerous states and countries using such limitations, particularly in individual markets.

But imposing an individual mandate is not a sufficient condition to avoid serious anti-selection, as two additional conditions must be satisfied. First, the mandate must achieve substantial and nearly continuous participation of the population and this requirement must be enforced. Second, the mandate must significantly restrict choice of benefits or other options so that lower cost individuals do not select very lean coverage while higher cost individuals choose very rich coverage. If either of these additional requirements is not satisfied, significant anti-selection will occur; and the greater the violation of these requirements, the greater the anti-selection.

So how strong is the mandate, what are the choices available, and what will be the enforcement of the rules? These questions are still unanswerable because rules supporting the law are not yet developed and these will influence how strong the mandate is. Also, the Health and Human Services Secretary has discretion to modify provisions to some degree, so this can make a difference. But we do know that open enrollment periods or the ability to change coverage will at most be 12 months. Experience has shown this length of time to be much better than a few months but not sufficient to remove virtually all anti-selection. The benefit choices available range from 60 percent of total costs to nearly 100 percent; although we do not know how the market will look or what the distribution of coverage will be. Still, such a range is likely to lead to some anti-selection.

Therefore, the likelihood is that there will be some significant anti-selection present, but the magnitude of that anti-selection is clearly in doubt. The amount will depend on the rules and their implementation. Provisions in the law include a risk adjustment process that is intended to normalize for risk selection. However, this

risk adjustment occurs after the fact. Therefore, it will not reduce the aggregate impact of anti-selection on the system; but it will redistribute anti-selection across the system to some degree.

### **EXPANSION OF MEDICAID ELIGIBILITY AND COMMERCIAL BENEFITS AND CONSISTENCY WITH MORAL HAZARD**

The law includes an expansion to Medicaid to cover individuals up to 133 percent of the Federal Poverty Level. The law also provides subsidies for people with incomes up to 300 percent of the poverty level in most cases, with subsidies decreasing as incomes increase. Further, the law mandates no lifetime limits, requires coverage for certain services and requires that a plan qualified under the mandate have an actuarial value of at least 60 percent of total costs. All of these provisions increase benefits or decrease the level of cost sharing available to individuals.

These changes mean people or groups who wish to buy less than a 60 percent benefit or do not wish to insure certain services in the commercial market cannot do so. The changes also mean that some people who may desire coverage for less than 100 percent of benefits will now have Medicaid benefits offered (these have essentially no cost sharing). But if people decline to enroll in Medicaid, they will be required to meet the 60 percent minimum benefit or pay a penalty.

As a result, the level of insurance under the law, if implemented, will almost certainly increase, unless compliance is poor. With compliance, an increase in moral hazard will almost certainly occur. How much? That can only be answered with modeling, and the results would likely be quite different by market and according to other risk characteristics.

### **SCORING OF REFORM AND CONSISTENCY WITH ACTUARIAL SOUNDNESS**

The law is estimated by the Congressional Budget Office to produce a total reduction in National Health Care Expenditures over 10 years of more than \$100 billion. Costs reflect the expansion of benefits and eligibility, while offsets include

increased taxes and cuts in Medicare costs. The questions to ask are: Do these estimates conform to realistic assumptions, or to required assumptions that may not be realistic, and are the estimates actuarially sound?

The question of realistic versus required assumptions can be partially addressed by focusing on scoring of Medicare reimbursements assumed within the analysis by the CBO. By law, Congress is supposed to implement a series of cuts in Medicare physician payments that increase over time and are slated to be 21 percent or so in the next fiscal year. But this type of change has been required at lower levels in more recent years, and Congress has not followed the prescribed level but changed reimbursement to levels reflecting very low increases or decreases or no change. As such, the assumption that the CBO was required to make for Medicare physician reimbursement is not realistic and therefore the score does not seem realistic. Estimates of the value of changing this assumption to roughly no change in reimbursement amount to hundreds of billions of dollars of additional cost, which in itself, changes the result from a savings to a cost.

Another assumption that should be questioned is the basis for scoring. Scoring is required over a 10-year period only and does not reflect differences in the timing of revenue and benefit changes; this basis for scoring is established by Congress. Because many benefits are delayed for four years and some taxes kick-in almost immediately in this legislation, revenue changes receive more weight than expenditures in the scoring in the limited time period. A present value calculation of benefits and revenues to the effective date of reforms would seem a much fairer way to judge the soundness of the reform from a cost perspective. Some very limited tests were apparently made after the 10-year period, but these did not examine the sensitivity of results to critical assumptions, nor has there been any serious discussion about a framework for risk management of results.

In recent scoring by the Center for Medicare and Medicaid Services (CMS), the realism of certain assumptions and the scoring process

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has been brought into question through cost estimates considerably above that of the CBO. Further, CBO has now stated their score needs to be increased by \$115 billion, only two months after passage of the bill. Certainly, changes can occur after passage of any bill, but the information used in these assessments existed prior to passage. Is this consistent with how the actuarial control cycle is supposed to operate within the issue of actuarial soundness?

The reasonableness of other assumptions is also a question. For instance, scoring of the Class Act (Long-Term Care) raises some serious issues, which include significant concerns about anti-selection, moral hazard and actuarial soundness. The CLASS Act is a voluntary program with guaranteed issue for those that meet an actively at work requirement. A voluntary program with guaranteed issue is a recipe for anti-selection, as those who are less healthy are likely to enroll. A workgroup from the American Academy of Actuaries examined the provisions of the CLASS Act and expressed serious concerns over the long-term viability of the program. In addition, CBO scoring rules only looked at a 10-year period in examining the CLASS Act. This is very misleading due to the nature of Long-Term Care insurance and because the design of the CLASS Act includes a five-year waiting period where premiums will be collected, but no claims will be paid.

The result of these concerns is that the scoring supporting the bill in aggregate does not appear to reflect a realistic estimate of the potential cost ramifications of the bill. This suggests that scoring should be presented on both a required and realistic basis with sensitivities of assumptions explored. Other factors exist that are not considered in the analysis above and these could somewhat, if not totally, offset or increase concerns about the aggregate results. Realistic scoring requires consideration of the long-term consequences of the reform on a present value basis. It also requires close monitoring of the results relative to expectations, or following the actuarial control cycle, so that corrective action consistent with the objectives of the financial security system is applied as necessary. Uncertainty about assumptions will always exist, and in a complex system with a complex set of reforms, that uncertainty is great.

The analysis above does not prove that scoring is inconsistent with actuarial soundness in total, as such an analysis has not been performed including all parts of the reform and corresponding assumptions. What it does mean is that some assumptions do not appear realistic or in line with actuarial principles.

In addition, other issues exist within the bill as passed relating to actuarial soundness. For instance, provisions regarding loss ratio minimums and rate increase approvals could make achieving adequate premiums difficult, even if anti-selection and moral hazard concerns as discussed above are mitigated. Rules and regulations on these topics are still in development, but failure to allow an environment where premiums can be adequate in the long term with prudent management will increase the probability of insolvency and be inconsistent with actuarial soundness.

## CONCLUSION

Of critical importance in designing a financial security system, such as health care in the United States, is following actuarial principles. Based on the analysis above, the law is very likely to increase anti-selection and moral hazard and therefore appears to violate actuarial principles in regard to the issues examined. Further, the scoring approach used does not appear to produce a reasonable basis for examining actuarial soundness as some of the assumptions do not appear realistic.

Whether the reforms underlying the recently passed health care reforms satisfy actuarial principles in aggregate is not easy to assess without actuarial modeling of the entire system, as perhaps some other provisions could partially or fully mitigate the violations found. But the analysis above raises serious concerns that should be addressed.

Moving forward, the hope is that actuarial principles will be closely considered and addressed in any future reforms of all financial security systems. Failure to do so is an invitation to anti-selection, moral hazard and problems regarding actuarial soundness. Dealing with violations of actuarial principles and the corresponding problems after the fact is not a good time to address them. 🧑🏻‍🤝‍🧑🏻