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HEALTH ORGANIZATION SOLVENCY—ACTUARIAL ISSUES

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This session will cover the definition of a risk-taking health entity; what is the definition of risk and what are ways to measure it? Also, members of the American Academy of Actuaries Health Organizations Risk-based Capital Task Force will provide an update on current activities.

MR. WILLIAM F. BLUHM: I'm a consulting actuary with Milliman & Robertson, Inc. (M&R) in Minneapolis. Bob Dobson is with M&R in Atlanta. Our third speaker wasn't able to make it so I'm going to cover his topic. I'm going to talk about the monograph that ten actuaries produced for the American Academy of Actuaries on solvency issues and outline the things that were identified by that group and included in the monograph. Bob is going to talk about some work he has been doing analyzing insolvencies. Then I'm going to talk about the risk-based capital draft report that was delivered to the NAIC earlier this week.

For those of you who aren't aware, the Academy has been developing a series of monographs on health care reform issues. Monograph Number 4 on solvency issues is just one of that series. Each monograph is produced by a work group that has been put together by the Academy for that purpose; all work groups report to the Health Practice Council of the Academy.

Solvency was the first issue identified by the group. We spent some time on this, probably because I was chairing it and it's one of my favorite topics. To handle these things appropriately, you should go back to basic principles and get everybody on a common ground of understanding, and then build a foundation. We spent some time talking about what the risks are that we're concerned with regarding solvency, and we categorized them in different ways. The categories identified were the insurance risk, which you're all familiar with; managed care risks, which are those risks unique to the managed care situation; business management risk, which is sort of a nebulous idea; selection risk; regulatory and legal risk; and investment risk. We asked the question, who takes the risks? We realized that everybody is taking a risk with health plans. Anybody who has anything to do with health plans—employees, reinsurers, contractors, subcontractors, providers, and policyholders—are taking some sort of risk.

We talked about the tools that are currently available for managing the risk. The major tool is sharing that risk with other people through reinsurance mechanisms, or today, in managed care, by transferring the risk to health care providers to the policyholders through copayments, deductibles, and other means. The second tool is investment policy. We didn't try to rank these in order of importance; we just identified what tools are available—management of surplus and profit margins, rate increases, licensing requirements and plan administration.

We talked about the current structure and how it tries to ensure the solvency of insured health plans; we identified many things that are there such as risk-based

capital, financial statements, licensing of insurers and others, asset investment and reporting, insurance regulatory information system (IRIS) ratios, examinations, valuation laws, premium regulation, capital management policies, and outside rating agencies in recent years. We've talked about what the risks are, who's taking the risks, and what is there to keep things from going wrong. The next question is what happens when things do go wrong? There are guarantee funds in some places and for some coverages, bankruptcy priorities and other protections of bankruptcy.

When we were done pontificating about all these things, we came up with some recommendations that are not major conclusions to most of you, but are intended to be a primer for Capitol Hill staff people and others who may not be as familiar with the basic principles that we take for granted every day. One of the first is regulation and monitoring of solvency should take place at the insurer level by the licensed entity. There has been much discussion about passing that off to the providers if there is a hospital or an accountable health plan (AHP) or an integrated health plan that wants to take the risk from the insurer; they're forming their own insurers who are trying to be licensed themselves. They're looking to have different sorts of standards or a reduction in requirements because of that. Our group felt that critical things should be kept at the licensing level for regulating and monitoring. We felt that solvency standards, capital standards and reporting requirements and standards should all be uniform across the country and with each type of insurer. That's not true today. HMOs have very different reporting requirements than commercial insurers, and Blue Cross plans have different reporting requirements and standards.

Without knowingly feathering our nest, we thought it was also important to have annual reports from members of the Academy to the management of each health plan on the surplus and rate adequacy of the plan. Actuaries should play an annual role in evaluating where they are. There are other recommendations that we thought important to evaluate the source of capital. This initial and ongoing plan is the title, but it is really focused on initial licensing of health plans and what safeguards should be there at the front end. Fiduciary standards should be in place against self dealing, evaluation of investment policy including debt service, the initial capital levels, and initial risk-based capital that's forecasted with an actuarial evaluation of the risk adjustment situation. Keep in mind this monograph was done from the point of view that we don't know what is going to be in place when it is done with respect to reform. In fact, at that time, a more substantive and traumatic reform seemed more likely than it does today. Many reform proposals have risk adjusters implicitly or explicitly included in them, and we felt it was an important element of evaluating the solvency of companies. We thought it was also important to evaluate the assessment risk for similar things, especially if there are Health Insurance Communications Programs (HICPs) or other entities who have the ability to assess plans without recourse. Additional recommendations, that seem like rolling off a log to us, are the need for periodic regulatory exams (such as triennials) and consistent evaluation and risk-based standards across the country.

There were a couple of other concerns that didn't fit elsewhere but we thought they were important enough to mention. An important one is whether or not there will be enough capital in the system to do what's being proposed. That has some significant implications depending on what form the proposal ultimately takes. If all employers are forced to put all their insurance through HICPs and licensed health plans and those

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health plans have capital standards that don't currently exist for self-insured plans which is where most of the business currently is, there's going to be a sudden need for a tremendous amount of capital in the system. The other is that we haven't evaluated how solvency is going to be impacted by the other players and how they're going to interact with the health plans. But again, that is difficult to do until we know what the health plans are going to look like.

MR. ROBERT H. DOBSON: I'm really pleased that Bill asked me to be on this panel. I've been a token speaker for a number of different reasons. I was recently a token male on a program with a group of females. I've been the token health actuary on a panel with life actuaries. Now I'm the token person that's not Bill Bluhm. I'm going to take a little different slant. Instead of talking about solvency and steps that we can take to maintain solvency, I'm going to talk about insolvencies that I've observed and some common characteristics. This ties in with the general subject that Bill was discussing because obviously that's why there's a need for capital. Having sufficient capital can cover many sins as you'll see when I talk about what some of those sins are. I don't know how many of you have been involved with any insolvencies, but it's very uncomfortable for many people after the fact so I thought it would be worth spending some time on this issue.

I've been involved with a number of insolvencies over my consulting career. Any time you spend 18 years consulting with health plans, you're going to observe a great deal. I want to mention that many of these assignments were after the insolvency occurred. These were not all my clients that went out of business. I've seen insolvencies in insurance companies, HMOs, Blue Cross plans, multiple employer welfare arrangements, and many of them had similar characteristics.

I want to mention what background I've had in the solvency area and some things I've done in addition to consulting for 18 years. In the late 1970s or early 1980s, I chaired a technical advisory committee to the National Association of Insurance Commissioners. It was interesting because it was for Blues and HMOs, and the regulators had concerns about capital requirements on both sides. They thought the Blues had too much money; they were worried about HMOs having too little money. So they put together this advisory committee that I chaired to look into it. One recommendation we made was there should be actuarial opinions required on the statutory annual statement. That one was implemented. We also recommended that an actuarial opinion be required on the rates and not just on rate filings, but on rates in general because sometimes one of the problems is rates aren't filed. As far as I know, that one never went anywhere. A couple of years ago, I was involved with the Academy of Actuaries Solvency Task Force and the recommendation that came out of that was an actuarial report on solvency matters which applied to all types of insurers. I was also president-elect of the Conference of Consulting Actuaries, and we had a solvency task force that wrote a report. At about the same time, the Academy's recommendation came out so there was much discussion at the Council of Presidents about which one would take priority and how it would come out.

These common characteristics are based on 15 or possibly a few more organizations that I've actually observed over the years. I've consulted for some of them, I've also worked for some of them, and I just read the press reports about others of them. Some of them didn't actually become insolvent, but ran into some significant

problems. I was thinking in terms of the capital requirements and wondering whether the ones that survived were the ones that had the most capital. I don't know, but I suspect it's probably true. As I said, having enough capital going into a problematic period can certainly cover many sins. I do know that the ones that survived came out with more capital than the ones that didn't survive.

I'm going to talk about ten characteristics, not all of them apply to any one plan. No plan had the problems that I'm going to talk about in all ten areas, but I think each of the cases had more than one of the problems so I think they are significant. I don't really know whether these could be applied to other lines of insurance. The insolvencies that I've been involved in either during that time or after the fact have caused much pain for management, for the regulators involved, for the providers, and most importantly for the policyholders. I really think we need to keep in mind, as we talk about these things, that any time a health plan goes insolvent, there are policyholders that had promises made to them that have not been fulfilled. After given all those disclaimers, I'll get into the ten characteristics.

The first is that management often seems to think that they are super people that can do anything and nothing bad can happen to them, and they direct their attention elsewhere. I've seen situations where management attention was directed at subsidiaries, at mergers, politics, or other things that didn't have to do with business at all. Management has directed their attention away from the core business in many of these cases.

The second is loose controls and spending habits. Over the years, I've been a defender of management in this regard. When you're talking about multimillion or billion dollar corporations, who really cares how much the CEO gets paid or what kind of car he or she drives, or how many times the controller's girlfriend goes to the Caymans? I have seen this attitude, and it seems to be a telltale sign in the companies that have gone insolvent. There are often loose controls and spending habits like this. It may not be a direct cause, but it does seem to be a symptom.

The third, and this is of course an actuarial favorite, is under-priced products. I suppose you can always say that if a company goes out of business, their products weren't priced high enough but I mean it in a slightly more technical content than that. Sometimes management thinks profits can be pulled out of a hat. I don't think I have to convince this audience that it doesn't really work that way, but I have seen some situations where companies were still trying to buy market share when the receiver knocked on their door.

The fourth is technical problems. This business is really complex. Again, I don't need to tell this audience that that's why actuaries are needed. I've observed and been involved in situations where rating formulas or factors or trend analyses or incurred but not reported (IBNR) calculations were wrong because of technical problems. It is so complex that I would say that this is such a strong argument that even company actuaries make sure things are peer reviewed and obtain outsiders to review things because you really need to stay on top of the business. Staying on top of the technical issues relates to what I talked about earlier—directing attention to the core business.

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Oftentimes, the regulators get blamed. Often the regulatory problems are brought on by the health organization itself. I worked on a management consulting job where I was doing interviews of people in the area involved with a health plan. It occurred to me that even if the actuaries and the company had been doing everything right (this particular company wasn't but it could have been), they still could have failed just because people didn't like them politically. Why that occurred over time, I can't say, but I believe it is possible to fail just from political consideration.

I think whenever rate increases are being denied and a plan sponsor is complaining, you need to go back to why the regulator doesn't trust the plan in the first place. What caused the bad blood or why has the plan not demonstrated the need. These issues need to be addressed and more attention needs to be paid to them.

I couldn't list ten problems without mentioning systems problems. Sometimes it's service delays related to systems problems, sometimes it's inability to get critical data that would tie back into the technical problems; other times it's cost overruns and multimillions of dollars spent on systems. It certainly can be an important part of a problem that a company gets into. I should add, for the company actuaries, that oftentimes it's inside advice that's ignored as well.

In almost all the insolvencies that I've seen, you can find somebody that was trying to tell the right story but who no one was listening to. I was recently involved in a big lawsuit concerning an insolvency where this was a critical issue. There was evidence in the files of how many times the company had been told of various problems and had continued on the same path.

I really should have added utilization management techniques because I'm sure we've all been in situations where we see one company say, I've got to match company X's premium rates but the company that's going to price at that level is not doing any underwriting, and the company that already has the prices in the marketplace at that level is doing very strict underwriting. Sometimes a start-up HMO with very loose controls wants to match the rates of an experienced HMO with a very tightly controlled staff model. Any time somebody wants to match somebody else's prices, they must consider how the prices got there and also match what was done to get the prices where they are. It's worse than rolling the dice because in those cases, the companies are actually certain to lose money.

It's not always the actuaries or the systems people that are involved, sometimes it's the marketing folks. Years ago, a wise actuary told me that in spite of the games accountants and actuaries play (I think we were talking about GAAP accounting at the time), that none of that really mattered. It was the dollars brought in the door that were going to make or break the company. So if the sales force is particularly weak and can't sell the product or can't sell a product at an appropriate rate, then the actuary can't save it. I've also seen product decisions lead to problems. There was one situation I was involved in where a company was losing enrollment to a number of HMOs, so the company decided that it was because of the HMO benefits. They put HMO-like benefits into their indemnity product with no utilization management or controls and their prices went even higher. It took a number of years before they figured out people have been going to the HMOs because the prices were low.

Finally, number ten is the unwillingness or inability to make tough decisions when necessary. Sometimes management, and often boards of directors are too nice. They're too hesitant to take drastic action, but sometimes management changes are needed. Sometimes an insurance department needs to be sued. Sometimes you need to take a full page ad in *The Wall Street Journal* to tell your position on something when you are getting bad publicity. Sometimes you need to do major cost reductions or junk systems that aren't working. It is really tough to make the decisions at the proper time, but often that's necessary. I'm not trying to advocate that actuaries should be soothsayers warning management of all sorts of problems because then they will be ignored too, but certainly if you see any of these characteristics occurring, it's important to make sure that they're recognized and make sure you're not involved in one of these unfortunate situations. I'll turn it back over to you, Bill.

MR. BLUHM: I gave this presentation recently in Baltimore to Commissioner Wilcox's committee who had originally given us the charge to start working on a risk-based capital formula for health organizations. That charge was interpreted, with concurrence by Commissioner Wilcox, to include health coverages regardless of what organization was issuing that type of insurance. We delivered a preliminary report with some tentative, but not final numbers earlier this week. If you see things that get you upset because of the values of the numbers, that's probably good because then maybe you'll want to do something about it and help us correct those numbers by the time we deliver our final report later this year. The problem we were given to solve is that the life and health risk-based capital formula was not responsive enough, and the life and health and HMO and property and casualty (P&C) standards had contradictions. Our charge was to try to develop a seamless risk-based capital formula theoretically based and applied to both pre- and postreform environments, it also provides a uniform level of protection from risk across different coverages.

The Academy group that I'm talking about is the American Academy of Actuaries State Health Committee, and we've created an ad hoc group called the Risk-Based Capital Task Force. The process we've been through included a series of full-day meetings and much outside work by various people on the committee. We initially talked about identifying the risks intentionally left out of the formula that we wanted reflected and addressed by us and included in the formula. We discussed how we were going to approach developing the formula and the structure of it, and we decided on a stochastic methodology building a ruin theory model that would evaluate what might happen over a seven-year period to a given block of business and measure the probability of that block of business going insolvent. We identified and built the models that we were using.

Recently, some folks have found some issues with respect to what we're going to be addressing to make sure that it's working right and that we have data consistent with the way we're applying it in the model. We did some side studies for input to the model including both development of density functions based on individual claim probability distributions as well as historical studies of the variances of loss ratios for different kinds of business. We developed the model cells that we wanted to use in order to build the formula, and the parameters that we needed to define. We included what we called phase-in factors—the period of time between when you find out your claims are different than what you expected them to be in your pricing and

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how long it takes to actually be able to do something about variances by coverage and by many other different things. We did the modeling. We modeled 84 different cells so far. We had to postpone some because we ran out of time, but we did define the formula. We discussed it, refined it, went through a couple of iterations on it, discussed a number of drafting notes and we finally drafted the report last week.

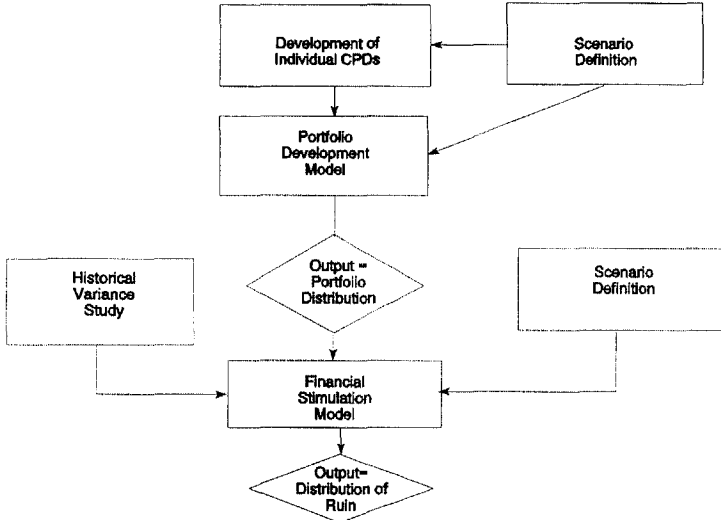
The task force membership included 12 members of the State Health Committee, not all of which were terribly active, but all received the mailings and were asked to review and comment on the work. There were six regulators who were there at one meeting or another. I believe Commissioner Wilcox was present at all of them except perhaps for one. There also were 17 other participants, some of whom were Academy members and some of whom weren't, but all representing various parts of the industry. We had members of the Health Insurance Association of America (HIAA), the Group Health Association of America (GHAA), the Blue Cross Association, and Delta Dental Plans present at our meetings. There was a representative from the life formula working group that acted as liaison between us, and probably others that I don't recall.

Chart 1 is the flow chart of the modeling process we went through. On the top right, it says "Scenario Definition" and there are arrows pointing to the box to the left and the box to the bottom left of it. That was the process where we defined the parameters and the model cells that we felt we needed to look at in order to calibrate the model. The top center box is called, "Development of Individual Claim Probability Distributions (CPDs)" which is the individual density functions I talked about. We needed one for each type of coverage that we were modeling, such as a representative density function for individual disability income. We took that individual CPD and the scenario definition to come to that third box just above the diamond called "The Portfolio Development Model." We took the individual density functions and built density functions for a group based on whether or not those individuals were part of that group. Then we took the density function for the groups and built a density function of the portfolios of those groups so we would have a density function of how much the financial results of a portfolio of that coverage would vary in a given year based purely on that statistical randomness of the original density function. The output is the portfolio distributions that are included in the package. If you receive a package from the Academy, you'll see what I'm talking about. In there will be something called the portfolio distribution. That leads to the next to last box below the Financial Simulation Model, and the box on either side. The one on the left says "Historical Variance Study." That was the review of the historical variance of loss ratios for various types of coverage to try to get an understanding of how volatile that coverage was. On the right side was the scenario definition that was needed.

Those three things fit into the Financial Simulation Model. That model used somewhere between 1,000 and 5,000 iterations for each of those 84 cells. I took a pair of random numbers for each of seven years. One of those random numbers went to the portfolio distribution to determine how much variance we are going to get from the mean because of the intrinsic variance of this block of business. The second random number went to the historical variance and said, how much is the mean going to be off from what we anticipated it's going to be based on the volatility of the business itself. In each year we measured what the financial impact was, what the impact on surplus was, brought that forward, did the same thing for seven years

to discover whether, for that iteration or for that cell the block of business went bankrupt or not. And if you do that, many times you could calculate what percentage of the time it goes bankrupt which is the probability of ruin. That was the basis we used to find all the numbers that are still changing that you'll see in a minute.

CHART 1
MODELING PROCESS



We initially used a 5% probability of ruin because that is what had been used by other working groups. We discovered that there was much conservatism in our model. For example, an assumption that over seven years, management will never do anything about the fact their surplus is disappearing such as putting in more margins or finding other sources of capital is obviously overly conservative. We ended up doing the initial calibration using the 5% probability; we then prorated the whole thing to try to get to about a 15% probability of ruin. Those are the numbers that are being talked about now.

We still have much to do. We need to finish this stochastic modeling. Stop loss was one of the major things that we postponed, although it's not turning out to be the most visible thing that needs to be done. We need more industry and professional input. Because Commissioner Wilcox's NAIC committee has accepted our preliminary report, they are going to be involved in the loop to a greater extent than they have been by working with the industry and with our task force. We need to circulate this formula and see what happens when you apply it to real companies that are solvent and those that are not. We have to rethink some problem areas and debug and fine tune some things. When people started seeing the numbers that were coming out of this, suddenly their interest increased so much that we're now getting more help than we did before, which we're very appreciative of. We hope to have all those problems cleared up later in 1994. We hope to do a better job of documentation than we had

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time to do. We have a report that probably doesn't do justice to all the discussion and work that has gone on.

The report itself has a bunch of different sections in it. It has an introduction, it discusses the considerations in developing the formula, it discusses the issues that we thought were most prominent, and it also describes the models and what went into them (mostly what I just described to you), and it gives the formula. The appendices include specific results from the modeling. There are the portfolio distributions that I talked about and the historical variance distributions as well as the sample iteration of one cell; there is a glossary that we were asked to do initially because there were so many diverse people involved in the early discussions and they didn't always talk in the same terms. We thought it would be worthwhile to include a glossary. Also included is a copy of the original letter giving us a charge.

The formula itself has a number of new things. We adopted the approach of modifying the life formula as opposed to starting from scratch or using the property and casualty or the HMO formula. The first change is the C-1 risk. We discussed that there are certain health care providers who have certain assets, like real estate, that they use to provide care that shouldn't have the same risk and capital level as real estate that is used for investment purposes. The 5% number is one of those softer numbers that needs more work because it's not based on a very rigorous process. It is less than the 10% factor that's used for invested assets and it's greater than zero so it has those things going for it. The next major difficulty to figure out was how to treat a situation where there are, as in the Kaiser case, for example, a number of different and separate corporations around the country that all have contractually agreed to put each other at risk in case one of them goes insolvent. In essence, you can draw on the assets of the entire network of corporations who are parties to this agreement. We recommended that the risk-based capital be calculated on a consolidated basis where there are such guarantees in effect.

The C-2 risk for major medical hospital coverage was our starting point. We tried to define what that meant. If you had copayments under 50% and deductibles under \$2,500, then we called that major medical hospital coverage. The factor is 11% of incurred claims. We used claims as the basis for these factors for medical care because of the way we calculated managed care credits. It wasn't really possible to do them using premium. Premium has been the basis for most everything until now.

Managed care credits depend on the type of managed care that's occurring, and there's a credit given for claim payments that are made under various types of managed care scenarios. The first is where the payments are made by contracts that provide for fixed payments per service, per day, per diem, or per episode of care. This takes a little bit of the variance out of the expected results so there's a 1% credit out of the 11% for medical care and none for dental. We used paid claims because nobody typically calculates IBNRs on managed care claims split by what kind of payment you made.

The next category is payments for services that were preapproved which is a gatekeeper kind of system in which 15% of the payments are withheld and can be kept by insurers if they need it, which is an important caveat in there. If they have a liability to pay it out and can't keep it, such as if they're going bankrupt, then it

doesn't do much good as a capital base. The factor is a function of the proportion of what has been paid back in the last three years because sometimes those sorts of arrangements aren't real, sometimes they are real, and sometimes they're in the middle.

The next factor is dental of 1.5% and medical of 4%. This is for capitation payments when they are made directly to those entities providing the care. The credit does not exist if the capitation payment is made to another corporation that is taking all the risk and then further paying other providers out of that corporation. The last one is a factor for a credit for salaried sorts of situations like staff model HMOs. There's a 5% credit for medical and 2% for dental.

The specific stop loss has a factor based on the attachment point. Because it's leveraged by the attachment point, we have a set of factors that hopefully leverages with it. For other coverages, we found the equivalent in terms of how big the attachment point is as a multiple of expected claims. That can be applied to extended disability income (DI) policies and various other coverages. Aggregate stop loss varies by group size and by where the attachment point is relative to expected claims. A fairly soft evaluation done in the last few days before putting the report together needs to be worked on perhaps a little bit more.

There is still a credit risk and there's half a percentage that's pulled out of the air, but it matches what everybody else is using for the credit risk. Sorry for being so frank about those things. For reinsurance, there are a myriad of potential reinsurance arrangements but we chose to address only two very specific ones which include a full quota share or specific stop-loss type reinsurance or excess loss, and there is a credit in the capital calculation for that. For health alliance and other assessments, we chose 150% of the prior three years of assessments. This was tough because we didn't have much to go on. It is all sort of theoretical now. We don't know how variable they're going to be. It depends on what happens with reform. For those situations where there is not a Section 8 opinion for the company, we thought it was appropriate that the capital standards should be a bit higher (we suggest 120% of the C-2 RBC amount) in order to maintain the same level of risk. Not having that Section 8 opinion probably increases the risk. We expect that there will be some further discussion.

The dental factor is 6% for risk-based capital and I've already talked a bit about the managed care credits, but I'll go over them again. It's 1.5% or 2% depending on the type of managed dental care that's occurring. There is a volume adjustment. If you recall, the current life formula typically takes the approach of having x percent up to a certain level of premium, then y percent above that. We felt that an easier or more responsive way to reflect the volume adjustment might be to use the number of covered lives, and we figured 8,000 lives to be the right level. Therefore, if a health plan is covering 4,000 lives and calculates its capital, it would then double its capital level because of the minimum. Here's where some of the ancillary coverages are. The Medicare supplement factor and earned premiums are based on some testing that is going to be refined later. The Medicare supplement factor is 19% and long-term care is at 150%. Disability income is split into two categories depending on the benefit period. For the shorter benefit period, the factor is 16%. For the longer benefit period, the factor is 55%. For accident-only coverages, the factor is 150%.

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For other health coverages, whatever they might be, we set 16% for those that are subject to inflation and 8% for those that are not.

Regulatory rate approval deserves some mention. That's how we addressed the differences between group and individual coverage. Rather than having separate factors for group and individual, the task force felt that the biggest difference in the risk between them was in the ability to respond in a timely way to needed rate changes and probably the biggest element of that was the prior approval process for rates. So there's an adjustment for that portion of the business that is subject to prior approval for rates. We felt premium caps needed to be in there, but we didn't know how to include them because we don't know what they are yet, but they still deserve mention. Premium guarantees are a factor that depends on how long the guarantee is. I think we had agreement among most of the carriers who were in the room on the theory of what we were doing. There are also performance guarantees that are tough to nail down. They put a portion of administrative retention at risk-based on the effectiveness of managing claims or predicting trend. We ended up using 50% of the amount at risk under the contract as the factor. We separately modeled disability income and long-term care claim reserves and liabilities and developed factors for those. And again, there's a volume adjustment of 30% for the first 250 claims and 12% beyond that, and it includes both Exhibits 9 and 11 in the NAIC Convention Blank for life company annual statements, reserves and liabilities.

We thought it was important to split rate stabilization reserve (RSR) into two pieces depending on whether the RSR is available for use for specific companies only. For example, if there's a policyholder who has an RSR associated with them, but the insurer can't use that RSR for other purposes, that's different than if there's an RSR that's generally available for use by the company and more in the nature of a contingency reserve. In the individual policy situation, we give full credit against the C-2 part of capital for that policyholder, but we leave half a percent for the credit risk. For reinsurance assumed, we used the credit being taken by the ceding company for the reinsurance so that it will all add up to zero.

There was a new factor that we put in that relates to increasing business, and we all found situations where there were companies that thought they were doing great because they were selling much more new business, like small group or individual, only to find out the reason they were selling so much was because they were vastly underpriced and were getting themselves into big trouble without knowing it. In the perception of the group, there is an increased risk beyond that that's built into the formula because of significant increases in risk so the factor is 50% of the increase in risk-based capital above 20% in any given year. Another new factor is guarantee fund assessments. This is intended to represent and again may have more relevance in a postreform environment when there may be more volatility in the assessments. The intent here is to have the insurance commissioner of each state calculate a factor based on the relative healthiness of the health plans in that state. The amount of capital in their risk-based capital formula will be a function of how healthy those other plans are in the state.

As I said, we still have more work to do. We need to finish the modeling and get much more input from the industry, the profession and the NAIC. We need to do more testing, debug some things, and expand our documentation. That's the

risk-based capital discussion. We will entertain questions on any of the three subjects we talked about.

MR. STEVEN N. WANDER: I have a question about the stochastic modeling process. You mentioned that you used individual claim probability distributions to measure random fluctuation. I wouldn't think that too many insurers go insolvent because of random fluctuation. I would assume it would be more for the reasons that Bob Dobson had mentioned such as poor management or underpricing or other catastrophic events such as recessions, depressions or epidemics. I was just wondering if there was any attempt to try to assign probability to any of those other types of events, or if you just used the random fluctuation.

MR. BLUHM: The task force agreed that the random fluctuation part of it is not a major part of the risk. We felt the need to prove that. We have it in there for two reasons, one is to prove that it's not a major part of the risk based on what the model shows with and without it, and second, in order to develop the size scaling elements that we needed for smaller portfolios where that does become an element of risk, all of the risk factors that the task force discussed were not looked at from a symptomatic point of view. After a company goes insolvent, an observation is made of what went wrong, but there's no direct causal link, and we were looking for direct factors. We discussed all the apparent risks and tried to figure out how to measure those risks and get them into the formula directly as opposed to looking symptomatically at it.

MR. DOBSON: Bill, does that mean that there is a presumption that management take some appropriate actions at the right time within the modeling process?

MR. BLUHM: No. There is an assumption that there's a random action from year to year, and you have the same probability in the second year of losing surplus as you did in the first year.

FROM THE FLOOR: What about recessions or other economic-type events?

MR. BLUHM: We tried to make sure that our historical bearing studies included periods where such cyclical things took place, we have admittedly not built any other correlations into the model mainly because of limitations on time and resources.

MR. DENNIS M. O'BRIEN: I have a question. Long-term care wasn't clear to me. There's one component equal to 150% of earned premium. It wasn't clear to me whether you had to apply 150% to that because the rate increases might need prior approval. Does that mean for individual long-term care that you need 225% of earned premium?

MR. BLUHM: I'm trying to recall because I'm not sure. I'm not sure whether we had backed out the 1.5 from 2.25 when we did it or not. Does anybody here who's on the task force recall the answer to that question? I don't recall the answer, but it's probably not relevant because the number is going to change so much anyway.

FROM THE FLOOR: I have another question about the long-term care number. I wonder if you care to comment at all about why the number is so high, and whether

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the number varied significantly by the distribution of issues by issue age? Was it much greater at the lower issue ages, for example? I think you might have tried to address this but I guess I didn't understand it. How was the recognition of management action, in terms of changing premiums, taken into account in the analysis for long-term care?

MR. BLUHM: I believe that the factor is currently so high for two reasons. Mainly we had a small amount of data on which to base the distribution. The historical bearings distribution is what's driving it. That small amount of data contained a fair amount of business that was within the first two years of issue, and much of the variance that is resulting in the 150% was actually caused by the kicking in of the two-year preliminary term reserves, not by variance in results, and that's probably the biggest one. What was your second question?

FROM THE FLOOR: Did it vary by issue age significantly?

MR. BLUHM: The only place issue age came into the calculation was in the individual density functions. There was actually a Society committee that helped us and developed that for us so I'm not sure what issue ages went into it, but we took what they felt was a representative density function for a representative age.

FROM THE FLOOR: Why would the kick in of two-year preliminary term reserves have any impact on the adequacy of capital?

MR. BLUHM: What I'm saying is we thought the data we were given were clean and consistent with the model and it wasn't. Our data had loss ratios that included the addition of changes in active life reserves so it caused the loss ratios to appear more volatile than they were. So we used that volatility in building the model. We said, "Take the volatility you had historically and build that into the model and assume that it is going to continue." Well, it's not going to continue. The real reason is because everything we had either occurred in the first two years or the second two years, and that volatility is artificial. The volatility is probably much less than that and the volatility is what's driving it. The 150% is the level of capital that's needed to make sure that you don't go bankrupt because things bounce around so much according to the data. The data is wrong so once that shrinks down, then the factor will shrink down.

FROM THE FLOOR: One other thing that bothered me a little, and maybe it's just because I'm not plugged in properly, is that these kinds of numbers came to me as a shock and out of the blue. I was wondering how companies can be more plugged in so that they can help contribute to these things before the numbers have such a high profile?

MR. BLUHM: The first thing you can do is talk to your trade associations because we don't typically send mailings out to the whole Academy membership when a new project comes along. We do announce it in newsletters. It has been in the Academy newsletters. We make sure that we plug into the trade associations. If you have other suggestions, that's fine, you're welcome to make them. I don't think that the numbers really have a high profile except among the group members. I know there are a couple of people who have panicked and started faxing these numbers all over

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the country without including the caveat that they are tentative numbers that are going to change because we know there are things wrong with them.

FROM THE FLOOR: Could you comment at all on what the source of the long-term care data was?

MR. BLUHM: All of the historical variance studies came from one of two sources. One was the Blue Cross Association which conducted a survey. We used that early on while we were doing the other surveys. The other surveys were done by a subcommittee headed by Tony Hammond of the HIAA, who did a survey of insurers who provided their historical data for that purpose.

MR. DONALD T. WEBER: Bill, I'd like to ask a couple of questions on the risk-based capital. One of the items that you mentioned was that there was full credit for quota share reinsurance. And that may be something you would want to reconsider when renewal time comes up. The quota share reinsurance may be very expensive to renew, and there is some risk associated with that in addition to just the risk associated with the reinsurance carrier. I think the potential difficulty with either obtaining renewal or the price associated with obtaining that renewal might be a reason not to give full credit for quota share reinsurance. The second item would be prior year loss or the current year loss that a company has. Is there some reason not to reflect an anticipation that this might be continuing for some period of time?

MR. BLUHM: We spent a considerable amount of time thinking about that and talking about it. My recollection is we ended up saying that is something that is really the correlation of one year's bad results changing the probability of what's going to happen this year, and requires essentially a different model than what we've been working with. We thought we could adequately get at what we were looking for by not having that model mainly because we didn't have the time to do it. However, we thought we were getting a fairly consistent measure of risk, keeping in mind, for specific coverages such as medical coverage, you have a six-year underwriting cycle where the industry as a group starts underpricing. Rather than explicitly taking it into the model, we thought some of it could be addressed by applying the formula to real life situations to see what happens.

FROM THE FLOOR: Bill, would you respond on the quota share question and giving full credit?

MR. BLUHM: I'd prefer not to. If you have specific technical questions or suggestions that you'd like to make, please send them to me or to Commissioner Wilcox because we are currently starting a process of gathering all those comments and information and trying to address them and incorporate them if appropriate. So I apologize for not addressing your question, but I don't think I'm prepared to do it right now.

MR. DAVID W. LIBBEY: I have a couple questions. At the outset of your comments on RBC, you indicated that the RBC structure in place today was not responsive enough. I was wondering if you could elaborate on what that meant with regard to disability insurance?

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MR. BLUHM: I think that specific comment probably didn't apply that much to disability income. The comments that applied to disability income were with respect to having a consistent measure of risk across the different lines of business. We were unable to find any written report or any technical treatise or document regarding the testing that we understood was done for the life formula for disability income. We felt that we had an obligation to try to evaluate the new level of capital in relation to the other health coverages as we're doing with all the other health coverages.

MR. LIBBEY: The second thing is that it strikes me that the scope of what your group is doing is enormous in terms of the depth and breath of the things that you're looking at, and I know it requires a tremendous amount of work to address all of those different coverages and everything that is being considered. Perhaps this is the wrong time to ask this question; but the question is, given that scope, what is the time frame in which you're trying to get this completed?

MR. BLUHM: The guy in the driver's seat is Commissioner Wilcox who gave us the original charge, and he feels the need from the NAIC's viewpoint to have a standard in place or up for vote this year. Correct me if I'm wrong, Commissioner. We had a choice of either stepping up to the plate and doing the best we could this year or not, and we chose to step up to the plate.

FROM THE FLOOR: A couple of technical points. One that occurred to me as you were presenting the material applies to those in the reinsurance business. It may be inappropriate for the charge in the assuming company's calculation to be equal to the credit taken by the ceding company since the calculation is driven by the number of lives on claim which would be different for the two companies. It's simply a technical point to think about. The other thought I had is related to the concept of covariance, and at some point in this process, I suspect there's a need to think through whether the sum of the parts is greater than the whole as if we're allowing for each possible contingency. I guess the appropriate question is can all those things be expected to happen independently or are there dependencies that would drive an adjustment downward?

MR. BLUHM: That's a real good point, and we struggled a great deal with the issue of covariance. We feel there are probably some significant theoretical problems with the current covariance formula but we couldn't solve it in the time we had. We do intend to raise it again. Professor James Hickman, who was involved in the original Trowbridge committee, has agreed to work with us and we hope to bring some more rigor to the future work.

FROM THE FLOOR: Last point is I'm assuming that the intent is to develop some structure for putting together working groups to address different subareas or pieces of a broadened expanse of health coverages. Is that where you're headed?

MR. BLUHM: Yes, we intend to have a meeting in July 1994. I haven't spoken to the people who are most affected by this yet, but we have some potential dates and cities in which to conduct this meeting. We intend to figure out where we are, create the direction going forward, and decide on what subgroups are going to be working on it. If anybody would like to participate, let us know. Let Christine Cassidy at the Academy office know that you want to be on the mailing list and be notified of the

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meetings. You're certainly welcome to attend. I will warn you: if you attend, you're going to be asked to work.

FROM THE FLOOR: Fair enough. Thank you.

MR. WILLIAM J. BUGG, JR.: Bill, was the adjustment for the size of the block of business at 8,000?

MR. BLUHM: Right.

FROM THE FLOOR: There's just one break? You're either below or above 8,000 policyholders?

MR. BLUHM: It's 8,000 covered lives, and it applies to the medical and dental business.

FROM THE FLOOR: Only?

MR. BLUHM: Only.

FROM THE FLOOR: I had a question on that. Is there any reflection of number of groups for a group carrier, assuming there's more risk, as you have to develop more rates?

MR. BLUHM: We didn't reflect that thinking in terms of the minimum size which is more an issue of the statistical risk. How big do you have to be where there's not going to be a couple of major million dollar claims that are going to put you in the hole? That was really the rationale for it, and that's where we came up with the 8,000 lives.

MR. SAM GUTTERMAN: Some of the recommendations included data that weren't available in the current annual statement. Is it your intention to recommend that additional data be added?

MR. BLUHM: Yes. We recognized very early that if we were limited to what was on the annual statement which is what was done with the life formula, we were not going to be able to do what we needed to do. We talked that over with Commissioner Wilcox and came to the conclusion that some supplemental information would be needed once this thing is done in order to address it.