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Contract Reserves for Medical Business

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Summary: Valuation actuaries are recognizing the need for contract reserves on their medical blocks of business, and establishment of contract reserves are becoming more prevalent among medical insurers. Panelists share their perspectives on emerging valuation issues and topics on contract reserves. Topics may include contract reserve need for issue-age basis versus attained-age basis products, actuarial assumptions, statutory (NAIC Health Insurance Reserve model regulation) and GAAP (FAS 60) requirements, deferred acquisition cost (DAC) assumptions and calculations and recoverability test and loss recognition test.

MR. MIKE Y. LEUNG: We're going to discuss the different aspects of contract reserves for medical products under both the statutory and the GAAP requirements.

Our first speaker is Frank Amrine. Frank will be talking about the contract reserves under the statutory requirements. He has been with Humana for 10 years and is responsible for a number of management recording responsibilities within the Humana actuarial staff, including all actuarial reserve estimates. Before coming to Humana Frank did product development and pricing for individual products at companies in Green Bay, Cincinnati, Dallas, Louisville, Jacksonville, St. Louis, Detroit and Columbus.

I'm going to be the second presenter. I will be talking about contract reserves under the GAAP requirements. I've been with PolySystems for more than 15 years. I've been performing both statutory and GAAP valuation for health and life products. My primary responsibilities are managing valuation system

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Note: The chart(s) referred to in the text can be found at
<http://handouts.soa.org/conted/cearchive/valact05/023bk.pdf>

implementation projects and performing valuation for clients.

MR. FRANK AMRINE: The first thing that I have to do is I have to give credit where credit is due. Every year in June the Society of Actuaries and PolySystems have a reserve week in Chicago, alternatively called "Bringing on the Reserves," where they talk about GAAP and statutory valuation for health insurance, life insurance and annuities. They cover the whole gamut. These people were kind enough to let me borrow their slides. However, I tweaked a lot of these slides. If there is anything wrong with the slides that's my responsibility and not the responsibility of either the SOA or PolySystems.

Why do insurance companies carry contract reserves? The straightforward answer is because we have to. The *Health Reserves Guidance Manual* says that if you receive premium that you know is going to be insufficient in the future, you must put money away today to help pay for those claims. If you go to the SOA study note from I think 2000, titled "Health Reserves," you find exactly the same requirement.

If you go to the *Accounting Practices and Procedures* manual, it will tell you that although the primary focus of statutory accounting is the solvency of the company, a secondary responsibility is appropriate income statements. To get appropriate income you have to reflect changes in liabilities in the period in which they occur.

What functions do reserves perform? They make it possible for us to pay claims at points in time when the premium we're receiving is insufficient to do so. Contract reserves also help us generate appropriate earnings, which lead to appropriate surplus, which leads to the ability to meet our responsibilities to policyholders.

How is a contract reserve determined? We're going to talk about that a lot. Is there a correct value for a contract reserve? The answer is yes and no. Contract reserve is defined as the present value of future benefits minus the present value of future premiums if you're looking at it prospectively. That could be said to be a correct value for the reserve. But there are many different ways of calculating the present value of future benefits and the present value of future premiums. There are multiple answers that would fit and be accepted and be appropriate to you, your company, your auditors, insurance departments and examiners.

There's a hierarchy to statutory accounting. The highest level in the hierarchy is the *Accounting Practices and Procedures Manual* of the NAIC. The second level in the hierarchy is the positions of the NAIC's Emerging Accounting Issues Working Group. The third level is the NAIC Annual Statement Instructions. The fourth level is the Statutory Accounting Principles Statement of Concepts, which can be found in the *Accounting Practices and Procedures* preamble.

Less authoritative possibly is the *Health Reserves Guidance Manual*. I say "possibly" because if you go all the way back to level one, Statutory Accounting Practices (SAP-54) in the *Accounting Practices and Procedures Manual* includes the *Health*

Reserves Guidance Manual, and anything that's listed as source carries the same weight as the SAP. Interestingly also included in SAP-54 are the Actuarial Standards of Practice (ASOP). So in addition to the statutory requirements we have professional requirements. Below the ASOP are the Practice Notes. I'm not sure the Practice Notes get the attention that they probably deserve. If you haven't been using them, it would probably be advantageous if you did so. There's a new note out on individual major medical insurance. There are a lot of new Practice Notes coming out. If push came to shove, I think you would find that if you were to show up in a court of law, heaven forbid, most regulators would look at the Academy's Practice Notes with about the same authority as the Standards of Practice.

We're here to talk about contract reserves. The contract reserves fit into a scheme of the total reserves of the company, which include premium reserves and claim reserves. The contract reserves get mixed in with some other terms. You've used the terms active life reserves, policy reserves and additional reserves. The literature is a little bit fuzzy about whether an active life reserve is a contract reserve. Is the additional reserve the contract reserve? Probably the way you've been looking at it and attending to it over the years is going to turn out to be sufficient.

Contract reserves as opposed to premium reserves or claim reserves recognize future payments that the company is obligated to pay and that arise from an insured event that's accepted to be incurred after the valuation date. That's the separation between claim reserves, or things that happen before the valuation date. There are statutory exemptions for contract reserves. For instance, you don't have to hold a contract reserve for any contract that can't be renewed more than a year from the date it was issued.

Also contracts in force on the effective date of a standard, whenever that standard may have come into effect, that were not required prior to that standard are not going to be required to meet that standard. There's a recent proposed change to Appendix A-10 of the *Accounting Practices and Procedures Manual*, which reinforces this grandfather.

The statutory prescription for contract reserves is a minimum of two-year full preliminary term. There are exceptions for long-term care, for return of premium benefits, where the benefit is expected to be delivered in less than 20 years. To me an interesting exception is that if you make a change in your contract, in the benefits, after the policy has been issued, you can't use preliminary term methods required by the minimum standards to use net level. Just as two asides, statutory contract reserves, no matter what method you use for them, are used for federal income tax purposes, but net level reserves are required under GAAP standards. This has always intrigued me where the IRS is willing to put up with two-year or one-year preliminary term, and the accountants are not.

Statutory active life reserves, contract reserves, additional reserves, whatever you want to call them, are floored at zero, which means that if there are multiple

benefits within the contract that you're valuing, you can have negative reserves for a benefit within a contract, but the reserve for the contract itself in total cannot be negative. You have to be alert when you're running a seriatim valuation that the end result doesn't spew out a list of negative values for a series of contracts, and you sum that column and take that as your contract reserve. That would not meet the minimum standard.

Long-term care, which isn't on the agenda here today, has a floor of net single premium for nonforfeiture benefits.

Statutory standards allow approximate methods. You don't have to do seriatim valuations. If you can equate a group of contracts or relate one contract to another contract or a series of contracts, you can use approximation general methods. If you do that, however, you're required to periodically validate what it is you're doing. Statutory also requires an annual review of the adequacy of your contract reserves usually done with the gross premium valuation. Statutory requires additional reserves if you have a deficiency situation. I'll leave the GAAP comments to Mike.

These requirements for statutory reserves have influenced how reserve reporting has developed and how we've analyzed reserves. In principle you can use an aggregate approach to calculate your total reserve liability. Premium reserves, claim reserves and contract reserves combined could all be valued using a gross premium valuation. But gross premium valuations are not generally supported for a combination of all these reserve liabilities. Doing them component by component, component meaning premium claim contract reserves, is a more standard method approaching valuation.

In a reserve method there are inadequacies. The only one we're particularly interested in here is the third item, where our contract reserves are generally tested using the gross premium valuation or some other method. You must keep in mind that we need to do that on a regular basis or any time that we're fairly well-convinced that we could have, not that we definitely do, but we could have a deficiency situation. Reserves must make sense in relation to our experience and what our business practices are. This is true of our claim reserves, our contract reserves and our premium reserves.

You may have all worked with incurred but not reported (IBNR) calculations where you have to take note of changes that have been made in the processing of the claims. This is the point that's trying to be made here.

Second the reserves must conform to the standards for each reporting basis. The minimum standards have minimums for claim reserves, premium reserves and contract reserves. You can deviate from standards, but if you deviate from standards, you need to be well-prepared to defend what it is you're doing that's outside what we would call the norm. However, there's always room for

professional judgment.

For instance, what should you do about adverse deviation? The guidance on provision for the risk of adverse deviation is different for statutory and GAAP, but they both remain within our purview to decide. You need to keep in mind the perils in determining your contract reserves. For instance, you could have incomplete or inaccurate data. Hopefully, everybody is familiar with ASOP 23, data quality. It talks exclusively about these problems. You could use inappropriate methods. What we all deal with is undo influence on our professional judgment. That undo influence might come from management, from the investment community, from what we think people expect of us or what we think they're going to see when they see the reserves. It's important to not work in a vacuum, but it's also important to avoid undo influence in the work that we do.

To avoid those undo influences there are guideposts that help us. If we know our company, know the lines of business, know the benefits within the policies, understand the way our contracts work, go to the trouble to obtain peer review for what we do, are prepared to accept criticism (hopefully constructive criticism) and are prepared to make changes once we receive that criticism, this can go a long way to avoiding the perils. As we've said there's always room for differences in professional judgment, but there are objective standards. I think it behooves all of us to be familiar with the *Accounting Practices and Procedures Manual* and in this particular case with SAP-54 and Appendix A-10.

Methods of calculation fall into a number of categories: prospective formulas, retrospective formulas, accumulation formulas and commutation problems. This is a formula that we're all probably familiar with: the prospective present value of future benefits minus the present value of future net premiums. The retrospective formula is probably not as frequently used but is every bit as valid. The accumulated value of net premiums might exceed accumulated value of policy benefits.

Accumulation formulas express the current-year terminal reserve in terms of assumptions for this year and the terminal reserve as of the end of last year. We're not doing a calculation based upon the present value of the future benefits or present value of future premiums. We're building one terminal reserve after the other in a building block approach. The assumptions to be used here include morbidity, mortality, lapse and interest. You might want to fold together your mortality and lapse rates, the minimum standards and Appendix A-10, say what you can do in the way of mortality and lapse. Commutation functions were developed when we didn't have computers and helped us keep from redoing the work. Commutation functions are still used to define reserve formulas.

There are a lot of standard symbols. We're all acquainted with D and N . We use those for life insurance, annuities and to an extent health insurance. But H in health insurance performs the same function as D in life insurance. K performs the same

function as N .

Regarding terminal reserves, we can have net level reserves where the net premiums are proportional to the gross premiums. The net premiums don't have to be equal from year to year. They just have to be on the same proportion as the gross premiums from year to year. Modified reserve methods defer some part of the early-year net premiums to later years so that we can use part of the early-year gross premiums to pay expenses rather than draw down on the surplus and the bottom line profit of the company. There are numerous modified reserve methods. The two most common ones are one-year and two-year preliminary term, but there are other methods. Please don't ask me to explain the Zillmer method. Go to the SOA Web site and do a search on Zillmer, or maybe Mike could help you.

Amrine page 15, Slide 2 is a graph of net-level one-year and two-year preliminary term. As you can see, using preliminary term doesn't avoid setting aside reserves. It pushes them out into the future. You're going to hold those dollars at some point assuming the contracts continue in force. It's a question of at what point in time are you going to hold those dollars?

We can do active life reserves using mean reserves or midterminal reserves. Most of us use midterminal reserves, and this gets back to an earlier point because we're setting up unearned premium reserve. We'll get to how they come together. A correct reserve would be the reserve at the beginning of the year and a reserve at the end of the year interpolated in some manner. On the top line of Amrine page 16, Slide 1, we have the assumption that everything was issued halfway into the valuation period. The bottom line assumes that we're some fraction of that period.

But as you can see, the mean reserve formula uses the terminal reserve at the beginning of the year, plus the net premium, which is the initial reserve, and the terminal reserve for the current year, V_t . If you look at the midterminal reserve formula, you find that you're missing one-half of your net premium. Terminal year for this year, the t , is going to include half of the premium that you receive this year. But V_{t-1} is not going to include that. That's why if you hold midterminal reserves, you must also hold unearned premium reserves.

If all of your business were annual premium business, you would want to value it with mean reserves rather than midterminal reserves. You wouldn't have any unearned premium. What you would have, however, is possibly deferred premiums. You're either going to hold midterminal reserves and unearned premiums or mean reserves and an offsetting asset for deferred premiums. This is how our different liabilities come together in a way. The way you do your contract reserves has to match the way you're doing your premium accounting. There's another minimum to contract reserves and that is one-half of the unearned gross premium. Premium loads contribute to making some of these decisions.

This is about continuous discounting rather than taking averages or assuming that

contracts are issued at some point in time on average during the year. You need to keep in mind certain practical considerations. If you have policy benefit changes within the year, you want to be sure that what you're valuing is the contract that's in force at the end of the year, not the contract that you started out with. Keeping track of benefit changes leads you to data issues. If somebody is changing plan codes because the benefits have been changed during the year, you may have a difficult time putting together what your reserves would have been in the past if you're doing analysis. But you need to make sure that what you're doing now matches your in-force book of business.

There's an interesting question that I'm not sure has ever been answered about how you deal with future premium increase and the impact on lapses. If we believe, and I think most of us do, that when we institute high premium increases, the people who lapse the quickest are the people in the best health. High premium increases increase our lapse rates that change our morbidity. On the other hand, if we have low premium increases, we have better persistency and more contracts in force.

What does Sarbanes-Oxley have to do with statutory? My statutory accountants tell me that our filings with the SEC contain our statutory surplus and our statutory risk-based capital (RBC). The SEC is interested in Sarbanes-Oxley, so I can't go from day to day without paying attention to the kinds of things that Sarbanes-Oxley is going to require. Now we have statutory implications because the NAIC is interested in instituting a lot of things that are building the Sarbanes-Oxley.

I'm going to finish up here with a review of something that I commented on before. It was the fourth level down in the level of priority where we said that we wanted to keep in mind Statutory Accounting Principles' Statement of Concepts, which is in the preamble of the *Accounting Practices and Procedures Manual*. Those concepts, for those of you with a background in mnemonic, goes with the hard rock group CCR—conservatism, consistency, recognition. They are found in the following paragraphs in the preamble: conservatism, ¶29-30; consistency, ¶31; and recognition, ¶32-36.

As I said earlier, the primary objective of statutory accounting is financial solvency. Deviation from our pricing assumptions, or deviation experience, threatens that solvency or could threaten that solvency. Therefore, we need assumptions that are reasonably conservative over time. To the extent possible we want assumptions that prevent sharp fluctuations in surplus. An example would be how interest maintenance reserve (IMR) and asset valuation reserve (AVR) serve this purpose.

The second concept is consistency. Our regulators want consistent information. Doing things on one basis one year and a different basis the next year is not going to be acceptable to the regulators. We need consistent information, but we live in a changing environment. The principles say that following valuation procedures that we've used historically is not a safe harbor when the circumstances of the business

and how it's being regulated are under change. An effective statutory accounting model must be responsive to change. We're always balancing a number of balls in the air, and this is another place where we need to balance consistency with the real world and what we're going through now.

Again the primary focus is the balance sheet and solvency. The secondary focus is the income statement. It came as a shock to me. Some years ago I was told I may be doing the reserves as of December 31 but not doing reserves as if the company were going to quit doing business tomorrow. I was going to pay out the claims. In other words, statutory accounting is not liquidation accounting, and that's the point of recognition.

There are comments having to do with assets and liabilities, and the one we're interested in is that liabilities have to be recognized as they occur. You can use a release from risk model or think back to the days when we all talked about release from risk and follow the train of thought and the attitude of how we would attack things and understand things under the release from risk model.

Accounting treatments that defer expenses are not generally representative of statutory treatment. However, statutory accounting allows us to use one-year and two-year preliminary term and other modified reserve methods to take into consideration the need for deferring expenses. Statutory income reflects the extent of changes that have occurred in assets and liabilities with a few exceptions. I don't think any of these have to deal with us, not with our reserving processes.

MR. LEUNG: I'm going to cover the GAAP part of contract reserves. The opening question is: When do we establish contract reserves? To answer that question, we go to FAS 60. That's the authoritative literature for GAAP for medical products. FAS 60 defines two types of contracts: the short-duration contract and the long-duration contract. It is the long-duration contract that we need for contract reserves. Long-duration contracts are those contracts that the insurer cannot change or cancel unilaterally. The noncan is a long-duration guaranteed renewable. For example, if the insurer can cancel a contract, but it is the company's practice to keep on renewing the policy, is that long duration or short duration? Here we don't just look at guarantees. We look at the company's practice. In this case, it is a long-duration contract for GAAP.

Once it's a long-duration contract, FAS 60 describes a method of calculating the contract reserves. Premiums are recognized as revenue when due, and it defines what the net premium is and what the reserve is. It's what FAS 60 defined as the net-level method. It didn't list all the contracts that you should be having establishing contract reserves. It's saying, "It's long duration. Here is the method." If the reserve is positive, you have it. If it turns out to be zero, you don't need it.

Given the level method, when the gross premiums are changing at a different slope from the expected claim (in GAAP assumptions), you will have contract reserves.

Another way to look at it is if your loss ratio changes over time, you may have contract reserves. In GAAP the contract reserve can be on the individual policy level. It can be either positive or negative. Sometimes if the slope turns out to be that the premiums are increasing faster than the claims, that may be negative. Many times in medical contracts that you price, it's on attained-age basis, so the intent may be to have every increase in claims covered by an increase in premium. But on the individual medical contract, most of them are underwritten. If you're doing underwriting, the effect of the selection would reduce the overall amount of claim, but it would change the slope of your claim. It would result in a contract reserve.

Compared to the statutory, in principle it's the same. You have a contract reserve when it is priced so that past premiums are used to pay for future claims. But the actual methodology used in statutory and GAAP and also the assumptions would result in different reserves. I'll give a few examples of what we have in contract reserves. I just mentioned the medical with the underwriting. That will give you contract reserves. Any time you price a product on an issue-age basis, you probably would have contract reserves.

In the days when valuation systems were not powerful, there was a common practice of grading the GAAP reserves to the statutory reserves. That was one method. Instead of calculating the GAAP reserves using the net level for the full duration of the contract, it calculated maybe for 10 or 15 years, and then it would stop at the end and hold a statutory reserve at the end of the grading period. DAC would be amortized in the shorter periods, as well. That was because of system constraints.

GAAP assumptions are locked in. What that means is that at the time of issue, you set the assumptions, and then they're fixed. You don't change them until your premiums are deficient. I don't know why it was a lock in while with most other GAAP such as FAS 87 on the universal life and those products, you're updating your assumptions from time to time. I think when we go back to the days when FAS 60 was first started back in 1982, most companies were using factor systems. If every time the assumptions change we had to regenerate the factors, that would be a big effort and put a lot of strain on the valuation work.

The GAAP assumptions consist of two parts: the best estimate and provision for adverse deviation (PAD). We set the assumptions this way. The profit emerges from three sources. The first is proportional to gross premium, when we calculate the net premiums. The gross premium is over the net premium. That amount over time would be realized as profit. The second source is release of the margins because we're putting margins into the assumptions. The third source is when actual experience differs from the best estimate.

There's one thing in setting GAAP assumptions that we have to pay attention to. GAAP is focused on earnings, so we have to pay attention to the relationship of

GAAP assumptions to the pricing assumptions. In theory you can set the GAAP assumptions independently of the pricing assumptions, but if you do that, what could happen is your earnings would have strange earning patterns. I can give you an example. It's an overseas product. What this company did was it used the underwriting gain to subsidize the interest rate shortfall because the product issues in Japan have a negative interest rate. I was doing the valuation and found out it just looked strange, so I spent a lot of time and then eventually talked to the pricing people overseas and found out that's what was intended. That case is okay. But if your assumptions are too drastically different from the pricing, you could see an earning change that could be a surprise to the management. You do need to communicate with the pricing actuaries and the company management here.

The assumption specific to morbidity is that this is the most significant assumption that could impact the profitability of medical business. There's a big uncertainty there. I've mentioned the factor of selections that could cause you to have contract reserves.

You get lapse assumptions based on the pricing. You can get those from the pricing or from the experience studies. For medical products, the lapse could vary within a policy year especially in the first few policy years. The first few months would be different from the rest of the policy year. There are systems that do calculations every month to model this particular feature.

It's hard to predict the effect of lapse on the profitability because if you have a higher lapse in the later years, is that going to make your product more or less profitable? It's hard to tell. A higher lapse could reduce the claims and also reduce the premium. That means you have less in premiums to amortize your debt. You have to do some study there to find out. It's not as straightforward as morbidity.

Interest-rate assumptions are normally the earned rate less the margin, and if you have high contract reserves, the interest would be a major factor. But for most medical products, interest rates are probably not that significant a factor.

For expenses, in the GAAP model expenses are only those expenses associated with acquisition or maintenance of the block. That means commissions would be part of it, underwriting, any premium tax, premium maintenance expenses and claim settlement expense, and those are part of the expenses. But it doesn't include overhead. You have to consider the inflation in setting up expense assumptions.

Going into PAD, you don't need to set the path for every one of your assumptions, but it does have to be reasonably in the aggregate. The reason I'm setting up the PAD, as I mentioned earlier, for most of the GAAP literature's other products, the best estimate seems to be the norm. But FAS 60 is different from most of the other GAAP literatures. It provides a margin to your assumptions. I think this is more related to the fact that you have to lock in the assumption at the time of the issue. Think of it this way. If you have to lock it in and used the best estimate, and if your

actual experience fluctuates a little bit, your assumptions would be inadequate. There will be a risk of recoverability problem. If you have a margin here and if the experience fluctuates a little bit, if it's within your margin, you have a pretty good feel that your reserve will be enough.

There are two ways to put the PAD in. The first way is you can have a conservative assumption similar to statutory approach. I think that the better one is that you have a separate best estimate and then an explicit PAD when you are setting up the assumptions. The reason for that is that you're going to need the best estimate when you do gross premium valuation, and you need to test the impact of your PAD to make sure it's reasonable in the aggregate. so an explicit PAD is a much better approach than the implicit one.

When you set the PAD, I just mentioned you have to do it reasonably. It has to be reasonably in the aggregate. The reason is that if you have too much PAD, your net premiums would be close to the gross premium. That way your profits would not be proportional to the revenue, which is the premiums as defined in FAS 60. You don't want to set the PAD when it's too high, but you don't want to set it when it's too low, either. If it's too low, you would run into the recoverability problem. For the different assumptions that we have mentioned, morbidity is when you need the most PAD. For lapse, a lot of companies use the best estimate because otherwise you have to test what direction you'll be setting the PAD. For expenses and commissions, there's no PAD. There might be some inflation put into the maintenance expenses.

Now we're going into some product-specific issues. For most of the major medicals, the individual ones, at least for today, are priced on an attained-age basis. The patterns of the premiums are increasing. When you have an increasing premium pattern, there are uncertainties of how much premium you'll be able to collect in the future. Especially when you have a rate increase, would you be able to get the desired rate increase? There's an uncertainty in that part. When there's uncertainty in the future premiums, there's an issue. If I set up a DAC today, would I be able to have enough revenue to recover the DAC? Some companies would use a more conservative amortization schedule to deal with this uncertainty. They make it more conservative. It doesn't follow exactly what the FAS 60 said. It's the net-level method. You just use whatever the premium is. Here it's a way to minimize or to reduce the chance that you have to write off your DAC sometime in the future and find out you don't have enough premiums.

For Medicare supplement policies, each year there is an additional benefit, an additional premium added. For FAS 60 it fits well for a traditional whole-life product where the premiums are fixed. It also fits the noncan and the disability insurance (DI) type of products. But for medical products, you have a benefit increase, a premium increase and the possibility of a rate increase. All these things create a challenge to the lock-in principle, that is if you lock in your assumptions at issue, what should you do when you have a benefit increase, as in this case with a

Medicare supplement?

I've found five approaches. I'm going to describe each of them. The first approach is to use the factor that you generated at the issue date and then apply the benefit amount as you go into the future. Let's say the benefit amount is \$700. You multiply the factor by 700. When it becomes \$750, multiply the same factor that's generated at issue by 750. You assume that all this current benefit is effective as of the issue date, where in fact it's not. You have a step benefit. It does have the beauty of simplicity. Some companies are doing that, but you're overreserving.

The second approach is that you can argue that the product is priced such that this would be an issue-age-basis product, so you assume at the time of issue that the benefit is priced at the issue-age basis. There is a factor, and you use that factor in the future and don't add anything to it. The argument is that every time you have an increase, the increase in premium is designed to cover the increase in benefits. Every additional piece would take care of itself. It will be on an attained-age basis, so there's no additional contract reserve generated from those increases. We're holding the reserve only for the first piece. That's the piece of that issue.

The third approach is to value every addition as a separate policy. This is creating a data management task because every year you have additions. Every policy you have a new issue. You also have a problem of amortizing the DAC. The premiums are supposed to be used to amortize the DAC, so your additional piece would be a different valuation record. How do you combine them? That creates an issue.

Method four is to assume the increase in benefit and premiums. You would treat that as part of the GAAP assumptions. You have assumed benefit patterns and an assumed premium increase and try to incorporate them. That becomes your assumption. You keep using the same assumptions until there's a premium deficiency.

The fifth one is what we call the prospective unlocking. Let's say you're holding this reserve, and there's a benefit change. There's a premium change addition, a benefit addition or even a rate increase, let's say that. What you do is solve for a new net premium such that with the reserve that you're holding now and the new premium, the present value of the new premium and your current reserve is enough to pay for future benefits and expenses.

I've spent a lot of time on the Medicare supplement. But the issue is to deal with change in benefit and premiums, rate increases, which we don't see that often in traditional life products. Regarding the prospective unlocking method I just mentioned, I think there was an ASOP that mentioned that method, but that method was designed for indeterminate premium life products. I think the nature is similar to the rate increase that we see in these medical products.

For specified disease, what I can think of is a cancer policy. You have steeply

increasing claim costs. Few young people have cancer. So again, my rates at issue may have a high contract reserves. When I talk about contract reserve, it's both the benefit reserves and expense reserves, plus the DAC. The FAS 60 says the expenses varying with and primarily related to the acquisition of new business. To list a few, there are commissions, underwriting expenses and issue expenses. These are deferrable. The formula or the mathematics are similar to benefit reserves except that these expenses are front-ended rather than back-ended, so you calculate as a reserve the negative number and it's set up in the assets. The DAC has to be recoverable. That means you must have enough future premiums to pay for the DAC.

A major piece of the DAC assets is coming from commissions. One thing I'd like to mention here regarding commissions is that when you calculate the DAC, most companies either do it with a system or with a worksheet, and you have a model to do the calculations. With your model you also assume the premiums are paid when due. The commissions are a percent of the premiums, and that's assumed to be paid when the premiums are due. On the one hand you have the calculation. You have a model DAC and model commissions, but you have assumed in your model that you have a timing different from what you are paying out the commissions. Charge backs would further complicate the matter. FAS 60 allows you to use an estimate to calculate your DAC if it's not too different from what it actually is.

You need to compare what you have in the model and what you actually had paid out in your ledger and make sure they're not too far away. You need that capability to predict what the commissions you'll be paying out are so you can compare them to your ledger. As I mentioned, when you defer the acquisition cost, it would have to be recoverable.

Now I'm going to go into testing for premium deficiencies. For a new issue when you set up the DAC, you need to test that the expense that you deferred is recoverable. You could run a gross premium valuation to test that, but there's an easier way. When you do your valuation, you're going to calculate your GAAP net premium. It's a benefit premium, expense premium and the DAC premium, and then you compare that to your gross premium. You look at net-to-gross ratio. If your gross premiums are larger, that means you have enough premium to cover all your benefit expenses. That means there are enough premiums to recover the DAC.

The net-to-gross is done on an aggregate basis. I don't think the guideline is that clear on how you do the aggregation. There's language in FAS 60 that the aggregation should be consistent with how the company markets and administers the product, and how profitability is measured. There are some guidelines. I would think if you have an existing block and then purchase another block, the testing would be done separately in that case. If you're doing GAAP valuation, you don't need to do additional calculations to do the net-to-gross ratio.

What are you going to do if the gross premium is not enough to cover the net

premium? Here's what you do. The first thing is to reduce the PAD in your GAAP assumptions. Hopefully that's all you have to do. If that's what is happening, that means you have enough premiums. Your assumptions may be too conservative. But if that's not enough, you will have to ride out your DAC. Certain expenses are not deferrable. You cannot defer those because they are not recoverable and need to be expensed right away. If that's not enough, you would have to establish additional reserves, and that's the deficiency reserve.

Remember that we're doing this at the time of issue for new issues. This deficiency is equal to the present value of your net premiums over the gross premiums. Once it's an existing block, you need to do a valuation. Again, a new assumption would be locked in. If in the future experience gets better, you would still use the same assumptions. That means you're going to have some profits in the future if the experience gets better.

After issue you would need to do another test, that is to do a gross premium valuation. What you do is compare the net GAAP liability. That's basically your GAAP reserves: your benefit reserves minus the DAC. That's the reserve that you're holding, and you compare that to the gross premium reserve. What's gross premium reserve? To do a gross premium valuation, you use the best-estimate assumptions. The assumptions are best estimates as of today, not as of the policy issue. The gross premium reserve is simply the present value of future benefits and expenses less the present value of future gross premiums. Again, this is an aggregate test.

The purpose of the gross premium valuation is to test for your GAAP reserve adequacies. You'll include whatever you include in the GAAP calculations. If you don't include it in your overhead in your GAAP expense reserve, you don't include it in overhead here. It's not to test the overall probability of the company.

Again, if your net GAAP liability is lower than the gross premium reserve, you need to make a certain adjustment. The gross premium reserve is the lowest liability that you need to hold. If the reserves you are holding are lower, the first thing you need to do is to reduce the DAC. That will increase the liability that you're holding. That takes a hit on earnings. If, after you have reduced all your DAC, your reserves are still lower than the gross premium reserve, you need to hold the gross premium reserves. That's it. There will be no adjustment. Again, when future experience becomes better, you don't adjust your assumptions. You would use the same assumptions. That would be the best estimate as of the date you make the adjustment.

Loss recognition is a painful experience. You take a hit on earnings. No one is going to like this, so make sure that what you believe is happening is true and make sure you have communicated to the pricing people and to the company management before you start doing it because no one likes a hit on earnings.

I don't have that many slides, but I've used four slides on recoverability of loss

recognition. That's something that we need to test, but it's not something that happens so frequently. I've been doing valuation for about 10 years. I've seen a few cases of a DI product that had to go into this exercise. I'm curious how many of you in the audience have seen this situation. Very few. This is not a common occurrence. I don't want to leave a negative impression. Marketing actuaries always tell me that the valuation guys are too conservative or just talk about negatives all the time. But the way I look at it is that in a game, you need offense and defense. I think the marketing people are the offense. We're the ones who are doing the defense. You can't win a game without a defense. I think it's our job sometimes to be conservative. Being the goalie, the best thing you can do is not to allow any scoring. That's what I think valuation actuaries are. That's our job.

MR. PAUL HANSEN: I have a question about rate increases, and it's mostly statutory. Let's say you have a cancer block, hip block, some kind of indemnity block, and it's been around for 10 years or more. You do have to go through a rate increase of some kind. What happens to your contract reserves? Do you keep them? What's the standard practice these days? Years ago we used to debate this all the time. I haven't been around this kind of product, but I'm coming back into it, and I'm wondering what's going on.

MR. AMRINE: I'm sorry to say that I've never had to deal with a cancer policy. Maybe someone in the audience has had this experience and could contribute.

FROM THE FLOOR: I saw the acronym in the *Health Reserves Guidance Manual*. I'm familiar with that. It says that a contract reserve is stated in terms of benefits. As much as I want to ask this question, I specifically forget where I read this. I know it was somewhere authoritative. It might have been in the ASOP. I know someone wrote something that said expenses were to be factored into account in the calculation of contract reserves. I know you didn't mention it in your slide. I know it's not in the *Health Reserves Guidance Manual*. Does anyone else recall seeing that? When I read it I thought it was pretty strange that an authoritative paper specifically mentioned expenses, and it wasn't with regard to GAAP. It was statutory.

FROM THE FLOOR: SSAP-5.

FROM THE FLOOR: SSAP-5? Why is it in there? That was one question I had. The next one is, one of your slides toward the first part of your presentation said, "The statutory reserve must make sense with relationship to the experience." Yet the *Health Reserves Guidance Manual* specifically prescribes morbidity for certain product lines. A couple of the product lines that it prescribed morbidity for referred to the 1974 Nelson and Warren Tables. How do you reconcile morbidity tables that are 30 years out of date with being consistent with your company experience?

MR. AMRINE: The 1974 Nelson and Warren Tables are still built into Appendix A-10. That's still the statutory guidance for minimum reserves.

FROM THE FLOOR: Can I ask for a show of hands where the appointed actuary is supposed to sign off in the reasonableness and the appropriateness? Are people not using those tables even though they are prescribed knowing that they're nonsensical? Are you using pricing claim costs loaded with some amount of conservatism, and that's what you're using for your valuation?

MR. LEUNG: I think the gross premium valuation is that the minimum that you would have to hold, so even by the standard, if it doesn't have a good relationship to your actual experience, it's still floored at the minimum, which is by the gross premium valuation and that is using the latest experience.

FROM THE FLOOR: I've never interpreted it that way. I thought the gross premium valuation was always a floor, but if that produced something greater than the formulaic reserve, that's what it was floored at. If the gross premium valuation proved to be zero, let's say, but the contract reserve using the cookbook formula, that prescribed morbidity, produced a value of 10, you still have to hold 10. You can't hold zero.

MR. LEUNG: Right.

MR. AMRINE: That's true.

FROM THE FLOOR: That doesn't help anything.

MR. AMRINE: I think the Nelson and Warren Table is a minimum. But if you run a gross premium valuation and come up with something more, --

FROM THE FLOOR: Now you're getting to the heart of my question. If those morbidity tables are 30 years old, where you went to the 80 CSO after bending the 58, we go to the 2001 after bending 80. Isn't the appointed actuary expected to have some leeway if nobody is going to update morbidity tables but once every 30 years? Can we use something different from that?

MR. AMRINE: I think that just begs for somebody to offer to lead a study for the SOA to update the tables.

FROM THE FLOOR: Or go to principle-based reserving or something like that.

MR. AMRINE: Maybe.

MR. DAN MARTIN: We have a long-term-care contract, and we have an issue with our CFO, an accountant. I would like to amortize the DAC over the lifetime of the contract. He, however, would like to amortize it over a limited period of time, such as 10 years or something like that. If he gets his way with the amortization, maybe over a little bit longer than 10 years, say 15 or 20, would you recommend grading

the GAAP contract reserves into statutory over the same period of time?

MR. LEUNG: The grading is more of an approach to deal with the system limitations that I mentioned. If you want to conform to the principle of GAAP, it's the amortization to the end of the premium-paying period.

For a limited pay type of contract, you will do the normal on the GAAP and that premium would be to the end of the premium paying period. But if you do only that, you will realize a profit for a limited period of time. After the premium has been paid out, you're still providing service for the contract, but you have realized all your profits. That's not consistent with the principle of GAAP. FAS 60 was designed more for the whole life-type premium. FAS 97 has a paragraph addressing limited pay types of contracts. You set up additional reserves. You hold back from your profit during the premium paying years and then release it after premium has been paid off. For limited pay, there are additional steps and items.

FROM THE FLOOR: For rate increases, you mentioned that you're using the prospective unlocking method. Are there any criteria you have to meet before you can do unlocking, or do we have freedom like FASB 97 to always frequently unlock it?

MR. LEUNG: To tell you the truth, personally I've seen one of our clients plan on doing a prospective unlocking when it thinks its experience is different. It is planning to do it only into the future. I don't think there's clear guidance found on this prospective unlocking. When the lock interest bolt no longer works, when you're trying to lock in but can't use the lock-in anymore, that's probably the time that you need to think of something else.

Even for the benefit structure. For example, with the Medicare supplement there are companies that assume a pattern of benefit and just lock that in even when you increase the benefit. I see what you mean. You mean when the policy provisions change and then you use the lock in. What kind of product is that?

FROM THE FLOOR: If you have the rate increase, it will assume a 10 percent rate increase, and we experience only a 5 percent rate increase, can we do nothing?

MR. LEUNG: Good question. Check with your auditor.

MR. GARRY REED: You talked about issue age and attained age on contract reserves and where the contract reserves are needed. What are your thoughts on community-rated plans or one rate for all ages? Is it reasonable to assume in your pricing and also in reserving, and this would be on a midsub type of product where there are annual rate increase filings, anyway, where you're going to file for rate increases to cover the attained-age increase on the block of business and then not hold reserves?

MR. LEUNG: I think if the product is not priced that way, that may not be a good argument.

MR. REED: Right. My question is, If the product was priced that way, is there a --

MR. LEUNG: Yes, if it is priced that way. But again, check with the auditor.

MR. AMRINE: I'd like to leave you with two thoughts. First, I think a lot of us believe that if we have an attained-age-rated product, we don't have to worry about contract reserves. You need to keep in mind what you've assumed for underwriting wear-off. For instance, if your underwriting wear-off expires within two years, and you're using two-year preliminary term, you don't have a problem with contract reserves. But if you have an underwriting curve that doesn't wear off for four years, and you're using two-year preliminary term, you should think about whether or not you should be setting up contract reserves.

The second thing I'd have you think about is there was a teleconference at the NAIC today proposing a number of changes to Appendix A-10, which is the minimum reserve standards in the codification. This is one sentence that's in there. This is statutory now. "The total contract reserve established shall incorporate provisions for moderately adverse deviations."

FROM THE FLOOR: That was one of my questions. Are people interpreting that to apply to every single assumption or in aggregate?

MR. AMRINE: Well, there's language in FAS 60 about that.

FROM THE FLOOR: That was statutory --

MR. AMRINE: I'm sorry, that was prefatory. This is just a single sentence. There isn't any other verbiage in this proposal that would address what you just asked. It's not saying. It might be a good time to call Mark Peavy at the NAIC and talk to him about that.