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Hot Topics in Individual Disability Income

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Summary: In this session, the panel starts with a short presentation of current financial results and experience trends for the Individual Disability Income (IDI) industry. Following that, the panelists discuss issues of timely relevance to DI actuaries.

Mr. Richard A. Magro: I'm joined by Bob Beal from Milliman & Robertson (M&R) and Duncan Briggs from Tillinghast. Both of them have been with their respective companies about three years where they are involved in pricing and modeling. Heather Westman is our recorder. She has been with Provident for three years and was previously with Aetna in Connecticut.

I am with Provident in Tennessee also, where I've been for nearly 15 years. I'm going to start the presentation with some discussion on the shifting of our industry, and some of the things we have to look for in the future as far as different ways of doing business. Some of the things are currently underway; others are shifts that I think you'll see in the near future. I want to give somewhat of a historical perspective on an overall marketing pitch. The four shifts have been in market dynamics, product development cycle, product design, and claims adjudication. The first three might appear to be traditional marketing. The claims area may seem strange in a marketing presentation, but I want to talk about some shifts that I see happening in the claims environment to allow that to become a fourth element in the marketing equation.

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First let's talk about some marketplace dynamics. How did the product development cycle begin? It would usually be initiated by a lead producer calling the head of sales and saying, "We have to have this product." Oftentimes, the product offering or what you would hear next were the function of what product a competitor just came out with. The definition of a complete portfolio was every product a competing company offers. When you evaluated what decisions were to be made, they were generally handled by the last phone call the salesperson got on what he or she needed—what rider, or what feature. That usually drove the product development cycle. Today, we see a shift occurring, there's more of a focus on getting consumer feedback. I think you'll see more customer research and consumer focus groups in the future, which will educate the customer on the product and find out what type of product features they would like.

As far as what type of products to be in, there's such a proliferation of products today especially if you look at individual markets in general. I believe you'll start seeing companies more focused on particular segments they want to target. Instead of companies offering a portfolio that has everything that every other company has, you'll see them picking up a product and trying to be the best in specific segments. Finally, I see a shift in how the producers will be used. I can see companies bringing products to producers and using producers as a conduit to reach the customer. Companies might say to a producer, "Here's a customer that would like this product, and here's our research that supports it. Can you assist us in reaching that end customer?" This is a significant shift from the producer telling the companies, "I need this, this, and this," to the companies going to the producer saying, "Customers want this, this, and this. Assist us in reaching those customers."

Why did that dynamic occur in the past? I would say the biggest reason is because we existed in a relatively inefficient market. In an efficient market all customers know all information; there are no surprises. If you look back ten years (and maybe you have to look back only five years or even look to the present), you would see that the end customer is not familiar with all the product choices, product offerings, and product differentiation. It was really limited, yet we had a common habit of copying and cloning everyone's products when we really had very similar products sold at different prices. In effect, we were headed toward a bunch of commodities, but we were trying to market these commodities at a different price. It is typical that compensation or commissions played through your distribution channel was the distinguishing factor. In fact, if you think about what would be the number one item the salesperson would tell you would increase sales, he or she probably would not come back saying reduced prices. He or she would say it would be increased compensation or increased channel compensation.

As we move forward into the future, I see a couple of things changing that will force companies to change that paradigm. The first is we exist in a new world today. Everything that one wants to know is on the Internet. Provident just launched an Internet site, www.providentcompanies.com, and everything you want to know about our product portfolios can be found under product offerings. What we will see in the future is customers becoming more familiar with the product offerings. This will require companies to shift toward customer orientation and product design because a customer is going to do research to find out what product to buy. You want to make sure your product offerings touch on some of the items that appeal to customers.

How do you move away from a commodity then if the customer's going to know everything? We certainly don't want to turn into term life insurance where, on a daily basis, Quote Smith is listing all the rates of the companies with the lowest ten-year term. The key will be in differentiating service, either service to intermediaries through distribution channels or service to customers through policy support or claims, which I'll talk about later. The key there is we have to move away from commodity selling. Less commodity selling in the future will allow companies to target their products more effectively.

If we're going to change the paradigm from the customer standpoint, what do we have to do in the product design cycle? (See Table 1.) In the old approach, through product development, the salesperson brought to the actuary product specifications; he or she put together a price and the field force went out and sold the product. In the future, I believe companies are going to have to look at the sales process with a more encompassing viewpoint. There is the traditional product development pricing and selling. In the future, more focus has to be targeted on how long it takes to fill out an application, how long it takes to train your field force to sell the product, and how long it takes a salesperson to explain the product to a customer. We certainly are in an environment where people want things done faster. Companies must adapt to that. Baby boomers, the customers of the future, and the generation Xers don't have time to sit around and wait and learn all the information because they do want to learn about policy quirks. The differentiation can't end at the point of sale. Companies have to use effective policy service and claims adjudication and customer service to continue to keep that customer with that company.

What will some of these things cost in the future? In the old environment, we definitely focused everything on protecting occupation. You'll see more of a focus on protecting income in the new paradigm. I've seen some data that say generation Xers will have, over their lifetimes, possibly two or three careers, eight jobs. A focus on protecting their income will appeal to them more.

TABLE 1
PRODUCT DEVELOPMENT CYCLE

	OLD	
Product Development	Price	Sale
	NEW	
Sales Training and Explanation	Product Development	Policy Issue
Application Processing	Price	Customer Service
Underwriting Turnaround	Sale	Claims Administration

In the future, I see us moving away from what I call selling claims and being in the marketing area. If you want to know how a claim is sold, go talk to your field force about how they push individual disability income. You'll hear about some scary approaches if you're looking at it from the standpoint of what the impact of claims might be. We had taken a rather liberal product that had some poor claims experience. The salesperson said, "I can sell this—just raise the price." Then you must raise the price and raise the price. We actually participated in a rather lengthy pricing spiral throughout the 1980s and into the 1990s because the salespeople said they can sell certain products. There was more commission and more dollars in the producer's pocket while, at the same time, we were narrowing the market to fewer and fewer customers could afford the product. Therefore, the only ones purchasing it were those who saw potential financial gain in the product.

In order to be successful, there needs to be a focus on the needs selling. You must focus on products that will get customers back to work. You also must focus on their concern and fear of becoming disabled rather than trying to explain how they can use the product to be a supplemental retirement policy. I believe there will be a significant shift in order to keep the product pricing competitive. The general theme is a shift away from disability insurance to a concept of ability insurance—how will companies assist in getting you back to work?

I mentioned the claims adjudication process a couple of times. In the past, claims adjudication would possibly be classified as adversarial. I see that shifting more toward a cooperative basis. What causes that? If you focus on the claims adjudication process itself, most individuals are going to be better off financially, physically, and even mentally if they are working versus sitting at home on auto pay using the disability policy. The fact that they can make more money either as a

residual claimant or back to work in another occupation earning an income will create an environment where both the company and the customer have mutually aligned interest to get the individual back to work. I can see companies beginning to market claims as a value-added resource instead of something that was avoided and never spoken about. The real key to success of the industry is getting the customers aligned and believing in the insurance company.

One thing we've observed through consumer focus groups, which is of no surprise to many people, is customers do not trust insurance companies. Even when they look at rehabilitation, they look at it in terms of how the insurance company is only going to rehabilitate them if it's going to help the companies save money or get them off of claim. They look at some designs, like pure own-occupation designs, and suggest that the carriers are not going to rehabilitate them unless they can get them back to their own occupation, which, therefore, saves the company money. There's much distrust of companies. One place to change that would be showing alignment of interest in the claims process. I can see that being more effective in the future, which leads to a thought. If you look at some of the things I discussed whether it was the information age or the shift in products, the future really is now, and many companies are being forced to reevaluate how they approach this market.

I saw a related story about a different industry in a recent *Wall Street Journal*. It was strategic planning time, so they were running articles on strategic planning. There was a discussion with Baskin Robbins because Baskin Robbins was doing its strategic planning. For years, Baskin Robbins had identified their primary competitor as Dairy Queen, and for years they had measured their competition survey based on Dairy Queen. If one company comes up with yogurt shakes, the other one copies, yet what the article pointed out is both these companies were losing market share because they had been so narrowly focused. They have been losing market share to McDonald's. And I started thinking about how McDonald's had changed the way its business operated. I can remember my parents would take us to McDonald's for hamburgers, and then we'd go over to Baskin Robbins for ice cream. Today, I take my kids to McDonald's, they play in the playground, and then we buy ice cream at McDonald's too. The industry for quick selling of ice cream has changed dramatically, and we need to look at similar changes on the insurance piece.

Mr. Robert W. Beal: Often we hear a common sentiment around the DI world, which is that the business we are issuing should be very profitable. We've learned from our mistakes, and our current offerings are sound from both a product design perspective and an underwriting perspective. The problem is in the in-force business. I am still concerned with the future prospects for this business because our sales continue to decline. It appears that many agents are refusing to offer DI to

their customers because of the hassle factor during the underwriting process which has always been there compared to individual life underwriting. It's particularly onerous. I'd like to address two questions. First, has DI underwriting tightened so much during the 1990s that good business is being turned away never to be seen again? Second, at a time when underwriting appears to be looking under every rock (which underwriting requirements and guidelines are critical), which can be modified or discarded without forsaking the overall protective value?

Let me begin with just a short dissertation on trends in the DI markets that have affected and/or are affecting the way we now choose to underwrite. First, the financial losses for the DI industry have been astounding. The 1996 statutory financial losses showed a modest improvement over the prior couple of years, but a statutory pretax bottom line of –14% of premium, give or take, is nothing to write home about. Second, total sales for the industry continue to decline. In the early 1990s, we saw a slower growth when compared to the 15% annual growth in the mid-to-late 1980s. However, over the last few years, growth in DI sales has been negative. The Life Insurance Marketing and Research Association (LIMRA) survey for 1996 showed a 20% drop in sales over the 1990 levels, and that's a combination of both noncancellable and guaranteed renewable. Third, if you haven't noticed, there are fewer DI carriers today; at least carriers who are willing to manufacture and sell DI. I'm aware of at least 27 companies that have exited the individual disability income (IDI) market since 1990. These 27 companies represented over 35% of the total new business written from the 1998 LIMRA survey. This shows the amount of market consolidation that has occurred, and even though many of these exiting companies have entered into comarketing or private label arrangements with other DI carriers, there is considerably less focus from their agents on selling DI.

Since the early 1990s, companies have been much more proactive in segmenting the DI market into profitable and unprofitable subsets, and obviously are targeting the profitable and excluding or trying to avoid the unprofitable. These unprofitable segments included the medical occupations which are 25–40% of the in-force business for many companies. The California and Florida states are 20% combined for many companies. Instead some companies are targeting the employer-sponsored market with their IDI products; that is, they're getting away from the individual sale and moving more toward the group sale. They've seen dramatic loss ratio differences between this market and the individual sales market, in spite of the premium discounts and the guaranteed underwriting programs that are being offered.

These trends clearly show that we cannot blame the decreasing sales on the more conservative DI underwriting; however, we need to consider the impact of being so

conservative. For instance, the next trend is that the product offerings are much more conservative than those Cadillac products of yesteryear. Long-term own-occupation is slowly going away. Companies are challenging the sacredness of noncancellable. Only a few companies are willing to issue lifetime benefits. This trend suggests companies may have an opportunity to moderate their underwriting offerings if the products are not likely to encourage greater claim frequency and claim malingering. In that vein, companies are also issuing lower monthly DI coverage today, particularly to doctors. A few underwriters have commented to me about the increase in misrepresentations in both financial and medical information on the application, which tends to push us to remain conservative. We can't hang our hats and hopes of more conservative products to allow a lightening of the DI underwriting investigation.

In order to be sure that my opinion was based on at least a few facts and not just a lot of impressions, I surveyed eight DI underwriters from the following eight DI carriers: Berkshire, Minnesota Mutual, Mony, Northwestern Mutual, Principal Financial, Provident, Union Central, and UNUM. I asked a number of questions over the telephone about DI underwriting, particularly how the DI underwriting has changed during the 1990s. I'd like to discuss these results with you.

My first question was, how have your blood testing limits changed during the 1990s? Two of the eight respondents said they were testing everyone, but most have tightened up their limits, particularly in the high-risk states like California and Florida. Clearly the AIDS risk has not gone away, although it appears, from our perspective, that it has been controlled. I suspect the tighter blood testing limits are more a result of companies wanting to get their hands on all the other valuable medical information that comes with the blood tests versus specifically finding out if someone is HIV-positive or not.

My next question was, how has your utilization of attending physician statements (APSs) changed during the 1990s? Six of the eight respondents indicated the APSs were used significantly more now than in the past; oftentimes due to cause instead of just lower limits. In other words, the underwriters are finding more reasons to go out and get the APSs. The bottom line for many underwriters is that the APSs usually hold such valuable information that it is worth the time and expense to get them. Only two of the respondents indicated that the utilization of the APSs has decreased. I think agents or even underwriters realize the whole process for giving the APS slows down the time to deliver that application, in which case you have to consider whether you're getting the full value of the APS.

The next question was, how have your financial documentation requirements changed? All respondents reported increasing financial documentation. Six of the

eight respondents were requiring some form of financial documentation on everyone. In my own opinion, this is probably one of the most important protective tools. I think many of the roots of the financial problems of the DI carriers during the 1980s and the early 1990s were driven by overinsurance. Although this was driven by aggressive issue and participation limits, we aggravated the problem with poor or no financial documentation.

The next question: Has your acceptance of mental nervous history changed significantly over the 1990s? Most companies have remained conservative toward the mental nervous histories and have declined applicants who have had any recent history and have used ratings or exclusions for others. Interestingly, there are some differences in opinions regarding whether ratings or exclusions are more appropriate for mental nervous history. However, it's interesting that several respondents mentioned that their companies are softening their stand on mental/nervous histories as they gain more knowledge. They're more willing to go and look at that history and understand it, and they may issue contracts now versus declining altogether.

How has the utilization of phone history interviews (PHIs) and/or inspection reports changed during the 1990s? There's certainly a fairly high utilization of PHIs; one company indicates that they find PHIs more valuable than APSs. The PHIs seem to be a rather speedy and effective tool without a major hassle factor associated with them. In fact, many companies value the PHI when it's done out of the home office over the inspection report from outside vendors.

The next question was, how has your frequency of ratings, waivers, and denials changed during the 1990s? I got a distinct feeling that many companies do not capture information diligently, so I wasn't sure whether I was getting just the gut feeling or the perspective of the underwriters. Based upon a lot of gut feeling, most respondents said that the frequency has generally been stable or has increased only moderately. Only one of the respondents had seen a dramatic increase in ratings, waivers, and denials. If the frequency is only going up moderately or staying stable, then maybe a lot of business just isn't coming our way because of the hassle factor that I talked about earlier.

The next question was, has your utilization of guaranteed underwriting changed? This question certainly split the respondents into those who do and those who don't. Four of the eight respondents said they never used guaranteed underwriting, three indicated they were expanding their guaranteed underwriting program, and one said his company was tightening up after having learned from its past mistakes. I am acquainted with the head of DI marketing for the M Financial Group, a very large producer organization that has had considerable success and very low DI loss

ratios from selling IDI to corporate executive employer-sponsored groups. It has used guaranteed underwriting which, from many companies' perspectives, are much more aggressive than their own standards would permit. He discussed how a sound guaranteed underwriting program could be attractive.

The next question is, has the frequency of agent or broker complaints increased due to tightened underwriting? Not surprisingly, complaints have increased with tightened underwriting, but I had to ask the question. They tend to peak when changes are first implemented, although one company has taken specific steps to address the agent's frustrations. Someone from that company spent a long time talking to me about what they are doing. In fact, one of the company's specific steps is just simply to talk to the agents and help them understand the basis of the underwriting decisions and to give them tools. She didn't necessarily indicate that they were letting up on the tightening of the underwriting requirements. They have apparently had some success with what they've been doing. Their submitted sales to date (and this was through September) were up 18% from the prior year. Obviously, when you pay some attention to this area, you may get some returns.

Next question, how have your issue times changed during the 1990s? Generally respondents indicated that issue times have remained stable or even improved. This was typically the result of companies trying to make the whole underwriting process more efficient, thus offsetting the impact of the tightened underwriting requirements.

My final question was, how has tightened underwriting affected DI sales during the 1990s? This question was probably a little unfair since many of the other factors that I talked about earlier have affected the sales. However, two respondents said their sales were increasing while two others noted a significant negative impact on sales. The underwriters might feel as though the value of tightened underwriting, even if it means a decrease in sales, outweighs the problems in lower sales.

I want to give some conclusions and final thoughts. Clearly DI underwriting is not the main reason for the drop in DI sales; however, it may be what is preventing DI sales from increasing in the future. A number of companies are trying to make the process more efficient without necessarily trying to change the underwriting requirements. That is commendable. Has the screening become so fine that risk that can be assumed and priced for is being turned away? Keep in mind that many of us who have priced products are pricing products now with claim costs that are a result of experience from the 1980s and 1990s, and we're taking this experience and putting it into much tighter products out there. So you wonder how much extra morbidity we really do have room to absorb within our pricing structure. We often talk about simpler products. Should underwriting be simpler also?

I do not believe that we can ever view our business as healthy again until new sales are healthy in terms of both risk and growth. The company that learns to balance both of these criteria will have that competitive edge.

Mr. Duncan Briggs: The subject of my presentation is going to be DI modeling issues, and the issues I'm going to cover are ones that have been characterized in constructing models of in-force individual blocks of disability income business. The sort of applications that require these models include cash-flow testing, business plan projections, embedded value calculations, and potential sale or acquisition type transactions.

As with any type of business, there isn't a uniquely correct way to model IDI, so I'm not going to try to lay out a suggested approach as to how everything should be done. What I'm hoping to do is identify some of the issues that I think are important to consider when constructing models of this type.

I'm going to start by outlining the two main types of approaches that are used to model IDI. I'll briefly discuss the key points and advantages and disadvantages of each approach. After that, I'm going to consider some of the issues that are specific to the modeling of disabled lives and active lives. Invariably, the most significant assumptions in constructing IDI models are those that define the future morbidity experience of the block. I'm going to spend some time just talking about the different considerations in deriving morbidity assumptions, and then I'm going to end with a little case study that I put together that demonstrates how two slightly different approaches to setting the morbidity assumption can have some very dramatic effects on the results.

Most of the DI type models that I have seen can be classified into one of two types. I've called the first type a loss ratio or momentum model. I refer to the second approach as a model office approach. For each of these I'm briefly going to cover some of the key characteristics. Then I will discuss some of pros and cons of each approach.

Starting with the loss ratio or momentum approach, the starting point of this type of model is usually the earned premium for the most recent year. A decrement rate or a series of decrement rates are then applied to that premium to generate a future stream of earned premium over the duration of the projection. The decrement rates are obviously intended to be consistent with actual observed experience of the company. Incurred claims are usually generated by applying one or more loss ratios to the earned premiums that have been projected out. Depending on the complexity of the model that's being constructed, the loss ratios can vary by a number of factors such as duration and individual false characteristics. Expenses

and reserves are usually generated as functions of the other items in the model. For example, expenses can be expressed as percentages of earned premium plus a percentage of claims, and reserves might be claim reserves can be expressed as a percentage of claim payments. Active life reserves can be expressed as a percentage of premium. All of these items are designed to be consistent with actual experience over recent years.

The final comment on this type of model is that active and disabled lives tend to be lumped together, and there's no explicit segregation of active and disabled within this model. I think the term momentum is quite a good description for this type of model because the essence of it is really looking at what's happened over recent history and then projecting out an income statement in a manner that is consistent with that recent past.

The second type of model is what I call the model office approach, and some of the characteristics of this type of approach include a seriatim projection of disabled lives. What I mean by that is each policy that is in claim status at the start of the projection is considered individually and an individual projection is constructed for that policy. Active policies are typically projected based on a number of representative cells. The whole block of business is condensed down into a number of representative model points, and then those model points are projected forward to get the projection for the whole block. Projected claims under this type of approach, rather than being based on a loss ratio, are generated using explicit incidence and termination assumptions. Finally, the reserves tend to be calculated from first principles, so the model will incorporate assumptions or it will incorporate the actual reserving bases used by the company. The reserves will be generated using those input bases.

I think the main advantages of the loss ratio approach are its relative simplicity, and the lesser data requirements that are needed to get the model up and running. At its simplest, you can use annual statement data for the last three or four years to get some crude ratios and build a very quick model inside and out just using annual statement data. Even in the more complicated types of loss ratio models, the data requirements are far more limited than we typically encounter in the model office approach.

One of the disadvantages of the loss ratio model is that the underlying mechanics of the business can potentially be masked. What I mean by that is the portfolio of business at any point in time is made up of a large number of different contracts issued over many years with different elimination periods, benefit periods, underwriting provisions, etc. As the projection pans out over the years, the mix of those different contract types is going to change reflecting how policies were sold

historically in the past. The loss ratio approach isn't necessarily going to capture the mechanics of that because I think what we would find is as the mix of business changes, clearly the claims experience of the block as a whole is going to change. It is not something that is generally captured by the loss-ratio model.

Another potential complication with this approach is the aging of business. The fact that the claims are derived from premiums by applying a loss ratio can cause some odd results when we get 20 or 30 years off the books. That could still be a significant number of life claim benefit policies, and if we're applying ratios to premiums, then we might not be capturing the full volume of those claims in the later durations.

The final point is that the morbidity assumption is based on loss ratios rather than being explicit incidences and terminations. This means that it is not easy to benchmark the assumptions that are being used against standard industry tables, which of course are based on incidence and termination rate tables.

The advantages of the model office approach mirror the disadvantages of the loss ratio approach. The method that is used to construct the model automatically means that as the projection period goes forward, the correct mix of business at each point in time is reflected within that model. The claims being generated at all points in time will be consistent with the current mix of business. Both premiums and claims are modeled explicitly rather than being linked together by the use of a ratio, so we don't get the potential problems at the end of the projection period that we potentially do with the loss ratio models. The morbidity assumptions are expressed as explicit incidence and termination rates, so it is far easier to benchmark those against general industry tables than it is if we are using loss ratios. On the downside, these models do take a long time to construct, and the data requirements are extremely extensive, which is a major drawback as compared to the loss ratio approach. It does take a lot of time and expense to get one of these models up and running.

I'd like to cover some of the specific issues that I think need to be considered for disabled lives and active lives. These are based on the model office type approach rather than the loss ratio approach.

For disabled lives, the starting point is normally a seriatim projection for the policies that are in claim status at the start of the projection. That projection will take account of the individual characteristics of each claim such as benefit period, whether there's any riders attached such as cost of living adjustments (COLAs), and the age of your claim. This is usually a manageable exercise given the relative size of claims in payment as opposed to policies in force. For a medium-sized carrier,

we might be talking about 1,000 claims. Given the nature of projections that need to be made for these policies, it is not unmanageable to do a projection on this basis.

Incurred but not reported (IBNR) claims can be dealt with using a number of methods. One of the methods is to create what I would call a notional IBNR portfolio, and we would do that by looking at the actual reported claims in a recent period of time, say the last 12 months. We would assume that the mix of business in the IBNR claims matches that in recently reported claims. We would then apply some sort of scaling factor to recently reported claims so as to get either the reserve or the indemnity level in the model up to the level where we think the total IBNR claims are. Implicit within that is the assumption that the profile of the IBNR claims is the same as the profile of the claims that are being reported in the last 12 months.

I'll comment now on pending claims to make the point that they need to be covered somewhere. Some companies put claims on the claim file as soon as they are reported. If that's the case, then the processes used to build this model are based on the claims file, so it would automatically capture pending claims. If claims are not input into the claims file when reported, and there's some sort of a lag, then we need to make sure that the IBNR allowance includes a provision for those pending claims.

Reentries on termination can be considered. If we have a well-integrated model between the disabled lives and active lives, then it is possible to allow for some of the claims that recover by reentering the active status to be exposed to the risk of decrementing again. Claim settlement, if it's significant, is certainly something that should be considered within these projections. If the settlement basis tends to be favorable to the company, then certainly consideration should be given to reflecting that in the projections. Another refinement that can be made in practice regarding residual claims is to allow for some sort of movement between claims in residual status to full claim status or vice versa.

It's generally not practical to do a policy-by-policy projection for active lives. For claims, we might be talking about 1,000 claims, and for active lives, we're probably talking about tens of thousands of policies. There will be a multitude of different policy forms and benefit types, which generally make this too difficult to do. The typical approach for active lives is to select a number of representative model plans. This will be based on a detailed analysis of all the policies in force. We would go through and select those plans that are most prominent, and then use a mapping exercise to sweep up all the other policy types and map them into the representative model plans. For each model plan, we would then select representative issue-age and issue-year cells. There was a trade-off here between having enough so that you

capture the underlying dynamics of the business and having too many, in which case the model run time starts to get too large. So it is somewhat of an art to figure out.

Let's discuss the selection of morbidity assumptions. First, we'll look at incidence rates. There are many factors to consider in setting incidence rates, and probably the most important one is to look at the experience that is actually being observed in recent years. Many companies do have a significant database of their own experience going back several years, and many companies have their own company-specific incidence rate tables. If these tables are available, they can be used in these models. For smaller companies or companies that do not have their own tables, a typical approach is to use the 1985 Commissioners Individual Disability Table A (CIDA) table and just apply global adjustments to it so that the aggregate level of incidence reflects overall company experience. This could be just a flat multiplier applied to all the incidence rates, or it could be an age-dependent multiplier depending on what data are available.

Past trends in incidence experience can also be reflected in the model. If we observed in the model say a 1% steady increase per year in incidences in the last five years, we might see that's going to continue at least in part during the projection period. That can have quite a big impact on the numbers that come out. The final issue is that consideration should be given to the different contract types in the portfolio and the underwriting provisions. How they relate or compare to others in the market and if there are significant differences would suggest possibly using assumptions that deviate somewhat from the standard tables.

Termination rates tend to be a bit more tricky when trying to get good assumptions. The experience of most companies is rarely credible beyond the very early claim durations, and a typical approach is to use the 1985 CIDA termination rates with some sort of adjustments made in the early durations. To the extent that the risk data are available, they would show continuances for the first year or two. These can be expressed as percentages applied to 1985 CIDA terminations in, say, year one and year two, and then after that, the assumption can grade in to, say, 100% of the standard table. Morbidity studies that I've seen have shown that the termination experience, and incidence experience for that matter, can vary significantly by contract provisions. The main example is the distinction between policies with a lifetime benefit period and policies written to a shorter duration, generally to age 65. I've seen many real numbers from companies that show the termination and incidence experience is far worse for the lifetime benefit period plans than for other plans. This raises the question as to whether we should be reflecting that difference in the models that we build. I have put together a case study that shows that if we

do try to reflect those differences, then it can make a very big difference in the results.

Table 2 shows the example that I have put together, which considers two policies—both of them have a 90-day elimination period, and both have a $2,500 monthly indemnity. One has benefits written to age 65, and the other has lifetime benefits. Both were issued 7 years ago to a 41-year-old male in a class-one occupation, and both are currently in active status. I set both of these up in a model and ran the model on two different bases. The first basis used the same morbidity assumptions for both policies. The second basis used worse morbidity assumptions for the lifetime policy and for the age 65 policy, but in aggregate, the average assumption used was the same as in Model Run 1. Table 2 shows the assumptions were underlying these runs. In Model Run 1, I used incidence of 130% of the 1985 CIDA table, and terminations graded into 100% in year 3. In year 1, we used 60%, and in year 2, we used 80%. For Model Run 2, we assume the average of the assumption is the same, but for the lifetime plan we have higher incidence and lower terminations. These numbers aren't made up. These are numbers that are actually consistent with the results of morbidity studies that I've seen.

TABLE 2
EXAMPLE OF MORBIDITY SEGREGATION EFFECT

	Model Run 1		**Model Run 2**	
	Age 65	**Lifetime**	**Age 65**	**Lifetime**
Incidence rates (% of 1985 CIDA)	130%	130%	120%	140%
Termination rates (% of 1985 CIDA)				
Year 1	60	60	75	45
Year 2	80	80	95	65
Year 3	100	100	115	85

Based on the runs that I made, Table 3 shows the present values at 7% of the claims and the premiums coming out of the runs for each of these two policies under each run. The third column is really the key column here. Under Model Run 1, if I take the ratio of the projected claims coming out of the model to the projected premiums, I get a result of 83.1%. Under Model Run 2, where I'm using the same average morbidity but segregating it between lifetime and age 65, that ratio goes up to 89.4%, which is obviously significantly higher than it is under Model Run 1.

The significance of this becomes truly apparent when we're working in the margin. I calculated a couple of gross premium reserves using these results, and I've defined the gross premium reserve here as the present value of claims plus expenses minus the present value of premiums. The expenses cover both commission expenses and

other expenses. I've used an assumption for the expenses of 20% of the premiums. Under Model Run 1, the gross premium reserve is $562. Under Model Run 2, where I've used the segregated morbidity assumptions, the gross premium reserve jumps to $1,691, which is just about three times as high as it is under Model Run 1. So I think this demonstrates the magnitude of the impact that this approach can have.

TABLE 3
EXAMPLE OF MORBIDITY SEGREGATION EFFECT—PRESENT VALUES AT 7%

Present values at 7%			
	Age 65	**Lifetime**	**Total**
Model Run 1			
Paid Claims	$6,616	$ 8,264	$14,880
Premiums	7,819	10,078	17,897
Ratio	84.6%	82.0%	83.1%
Model Run 2			
Paid Claims	5,122	10,893	16,015
Premiums	7,806	10,099	17,905
Ratio	65.6%	107.9%	89.4%

Momentum models are relatively simple, and can be used to produce very quick results with fairly limited data requirements. I think the model office approach allows a deeper analysis of the underlying mechanics of the business which, as I've shown in the example, can be critical in certain applications. Again the example showed that segregating the morbidity assumption can certainly have a very material impact on the results.

From the Floor: One claim practice that I've seen at a number of companies was to make extracontractual offers to claimants to settle an installment DI claim for a single lump sum. I'm wondering if you have any thoughts as to under what circumstances that might be appropriate and how you would set the amount of the lump sum.

Mr. Beal: Actually I have been involved in that in a number of situations when helping companies. I think the whole process of claim settlements as a tool in the claim management process is a good tool if it's done appropriately. It can be structured as a win-win situation from both the company's perspective and the claimant's perspective, particularly if it can put money up front that wasn't available that allows a claimant to go back to work versus staying home. That's the win-win aspect of things.

I think the most well-structured claim settlement program is one that is structured on targeting the total and permanent claims out there versus ones where there's some probability that claimants can go back to work. We have a number of total and permanent claims, which are based upon owner/occupation, so people aren't necessarily in a life threatening situation. That's another issue. You don't want to be making claim settlements to those who have a high expected mortality. I think a company has to look at what is a fair value to them. You don't want to go out and try to offer something low even though it seems like a lot of money. You can't say, "We know it's low, but let's offer it anyway." You have to know what a fair value is and still take into consideration the rest of the company.

Some companies look at the claim reserves that they're holding as a first place to look. That is reasonable to some extent. I think you have to look, on top of that, at trying to project out as a life annuity versus a projection that takes into account some probability of claim terminations. Look on a pure present value basis with an appropriate interest rate. Is it new money or something higher due to the fact that the company is going out on a risk? In other words, companies do not have to do a claim settlement and do not have to do a lump sum. By doing that, you always run the risk that no matter what the health of the claimant is, they may die the next day. I think that would suggest having a higher interest rate, but I think a well-structured, claim settlement program takes all those factors into account, and it still may boil down to wanting to be within 60–80% of the claim reserve.

Mr. William Duncan Rusk, Jr.: I was wondering how much information is generally gained by modeling riders directly as opposed to making macro factor adjustments to the base model?

Mr. Briggs: I've looked at some blocks that have significant levels of, say, COLA benefit attaching, and I've seen some morbidity data that suggest that policies with COLA have more severe experience than those without. We did some runs on this block that had quite a high COLA percentage. We did the same sort of segregation deal by using a more severe assumption for the COLA business than the non-COLA business. Again, there was quite a profound difference between the two runs, so I think that was information gained from explicitly modeling the COLA benefits. Are there any thoughts on other riders?

Mr. Beal: I think the additional monthly benefit is probably one that you could lump into everything else. I think Duncan's point is well-taken in that if the riders have a significant impact on your claim experience, you want to differentiate them. If it's not very crucial to you, don't expect experience to be significantly different on an additional monthly benefit rider versus your basic policy. Don't bother doing it; lump everything in.

Mr. Briggs: Much of the modeling that we do would exclude a lot of the rider type benefits. We would come up with our key model plans, model ages, elimination periods, and benefit periods, and then use the tabulated premium rates for the base plan to project out everything in the model. I think the implicit assumption is that the extra premium for the rider covers the extra benefit, and if there are many small riders that aren't too significant in volume, that's a reasonable approach to take.

From the Floor: I have a surgeon who has gone out and cut the little finger of his left hand off with his woodworking equipment, and he has been on claim for two years. Let's say the claim reserve on this particular individual is going to climb for four or five years, and after two years into the claim, it's going to increase. We have roughly 5% of the claim reserve in our surplus. Why don't I want to settle for 100% of the claim reserve now? It's going to be higher next year and even higher the year after that and possibly higher yet the year after. What is the discounting that one should do to say that roughly 60–80% would be appropriate?

Mr. Beal: I think that's a good point about looking at a specific reserve. That's why I think that you have to also look at that present value of a life annuity and then look at what the trade off is on that. With that particular surgeon, oftentimes I think claim settlements involve claims that are older than six months or a year. It may be two or three years old, so you won't have as much of a climb on your claim reserve. If you go out and make payout 100% or more of your claim reserves, it may make management a little anxious about what you're doing. So that in itself is a drawback, but I think if it was a new claim and there was no chance that the claimant can go back to work and you can get a fair return on that annuity, I think it would be worth advocating a claim settlement.

From the Floor: I think I agree with that. I've often wondered why there hasn't been an actuary who looked at what we'll call the healthy disabled on these own-occupation policies and try to decide when it was best to be proactive in a settlement. Rather than have some practice that somebody might say, "If we can settle for less that 60% of the reserve, we'll do so; otherwise we won't." My original reason for coming was to ask why you did not ask the underwriters what they had been doing about California and Florida, but I didn't see that as a particular question. Was there a reason why you decided not to ask them?

Mr. Beal: I guess it probably reflects my own prejudice. I think whatever you do in California and Florida, you probably ought to do it twice. I think I directed my questions more to that broader issue outside of California and Florida. I think that my impression, which might be more impression than fact, is that underwriters are taking issues that may have resulted in higher loss ratios. Doctors in California and Florida are very specific. Because our loss ratios are so high, we have to tighten up

underwriting everywhere. I wanted to get a feel for what their practices were in addition to what they were doing for doctors in California and Florida. I think that's going to affect the direction this business is going to take in the next few years.

From the Floor: I have a question that comes out of your presentation. You had asked, "Are there risks out there that we could be accepting that we could price for what we are not now taking or rejecting?" I assume you haven't answered that question when you asked it. I'd be curious to know what your answer is. I assume there are probably a variety of cases. I'm curious what all of you think.

Mr. Beal: I think there are possibly cases where we are doing ratings where we might not necessarily have to. Every time we do something and make a substandard offer, something other than applied for, you're going to be running the risk that it will not be accepted. The agent is going to be so upset about the hassle factor and the fact that he or she almost lost a life case that he or she's not going to bother doing DI. We take such a black-and-white perspective on mental illness that we probably have margins in our premiums to accept that. Assuming we have the margins in our premiums, one of the goals of underwriting should be screening out that certain claim. Even if you allow for some risk factor, why not accept it if you have the margins in your premium.

Mr. Magro: I'll add some thoughts on the underwriting process in general. As far as changes, and not necessarily in the category of liberalization, I see some shifts in the length of time that it takes. The requirement for one APS leads to three more APSs which leads to two more follow-up questions. At some point, we've created an environment where the underwriters are just asking all these questions to fill up their file so that if by some chance this individual goes on claim, they're not held accountable. I think the reaction in the early 1990s of trying to reduce the claim abuse through tighter underwriting created an environment in which the underwriters are afraid to make a decision without 100% of the information. Another area where I see some change is in the psychiatric practices. If someone's gone to marriage counseling, we don't need to chase down every potential pharmaceutical report for that person for the last five or ten years. I don't know if all these questions are really improving the underwriting mix in your block of business. You may be declining the better risk and letting someone slip through. I've told the underwriters that the person who very diligently outlines everything that has ever happened to him or her, who has one little thing that concerns you, might be a better risk than the person who potentially has covered up that information. Unless you're completely omnipresent, I don't know that you can feel that you've created a better predicted value of your in-force block by excluding those who have minor incidences in the past.

From the Floor: I'm currently employed out of the country and we have a large block of DI business. We found that the CIDA tables, especially at the lower ages, literally stink. The claim experience and incidence at the lower ages are much higher than anything reflected in the tables; it's 200%, 300%, or 400% higher. Much of that comes from accidents, like boat accidents or work accidents. I'm just wondering if this type of experience occurs in the U.S. also.

Mr. Briggs: I've seen some studies on U.S. business that showed a very steep grade off with age on those incidence rates. These studies were comparing actual incidence to 1985 CIDA. Age 30 might have shown 250% and that number showed a steady grade down to 100% or below 100% by age 60.

From the Floor: One other thing I've also seen lately, with regard to claim terminations, is we've had some problems with boat accidents. The claimants simply aren't going back to work because of the effect on their legal case.

Mr. Beal: I never thought of it that way. I think in the U.S., claims departments realize they have to be much more proactive in getting the people off claim.

From the Floor: Actually, they're quite proactive, but the claimants have a lawyer on the other end telling them if they go back to work, their suit against the insurance company on the car claim would be affected negatively.

Mr. Beal: We certainly have our share of lawyers who co-sign the claim forms.

From the Floor: The CIDA tables just don't take into account those accidental claims. I see tremendous loss ratios. I just have one last comment about claim settlements, especially the large claim settlements. We've requested and put in the contract that the other side be represented by legal counsel to avoid the lawsuit at the end.

Mr. Beal: Yes. I think that's a very key point of any good claim settlement. It's not just a matter of legal representation; financial accounting is also important. Make sure that they have good sound advice and certainly correct the possible impression that you're trying to give them a bad deal.

From the Floor: I have a question that has to do with the comment you made about multiple policy cases having better experience than individual cases. If that's a true statement and underwriting has not changed over time, might you attribute the difference to the quality of the person who sold the business rather than the health of the person? Do you have any statistics on producer-related loss ratios to where

the person may be selling the policy as a retirement policy rather than a real disability problem?

From the Floor: I've seen companies study these trends by ages. However, the incidence rate is so low that there isn't a big enough population to prove anything.

Mr. Beal: One of the differences between the two types of business may be the quality of the agent. I think the antiselection issue is that you'd probably transcend agents themselves. I think there are some dynamics associated with the employer-sponsored market, particularly cases that are 100% employer pay, where you don't have that antiselection, but you do have employee involvement and bona fide businesses. You can verify the incomes quickly. They are usually provided to you on a piece of paper. Factors like that contribute to good experience.