# RECORD, Volume 30, No. 3[*]

Annual Meeting and Exhibit
New York, NY
October 24–27, 2004

## Session 59 TS
## Simplified Issue Life Insurance—Current Practices and Next-Generation Products

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| **Track:** | Nontraditional Marketing |
| **Moderator:** | BRIAN L. LOUTH |
| **Instructors:** | ALLEN M. KLEIN |
| | K. MICHELLE MOLONEY |
| | MARK SWANSON |

*Summary: Premium and benefit structures, underwriting criteria and methods, markets, distribution channels, use of technology and expected mortality results are all important elements of designing a successful simplified issue product. What are companies doing today in the simplified issue marketplace? What will companies do in the future? The presenters discuss the results of a recent Society of Actuaries survey on simplified issue products to explain the current state of the simplified issue market and then provide a case study of what is expected to be a next-generation product.*

**MR. BRIAN L. LOUTH:** We have three presenters today. I'm going to introduce them first and then talk about what we're going to accomplish today. Allen Klein is a senior consultant and leader of life insurance practice for Tillinghast in Chicago. He's very active in the Society of Actuaries activities, and he's presently chair of the Mortality Underwriting Survey Committee, as well as leading two new task forces on preferred mortality and on enhancements to life experience studies. If you read a lot of material that the Society puts out, section material and that, you'll see Al's name quite often.

Mark Swanson is a product development actuary with the alternative markets team of Transamerica Reinsurance. His current focus is on the development of simplified

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issue life insurance products utilizing automated underwriting systems.

Michelle Moloney is vice president of business development for Transamerica Reinsurance. She leads cross-divisional efforts to develop new business ventures and to pursue and assess strategic mergers and acquisitions strategies. Michelle spent some time with McKinsey & Company, where she was responsible for strategic analysis of the life and health insurance industry. She also has a chartered financial analyst (CFA) designation, which is very important for simplified issue products.

I'm vice president of development with RGA in Canada, and I bring the Canadian perspective of simplified issue to the panel as required.

We have two goals today. The first is to provide you with some insight on the current state of simplified issue products in the marketplace. Al and Mark will be taking us through the results of the recent Society of Actuaries survey on simplified issue products. A number of you here may have participated in that survey.

Our second objective is to give you a look at an emerging approach to simplified issue products. Michelle will take us through a case study demonstration that gives you some insight into something new.

**MR. ALLEN M. KLEIN:** The Mortality and Underwriting Survey Committee was formed in 1999 and, as Brian said, I'm the chair of that committee. We've done a number of surveys over the years. I assume that you're familiar with some of them—preferred underwriting, mortality improvement and reaction to XXX. We're doing another survey that's going to be coming out next month on risk management, so I encourage you to participate on that one. If any of you are interested in joining our committee, please let me know after this session, and I'll be happy to entertain a couple of more people.

The simplified issue survey was done in August 2004. We had 27 companies responding to our survey, describing 48 products. We had asked them to respond on up to two products due to the diversity of the simplified issue marketplace that we were trying to capture. Not all companies responded to our questions, so when we provide you with the number of responses rather than the percentage in this presentation, you need to keep that in mind when evaluating the results. I mentioned number of responses. The way we're doing this is that we are providing the number of products that responded to a particular question rather than the number of companies.

There's a lot of material here, so we're going to be going through this quickly. Instead of defining simplified issue for this survey, we described what we didn't want. We asked companies not to include products with these characteristics: non-medical band of a fully underwritten product, routinely required paramedical exams,

routinely collected bodily fluids, guaranteed issue products, corporate-owned life insurance (COLI), business-owned life insurance (BOLI), credit insurance, group products, juvenile-only products and annuities. That's what we didn't want in terms of simplified issue products.

The survey was divided into four sections. Mark is going to talk about the first section, general product information. I'm going to come back and talk about the next two sections, underwriting and then assumptions and experience. Then Mark will conclude with our section on technology.

Before we start, I want to throw out a few caveats. While the 27 companies and 48 products reporting is a fairly large number (there's a good diversity of products represented here), this may or may not be representative of the simplified issue marketplace. Also, these are preliminary results. We normally go through a very rigorous analysis and peer review process when we do these reports, and none of this has been done yet. Only Mark and I have looked at the results so far. Probably the most important caveat is: please don't take action based solely on these results. As I said, they may not be representative of the industry. Also they may or may not be appropriate for your particular company.

**MR. MARK SWANSON:** I have a little more on the scope. We had 27 companies providing at least partial responses. Again, we have to emphasize that not every company responded to every question. We don't know why, but maybe the questions were too difficult to answer sometimes and people skipped over them. There's a wide variety of size of companies. Four of the companies reported that they sold $1 billion or more in face in 2003 through simplified issue, and there were a number of companies that sold under $100 million. Average sizes ranged all over the place. There's quite a wide variety; these are not all apples in the bucket. They're apples and oranges and lots of different things, which is, perhaps, another caveat.

We asked the people to focus on two distinct products that they sell that are underwritten using some simplified issue techniques. One thing that we will do as a committee, when the report comes out sometime next year, is what is referred to as a "longitudinal analysis"—look at what the different kinds of products have in common. For the short time frame that we had for our talk today, we weren't able to do that kind of in-depth analysis. These are just quick snapshots, question by question, one at a time.

One question was: How many simplified issue products does your company offer? The average response was about five products. We also asked when these products were for sale. On average they've been for sale since January 2000.
Here's the production during 2003 (Klein/Swanson Slide 11). The average response was about $179 million face amount and about 5,000 policies. But again, the average has a very wide variance. I didn't put the variance on there, but there's a

wide variety. Expected production for 2004 is higher (Klein/Swanson Slide 12). That's what you can take away from this.

"All simplified issue" refers to if a company didn't or couldn't break out results for the two products being focused on for the survey, the company could answer for all its simplified issue products. Companies answered for either one or the other. There is more detail on actual and expected production; these products did cover about half of the response to simplified issue business. In that respect, it's a somewhat representative survey.

The average policy sizes ranged from $600 to $568,000. The second figure is somewhat questionable. I think that there was perhaps some guaranteed issue mixed in on the part of a couple of the companies there, even though our instructions asked them to leave guaranteed issue out. I think it was COLI/BOLI, in particular, that companies answered on.

Next I'll discuss production trends. Of the 17 companies that gave their expected production levels in 2004 for all their simplified issue business, five expected their production (face amount) to decrease from 2003 levels. Twelve expected it to increase, based on face amount. Based on policy count, only three expected their production to decrease.

Klein/Swanson Slide 16 has some details about the products themselves. This shows what plan design people used.  You can see that they are split somewhat evenly among the categories of term, whole and universal life. We also asked if they were level benefits. All but one of the products had level benefits. For those that were graded benefit plans (there were five), the grading period was two to three years.  How were the benefits graded? Two had return of premium with interest, two had percentage of the face amount and one had a combination of the two.

We asked what the premium structure was. Some questions asked the companies to "check all that apply," and there could be any number of possible responses. In some cases, we would focus the question on "check the primary or the answer that best describes the product." Klein/Swanson Slide 18 is a "check all that apply," so you can see that there are a lot of different possibilities there. For the most part, they're age-, sex- and smoker-distinct, just like the fully underwritten products.

Minimum/maximum issue ages are rather self-explanatory (Klein/Swanson Slide 19). The most common minimum age here was 18; the most common maximum age was 85. You can see that there were some older-age products there with a minimum age of 50. The issue age limits, when they did vary, varied by face amount, level term period and risk class. What were the face amount limits? A couple had zero. The most common was about $10,000 (not too surprising); the maximum face went on up to $300,000. I deleted some responses that were very

high for the maximum face, believing that they were, in fact, COLI/BOLI responses. The face amount limits vary normally by issue age.

There were many different riders offered. Some had none. Accidental death is very common. Child rider is very common, as is waiver of premium. The less common ones include return of premium, long-term care, maturity extension, increasing death benefit and guaranteed purchase option.

Klein/Swanson Slide 24 shows the markets where they are sold. Again, this is a "check all that apply"—senior market, middle class, blue collar, final expense and so on; there's a little bit of everything. We asked which one was the *primary* market. Although the senior market was checked by a lot of companies as a potential market, quite a bit fewer said that it was their primary market. In fact, financial institution customers were the most common primary target.

We asked about distribution channels. Again, the question was the "check all that apply" version. Independent brokers, career agents, personal-producing general agents (PPGAs), direct mail and work site were the popular ones. Let's see how they break down when respondents had to focus on the *primary* distribution channel. Independent brokers, direct mail and bank platform came out as the most common. We asked how the distributors, whoever they might be, were compensated. Overwhelmingly, it was based on premium. A couple based compensation on a per policy fee. We asked for the compensation level as a percentage of premium, and we picked out some key durations of one, two, six and 11 just to get a general sense of the shape. You can see in Klein/Swanson Slide 29 that quite a few had no compensation in renewal years. The average is given in the middle column. It got as high as 130 percent first year.

The reasons your company entered the simplified issue (SI) market, was again, a "check all that apply" question. Entering a new target market was definitely the most popular response to this. Agent demand was also important. A desire to be able to issue policies more quickly was another reason, but the primary reason was to enter a new target market.

This brings us to Section 2.

**MR. KLEIN:** In terms of the results that I compiled, I did not take out any of the companies that might be COLI/BOLI. Before we complete this report, we will go back, take a look at everything and make sure that we have the right responses.

The underwriting section is split up into non-medical and medical information. Within both of those sections, not only did we want to find out what was asked, but we also wanted to find out, if there was an adverse response, what action was going to be taken based on that adverse response. We also were looking at underwriting requirements, risk classes and a couple of other areas. Again, this is

probably the most comprehensive simplified issue survey that has been done. We didn't know where to fit this, but I have "receipts" and "reinsurance" in the underwriting section.

First, I'll talk about the non-medical information. The most commonly used criteria here were sex, height and weight, country of residence and occupation. I mentioned that we wanted to find out about an adverse response. What we asked them specifically was: If there was an adverse response, what did you do? Did you take no action based on it? Did you reject it? Did you offer an alternative product? Did you do something else?

The other non-medical categories that we asked about were: declined or rated for other life or health insurance, actively at work, driving record, felony conviction, aviation avocations, member of the armed services and alcohol or drug abuse. Regarding whether the applicant had been declined or rated, 10 indicated that it depended on the details as to what action they took. Five would automatically reject it, and one said that it would either reject it or offer the same product with full underwriting. Typically, if it offered two things like "reject or do something else," I put in that it "depended on details." On this particular one, since this was unique that it would offer the same product with full underwriting, I did put it in here.

For "actively at work," 16 products had a question about it. Five of those asked more details about the employment status, and several also asked about disability. For those that asked about employment status and actually rejected someone, the categories were: retired, unemployed, part time, temporary, student or self-employed. Klein/Swanson Slide 39 shows the number of companies that would reject those.

For actions based on adverse driving record, a number of different things could happen here. If anyone had an excess of a certain number of citations, six indicated that they would take action depending on the details; two would automatically reject it; two would offer an alternative product; and one would take no action. I'm not going to go through all the numbers on each and every one of these, but I want to point out that even though it says two would offer an alternative product, probably more would offer an alternative product. But they often would check "offer alternative product or reject," or two things, so I put that in the "depended on the details" category. Some specifically said that it depends on the details. For a suspended or revoked license, eight will reject. For a DUI conviction, nine will reject.

As far as action based on felony conviction, 11 will reject and one will offer an alternative product. Two mentioned that they are not concerned with felony convictions that are more than 10 years ago. Two also mentioned that this information comes from a telephone interview rather than the application itself.

For aviation, 11 asked about this, and eight get more details on the items that I've

listed (Klein/Swanson Slide 42). I've not given the results here because there were very few responses, but you will get that in the final report. The same thing is true with avocations—20 asked about it and 16 get more detail on that list (Klein/Swanson Slide 43). Again, in the final report you'll see those results split out.

No one asked about whether the applicant was a member of the armed services. I think that's a good thing, with all that's going on today about covering the armed services. On simplified issue products, no one asked about that.

Drug and alcohol use and abuse is next. All 48 responded to this. We asked about alcohol abuse separately from drug abuse, but, as it turns out, they had exactly the same responses. Twenty will reject, 12 said that it depends on the details and six will offer an alternative product. The other 10 either did not respond to this part of the question, or they're going to take no action.

In terms of the medical questions, we asked about prescription medication, hospitalization, consultation, personal medical history and family history. Let's look at each of those. In terms of prescription medication, there are two parts. The first question is: What action is taken if the prescription medication is associated with a non-ratable impairment?  Thirteen said that they would take no action. Then we asked: What action is taken if the prescription medication is associated with a ratable impairment?  Fifteen indicated that it depends on the detail, and one will reject.

In terms of hospitalization, again, all 48 responded to this one. Thirty-eight ask specific questions and 10 don't. For the time frame of  "have you been hospitalized within the last x amount of time," the most common answers were split pretty evenly between six months, 12 months and 24 months, although there were a few that were longer than that, up to five years. Nineteen indicated that they will ask additional questions as followup on the hospitalization, regarding recent hospitalization, nursing home, home health care, other type of facility, currently disabled, wheelchair use, and activities of daily living (ADLs) and individual activities of daily living (IADLs). They do ask a lot of questions if there was a hospitalization. Again, you'll see these results in the final report.

We also asked about consulting a physician within the last x amount of time. The most common response here was 12 months, although there are a fair number of both 60 months and 120 months. We asked about what additional underwriting is done if there is concern about the consultation question, and there is some. The most common are an attending physician statement (APS) and a personal history interview (PHI) that are used for any followup.

We gave a whole laundry list of different medical conditions or health conditions, and we asked which ones are asked about. The most common ones that are asked about are:  heart disease, cancer, HIV, stroke, respiratory system and disease of the

kidneys. This isn't surprising. This is what we would have expected as being the most common, but there are a fair number of things that are asked about. We asked what action would be taken based on these various conditions. The number that will reject it based on an adverse answer to the medical conditions is a lot more than based on the non-medical conditions. We have 25 that are rejecting these, while for the non-medical questions, just a few were rejecting.

No one asked about family history.

Let's move into the underwriting requirements. We asked not just what you routinely ask about, but also what you ask about on a reflex basis. What that means is that if there are certain topics that you want to get more information about, you sometimes ask for more testing to be done. On a routine basis, the one that was the most common that stands out is Medical Information Bureau (MIB). Thirty-two reported that they did ask about it. Then the most common followup is an APS to check on further information, although there are two that require an APS upfront as well.

This was an open-ended question that we asked: What do you do to minimize antiselection on your simplified issue products? We got a number of responses, which I've summarized: point-of-sale interview, agent management, verification of answers with followup telephone calls, checking on the reasonableness of face amount for estate value, occupation, salary, getting an MIB report (we saw how common that was), using the actively-at-work question, a drug knockout question, certain plan and coverage limits, and contestable claim review. Those are the main approaches that companies suggested to minimize antiselection.

In terms of risk classification, there is a fairly even distribution for the tobacco question, as far as whether they asked about cigarettes, pipes, cigars or smokeless tobacco. In terms of the risk classes that are available on simplified issue, the most common are the standard class or a tobacco/nontobacco split.

We asked what the maximum table rating is that's allowed into the standard class. It's all over the place, but the most common is Table 4. We asked about what type of substandard options are utilized, and here it's pretty evenly split between table rating, flat extra, graded death benefit or offering an alternative product. Products are using all different things.

I'll move on to the receipts and temporary insurance. We wanted to know the maximum amount of insurance offered on conditional receipt or temporary insurance agreement (Klein/Swanson Slide 64). As you can see, there was quite a range here on conditional receipt, from $10,000 to $300,000. I'm not sure that this average means a lot, because it's averaging some very low numbers and some very high numbers, but the most commonly used one was $25,000. In terms of temporary insurance agreements, there was an even wider range, from $25,000 to $1 million, and $300,000 was the most common there.

We asked about the type of reinsurance that was used. First dollar quota share was used most commonly. Of the 17 that used the first dollar quota share, we asked what percentage is retained. It varies from 10 to 55 percent, the most common being 50 percent.

We also asked about the retention level. This showed a wide spread as well. There was a difference from the low of $5,000 to the high of $2 million. (As Mark said earlier, we are going to take a closer look and maybe divide the products between some of the differences and try to categorize them for you, but we were trying to compile these questions.) The most common retention level was $100,000.

Now let's move to the assumptions and experience section. I'm going to talk about submissions, mortality, lapse, cause of death and experience studies. Let's start with submissions. What happens to an application? Eighty-one percent is the average. I'm going to be going between the average and the most common when I speak here. Between 80 and 85 percent of all applications are approved as applied for. Then 2 to 2.5 percent of the applications are offered with a rating or as an alternative product, and 10 to 12 percent are either declined or rejected. About 5 percent are incomplete, withdrawn or postponed.

If the application is approved as applied for, we still have a 17 percent not-taken rate. This is an interesting number. Unfortunately, you need to take it with some caution, as there are not a lot of responses here, but I thought this was very interesting. If it's offered as a rating or an alternative product, we have a 47 percent not-taken rate, so it really jumps up there. But again, there are not a lot of responses here.

Who's involved with setting the pricing assumptions? Mainly you can fault the pricing actuary, underwriter and chief actuary.

We asked what the mortality and lapse assumptions vary by. In terms of mortality, it's what you would expect. Issue age, duration, sex and tobacco usage are the main ones. In terms of lapse, policy duration and issue age are the main places where that varies.

What mortality table is used in pricing? The most commonly used (again, this isn't a surprise) is the 1975-80 SOA basic table, as well as an internally developed table. We did ask about the Canadian tables. I don't think that we had any Canadian companies responding, even though we did send it out to them. I could be wrong. But if we did, it was just one or two.

Age last birthday was the assumption of choice for most of the products. These are the expected mortality results (Klein/Swanson Slide 76). You can see the different categories. I'm not going to go over the numbers because they are just that, but

they would increase, as you can see. Also, there's a pretty wide range. This is for male, age 45. We looked at durations one, three, six and 10. If you look at duration one, it goes from 0.24 to 6.36, so there's quite a wide range there. The same thing happens when you get up to duration 10; it goes from 2.06 to almost 16.5, which is quite a range.

Next are the expected lapses. What I can say here more than anything is that there's a decreasing lapse rate. I'd focus in on either the average or the most common. It decreases with duration, which is what we would expect.

We asked about leading causes of death. We asked companies to give us the first, second and third leading causes of death on simplified issue products. Actually, we asked for the specific simplified issue product, but if you couldn't answer it, answer it for all your simplified issue products. This is not a surprise either; the most common causes of death are heart disease and cancer.

To conclude for this section, we asked about how often experience is studied, when the last study was and whether there are any other plans to re-price or revise the product. We asked this about not-takens, early duration claims, cause of death, mortality and lapse. So how often is experience studied? The most common answer is at least once per year. I don't know if they were answering this way just to make us feel good, but I can't believe that the majority do it at least once a year. If they do, that's great. That was the most common response. When was experience last reviewed? Again, this was surprising as well—so many did it within the last year. It was just coincidental, I guess, but that was the most common answer. When will it next be done? Eleven more said that they're going to do it within the next year, but 20 have no current plans. So maybe they did do it just recently, and now there are no current plans to do it again. We asked what would be changed if you're going to do it; pricing and underwriting were the two most common answers.

With that, I'm going to turn it over to Mark for Section 4.

**MR. SWANSON:** The last section was called technology and process. It was a little more about how you get your stuff done rather than what tools you use. There are a lot of questions that were in Section 4 that I'm not covering here. I'll give you an example of them at the end.

One question we did ask was whether you use some kind of automated system to help support the underwriting. That was actually true for 15 products. We asked: If you use an automatic system, do you use some kind of a manual pre-process step? Only three of those products had their company respond that they used a manual process before the automated process. Fifteen was a higher number than I would have expected, considering there was a maximum of 48. However, we asked: How often does that automatic system have carte blanche to actually make the underwriting decision? Only one said that it always does. Thirteen said that

sometimes it does, depending on the circumstances.

We asked: If you have an automatic underwriting system, will it put ratings on risks? Would it purport to distinguish preferred risks from standard risks? No one claimed that they could make those kinds of distinctions with their automated system. When it was used, it was used simply in an accept/reject context. That didn't surprise us.

We asked: If you have an automatic system, where do you use it? "All the business you write" was the most common response. If they had it, they used it for all of their simplified issue. Some used it only for certain face amounts, distribution channels or target markets. One used it for only certain ages. Above a certain age, it didn't flow through the automated process. It went to a human underwriter.

Again, if you have an automatic underwriting system, what percentage do you *expect* to be successfully issued by that system? The average was around 75 percent. One said that it expected every single application that goes in to come out successfully, and one actually responded that it expected only 30 percent to be issued by the automatic system.

Next is the *actual*. We asked for the expected and the actual, and we tracked it very closely. The average was 75 expected; the average actual rate was about 71 percent. So companies, by and large, seem to be getting the performance out of that system that they expected.

This is kind of a complicated question, but we asked about different modes of taking an application (Klein/Swanson Slide 90). The modes are a phone application, an electronic application or a paper application, combined with different kinds of signatures—a wet physical signature, an e-signature or a voice signature. We said to take all of your simplified issue business and, summing to 100, tell us how those applications are processed by mode. Give us a vector of numbers that sums to a hundred.

Let me start at the bottom. Twenty companies put all 100 percent of their applications into a single response. Of those 20, 17 put 100 percent in the all-paper process. So it's overwhelmingly, among our respondents, still a paper-based process. Two of them said that products one and two were processed by means of a phone application followed by a wet signature, and one actually said it's always an e-application with a wet signature.

Up above in the middle of the slide, I have the average, the low and the high for each category. You can see there were no respondents that had some of the combinations. There were principally just those three combinations: phone application with wet signature, e-application with wet signature or paper application with, of course, a wet signature. There was not much use of alternative signature

methods among the respondents for products one and two.

Now to make this a little more complicated, some answered for products one and two the same products that they answered for in Sections 1, 2 and 3. When we do the report, I hope that will lead to some interesting analysis as we draw answers along for a given product. We track a product through Sections 1, 2, 3 and 4 of this survey and see what those different products have in common.

We also gave people an opportunity to answer for all their simplified issue that they couldn't break out the results for products one and two separately. That's not too different. Of the 12 companies that answered the question this way, 11 of them (consistent with the previous results) said that 90 percent or more of the applications went through an all-paper process. One actually had an e-application with an e-signature who answered this question, and it expected 70 percent of its business to go through that mode, with the balance in the paper process. So among the respondents (again, we had a limited number of respondents), there's the beginning of some adoption of e-signature technology out there.

If you were one of the companies that didn't have 100 percent in one processing mode, why did you have different ways of taking the application? Overwhelmingly, for those companies that had different ways of taking applications, it was for different distribution channels. That was the reason they offered different methods. It could also be face amounts or issue ages. One even said that it's up to the agent; it's the agent's choice.

We asked who completes the application. This might be a different way of asking whether or not it's direct mail. That's something we can dig into when we do our analysis, but it was either agent or applicant for the most part. Call center employees, home office employees  and teleunderwriters were other options.

Next we addressed underwriting information sources and asked how long it takes for you to get the data that you need from that source. We said tell us in days, and if it's less than a day, call it "zero" for purposes of this survey. I'll pick out just the common requirements there. For the APS, 12 companies said that they got one, and the average time in days to receive what they asked for was about 20. It ranged from a low of 10 to a high of 40. A similar number requested PHI. That got as low as zero (I guess as soon as the application came to the home office, they were on the phone the same day) on up to 10 days lag time.

For motor vehicle reports (MVRs), again, some had virtually same-day response on their MVR. Some actually said their average was 45 days. That seems kind of long for an average. Maybe someone misunderstood the question there.

MIB is not too surprising for the very large number who used it. Almost everyone reported it was the same day. One reported a one-day lag time, and I'm sure that's

an internal lag. That brought the average up to 0.1.

Looking at these different kinds of underwriting data, we asked: How have you contracted to receive these different forms of data? There were three choices. Do you buy directly from the data owner? Do you have a third party that provides it to you as a service, or have you developed your own sources? "Direct from data owner" was not too common for anything. Third parties were very common for APSs and MVRs. Internal sources were more often used for PHI and teleunderwriting, so it seemed that our respondents were more willing to keep those functions in-house. The APSs are definitely farmed out to some kind of a third party.

There were other questions that I haven't covered here in the presentation of Section 4. We asked a lot of quantitative questions around policy issue turnaround time and underwriting decision turnaround times. You can imagine that's data rich. Unfortunately, that also meant it would have taken too much time to produce the slide in the very limited time we had available to get this ready, so that will be in the final report. We also had all these questions split by automatic system and human underwriting, in order to compare the turnaround times for the two modes.

Who are your vendors of underwriting requirements? What types of technology do you use? Do you use expert systems, imaging or Web sites? We asked quite a variety of questions that weren't covered here. My recommendation is, first of all, to wait for the CD to come out so that you can have these results in your hand. If you can wait even longer, during 2005 the committee will get together a few times, and we'll really analyze this material in depth and do a lot more value-added analysis and write it up. Watch for it sometime next year.

That concludes the SOA underwriting survey.

**MS. K. MICHELLE MOLONEY:** Thanks to Brian for giving me an eloquent introduction. I work for Transamerica Reinsurance. I have an unused CFA, like many other thousands of people, I think. I lead business development for the organization, which in day-to-day terms means helping the company develop that next-generation product, which is fitting for this presentation.

Generating new revenue streams or trying to grow today is tougher than ever before. Recently, though, Transamerica Reinsurance developed an underwriting platform that enhances simplified issue, which we think will be that next product in the marketplace.

As some background information, just over three years ago we took a look at the marketplace and identified middle America as being underserved, whether it's agents migrating to the more affluent or distribution expenses being too high for low face. Various factors are influencing that. I don't think this is a revelation; the industry has been talking about it for some time. But what was different for us is

that we thought we had a solution to tap into it.

I want to talk about the underwriting system that we've developed, as well as some background information on mortality that we think goes along with alternative underwriting and how we went about deriving that.

The solution that we developed is essentially an electronic data-enabled underwriting chassis. It takes a simplified insurance application, reads it and interprets it, and, using the personal information, goes and retrieves electronic data, including prescription profile, MVRs, MIB and credit reports on the individual. That, in combination with the insurance application, generates an underwriting outcome.

The technology produces a score between zero and 100 with the insights from the electronic data. Unlike simplified issue, we have enough insights that we can score, rate or classify the individual. It allows the flexibility to have a program that could be customized, say, standard to T2, standard to T4, or to even have a standard and substandard class without the applicant knowing anything. It's all behind the scenes. It's still transactional if you produce an underwriting decision in a manner of minutes rather than what can take place today if you're going to try to gain that insight.

Also, because of the electronic data, you have the ability to discern poor risks. If they misrepresent on the application today, you don't know it. With this insight into an individual's lifestyle or health, you can actually eliminate the bad risks. As a result, you have some pricing improvement or mortality improvement. As a result, this system, we think, bridges to the middle America market by offering a product that can still offer instant gratification for both the agent and the consumer and, at the same time, offer a meaningful product, where you can offer face amount up to $250,000 at a reasonable price, because of the electronic data that's available.

To give you a sample of the simplified issue feel, this is a sample application that we use (Moloney Slide 2, page 2). It's as easy as one, two, three. You provide your name and personal information, select the product that you want and answer a handful of questions. The first question is about health, just a potpourri of various health issues that you want to investigate. We ask an AIDS question, as well as a prescription question in case we don't find prescription data when we go to a database on somebody. It also helps to validate what we refer to as a "lie factor." We do the same thing and ask about driving record, even though we get MVRs. We also ask about tobacco use so that we can have smoker-distinct rates.

We think prescription data provides the greatest insight in assessing mortality. MVRs, credit and MIB are important, but prescription data does provide that additional insight into the individual, especially in identifying poor risks. It's also, of course, given that it's the most valuable, the most difficult to ascertain and draw

inferences from on an automated basis. We spent a lot of time working through this to try to hone in and make it as effective as possible. As you all know, each drug can be used for multiple purposes, so trying to ascertain exactly what the treatment is for which it's being used is a challenge.

In addition to looking at the multiple uses, we have a three-prong approach. We look at the association of drugs. We are looking for that cocktail that you would use for a treatment; probably the most infamous would be AIDS, where there's a prescribed cocktail. However, the same thing happens for other conditions that people have today.

The second prong is grouping of drugs. That refers to having multiple conditions that are being treated. Cardiovascular is a common area where you might have multiple conditions being treated—for example, cholesterol and high blood pressure. This is looking for combinations of cocktails that are associated with each other and understanding with that grouping what might be the overall mortality assessment.

The third prong that we use is a probability of treatment associated with a disease. That's a fancy way of saying that if a drug is used almost exclusively for something, we cull those and look at them individually. That helps us on two fronts. It's really a safe check for us. For some time after they're initially introduced in the marketplace, drugs are almost exclusively used for one condition. That helps us update the system for new drugs as they're brought in, which is critical. It's not that we have that many drugs coming into the marketplace, but pharmaceutical companies rebrand them, so you can have as many as 10,000 a month come into the market.

The second use on this, though, is that a drug will be used almost exclusively for quite severe diseases. A good example is breast cancer. Tamoxifen is used almost exclusively to treat breast cancer, so as soon as you see that drug, you know that's really why it's being used. In fact, the side effects on a lot of those drugs are so severe that if they're being used for something other than that condition, their health is questionable as well.

The other aspects of our analysis involve bringing in the application responses, because that also influences how you would draw inferences on the prescription data. For example, we look at gender and what that might mean to the drug. An excellent example is estrogen. If a male is taking estrogen, it's a very different inference than if a female is taking it. But you can also look at dosages as well to draw those conclusions. We also look at build, tobacco use and so forth to understand how those play into what we found as inferences in their health condition and generate an overall mortality assessment as a result of it.

The price improvement by using electronic data is going to vary from what you already have in the marketplace today. If you're already using some underwriting,

adding electronic data is going to add less than if you're using none at all. We learned from the earlier study that was just presented that there's certainly a spectrum of what's being done. What we have found is that there's approximately a 20 to 30 percent price improvement over simplified issue in the market today. Moloney Slide 2, page 3 shows an illustration. Of course, it's going to be hard to compare. You are going to have programs that have standard to T4, standard to T2 and so forth, but we found about a 20 to 30 percent improvement.

I've described the price improvement that this brings and the fact that it's still transactional. With the electronic data, you can offer a more meaningful face amount than might be available today in the marketplace. The other value, I think, is probably number one. This is distribution-friendly. If you can have a product that can underwrite instantaneously, they don't have to go back to the applicant and, more importantly, they can get paid very quickly, then you'll make them happy. The customer-friendly aspects of it include the fact that it's completely behind the scenes. It's transactional to them. They can get a face amount up to $250,000 quickly.

Next I'll discuss resource management. With prescription data and the fact that so many new drugs are coming into the marketplace, to stay on top of it you need fairly highly skilled underwriters to look at the prescription data. By automating it, you make it more efficient for your operations as well as generating consistent decisions.

Finally, the other value of having an automated underwriting system is that it provides that support for growth in your marketplace by being the bridge to reaching middle America and offering revenue growth, as well as being scalable with technology.

I mentioned earlier that I wanted to go through how we derived some of the background elements of bringing this capability to market. The alternative underwriting is going to generate alternative mortality. To understand what the mortality was, we used gateposts. We looked at simplified issue and we looked at fully underwritten. I'm going to just run through some high-level results we have from these studies.

We looked at over 3,000 simplified issue applications. Because you don't have a lot of insights on it—it's just how they responded—we don't have what we would know if we fully underwrote it and knew the true health condition. To give you some background on what they did fill in, it was a short application. There were a couple of health questions to be answered "yes" or "no." To be accepted on this, they had to have responded negatively and not affirm any health conditions.

As to be expected, the average face was around $73,000. Between $25,000 and $100,000 was offered. The average age was 42, which is standard for simplified

issue. It was predominantly female, which is also standard for simplified issue. We found that about one in four applicants lied on their applications. Twenty-seven percent who had lied had a non-benign prescription profile. So to dramatize some of the findings, we found breast cancer, congestive heart failure, renal transplant, hyperlipidemia, heroin addiction, seizure disorder and psychotic disorder. A lot of mental disorders actually came out. The list goes on.

We did a full underwriting study on over 10,000 applications. This provided real insights into what mortality would result from alternative underwriting, because we were able to compare it against what you would have gotten if you had all the insights.

On this we had a higher face amount, as to be expected. The face offering was between $100,000 and $500,000, and the average was $312,000. The average age was about the same as the simplified issue, just slightly younger. As to be expected, it's predominately male.

Findings on this were that in 2.4 percent of the cases, the prescription data would have added insights over full underwriting. So in addition to APS and all the other requirements that you would use, 2.4 percent of the cases would have had a changed underwriting decision. This may not seem like a lot, but in a competitive environment and fully underwritten business, that is material.

Also, just to split it for you, about half of the findings were minor, meaning that we would have changed from preferred to standard, one class. But the other half would have been severe changes. We found conditions like cancer, diabetes and heart disease, which we didn't detect from the underwriting that was taking place. A good example I used earlier was tamoxifen for breast cancer. It's something that you wouldn't detect unless you got an APS. It's generally found in younger females, so it's not in your underwriting requirements to go and pull the APS, especially if you have time standards you have to meet for your agents and distribution channels. You just can't afford that.

I'm going to run through a few case studies and talk about some of the things we did find that people had answered "no" to in their histories and what our system would draw for inferences as a result. The first one is just a benign condition and our interpretation of the drugs. This is a female, age 36 and build is normal—height is five foot five and weight is 135 pounds. On the simplified issue application, she answered "no" to all the health questions. By the way, our general counsel is here so I should say that we changed all the names to protect the innocent. We found just antibiotics—tetracycline HCL, Amoxil and so forth, nothing serious. These would have been used to treat minor infections. We pulled MVRs and a credit report. This person had a minor traffic violation and nothing material in the credit report. Underwriting details in this individual disclosed that she was a non-smoker. There's no action on the build and nothing material in occupation and so forth.

We scored the prescription data. I mentioned earlier that we have a score from zero to 100. In this individual, because of the antibiotics, we scored 15. I wanted to highlight this because if she were taking numerous antibiotics, that would raise a flag that she might be being treated for AIDS. So even though 15 scores positive, it's still a preferred risk. It still generates some scoring, so that if there were numerous antibiotics, that score would rise to a point where you'd actually raise a flag and might decline. MVR produced a minor score of three. The final decision on this is preferred, as would be expected with no serious health conditions. We'd return an underwriting decision back to home office that this person is accepted for the face amount that she applied for and her monthly rate is $34.

The next example is a female, age 46, five foot seven and 110 pounds, which is a very low body mass. She's a teacher and, again, answered "no" to all the questions. When we pulled the drugs on this individual, she was on a lot of prescriptions for depression and anxiety; some of them were less serious than others. There was Prozac and Wellbutrin, which are not that uncommon in use today. Another one, Nortriptyline, is fairly severe for treating anxiety. As well as the dosage, the quantity and the duration, this would indicate, certainly, a history of depression and anxiety that would rate this individual.

For MVR, there's a minor violation, and there is nothing material in the credit data and she passed.

The underwriting details to go through include non-smoker and underweight. The occupation and the questionnaire didn't raise anything. The prescription data was scored to be fairly high. I think that is probably standard on its own. The MVR data is minor. The underwriting decision is actually a combination, and I talked earlier about it. We integrate the application response with the prescription information and the other data that are pulled. In this instance, because she is underweight and because of the information about her anxiety and depression, it generates a final decision of a Table 2. There is the concern that this person probably has anorexia. In this program, it's accept up to Table 2, so the underwriting decision back to home office shows as an accept, but she has been rated as a Table 2 for our own analysis after that.

The third case study is breast cancer. I've talked about this a few times. It's a female, 34 years old. This isn't uncommon. She answered "no" to all the questions. When we went to her drug profile, we noticed that she was on Nolvadex, which is a generic name for tamoxifen, if you're more familiar with that, which is used almost exclusively to treat breast cancer. In this case, the prescription score is very high and would generate a decline. In this case, in underwriting feedback to home office, rather than accepting, it has a decline code that would give them the ability to send her a letter that says why she was declined.

The last example that we have here is a stroke, male, age 55, five foot nine, medium build, 230 pounds. Again, he answered "no" to all the health questions. The drug profile shows a history of Coumadin and Toprol, which is indicative of a stroke and which would generate a score of 47 on the prescription data. There's a slight debit for his build, given that he was overweight for his height. The final decision is Table 4. That would also generate a decline in a standard-to-T2 acceptance program.

I talked earlier about price and the advantages that come from using electronic data. I'd like to highlight some of the elements that will influence pricing or ultimate mortality. The data that you get on prescriptions, the coverage rate when you go to a database and get information on an individual, whether it's just that the individual's name is there and he or she is not using anything, or that you get a history on the individual, is going to influence the amount of protective value that you're going to get from it. If you don't have a high coverage rate, you don't get a lot of insight. We found that the target age is important in getting that information. There's less information above age 65. Also, people in very low socioeconomic situations are not going to have a good coverage rate.

I mentioned this earlier, and I'll just touch on it again. If you're already doing a lot of underwriting, it's not going to add much value. But depending on how competitive your marketplace is, that may make a difference. Time standards are also important. If you need to turn this around quickly and quoting is important to provide that instant gratification, getting electronic data can be very powerful because you cannot get those insights otherwise.

In an earlier presentation, I talked about antiselection being a key risk for us today in distribution channels and what we might be up against. Using electronic data can very much help in isolating—whether it's distribution, individuals, checking what they're doing and so forth—and understanding what the business is by getting that extra insight.

I wanted to run through some dos (and maybe some don'ts) of studying and getting more insights into understanding mortality for alternative underwriting or trying to get that next product. How do you derive the mortality that's associated with it? Historically what we've tried to do is go back and look at just actual experience. I think we can accelerate our learning if we can try to pull the information together and do it overtly, rather than just looking at the historical trends.

We've spent a lot of time over the last few years trying to pull this together, and we certainly learned a lot in doing it. We've been working with some companies trying to do these studies. If you have any questions, or if you might be interested in doing this study, I'd love to talk to you about working together.

Some of the things that we've found in designing your own study and

understanding mortality include getting the objectives clear up front and making sure that the study and the information you're going to collect is consistent with that. It's not rocket science, but I certainly wanted to share that. Communicate and then communicate. That's a huge issue. Have a core team, so that when you do communicate, they're part of it, they have ownership and everybody is on the same path.

Limit the information that you're collecting to what the objectives are. Trying to collect everything is going to become so burdensome that you're never going to get the study completed. You're going to have scope creep, and you'll lose sight of what you're actually trying to learn.

Minimize interpretation. When we were doing these studies, we had the underwriters provide us with what the decision would have been if they used prescription data. It became incredibly challenging to get them to stay within what we were trying to do, as opposed to what they wanted to ultimately say or to wanting more requirements, because that's what they're used to. Having them change how they thought was very, very difficult. Minimizing what we had as a questionnaire that they had to fill in was important. We had the underwriters see the underwriting requirements that they would have traditionally and what the underwriting decision would be before they got the APS, then gave them the prescription data. Then we asked them to say what the answer is and gave them the APS to see how all those things fit together. By giving them everything up front, they just immediately went to the APS, and we couldn't get an unbiased answer. So designing it to be able to minimize that is pretty critical.

The other is to stage the objectives, so that you do get some early findings—some low-hanging fruits—so that everybody feels that there's something coming out of it. Iterate on it so that you get those deeper insights that you're trying to draw, but take longer time down the road. In pulling this stuff together, it can continue to enhance products, bridge middle America and offer new revenue streams.

**FROM THE FLOOR:** I have a question for Michelle. When going through the simplified applications and then checking the drug records of those people, how many of those would have been kicked out just by the MIB alone that something was amiss and that people were lying? In other words, what's the value of running the MIBs?

**MS. MOLONEY:** It's surprisingly very important. It's going to depend on distribution channel and the degree of antiselection, especially when you introduce a program into the marketplace. If you have an agent channel, they'll send you every application that has been declined somewhere else. So the first month it's invaluable, but it's going to dwindle down and probably levelize, I'm going to say. You're going to get a hit about 20 percent of the time, and probably 25 percent of those are meaningful and cause a decline.

**MR. EDWARD P. MOHORIC:** I have a question for Michelle also. Drug database monitoring is, of course, evolving quickly. I would like your reaction as to its current efficiency. As recently as a year and a half ago, it seemed like a great idea, but it was coming up with about 40 percent failure rate. My impression is that it's up to 85-plus now, but I would like to get your reaction to it.

**MS. MOLONEY:** Again, it's going to vary. That's going to be my answer to everything. It's going to vary on socioeconomics, age and other attributes. I think that there's a higher hit rate, as well, if they already have medical. So if you're underwriting for medical, you're going to probably get the number that you just quoted. Certainly, right now we probably are seeing somewhere between 60 and 70 percent hit rate. The beauty of it is that it's going to get better; at least, that's my expectation. As it does, if you price for what it is today, you have some pricing advantage in 12 to 24 months as well.

**MR. MICHAEL TUCKER:** This is for Michelle also. Have you given any thought to making marital status a question on the application? There are significant differences between married and non-married mortality.

**MS. MOLONEY:** I'm not a lawyer, but I don't think you can ask marital status. That's one for compliance. I think that you can't ask marital status because it also would be linked to sexual behavior and linking to AIDS. I think that probably in most states that's not a viable option.

**MR. TUCKER:** I'm not sure that's true, because in the health marketplace it's being asked quite a bit.

**MS. MOLONEY:** It could be different in health. I don't know. Maybe somebody else in the room knows, but I didn't think you could do it for compliance. We aren't asking.

**MR. SHAWN D. PARKS:** I'm curious on the credit check. What is it you're looking for there? Are you looking at credit score? Are you looking for specific details that pop up that are related to hospital bills?

**MS. MOLONEY:** Right now, it's more of a fraud check. If there's fraudulent behavior, that would make the applicant more suspect. We'd like to see it evolve over time, and then we could actually find links between MVRs, for example, and lifestyle behavior. That's a few years out, but I think that credit data has a lot more insight to it that we're not drawing on today.

**MR. LORNE W. SCHINBEIN:** My question is for Ms. Moloney also. Have you gone through the cost structure of those various requests? I understand MIBs are like pennies, but what is the cost for that whole process of the MVRs and so on? Do you

have a ballpark estimate?

**MS. MOLONEY:** The data on average is going to depend on states and so forth. The most expensive is MVR, and the cheapest—you're probably right—is either MIB or credit. A ballpark figure I'll throw out there is about $25, but it's going to vary. MVRs for some states can be as much as $15 or $20, so that's going to have a big impact.

We've actually done an underwriting study to understand the value of MVRs and their insights into mortality. We don't get MVRs everywhere because if you have an underwriting requirements grid, for example, in traditional we might have one for MVR where it says by state, age and gender and where you would order or not order, based on the face amount and so forth. I think MVRs, too, are going to be increasingly more expensive down the road as states have increased deficits and need a new source of revenue. That's an easy target, and we've already seen a lot of activity in Connecticut, for example, and other states where they started to increase that cost.

**MR. JOSEPH KORDOVI:** This is a question to both Michelle and Brian. Is prescription data available in Canada?

**MS. MOLONEY:** It isn't currently. I think that there are some regulations against it. What's interesting is it's almost all captured by one source, so when regulations are more favorable toward its value in the marketplace and why it can be used, I think that it's a great avenue for Canada to go toward.

**MR. LOUTH:** I'll confirm that. It's further advanced in the United States, but certainly a bright young actuary might be able to figure out how to make it more effectively used in Canada.