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Session 22PD
The Actuary and Underwriting: Operations and Profitability in 21st Century Health Insurance Risk Management

Track: Health

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Summary: This session is designed to help actuaries understand the importance of their involvement in the medical underwriting process. The panel discusses underwriting methods being employed today, benefit versus cost of using various underwriting tools and necessary interaction between the actuary and the underwriter. Attendees leave with a better understanding of the tools, information and methods used in underwriting medical products, as well as the roles served by the actuary and the underwriter.

MS. VALERIE ANN LENDT: Hank George is a consultant, a writer and speaker. His focus is on risk management strategies, especially teleunderwriting. He spent 15 years with Northwestern Mutual and has been in life and health underwriting for over 30 years. He's the chair of Life Office Management Association's (LOMA's) International Underwriting Conference, chair of five industry study groups and has addressed hundreds of insurance conferences worldwide.

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Mark J. Franzen has been active in health-care technology and data analysis for the last 15 years. He's currently CEO of IntelRx, which provides insurers with data and software to make intelligent use of pharmacy information in the underwriting process. From 1995 through 2000, Mark was the president and CEO of Infotrust. Prior to that, he was health-care actuary at Trustmark Insurance Company. He began his career as an assistant professor of mathematics at UCLA.

Kathy Thomas is president of K.A. Thomas & Associates, a firm specializing in individual and small group risk management. She spent more than 20 years with Time Insurance Company and later Fortis in various executive positions within information systems, marketing and underwriting. She left Fortis at the end of 1998 to establish her own consulting practice that provides a wide range of services to indemnity, PPO and HMO carriers. Her firm has assisted carriers in a variety of areas, some strategic in nature and some tactical.

I will wrap it up. I am vice-president and health actuary at World Insurance Company. I've worked in health insurance for about 17 years. My primary responsibilities are product development, pricing and rate and risk management.

MR. HANK GEORGE: Today's challenge is to talk about ways to expedite and enhance the risk management process for individual and small group health insurance and kindred-spirit products. Because the backgrounds and orientation of the presenters are very different, I thought I would confine myself to talking about this from the perspective of someone who spent most of his life on the firing line as an underwriter hawking urine and blood for a lab. Teleunderwriting is a word that has gained a great deal of buy-in, a great deal of embrace in the last decade, yet it's a word whose meaning remains elusive. I can testify to the elusive nature of the meaning of the word because in one of my lives I chair an entity called the Underwriting Future Group. The 13 members in that group spent an entire day arguing about what it meant. They came mainly from companies that already did it. So, suffice it to say that this is a word that encompasses multitudes. I'd like to attempt a very broad definition of teleunderwriting so that we can all be on the same page as to what I'm referring to.

Teleunderwriting is a novel approach to life and health risk management that is driven, first and foremost, by the telephone interview. In the years ahead that may very well be the Internet interview or the Web site interview, although that is primarily a little bit ahead of the curve for most insurance companies in North America. With a drill-down of all "yes" answers, which means, simply stated, an amplification of all answers to the risk-related questions on the application so as to create a portrait of the individual applying for insurance, the whole idea here then is to use this portrait in unison with other pieces of information that may or may not be optionally acquired to create an alternative way of determining insurability and thus weaning oneself of reliance on the tools of antiquity.

Teleunderwriting has been primarily embraced thus far by the life side. Some say it is unlikely to make a big dent on the health side because there are differences between the health and life sides of the business that make what is obviously going to be the dominant mode of risk management in life insurance in the very near future if, in fact, not already today, less of an appealing commodity on the health side. Well, the fact of the matter is that's not true. It's the similarities or, rather, the common shared demons that compel us forward on all domains. In fact, this will have every bit as much of an impact on disability insurance and critical illness insurance as it will on life and major medical.

Why will it have such a huge impact? It doesn't get much better than having a list of endorsements. It is simply faster, cheaper and, depending on how you do it, potentially incredibly superior to what we've done historically. The faster and the cheaper part alone will gather a strong following since turnaround times that don't approximate a season change and acquisition costs that don't leave us bereft of any assets are already high enough on the agendas of senior management in every domain of insurance. But I find it's the potentially better aspect that has created some focal angst on the actuarial side. This is true for life as well as for health.

How could you possibly, forsaking the old, still have something not only as good as, but superior to what you had in the days of the attending physician's statement (APS) and other ancillary and now antiquated tools? We'll talk a little bit about that, but suffice it to say that I think amongst those who have already embraced teleunderwriting, and this goes every bit as much for health companies as it does for myriad life companies and others, all of these criteria have been satisfied—faster, cheaper and better. In fact it was just a few months ago at an event called "Best Practices" in Chicago that I heard a statement that I had been waiting a long time to hear publicly. I knew it was true privately, but it's always good when it comes out of the mouths of others and not me. This was that the long-anticipated statement that, dollar for dollar, the teleunderwriting interview has more productive value than an APS. That was the statement that some people thought could never have been said by a human whose nose would not have begun to grow immediately on uttering it.

What makes teleunderwriting faster and cheaper than conventional underwriting? The core of the information, the critical mass of information, is gathered in a telephone interview. We replace our longstanding reliance on physicians' records as our primary source of risk information with an interview. The interview could become the application process, or much of it, as well as the risk-information-gathering process. The two are melded seamlessly in many environments on the life side, and we use the interview and the drill-down to create a portrait of the individual that we find consistently and reliably as consonant with reality. So much so that companies who order telephone interviews in lieu of physicians' records, and then after a significant batch of business has been issued on this seemingly risky basis, go back and audit the results by ordering physicians' records on those cases they've approved. They match the marginal additional protective information

against what they had on the interview and come away shaking their heads, saying, "I had no idea people would tell you this much information on a telephone interview."

What makes it faster is that we can complete the telephone interview in a matter of days, where it is a great triumph to turn the average physician's report in fewer than 17 working days. What makes it cheaper is that the cost of a telephone interview on an expensive day is a fraction of the cost of the physician's report, and I'm talking now just about out-of-pocket dollars alone, notwithstanding the underwriting time and other costs secondary to the physician's report that are largely absent by comparison with the telephone interview.

Why is it that some of us are so hell-bent on moving away as quickly as our feet will carry us from the age of the physician's report? Well, it's nothing personal. Mind you, most of the people who've cut their teeth on underwriting—whether it's life, health, long-term care, whatever, who are like me—relish a good APS. There's nothing more fun in the world than to wade through a physician's report and find all these fascinating facts. We really enjoy that, and we're going to miss it, but we'll get through it somehow.

The reason we're parting company with these ancillary ancient tools isn't because we don't enjoy them. It's because we were foretold in a dream that things are going to get more difficult before they get better. Take, for example, the issue of expense. The cost of physicians' records is rapidly escalating. In the U.K., where I did a seminar not dissimilar from this last autumn, the price has gone to 60 pounds sterling, roughly $90 U.S., and is said to be destined to reach 100 pounds sterling in two years. In the United States and Canada, it's a much more modest $50 or $60, but who can say with managed care where we could be in two years?

Then there's the issue of delay. We have tried literally every strategy that we can think of, and the result is we can't turn them more quickly. In fact, there are rumors that the turnaround time is actually getting slower, especially in some large HMOs. In fact, size is proportional to turnaround time. The larger the organization, the longer it takes. Who'd have thought that a country doctor could beat a large HMO?

Then there's the issue of genetics and gene therapies that we have to deal with. I don't have to tell those of you who track underwriting what an issue this is becoming. The rate of introduction of new genetic tests into clinical medicine is escalating multiplicatively. Every time I get a copy of a medical journal of any kind, and I get 60 of them, it's amazing to me how many articles are devoted to talking about a new test for a particular substance related directly to the human genome that is being introduced in some level of either research or applied medicine. Then you add all the gene therapies and all the data from all the gene therapies that will be filling up the medical records of our hemisphere. You wonder just how long it's going to be that we're going to have access to the medical records and

what portion of the medical records of the patients of the next decade are going to be considered persona non grata. When those data are whited-out or removed through some more sophisticated technique, you wonder whether what we will have left is going to be worth even a fraction of what we have to pay for it. So, adding on genetic testing, gene therapies and their specter-like implications, and then adding onto that HIPAA, it's interesting that now we have multiple authorizations to release information.

In fact, I was reading recently a lead article in the *American Journal of Psychiatry*, and it instructed psychiatrists and their kindred on how to prepare themselves for HIPAA. It talked about what information they could and could not release. I was so excited reading the article that I photocopied it immediately and took it to my own psychotherapist. I said, "I've highlighted for you in yellow the parts you want to read about medical records pursuant to your own patients." The amount I had to highlight and the amount that was in there that was relevant that would affect our access to records on these most sensitive histories You add that to the genetic issues, the expense issues and the delay issues, and it begins to make the whole issue of our conventional reliance on physicians' reports something worrisome for us as an industry.

How can the telephone interview replace the APS as our primary resource? In an experiment at the Mayo Clinic they dabbled in how to accomplish this task and set to comparing doctors gathering information from patients on alternative medical regimens to patient information gathered by pleasant female voices. When they found out that by having a non-physician, pleasant, female voice call a patient before arriving at the outpatient clinic they could double their yield on confessions to using everything from Coenzyme Q10 to Ginkgo Biloba, they gave up having the doctors ask. We already know from what we've seen that high quality drill-downs customized to the particular underwriting environment will allow us to elicit so much information that our underwriters will be empowered to decide which physician's reports they order and which they do not, that that way of thinking is gone forever.

What makes it particularly fascinating is how we can append certain additional resources to the fold—everything from something as routine and conventional as the Medical Information Bureau (MIB) to something as exotic as a pharmaceutical database or a so-called e-screen—and use these things in tandem with the telephone interview. Much of this is acquirable in a fraction of the time of a physician's report and for a fraction of the cost. Through the synergy of the pieces, we are able to get the job done more quickly, more inexpensively, and more to the liking of the customer.

One of the interesting and intriguing items is the pharmaceutical database, and one of my co-panelists, Mark Franzen, will talk a little bit about that. Must one rely on pharmaceutical records gathered through one of these resources? The answer is no. In a perfect world that would be ideal. But it is amazing to me as an underwriter

when I look at the caliber of the questions we ask proposed insureds about their use of prescription pharmaceuticals and all other genre of self-prescribed and self-indulged pharmaceuticals and pharmaceutical-like entities, how poorly we ask the questions and how much better we could be at eliciting and using this information.

I've said from the beginning of my underwriting career if I know what an individual puts in his mouth and other selected pharmaceutically acceptable orifices, I know a lot about that person. If I can see what's on their dressers in their personal pharmacopoeia, I'm halfway home to establishing their insurability or lack thereof. If we could only enhance the gathering of this information on a telephone interview and the way we ask about it on our applications, it's amazing what we could accomplish in this domain.

There are two pharmaceutical database resources: Script Check and Med Point. First of all, they're wonderful foils for the person who has transient amnesia and fails to disclose. Secondly, they're a wonderful way to find out if the person who got the prescription ever filled it and hopefully then took it because knowing that someone was prescribed a drug is a long way from knowing, especially at older ages, whether they ever bothered to take it. So there are some incredible advantages to the pharmaceutical database resource by itself.

When you look at the data on the importance of taking medication as opposed to simply being prescribed it, and you correlate those data, you find that people non-adherent to regimens directed to them by their physicians tend to have much less desirable outcomes. There is a great deal more morbidity and mortality than for those who are adherent. Knowing whether someone is adherent to a regimen can be critical in determining his insurability. That's one of the things that is nice about the pharmaceutical database product.

The other thing that's creeping into the equation is the accelerated use of what we call nontraditional fluids, if, in fact, drawing blood from someone to complete a financial transaction can ever be seen as purely traditional. The meteoric rise of oral fluid is especially interesting in this regard because it can literally be collected by producers, many of whom are trainable to the point where they can actually tell someone to take a little thing that looks like a cheap business class toothbrush and rub it on their gum two or three times and put it back in a bottle. I'm encouraged now that oral fluid may become an increasingly dominant mode of affirming certain essentials in health insurance risk management. It could be much more than just convenient if allegations of the possibility of testing for high sensitivity protein, the most promising new marker in coronary disease, are correct. Allegations that it can be done on oral fluid should be born out, in fact, in the next 12 months.

I've been traveling around the industry having a fair amount of commerce with folks on the health insurance side. I have a hard time appreciating why there seems to be focal reluctance on the part of health insurance companies who are eligible to participate in the MIB, and I happen to be privy to several who have begun doing

so in the recent past. The feedback is tremendously positive. I just can't imagine why this would not be an asset, especially as we move into teleunderwriting. When I saw the responses I got from my study group on this subject, I was flummoxed and decided to throw in a plug for something I think is very useful.

I created the Health Underwriting Study Group (HUSG). Right now we have 60-or-so individuals representing about 45-or-so individual and small group health carriers that come together in a non-profit undertaking. We have underwriters. We have actuaries. We have a few people from other disciplines thrown in for variety. We get together once a year for several days, and we talk on a common agenda. Membership is modestly inexpensive because it just covers our expenses for the meeting. I think it's the only venue in our world where individuals get together and talk about common risk management problems and do so in an atmosphere where we are very protective against any considerations of a negative nature. As regards antitrust collusion, we are very protective; we allow nothing to go down that would be misperceived.

MR. MARK J. FRANZEN: As Hank said, my company, IntelRx, provides one of these underwriting tools that Hank talked about—pharmacy data. I want to give you a case study of actuaries working with underwriters and analyzing some of these tools, particularly the pharmacy database. Some of the tools Hank mentioned, as well as other ones that we're seeing now, are changing the face of underwriting both in the life and the health side—prescription histories, MIB, credit scoring, teleunderwriting and just the telephone interview.

I'm going to tell you about some of the work we've done with my clients and prospects. I have been analyzing and trying to get some hard data on how effective these tools, particularly the pharmacy database, are in the underwriting process. What are we looking for in an analysis? First of all, do the benefits outweigh the cost? Particularly on the benefits, what is the impact on loss ratio? What is the impact on claims reduction or increase in premium? What other kinds of benefits can come out of this in terms of efficiency, faster issuance and the kinds of things that Hank mentioned? Then we compare that to the direct cost of the tool, as well as some soft costs. When you implement a new process like the pharmacy data, you may change your process. It may cause some unexpected costs. We will try to get a handle on that as well.

Another question to answer is where best to use a tool like this—not only what is the benefit, but where can I maximize the benefit? In other words, maybe I do it on all my health applicants over 30 years old. Where's it best used? Where's it going to be least disruptive and have the most payback? This involves both actuaries and underwriters. Typically we, as actuaries, have experience doing this type of study and may see a larger picture, but really we need the underwriters because they're the ones on the front line that see and know how this stuff impacts the business. They have the technical expertise. They understand the process. They have that front-line perspective.

We've dealt with a couple of different kinds of studies I call the retrospective study and an in-place study. These can apply to other underwriting tools, but I want to specifically talk about my tool, which is the pharmacy data. A retrospective study is a what-if analysis—the idea being let's take some cases that underwriters have already made decisions on and apply the tool retrospectively and then quantify the results. This is certainly the easiest and least disruptive, but it may not be feasible in all cases. Another alternative is an in-place study. This would involve setting aside a block of business where we're going to run in parallel without the tool and with the tool, and then document some of the results and try to analyze them and come up with a quantified value. Again, this may not be feasible in all cases.

I'm going to talk to you about prescription history and how to measure that. I want to describe what Rx histories are, how they work, how we did the study and discuss some of the results. I want to briefly describe how this works. We tap into pharmacy benefit manager (PBM) data. Most of you are familiar with PBMs. They're kind of the middleman between health plans and pharmacies. We tap into their data to pull history on an individual applicant. We need a signed authorization. An authorization has to be part of your application process. It can typically be language that you already have, but we need to add the word, "pharmacy". So, in other words, "I, the applicant, authorize any of my providers, including doctors, hospitals, medical facilities, and pharmacies to release treatment information on me for the purposes of analyzing my application for insurance." That's what the authorization must say.

Once we have that authorization, then this process certainly satisfies both the letter and spirit of HIPAA and other privacy regulations. Once we have that, then we can send identifying information onto the PBMs through data aggregator. Typically the data we need to look up is just name, social security number and date of birth. We clear the PBMs, come back with the pharmacy records from each PBM on the individual, and aggregate them together. IntelRx has built some interpretive software that we can then present to the underwriter. The interpretive software's important. You don't want to just dump a claim list or a claim file on an underwriter's desk. You want to make the most use of the underwriters' time by presenting things in a logical fashion and giving them some interpretation of the data that they're seeing. When Hank talks about pharmacy databases or I talk about pharmacy history, this is what I'm talking about.

Let's consider the case study. We've done this with six to 12 insurers by now, but I'll discuss a typical one. We worked with a large individual health insurer. We did a retrospective study where their underwriters randomly chose 400 applications where they'd already made an underwriting decision. Then they reviewed the file comparing whether they would have changed their decision if they had had the tool in place at the time that they had originally made the decision. So, again, this is retrospective. Then the actuaries analyze it and pull the results together. When the underwriters take a look at the files, they're looking for things like: "Would the

pharmacy information that I got allow me to make a different decision than I had made originally?" Along the way I'm going to document things like whether there was information that wasn't disclosed on the application. Were there doctors not disclosed? Were there medications not disclosed? Would I have made a different decision?

After the underwriters make this kind of review, it's turned over to the actuaries to compute the financial impact. What are the savings? In our case study the actuaries decided there's only a value. We're only going to count a value when the actuary said we'd make a different decision. In other words, without the tool we made Decision A. With the tool, we would have made Decision B. That's the only case that we'll count value here. In this situation, the underwriters either had actions available to rate-up, decline, or to issue a waiver or an exclusion. In the case of a rate-up, the value is just the amount of the additional premium. In other words, before the tool, if they said it was standard issue and after the tool, a 25-percent increase, it's worth 25 percent of premium. For decline they assumed a maximum rate-up. So, to add up the savings you just multiply the assumed percentage increase by average premium times average duration, add them all up and divide by the number of transactions to get a per-transaction value. In the case study, they got a savings per Rx history of $586. Again, this is just adding up the change in the decision, whether it be a rate-up or a decline, and dividing by the total number of Rx histories delivered under the test.

They found that 82 percent of the cases had physicians that weren't disclosed on the application. They also found that 76 percent had conditions that weren't disclosed on the application. In 42 percent of the cases, the underwriters said they would have made a different decision with this tool. We learned a couple of things. One is the tool is showing real value. The second thing is there's some real anti-selection going on. We have done this now with a number of individual underwriter clients and we're finding similar results. In fact, in every case, we're seeing real non-disclosure by the applicant. As Hank said, sometimes it can be memory; other times it involves hiding things. This kind of study can not only tell you about the value of the tool, it can also tell you about your applicant population and what kind of non-disclosure you're seeing.

The actuaries value this tool at between $60-$500 at various companies. To give you an idea of the return, we charge between $10 and $15 per history when we deliver this. So we're talking about returns of 20, 30 and 40 times.

We learned many lessons in this process. You certainly need to understand the underwriter's perspective. I think a lot of times we, as actuaries, think we know the answers and can do the study, but you really have to work with underwriters on this and get their perspective on the use of the tool. It's always best, if you're doing a retrospective study, to follow up with an in-place study. Nothing beats a parallel test when it's in place.

MS. KATHY THOMAS: I'm going to talk to you a little bit about partnering between underwriting and actuarial. My firm deals specifically with individual medical carriers. We do a number of things, but what we pride ourselves on is really taking a very holistic look at risk. We are not just looking at, let's say, medical guidelines. We are looking at how the underwriting area interacts with the rest of the organization and making sure that the risk-management philosophy for this line is really consistent and represented in each area. We've had some pretty good success with things like reducing APS costs by two-thirds, reducing turnaround by half and improving first-year loss ratios by 5-10 percent. We specialize in individual medical. There aren't too many lines like this out there.

I'm going to focus, as I said, on individual medical, but I'd like to start by doing a review of where this marketplace sits. Most people in the United States have their health care financed through their employer, which includes small group, large group and also local, state and federal employers. Less than one-quarter of people in the United States get their health care financed directly through the government, and, of course, that would be Medicare and Medicaid. What remains is about 20 percent of the population. What's interesting about this 20 percent is they are very, very fluid. They're continually moving in and out of insured and uninsured status, and they're continually moving in and out of the other segments as well. There's been some controversy over the last few weeks in that a Congressional Budget Office report has just come out that says that the 40 million people that we thought were uninsured—that number may not be correct. It may, in fact, only be 20 or 30 million. But for the purposes of what I'm saying we're going to use the 40-million figure. The 40 million is probably accurate for any given moment in time.

Who are these people in the individual market? It's a very diverse population. About half of small employers out there don't provide medical coverage. A lot of these people are working at low-paying jobs. In other cases there are states where their small group reform has forced dependence off of small group plans because of the cost. We have homemakers. We have students. There are a lot of different kinds of people in this market who are there for very different reasons.

This is a roulette wheel. This is the individual market for a lot of carriers. It's a big gamble. The reason that it's a gamble is that for every one person that's insured, there are three out there that are not insured. The decision of purchasing insurance is made by the individual. It's not made by an owner of a business. For the last 20 years now people have looked at insurance more as a right, as a discount for drugs, as a means of getting a co-pay. They're not really looking at medical insurance as something that is going to ensure that you can maintain your standard of living if you get a catastrophic disease. The whole attitude toward financing health care is something that is key when someone applies for insurance.
Additionally, in 2003 there's a treatment out there for anything that ails you. There wasn't sports medicine 30 years ago. A fraction of people sought psychiatric care. There wasn't the wide range of drugs available. There are treatments available for every sort of medical condition these days. The fact that many of these, be it

medical procedures or surgical procedures, are expensive just makes the situation even worse, because for the applicant and the carrier the stakes are just getting higher and higher.

For individual carriers, we get one chance to underwrite a risk. That's when you take the application. At that point in time that's when the carrier has to, in whatever way possible, differentiate that individual risk from the other risks in the block because at renewal time you don't get the chance that you do with group and small group to come back and re-price and re-underwrite that individual case. You treat the block as a whole.

Just like there's very significant upfront risk, there's a lot of risk at the back-end as well, especially when you have one out of four people who lapse out and move on to cheaper coverage or perhaps become uninsured because they feel confident that they're not going to have any medical issues. I've worked with HMOs as well as indemnity carriers. I've worked with Blues. HMOs accept/reject, so they are probably only going to issue 50 percent of the applications that they get in. Carriers that offer more options of their rating and ridering, etc., are going to be up around 80 percent. I see a wide range of unit costs, a wide range of investment in that initial underwriting decision. It could be as low as $75 and as high as $300. Obviously if a carrier's doing accept/reject, they're going to have 100-percent standard issue rate, but otherwise it fluctuates between 45 percent and 75 percent. There are a few Blues out there that only have a 20-percent lapse rate for the first year, but, other than that, I think most carriers are going to see a good one-third plus of their block lapse out with each year. This is a very expensive market. The people in this market, dollar for dollar, are paying more for their coverage. They have higher deductibles, higher co-pays and really are getting less coverage than their counterparts in the small group and the large group market. Oddly enough, going from carrier to carrier, I often see that one-third of the applications that come in are for individuals. Another one-third are for families. That remaining one-third are one parent and children, child-only, whatever.

This is the market of last resort. If you don't qualify for having your care financed through one of the other vehicles, you're going to end up here. There's a lot of cost shifting to this market. You have people spread out throughout a geographical area. You often don't have the critical mass to negotiate the kind of discount that other carriers can do with large or small groups.

Some companies are increasing restrictions on underwriting. California and Indiana don't allow exclusion riders anymore. In Florida you cannot decline a woman who has survived breast cancer for at least two years. There's just a whole myriad of things that states are doing to restrict our ability to underwrite. In the last three to five years we've seen some really good carriers exit the market—Principal Group, Mutual of Omaha, National Travelers, Trustmark and Conseco Medical. Now, oddly enough, we are seeing some of the large managed-care carriers making a decision to get back into this market. I think this is really going to have an interesting

impact on the rest of the carriers over the next five years. Humana and Aetna are making decisions to come back. It's going to be very interesting to watch and see what happens.

Most of you work very closely with underwriters. Every day you talk to these people. I thought it might be useful just to kind of quickly go through that relationship. There are a limited number of underwriting philosophies in use—accept/reject, accept rate/reject, which oftentimes is the outgrowth of a carrier that maybe started with small group and then moved into individual medical. But your large carriers that are specializing in individual are more likely to do the accept rate, rider, adjust benefits or reject. They're the ones that are going to offer as many options as possible and try to issue as much business as possible. These are the actions that these carriers will make. The application is by far the most important underwriting tool, and whether that application is one page long or 10 pages long, you can get a really good idea of the underwriting philosophy of that carrier by seeing what they include on that application.

In order to supplement the information on the application, carriers use a bunch of different underwriting requirements. MIB is very helpful when it comes to ferreting out fraud, non-disclosure. There are carriers out there that are using it for 100 percent of their applicants. There are other carriers out there who say, all right, if I get somebody who was not previously insured or doesn't currently have coverage, and they have a clean application, I'm going to MIB these people. It's a really good tool for the money. Both Hank and Mark have talked a little bit about interviews. This is the wave of the future. More and more people are putting that pleasant, female voice on the phone and in a lot of cases that pleasant, female voice happens to be the underwriter, but not all. Let's also consider prescription drug profiling. Ten years ago, most carriers probably APS'd on at least 25 percent of their applications, maybe more. Today that percentage is falling steadily. People more and more are moving away from that.

I took over underwriting at Fortis in 1990. In 1989 we had 50 first-year HIV claims. Things were a little hectic. At that point in time we lab tested and did paramed on 100 percent of adult applicants, but since that time carriers are definitely moving off this as well, except perhaps in cases where somebody's stated weight is close to the cutoff or whatever. These are the tools that the underwriter's using to supplement that application. Where I think actuaries can help is by helping underwriters understand the high risk in this market. Individual carriers typically price with only a 4- to 5-percent profit margin. Only 1 to 3 percent of your contracts are often generating 40-50 percent of your claims. These are the areas where you, as actuaries, can help drive home to underwriters the importance of what they're doing.

It's the underwriting mission to make sure that 1 to 3 percent doesn't become, let's say, 3 to 9 percent. You get rid of not only the profit but profits for the next five to 10 years. With underwriting, you're processing hundreds of decisions a month, thousands of decisions a year. The underwriters need to balance their need to know

with the need to get that decision out quickly. Finally, underwriters also need to be able to sell their decision to an agent. Often when I go into a carrier I'll ask these questions, but the chief underwriter is not always able to answer these questions. What value does underwriting bring? I usually look at the difference between first-year loss ratio versus lifetime. This is a nice way of quantifying it. Underwriters should work closely with the actuaries to see if they're making that first-year target, but it's not always a common thing. It's not always happening everywhere I go. It's very difficult for underwriters to know how they're doing. Loss ratio by underwriter doesn't cut it. Sometimes loss ratio by state isn't even credible. But loss ratio by underwriter, you just don't have the critical mass to work with, and really most underwriting areas still rely on random audits in order to determine whether or not their underwriters are doing a good job.

If you take a look over the last five years, the medical community has changed the definition of good health in the area of hypertension, cholesterol and weight. So those underwriting shops that have not monitored these things have found that what they thought was a standard issue five years ago is no longer a standard issue today. It's really critical that underwriting shops keep up on medical changes. Actuaries can really, really help to ensure that that can happen. I think the first thing that needs to be done is that the underwriter and the actuary need to recognize where we're different. There are some significant differences out there. First of all, there is actuarial science based on analysis or logical thinking where you lay out your assumptions. You consider all the facts, and you present your results. The Society of Actuaries provides ongoing committee work and accreditation. Actuaries come from a very data-rich, logical, conceptual environment, and, even though I'm sure there are days when you don't think so, you live in a very data-rich environment. You can get to the data that you need. You have the tools to do that.

There is an art to underwriting. It's not a science. It's an art. It's made up of judgments. Underwriting needs to be very action-oriented. You always have 50-100 files out there on your desk that need to be looked at that you're just not getting to. There is no credentialing for underwriters. There is no equivalent of the Society of Actuaries. As a result, there's a real vacuum out there. In addition, most carriers keep their underwriting guidelines proprietary. There are very few forums out there for chief underwriters to go out and say, "Are you guys using the new BMI table for evaluating height and weight?"

There are very few places for those kinds of discussions to take place. Really, underwriting guidelines, to some degree, are almost passed down generation to generation. In truth, maybe some of those guidelines might be based on urban legend because it's not the scientific approach that actuaries are used to. The key, though, for the underwriter and the actuary to work together, in my mind, is to focus on the data, focus on the information and focus on doing as much as possible to make sure that you have early warning processes in place and that you're both looking at this information and providing your perspective.

First-year loss ratios are critical. Go out there, segment that block of business any way that you can think of, be it by deductible, by tobacco user/non-tobacco user, by people who had coverage when they came into the block or by people who don't have coverage. These types of studies will give the underwriters the feedback that they need to look at their process. Do it by distribution channel because all distribution channels are not created equal. They're not all bringing in the same caliber of risk. When underwriters can see these differences, they can put things in place to make sure that they're dealing with the differences during the underwriting process.

Monitor first-year-loss-ratio trend. Again, when I work with carriers, the first thing I want to know is what your first-year-target-loss ratio is. What's your actual? Is it trending up or trending down? The more that you can do to help the underwriter understand what is happening with loss ratios, the better off that underwriter is going to be. Reviewing large claims, etc., is also important. I've gone into carriers where the underwriting area is saying we don't have our tobacco-user products priced appropriately. We're losing money on them. In fact, it is that underwriting has not been aggressive enough when it comes to medical conditions where tobacco is a co-morbidity. The base rate's good, but underwriting needs to be more aggressive for asthma and allergies, etc., when it's associated with tobacco. It's only through looking at these types of issues and by addressing all of the outliers that you're going to figure out what the real problem is.

A lot of carriers that started out in the individual market rely on loss ratios, but one of the positive impacts of having more HMOs in this market is that there's a movement towards monitoring cost per-member per-month. It doesn't give you some of the anomalies that occur on a loss-ratio basis, like if you can't get a rate increase through or things of that sort. There's some real benefit to monitoring your experience that way as well.

Am I still receiving one-third of my applications from single applicants? Single applicants to me were always the kinds of applicants that you need to look at very closely because you don't know if you're getting just a wife and not a husband. You don't know if you're getting one child and not the other children. So, you need to monitor that portion of your block as well.

We worked with one carrier to put the International Classification of Diseases-9th Revision (ICD-9) codes together. When you're looking at your claims costs this way you can really zero in on what area of your guidelines might be causing you the problem. Doing it by ICD-9 code or by drug NDC code is very valuable data for the underwriter. I'm a big proponent that underwriting, claims and the actuary should sit down and say, "Okay, what are we going to do next year? What are our assumptions? What plans are going to be sold? What distribution channels are these coming through? What deductibles are going to be sold?" Establish targets as far as your first-year loss ratios or cost per-member per-month, and then just start monitoring, monitoring, monitoring. Don't look at it every month. If you look at it

every month, you're going to panic and chase ghosts. Look at it quarterly, get the three areas together, identify your outliers, and just make sure that all of you are passing onto your counterparts as much information as you possibly can.

I had to communicate with one carrier. I was doing an ad hoc survey on the number of hospital days inpatient during the first year and how it changed. American Medical Security (AMS) passed on an e-mail with some data in it, but attached to it was kind of the history of this. It showed what I would consider a very positive relationship between underwriting and the actuary.

MS. LENDT: You've heard from a couple of people with an underwriting perspective, as well as an actuary who's been working recently in that role. Kathy shared with you some of why underwriting is so important and some of what needs to be monitored. I believe that many of these things are best monitored by, or at least in conjunction with, an actuary because they understand the data and the goals. Hank and Mark each shared with you some information on tools that show a lot of promise for improving the underwriting process. They can not only help get better information, they can also help us issue cases more quickly. Hopefully that'll result in more taken cases. This is especially important given that we probably lose more cases from not takens, incompletes and withdrawns than we do from declines.

Teleunderwriting certainly has the more proven track record of the two tools that we've talked about. Telephone interviews have been used for a long time, but relatively recently they've been revamped and used a lot more. They're starting to perform them on more applicants. They're starting to ask more questions. They're even, in some cases, replacing the medical questions on the application completely with a telephone interview. This is due, at least in some part, by applicants having less tolerance today for the slow issue process that used to exist. They're not going to wait around 30, 40, 60 days to get a case issued.

Prescription verification is a much newer tool. Very few companies have a lot of experience using it. At the same time it's well known that an applicant's prescription history is very important, and companies aren't always convinced that they're getting that complete information from the applicant. If this tool turns out to work well, it'll work very well with teleunderwriting.

I'll provide you with a perspective of a company actuary who's been actively involved in underwriting. I've done much of the analysis that Kathy has mentioned. I'm also assisting on a regular basis in making a lot of high-level underwriting decisions. An actuary's involvement in underwriting can be quite varied. At one end of the spectrum you might just be involved in underwriting to the extent that you're deciding what level of underwriting you think you want to expect for a product. Is it going to be very simplified underwriting? Guarantee issue? Full underwriting? It may even go so far as to compare the underwriting previously used by this company or another company on similar products. But at the other end of the

spectrum, the actuary's going to work very closely with the underwriting department assisting in many underwriting projects and even in some day-to-day work.

Why should an actuary become more involved in the underwriting process? Well, not only will it help the underwriting departments in their risk management, it will also help the actuaries in their pricing work as they're going to gain a much better understanding of the risks to which the company is exposed and the degree of protection from these risks that the company's underwriting is providing. The actuaries' skill set makes them a necessary and, hopefully, valuable part of the underwriting team.

At my first company, when I first started working in actuarial science, we were definitely at the low end of the spectrum in this regard. Because it was my first company, I didn't even realize it. I was pretty much doing what I was told to do. We decided to try to enter the small group market. We priced a product. We got some actuarial input for helping us price the product, but we really didn't consider what the application questions were or how our third-party administrator, who was going to be underwriting it, performed. We took it on faith basically that we were going to get the same level of risk protection as the rest of the market. Needless to say, this didn't work real well. It may seem like this is an extreme case, but how often has a product been priced without really thinking about the underwriting before you're pricing it?

Since that time, I've become quite involved in almost every facet of underwriting. I've assisted with basically everything except the underwriting of individual cases. I think I've become a better actuary as a result of this and provide more value to my company. I'm going to provide you with examples of some of the underwriting-related projects that I believe an actuary should be involved in. I'm going to provide some specific examples and details on some projects that I have worked on.

Kathy provided you with examples of some reports that would assist the underwriters. I'm going to provide you with some more. There's a little bit of overlap but a lot of different ones, too. All of these are things that I have personally worked on and found useful.

You could perform a study, like Kathy said, of what types of early large claims are being seen. From this hopefully you can determine whether any similar claims can and should be avoided in the future by some underwriting changes. Maybe you should be looking a little more aggressively at people who claim that they had a relatively benign heart murmur, for example.
You could perform an analysis of experience by underwriter. It can include claims experience, issue rates, numbers and types of medical requirements, standard versus substandard distribution, rescission and reformation rates, or rates of those that couldn't quite make it to rescission and reformation because you didn't feel you

had a strong enough case, and turnaround times. This may point to certain underwriters who just aren't cutting it and also may allow you to identify the star performers.

You could also perform an analysis of the experience by distribution. As Kathy said, it could be agent-sold versus Internet versus direct-marketed. It could be more detailed and actually look at agent experience or agency experience. It could include all of the different types of things to look at that you could also look at by underwriter. It's going to likely point to certain segments that are clearly not performing. It's quite remarkable what differences we've seen in our agencies that have enough volume. What kinds of placement rates, for example, do they have? Does it make sense to continue with some of those segments?

You could perform an analysis of experience by type of medical requirement—for instance, an APS versus a telephone interview versus blood and urine. It can include loss ratios, issue rates, turnaround times, and standard versus substandard mix, and, again, may point to certain requirements that are more effective than others. You could perform a study on how long it takes the underwriting decision to be made and what goes into this.

Are there obvious changes that can and should be made to speed this up? Are there ones that are a little more painful but could still make sense? Would those changes result in a loss of protected value? That's always a big concern on my part. If so, is that loss offset by sufficiently lower acquisition costs? Obviously this is not a comprehensive list.

I'm going to give a few examples of projects I've worked on in the last few years and what we actually found from those. We instituted random blood and urine testing on our adult applicants in a selected number of states. We initially did this because we were concerned about high cocaine usage and HIV rates in those states. When we got into those states we weren't very comfortable. After we'd done this for a while, I performed an audit of the people we tested. We were, indeed, catching an occasional HIV case and catching a number of cocaine users. Our cocaine hit rate is higher than what I thought it would be. We also found a large number of undisclosed tobacco users, a lot of high cholesterol, liver, hepatitis, things like that. This meant that we were getting some unexpected, if you will, benefits. We knew we'd see some of this, but we didn't know to what degree and from conditions that weren't just related to those being high-risk states.

As experience developed further, we were even able to see that our loss ratios on those issued cases were dramatically different from the loss ratios on those that we weren't testing, once you normalized the group. This led us to expand our random testing to all states. At the same time, the same sort of analysis also showed us that we lose a lot more people as withdrawns and incompletes than when we don't do the random testing, which is certainly a negative. This could be due to the fact that they have a condition that they know we'll spot, and they're dropping out

because there's no sense in bothering. Certainly those are the people we'd like to lose. They could be dropping out because they don't like the needle. A lot of people claim that that's the reason. They could just not like the fact that we're one of the companies that make them go through this test, and they can go to another company that doesn't require it.

Unfortunately, we don't really have a way to quantify which of those things is the more material. Whatever the reason, the result is that it's a much lower issue rate than when we don't test, which increases our issue cost and eats up some of our improved profits. In addition, blood and urine testing is not at all well received by the field, at least with our field. These things are leading us to consider other alternatives for getting this protection. Testing of oral fluids is certainly one of those options. Our underwriters wouldn't have been able to learn all of this without actuarial assistance. I wouldn't have known how this testing was impacting our loss ratios and thus the comparison of one state to another.

We analyzed our issue rates and percentages of requirements by underwriter. We saw quite startling differences. We saw as much as a 10-point difference between the lowest and the highest issue rates, a similar spread between those who ordered the least medical requirements and the most, and between the underwriters issuing the most and least substandard business. This, in my opinion, points to a personnel or a training issue that we need to look at, and operations management found this valuable enough that we're going to be reporting on this quarterly.

We also reviewed our issue rates and rates of reformation and rescission by agent. We found this so enlightening that we're incorporating minimum standards into our agent quality monitoring. Substandard levels could result in termination of our contract, and, in fact, we've actually already terminated a few agents who had much higher rates of reformation and rescission. This quarter is going to be the first time that one of our marketing organizations is going to have a bonus calculation based on their issue rates.

We also reviewed our issue rates by type of requirement. We saw dramatic differences. It helped us to see that while everybody says MIB is great, our experience didn't really show much impact when we did MIB and when we didn't. For us, we're not sure that it was giving us value. We saw that medical records had the lowest issue rates of all our requirements. Some underwriters and other people besides underwriters, actually, would like to use this as justification for continuing to use medical records. See, we're getting some benefit from it. But at the same time our loss ratios for people on whom we got medical records was actually worse than average. We weren't really coming out whole even though we got the medical records.

It also takes longer to get the cases issued, and it's expensive to order the records. When we considered all of this information we decided that we had to find a way to get this protected value more inexpensively and more quickly, and that led us to one of our more significant joint projects—teleunderwriting. We developed a new,

more robust telephone interview that we're using with all of our major medical applicants. Then we developed a database for the interviewers to use to record the information in the database so we're actually recording their answers and can query off them. Not only do I hope that I made a contribution to the project; I gained a much better understanding of the risk selection process. That's going to be helpful to me when I manage the profitability of our business. I had some impact on the database design so that when I go to query the results I'm getting it the way I want, understand what I have, etc.

Hank talked about the benefits of telephone interviews. Mostly as a result of our robust telephone interview, we have reduced the number of medical records that we order by about half since we've had the telephone interview in place. In doing so, we've also sped up the issue process. It's taking us maybe a couple of weeks to get a case issued when we don't order any medical requirements other than the telephone interview. When we order blood and urine or an APS, it's taking us closer to 30 days. In addition, we think that possibly as many as 20 percent of the cases that go through a telephone interview process are revealing information that wasn't on the application. It's helping us with agent quality. It's helping us with the quality of the business in general.

At this time, it's too early to evaluate our claims, but we do believe that we're doing this without sacrificing profitability. These are just a few examples of some of the projects I've been involved in. Some of these I took on myself. Others I was asked to be involved in. At first I did feel that there was some reluctance or lack of interest in the information I was trying to share, but now I'm seen as a valued member of the team. I get frequent requests for underwriting-related information, and I have significant input into many underwriting changes that we think are going to impact our risk selection.

A couple of years ago I became the first actuary to be a member of HUSG, and I've gotten to meet a lot of underwriting managers. From my discussions with other members of this group, I've discovered that many underwriting managers don't feel that they have this kind of relationship with their actuaries but would really like to. If your company hasn't historically had close ties between underwriting and actuarial, you may find that it takes some work to get involved and be accepted. It's crucial to present your information in a constructive and diplomatic manner. Sometimes we're criticized, as actuaries, for not communicating very well. Keep this in mind when you present your information. How you present it could be just as important as what you're presenting. I guarantee that the benefits are going to be well worth the effort for underwriting, for actuarial, for your company and for you as a professional. Remember, how much of a difference you make is up to you.

FROM THE FLOOR: Mark, you mentioned the differential in the savings between small group and individual. You stated $60 for small group and $200-500 for individual. I was hoping that you might comment on what you think maybe the reasons are for that.

MR. FRANZEN: At the time of my preparation for this presentation, we'd only done one small group study, and we had done five or six individual studies. We've since completed another small group study where the values are higher, but a lot of it just has to do with the anti-selection. There's more selection in the individual, just like Kathy and Hank were saying, because the individual only is making the purchasing choice. When you have a tool that reveals things that you haven't seen in the past, that anti-selection is revealed.

MS. LENDT: Mark, don't you think it might also be due to the rating restrictions, that you don't have as much room to move?

MR. FRANZEN: Absolutely. That's a great point. Whereas in individual you can decline, you can exclude, you can rate, whatever you want, the small group rate does not allow for those things.

FROM THE FLOOR: Have there been any attempts, and, if so, what are the results of using this kind of software for large groups, renewals, rating, when you hit all members of the group?

MR. FRANZEN: I know that some companies are using predictive modeling at renewal time based on pharmacy information. My tool isn't really applicable for large groups because you need that individual signature. In a large group-underwriting scenario you don't have the signature. You can't pull data before they're onboard, before they're on the books. But for renewal underwriting, you can use a similar type of thing with the predictive modeling software.

MS. KRISTEN RUSSELL: Hank, I wanted to ask about the teleunderwriting and what you see as the key questions as part of that interview. What key changes to the employee applications have you seen that have made the most difference?

MR. GEORGE: You want to hammer home the points that are highest on your negative experience aspect as far as morbidity is concerned. Clearly, you want to amplify those areas where you have the most insidious short-duration and long-duration morbidity. A lot of companies focus a lot of their in-depth questioning on cancers and heart diseases because they are the cause of the most expensive claims. Others just shoot at the ones where they have the most adverse experience overall.

MS. RUSSELL: What changes would you make to the employee application, the health questionnaire?

MR. GEORGE: I was talking about the pharmaceutical question. Unfortunately, the Part IIs or medical history questionnaires in the industry on both the life and the health side are too restrictive in the way they gather information about pharmaceutical information. They fail to take into account the fact that people

spend more money today on over-the-counter options as opposed to prescription options. In fact, in one group that I assayed, about 50 companies, only one company actively asked about alternative and complementary medicine. Only two asked about things that were not, strictly speaking, prescriptions. My first recommendation is cover the waterfront of all the various domains, conventional, over-the-counter and non-conventional, if you want to think alternative and complementary. Secondly, ask for some amplification. In other words, knowing the name of a drug, you're only halfway home nowadays. The reason for that is that probably 50 percent of drug prescribing, and more of it in some domains increasingly, is done off label—in other words for a use that is not Food & Drug Administration (FDA) approved. This is rampantly true in psychiatric medicine. You definitely want to know dosage every bit as much. Somebody taking two-and-a-half milligrams of a drug may have a totally different reason for using it than someone taking 20 milligrams of the same drug. The more information you ask for, the more you'll get. The more you get, the better you can triage.

FROM THE FLOOR: One of my concerns is that if you are going to rely more on the teleinterview, you may be removing more of your questions and maybe limiting your ability to rescind. I noticed you were talking more about the APS and maybe moving away from the APS, but were you also suggesting removing questions on the application? Can you rescind off your teleinterview?

MR. GEORGE: I wouldn't take questions off the application. Often we're a little short on questions there to begin with. You can take the same kinds of actions off telephone interview material you can off any other. One of the things that really empowers us is having the recorded voice of the insured. Now, that may do you less value in a rescinding situation than in something more ominous in the way of litigation, but in point of fact you have the person on record verbally as providing material misinformation which is far more powerful karma than getting down to a subjective interpretation of whether or not they understood a written question. On balance I don't think there's a difference.

MS. LENDT: We're having that debate as we're thinking about whether to still have the written application. I don't think there's enough precedent set yet to know how the states are going to react.

FROM THE FLOOR: It's certainly not part of the contract, right? Isn't that the issue?

MS. LENDT: Right. Certainly recording the telephone interview is going to help a lot, but whether a state will allow you to take action on a question that wasn't filed with them or things like that, that's kind of in limbo. I have heard of companies who are actually filing their telephone interview questions, except for maybe the drill-downs that just get more details, and then, because it's filed, they don't have to worry about whether they can take action on it. The recorded interview then backs them up.

MR. GEORGE: The regulators are helping us, Val. Some of them are mandating that they file anyway. You can count on some help from the bureaucrats. You'll probably have no choice. But, either way, I did an interview with a chief underwriter at a company that's deeply imbued in teleunderwriting. I asked her that precise question, and she said they had encountered no more difficulty with rescissions using teleunderwriting than they'd encountered in the more cumbersome days of the past.

FROM THE FLOOR: Mark, for one of the parts of your model you were explaining the disclosure of the individual, and then you were saying that was giving you permission then to query the PBMs. Are you saying that you do not query the PBMs until after the authorization disclosures?

MR. FRANZEN: That's exactly right. We don't have a database of drug histories. We only query on an individual once we have the authorization from that individual.

FROM THE FLOOR: We were concerned that there was some third entity collecting data prior to any preauthorization.

MR. FRANZEN: Right. There's no collection.

FROM THE FLOOR: What's your turnaround? Is there pretty quick turnaround?

MR. FRANZEN: It's 30-60 minutes.

FROM THE FLOOR: You must be pretty tight with the PBMs then and the querying.

MR. FRANZEN: It's all an electronic interface.

MR. RICHARD GARNER: I have a question for Kathy and Valerie. What underwriting tools are both cost-effective and practical to verify tobacco usage?

MS. LENDT: I think the only cost-effective way to verify tobacco usage, targeting on that in particular, is oral fluids, but if you are doing blood and urine, the urine will pick that up. You wouldn't want to do it just to get tobacco. Other than that, you can just ask them in the telephone interview.

MS. THOMAS: It's a Catch-22 because if you don't at least random test, in my mind, for tobacco use, you're probably being underreported because when you look at the population as a whole, 22 percent of people smoke. For the insurance-buying population, in my estimate, it is probably 15-16 percent. No carrier I ever go to gets that kind of reporting. You're doing well if it's 10 percent or 11 percent. But for random testing, what would happen if you just tell your field force we're going to be testing every 10th applicant specifically? You have to work more, I think, with this kind of thing, with a sentinel effect.

MS. LENDT: We are actually seeing that we do random testing, we get about 15-or-so percent more tobacco users than when we're not doing the testing. That's with a pretty liberal definition by the labs of what constitutes a smoker. You don't just smoke a cigarette a day and have a positive test. So, there's actually even more that we're not charging tobacco just because they didn't quite meet that threshold.