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Less Underwriting: More Profits or More Problems

Track: Product Development, Smaller Insurance Company

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Summary: Many insurers are moving toward less underwriting on their life products. Panelists discuss what measures they are taking to make their underwriting requirements less stringent and how the market is reacting to these measures. Specifically, table-shaving programs and simplified issue underwriting are addressed.

MR. CARL A. FRIEDRICH: I'm a consulting actuary at Milliman U.S.A. with a focus on life, long-term care and annuity product development, as well as on the latest underwriting and reinsurance issues. Prior to joining Milliman, I had been at CNA for 26 years serving in various capacities with a focus, again, on product development. In more recent years to early 2002, I served as senior financial officer for CNA life and group operations and headed CNA's international life operations.

Ed Hui is from Gen Re. Ed has been with Gen Re in their life and health area, in the individual life pricing area for the last two years. Prior to that, he was with Mutual Life Financial for five years in individual life and group annuity department. A key recent set of assignments at Gen Re has involved the evaluation of simplified underwriting programs. Ed has worked in underwriting with the medical staff to

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Note: The chart(s) referred to in the text can be found at the end of the manuscript.

determine methodologies for valuing simplified issue (SI) programs. To date, he's reviewed and advised on over 30 such cases.

Doug Ingle is a Fellow of the Academy of Life Underwriting (FALU) and Fellow of the Life Management Institute (FLMI) and vice president of mortality and underwriting research at ING Re. He was previously vice president and chief actuary at AUL. Doug has spent 29 years working in the insurance industry; about half of that time on the direct side and half working for reinsurers. Doug has completed beginning and advanced life table methodology. He is on the Underwriting Experience Study Committee, a member of the Morbidity and Mortality Liaison Committee and the Individual Life Experience Study Committee. He's the current contributing editor to *On The Risk*. He's been published in numerous journals as well as presented at many national and international meetings. Doug has also created and presented a course in electrocardiogram interpretation.

We have quite a wide variety of topics to cover. First, Ed and I will be speaking on the basic rationale behind various forms of simplified issue programs. We'll cover the types of programs and some basic underwriting and pricing considerations. These will then be contrasted by Doug with table-shaving programs as he offers perspectives on how they should be viewed in today's marketplace. We'll then double back and Ed and I will provide some more detail on simplified issue (SI) programs.

I think you really need to understand fully underwritten programs to understand the risk being taken with regard to simplified issue plans. Why is that? First, the clients do have options. There are a wide variety of programs, products and underwriting approaches being offered in our industry. Second, clients do shop for insurance as we do for other products. Finally, clients have insider information on their own underlying health and family history. All of this does point to potential for anti-selection in these markets.

So what is the state of the industry with respect to full underwriting programs? For the last 20-25 years, of course, we've seen a dramatic migration away from the use of aggregate life insurance rates to a first key distinction, nonsmoker versus smoker differentials. Those, of course, can be very substantial, in excess of two to one mortality relationships, which are particularly critical in the term insurance market. If you offer SI programs, does your program feature those distinctions? If not, there is additional concern about anti-selection. If so, can you validate the non-tobacco status, and at what cost?

A second major move in the industry really emanated as a defensive measure to AIDS. This led to the widespread use of blood testing, notably the 12-channel SMA test with much useful data through the delivery of readings of cocaine, HIV, kidney function, liver enzymes, glucose and a variety of other factors. In addition, the use of urine tests also validates tobacco and cocaine usage. Rejects identified as a result of these tests have a big impact on mortality for the overall pool. In addition,

multiple rate classes have emerged as a result of these new tools. The extent of these classes varies from product to product. As you're aware, term insurance often features five or six classes, with some companies using as many as eight classes. Universal life has typically moved to the use of four to six classes.

As I mentioned earlier, clients do shop. In our world of communication, there's widespread advertising of preferred rates. You see it in the print media, through the Internet and over the airwaves. All of these factors do highlight, again, the anti-selection risk, and it's not just a risk at the time of issuance of the policy. In addition, in-force business is facing some of the same pressure, because shopping does not necessarily stop after the initial sale. The degree to which shopping occurs varies depending on product design, premium payment method and the type of program being utilized. The higher lapsation associated with that shopping, as better risks find alternative coverage, really implies losses relative to unamortized acquisition expenses and anti-selection with respect to the mortality remaining for the residual mortality pool.

I realize this may sound somewhat pessimistic thus far, but despite these concerns, there are opportunities and means of mitigating many of these risks. The opportunity, of course, includes expense savings associated with the elimination of various potential expensive tests in certain markets, and also reduced time frames from the time of application to the point of issuance, which can benefit all three parties: the customer, the agent and the company.

Where do we see the opportunities? In particular, we see the opportunities with smaller policy sizes and underserved markets through the use of new, less invasive underwriting tools. I should comment that this tends to blur some of the lines between simplified issue and fully underwritten programs. There are many companies that continually examine the test being utilized and where to use those tests and where not to. I think the move from blood testing to other forms of fluid testing is a very good example. A final area of opportunity is in those arenas where customers and agents are seeking convenience.

Ed will elaborate on a range of simplified issue programs and their characteristics.

MR. EDWARD HUI: As Carl mentioned, there do seem to be some significant opportunities for SI programs. It's no longer just for small niche programs. Many mid- to large-sized companies now have at least one SI program.

When I was setting up my presentation, I decided to take an informal survey. The questions I got the most were the following: what was our opinion on the protective value of some of these new underwriting tools; how has mortality and lapse experience been; and I think the most important question was can you build an effective SI product with less underwriting, faster turnaround times, lower expenses all at a good rate, say, guaranteed standard rate? I'm going to try to shed some light on these questions, as well as give actuaries and underwriting

managers a high-level overview of key considerations when developing the SI product.

I will first review the following: characteristics of SI and the underwriting types, traditional and merging programs, and then the general product development considerations. In the second portion I will look at underwriting, mortality and reinsurance handling of SI programs. The scope will be for individual life products including voluntary benefit products.

First, I will tell you briefly about the characteristics of SI. In general, the products often reflect the following: simplified underwriting, they may be sold in niche markets through alternative distribution channels, they need to be fast, have lower face amounts and they are simple products. These are products like work site, pre-need or products sold through the banks.

A bit more detail about the underwriting; Chart 1 is a scale of the levels of underwriting. To the left is the full underwriting and to the right are the types of simplified underwriting. The more to the right you go, the less underwriting you have. Here are some definitions: "non-med underwriting" means no medical tests, "simplified issue underwriting" I have defined to be where the application has one or more questions, but less than non-med. "Guaranteed to issue" and "guaranteed issue" are quite different. They are both used in a group setting; guaranteed to issue has several medical questions in it. If the person is unhealthy, the policy may be rated or have a lower amount imposed. For guaranteed issue, also called guaranteed standard, this has no medical underwriting and it relies on group size and participation levels to mitigate the risk of selection.

You do get crossovers between fully underwritten and simplified products. This mainly happens when the age and amounts are outside the regular limits. For a fully underwritten product, if the age or amount is too low to warrant the cost of a medical test then the crossover occurs. It is the exact opposite for an SI product.

I want to give you some examples of traditional SI products. For example, for a work site product, it's sold on a guaranteed issue or guaranteed to issue basis. It will have eligibility and participation requirements, and if the age or amounts are higher than specified limits, or coverage is purchased after the enrollment period, it will have simplified issue underwriting. For direct-marketed products, these are products sold on an individual basis so they have higher risk of selection. Some have more underwriting like non-med or simplified issue.

These are examples of underwriting that I call traditional or conventional SI products. I think what is happening more and more is we're seeing, especially for the new types of SI products, the blurring of the underwriting lines. You may see non-med with at-work provisions, or simplified issue underwriting with oral fluid requirements. These products are now coming in all forms, and it is these products on which I will be focusing.

First, why is there such a growth in interest in these products? Again, many large companies that didn't have SI five years ago now have SI products. The growth is in new products such as: single premium immediate annuity (SPIA) funded universal life (UL), mortgage term, bank, work site and Internet products. Also words like rapid issues, streamline and alternative underwriting are all new. Why is this?

Well, there are more nontraditional markets. A big one is the financial market. Insurance companies are looking into ways of tapping into the financial advisor investment brokerage channels. Banks are also looking into better ways of selling insurance. These channels have good access to the wealthy and baby-boomer markets and they need products with SI characteristics. Insurance companies are also becoming more financial market oriented. They have some products that mimic investment products, say, with asset charges. Also, some insurance companies are becoming more like asset managers, leaving more of the mortality or SI mortality risks to reinsurers.

Another big factor of SI growth is the new underwriting. Tools such as oral fluids, tele-underwriting and pharmacy database underwriting are all fast, simple, cheap and non-invasive, so they're perfect for the SI market. The current economy of tough times and low interest rates have also played a role. For the economy, work site products have helped relieve employers of some of their insurance costs. Low interest rates have helped with mortgage term sales and the surplus strain on the funded products. Also, getting back to the first two points; fast and simple sales are now often conducted in a matter of days. Faster underwriting in technology is appreciated by the customer and the producer and it helps reduce not taking rates as well.

Another emerging trend for SI products is the increase in issue age, amount and table limits. To an extent, it makes sense. If you have more underwriting, higher limits are possible, but really only up to a point. In many cases, the underwriting is still not effective enough at these high limits. When underwriting for the older ages, more people are impaired, and conditions are more complicated with high risks. Simplified underwriting will not be able to identify or accurately rate some of these individuals, for example, people with coronary artery disease. This could be a table two or declined risk. It's hard to know without full underwriting. For higher table limits, again, there is difficulty accurately rating them and the greater risk of anti-selection. If a person in table six can get in for a table two rate, again, expect anti-selection.

To give you another idea of the age issue, consider the experience of the '95-'96 SOA standard underwritten business as shown in Chart 2. Now, the numbers are for standard business and not for an SI market. A lot of adjustments are needed even for this comparison, so we will focus more on the pattern than the numbers. At the younger ages, medical mortality is actually counterintuitive for the 20-29 age group. It's *worse* than non-med. But the main reason for this fact is that the

medical class includes the cases involving medical underwriting for cause. This means the young people who need to be medically underwritten don't have as good health. However, when considering the percentage of change column, you start to see the trend after age 30. It's basically showing that the older ages you have, the greater the cost of simplified underwriting. If you were to add higher tables and amounts, the difference is even greater.

So what do we need to think about when building an SI product? I can think of four key considerations. SI products tend to work best for niche markets, where there are preferred risks and where a fast, simple sale is needed. With respect to preferred risk, these could be groups like the wealthy, those actively at work or affinity groups. The product also has to have a definite value to the customer. Speed and simplicity can help with the sale, but if that is it, the customer will just switch to the next fast, simple sale with more value to it. By saying "value," I mean it has to fulfill the customer's need and be reasonably priced relative to its competitors. This helps to avoid selective lapses and distribution risk. On the flip side, you want to make sure that there's reasonable insurable interest to avoid wealth creation.

It is important to be sellable to the field force because you need the buy-in commitment from the field to achieve the desired volumes. Commission levels will, I hope, also be reduced to keep the price competitive. Also SI programs have the risk of high mortality. So make sure your underwriting staff is capable of setting appropriate guidelines. Can your underwriters interpret pharmacy database information? Do you need to source out things like tele-underwriting? You may also consider consultants or get reinsurance.

So what are the risks of an SI program? Well, basically you have a new market and new underwriting. These are the main issues. This means you will have some market sales risk as well as extra product development risk for the new underwriting and new distribution channels. The other big cost is the mortality risk. SI programs have a greater risk of anti-selection, inappropriate underwriting, and mispricing of the product. But again, I feel a lot of that can be reduced with proper consideration.

Doug will now talk about table-shaving programs.

MR. DOUGLAS INGLE: Why are we talking about table-shaving programs at a simplified issue forum? The idea is there are some similarities between table-shaving programs and simplified issue. Basically, simplified issue is less underwriting, which translates to a broader range of mortalities within a risk class. In other words, for those that you issue standard, you may have some super-preferred risks in there as well as up to perhaps table two, three or four risks. On a table-shaving program, you do more underwriting. You really know the risk classification for the individual, but you've intentionally lumped them all together into one risk class. There are a lot

of similarities and we thought that table-shaving might be appropriate for this presentation as well.

Table-shaving has been around for a long time and it used to be applied to smaller face amounts, with modified compensations, within company retentions and applied to mortality loaded products. Currently, table-shaving programs are achieving a huge resurgence in the industry. There are larger face amounts on competitive products that are reinsurance supported.

My take-home message is very simple and clear, when you talk to underwriters about table-shaving programs, it's important to point out to the underwriters that they're doing their job right. Underwriters are capable of stratifying risks. Underwriters can accurately describe class two, four or six risks and the mortality results will tend to match the respective risk classes. What the underwriters are concerned about is, if they see a case that's a table four, yet the case is issued standard, that this case is not actually undermining the underwriting process. The most important message here is that there is no free lunch. The mortality is there and it's got to be accounted for.

Let's talk about the different ways that you could possibly handle the mortality on a table-shaving program. There are three that come to mind. First, you could fold it in, basically subsidizing the increased mortality by spreading it over another class. You could create a stand-alone class where the mortality class will include several substandard classes under one mortality assumption. Or some companies utilize a pool of funds approach where the underwriter has the ability to make business decisions. If an exception is to be considered, the underwriters know that they've got a pool of funds they can tap into to use in certain situations.

Let's talk about the basic methodology behind the pricing because, by understanding that, everything else makes sense. I can't stress enough how important it is that the underwriting rules have to be in alignment with the mortality assumptions. If these two things are in alignment, everything is going to work. By describing this alignment, the other side of the coin will be how could it fall out of alignment.

Here we will apply a hypothetical distribution of risks to illustrate the technique. This would be the type of thing you could go to your chief underwriter to talk about. You could ask what percent of our policies do we assess as standard risks, and what percent are substandard by risk class? It's going to vary from one company to the next. As a word of caution, make sure not to just look at your company's block of in-force policies to answer this question. All risk classes offered, whether the policy is taken or not, must be considered. This is because fewer individuals accept policies issued on a substandard basis because of the disappointment and increase in premium. You want to know what risks are approaching your company. A substandard program will place a higher percentage of substandard risks. Therefore,

the risk classes will vary from one company to the next depending on target market and underwriting philosophy.

It's generally well known in the insurance industry that perhaps 95 percent of all applicants for life insurance in their 20s qualify for standard. As you go up in age that changes. For 60 to 70-year-olds, about 60 percent are issued standard, a much higher percentage are substandard and a much higher percentage are declined as well. It's important to recognize there's an age distribution risk associated with these programs. If the program assumes a certain average age, and therefore the mortality load is calculated off that age, that age distribution needs to remain intact for the program to achieve mortality expectations.

Let's graphically describe this in real, simplistic terms. This is a hypothetical distribution of mortalities associated with company XYZ. This graph combines all ages and all the risk classifications into one curve. The X-axis defines the mortality continuum. It assumes the largest number of risks will be assigned 100 percent mortality. The Y-axis describes the percentage of individuals associated with the mortalities defined by the X-axis. There are very few exceptionally low mortality risks as well as few individuals that are highly substandard; intuitively this makes sense. There is no industry absolute beyond which companies do not issue substandard policies. Perhaps the most commonly seen, highest level of substandard risk approaches table 16, also called table P. Beyond that risk class, companies tend to decline issue coverage because of the high premium charge and risk of anti-selection.

Every insurance company has the right to aggregate and define its substandard risk classes. Therefore, there is no one right or wrong way to do this. However, we need to be able to converse about these issues within the industry. Actuaries discuss mortality tables much the same way underwriters discuss risk classifications. For the underwriting community, in general, a table means a 25 percent increase in mortality. Tables can be referred to numerically or by alpha equivalent. Thus a table two, which is a 50 percent increase in mortality is generally the same as a table B, and table three or 75 percent increase in mortality is equivalent to table C. Underwriters often use "table" and "class" interchangeably. So as you talk to your underwriter, if you are discussing table two for example, that's generally a mortality risk that is 150 percent of your aggregate standard class. Table three is 175 percent, and so on. So 500 percent of standard is table P or table 16.

Table-shaving programs generally impact mildly substandard risks, where "mildly" substandard risks are deemed to be risks perhaps in the table one to four range. Some programs impact higher or lower risk classes than described here. There is no one definition that fits all circumstances.

One of the nice things about a presentation like this is you can create a hypothetical example, as shown in Chart 3, to use to describe the math without actually

describing any real-life situation. For example, assume Company XYZ wants to engage in a table-shaving program. After a discussion with the chief underwriter it is determined that 86 percent of the time company XYZ renders decisions on a standard basis, in this fictitious company, aggregate standard includes all preferred and residual standard classes. Stated another way, 86 percent of all risks fall into the "aggregate standard" category.

As mentioned, underwriters think in terms of tables, and each table is comprised of 25 debits. Therefore, if 25 debits means a 25 percent increase in mortality, one debit is a 1 percent increase in mortality. You can solve for the mortality associated with a unique class of insureds that span several substandard risk classes by taking the weighted average of those classes. In the example we created below, on a stand-alone basis, you charge 169 percent of aggregate standard for the overall class, which includes table two, three and four risks. You basically now are aggregating, which is what simplified issue does, lumping a range of risks into one number.

- 1 Debit = 1% increase in mortality
 - 4% @ 50 Debits
 - 3% @ 75 Debits
 - 2% @ 100 Debits

- Weighted Average
 - 69.4 Debits

- Stand Alone:
 - Charge at 169% of aggregate standard rate

- Fold In:
 - 9% @ 69.4 Debits = 106.25% of Aggregate Standard

This aggregation works mathematically if this is exactly what happens in your company. Obviously, you are subsidizing. A company writing in a market that offers only an aggregate standard class and does not offer preferred products—for example a simplified issue market, might choose to allow up to table four risks into its aggregate standard class. Using our mortality distribution example, this would create a need to increase mortality by about 6.25 percent to cover the additional mortality created by folding table two, three and four risks into the aggregate standard class.

What are the considerations now that we've defined the mortality assumptions? Obviously, we have some very significant distribution risks. I'm not trying to position myself as being either for or against, these programs, I just want to outline the program and mention the risks and benefits. Say you went to your chief underwriter and you calibrated your program based on the distribution of risks for

your company. Now you have a table-shave program and the agents are out there saying, "Hey, I got a chance to bring more of my substandard risks into this company." This will create distribution risk and possibly bring in higher mortality than you priced for. If you bring in more substandards than you priced for, you have a problem.

If you start a program today, the agents will know they've got a block of business that they've placed in the past containing risks issued table two, three and four. They're going to want to bring those people into the new program; the subsidized program may offer many of their applicants cheaper life insurance. You have a risk there. It's important in creating the program that you decide what underwriting guidelines you're going to create for your company. If you are going to allow re-quotes to occur, then you should price for it up front. Again, you must align the underwriting rules with the mortality assumptions.

Obviously, there's distribution risk for the larger face amounts as well. That is, the higher substandard risks will see this as a deal and accept larger face amount policies, which, unless priced for, may erode the mortality assumptions as well.

There's also increased pressure on the underwriter to squeeze. As an underwriter, I know this happens every day, all the time. Let's say you built a table-shave class that has a weighted average mortality assumption and it's going to be used for the table two, three and four risks. The underwriter determines a case is a table five. The table-shave program mortality assumption allows you to drop mortality to a stand-alone rate that's 50-60 percent lower than the table five risk class. The agent's going to pound on the underwriter and say, "He misses the table-shave program by just one table. Can you find a way to squeeze that person into the program?" You'll see a lot of push on the underwriters to move more of the "just outside the edge" individuals into the table-shave program.

Also, when offering the program at the older ages, you need spread of risk. You need a lot of applicants at the older ages to make the program work. If there isn't the appropriate distribution at the older ages, there's more risk there as well.

If your company creates an aggregated substandard risk class for table two, three and four risks, and say you charge 169 percent of aggregate standard for this class, what might happen is you create a situation where an agent can cherry-pick out the table two risks, which would be 150 percent of aggregate standard, and have them apply to a company that does not have a table-shaving program. That leaves the table-shave company with the table threes and table fours. This is interesting because it's preferred all over again in the substandard world. In the days of aggregate standard, the preferred risks were the best risks in the aggregate standard class. Preferred underwriting identified those risks and gave them a better price. You're set up for this to occur in the substandard world where the best substandard risks can be appropriately identified by the company willing to differentiate risks more finely than an aggregated substandard class. A blended

substandard class including table two, three and four risks, describes a range of substandard risks. Therefore, identifying the best substandard risks, in essence, provides the potential for a company to do in the substandard world what occurred in the aggregate standard world when companies started offering preferred policies to a unique subset of the standard class.

I'm going to turn this back to Carl now to talk about some of the SI programs in more detail.

MR. FRIEDRICH: I'd like to spend a little bit of time on five specific types of simplified issue programs. My firm has had an opportunity to work on the first couple of these, work site marketing and Internet-based programs, with several clients. Work site marketing is one of the greatest opportunities with these programs. I think we have mentioned some of the pressure on employers relative to offloading employee benefit costs. These programs are a natural to address some of those issues.

Some of us had a very interesting round-table discussion at the product development session this morning. A couple of companies represented indicated they were seeing 20 percent annual growth rates in these markets recently. One other company indicated they had seen their production double in the last two years.

What are the key components of work site marketing and components to success? I think these programs have a lot of positives working in their favor. All the elements do need to be put in place, though. First and foremost, I would suggest employer support of the program is critical to ensure good penetration and a good spread of risk. Second, convenience for the employee is also very important. Giving the insurer access to employees at the work site to reduce the cost and streamline the underwriting and the marketing process can be very important. Also, the value of payroll deduction should not be underestimated. The elimination of the decision-making process at the time of premium payment can be very important in reducing anti-selection on a go forward basis. The use of preset face amounts or limited choices also helps control risk. In addition, many of these programs do feature the ability to decline or to rate the applicants. Finally, I should mention that the actively at work requirement that is commonly utilized also can be an important factor in further reducing mortality.

On the other hand, one of the challenges we see with work site marketing programs is the extent to which you have participation requirements. Those can be problematic. If those participation levels are not met, either you stick by your guns and insist upon additional underwriting, or you need to sacrifice your underwriting standards, and perhaps some of your profits. If you do hold the line, that can be somewhat painful for the producer and the client. Nonetheless, again, we do feel that there are many opportunities with work site marketing.

The next program is Internet marketing. In many respects, this would appear to be a market with significant upside potential. With the change in buying habits for the public generally, you can make a case that this could be a significant market outlet in the future. The approach tends to feature simple products, particularly term insurance, and simple applications. Phone or mail follow-through is common, perhaps with tele-underwriting support, which can have various implications.

We've advised our clients that the most important issue to consider as they develop these types of programs is an audit process on the underwriting. Part of this is trial and error, but it's important to go in after the fact and do a sampling of cases, collect attending physician's statements, and find out what information companies are missing (perhaps that they hadn't contemplated), the accuracy of the information being received on applications, and fine-tune their process going forward. We expect continuing experimentation with these types of programs into the future.

Quite a different type of program that I've had some personal experience with in the past is the final expense business. These feature very simple products, typically, \$5,000 to \$25,000 of face amount, often sold in rural markets at older ages. The basic distribution pitch to the consumer is a concern for the survivors. I would advise that you enter these types of markets with your eyes wide open. You need to understand the distribution system and their motivation. You need to monitor placement rates, mortality experience (which can emerge, unfortunately, rather quickly), and the quality of applications. A key question is whether this is the only product in that agent's tool kit. If not, you do have anti-selection potential.

Finally, at claims time, you need to be aware of what can emerge, as these types of programs can lead to a high level of rescission activity. As a result, you may need to make some difficult decisions. Do you use an active rescission policy? Or do you pay or settle those challenging claims, recognizing that there are significant costs involved in pursuing rescissions, including the legal expense of trying to defend your position, as well as bearing the impact relative to your reputation? Increasingly, we do see these programs as being challenges in terms of managing all of the elements necessary to produce profitable business.

A somewhat different program but with some similar characteristics is the pre-need business. This is more of a specialty niche with a unique distribution system. The coverage provides prepayment of funeral or cremation costs, often sold through funeral homes or associations. These also feature simple products. They can be single premium or level premium plans. In extreme situations, for those in very adverse health, the product may, in fact, be a single premium annuity. As noted, the distribution system can be unique. Our experience is that it is important for them to have a stake in profitability to assure quality sales. As is true with final expense, at claims time you may be facing some difficult decisions. Thus, as we see with final expense, this is another challenging market.

The last programs I'd like to discuss, perhaps a little bit less well defined, are affinity group programs. Many of these share more of the characteristics of work site marketing than the other programs, but, again, with considerable variations from case to case. Many of these are associations, general banking customers, key employees of an employer where you do have the actively at work issue working in your favor, or bank trust customers. There are many unique groups, which by their nature, include healthier individuals. Many of these, in fact, require annual physicals, which can be a positive in your favor. Participation requirements are often key in assuring success in distribution and spread of risk in these programs.

One of the challenges with this program is that the key decision makers with these affinity groups often express that they should be offered the best rates available in the marketplace, and that is very difficult to achieve with simplified issue underwriting. Part of that can be achieved through the use of commission reductions, but that will only take you so far. You can, of course, limit the face amounts available and the amounts available to individuals. For example, you may offer one to three times compensation. Again, there are many more positive elements working in favor of these programs than the prior two that I just covered.

MR. HUI: I'm going to talk next about underwriting. This is obviously the backbone of an SI program. Today there are a lot of tools to choose from, to name a few you have tele-underwriting, accept/reject, motor vehicle records (MVRs), oral fluids and limits. I think to make the best decision, you really need to identify the underwriting needs of your market, the risks of your market, then evaluate your tools based on your needs and risks.

Again, as Chart 4 shows, after identifying your needs and risks, evaluate and choose your tools, set your limits, estimate the mortality and then really keep adjusting until the price and profit measures seem most supportable.

First, what are the underwriting needs of the market? The SI field force may not *like* underwriting, but what they really want from underwriting is speed, price, approval rates and administrative ease. For speed, how fast do they need the turnaround times? Is it a few hours or a few days? The longer the time, the more tools you have to choose from. For approval rates, in some markets it's very important for the product to be sold to almost everyone. By saying "administrative ease," I mean how easy is it to administer, is it transferable, and is it an invasive procedure? This is important for alternative channels because they generally don't want to be involved in the administrative process.

The risk profile of the market is a really critical issue. On the one hand for a fully underwritten product, the level of underwriting adjusts, depending on your risk. For example, in a 70-year-old, \$1 million policy, you're going to see different underwriting than you would in a 30-year-old \$100,000 policy. However, for SI, you have just one set of underwriting and one tightly defined market. Thus to set your best underwriting, you need to know your mortality costs very well.

I think age is the biggest factor. For younger ages there is AIDS, alcohol abuse, and avocation risks to name a few. For the older ages, medical conditions are more important. Unfortunately, I've seen some applications with only a request of a five-year medical history. For the older age market, this can have a lot of holes in it. Conditions like heart attack, stroke and cancer can still be high risks after five years.

For your social status, again, this will affect your health, but it may also affect other things like the percentage of smokers and the risk of smoker amnesia.

It's also key to know what types of anti-selection are prone to your market. What are your types of selective lapses or distribution risks? Even the type of product, say a term versus an SPIA-funded UL product may also help reduce the anti-selection.

The next step is to evaluate and choose your underwriting tools. This can definitely be a discussion in itself. I am just going to discuss this subject briefly. There are really four factors that determine which underwriting tools to use. They are protective value, costs, speed and administrative ease. Depending on the above needs and risks of your market, each program will weigh these four factors with different importance.

For the application, your basic choices are tele-underwriting, non-med or simplified application. For tele-underwriting, this is basically a combination of the application, plus personal history interview and it can be quite effective at sensitively getting information from the applicant. It costs \$15-30. In terms of administration, it provides more uniformity of the information, and can be sourced out.

For a simplified application, the protective value really depends on how in-depth your questions and responses are. Some may be structured—accept/reject—others may not. But in either case, make sure your questions are set for your market.

The Medical Information Bureau (MIB) is an invaluable tool, especially for our market where there's less underwriting and greater risk of fraud. Sometimes it is the only source of independent validation, too. I know as a reinsurer, we often will not look at a case without it.

Motor vehicle records (MVR) are alcohol and lifestyle detectors that are particularly useful for the younger markets. However, since the information is fast and cheap it should be strongly considered for all SI markets. It is also public information and can be accessed on the Web.

Pharmacy database underwriting or pharmacy benefit manager (PBM) information is where prescription or dosage information help identify the severity of certain

conditions. It has independent validation. It's almost instantaneous information, costs between \$10 and \$20 per hit and is noninvasive. An important question to know first: What are the possible hit rates for your market? I've heard they can be up to 75 percent, but can definitely reduce after age 65 due to Medicare. It really depends on your market. Also, you need to know what conditions will not be identified by the database and any other limitations.

Oral fluid tests check for cotinine, cocaine and HIV, but not currently for diabetes. Thus it may be a better screening tool for the younger markets or those with high smoker percentages. It costs under \$20 and the turnaround time is two to three days.

The attending physician's statement (APS) is really the most informative tool. Of all the tools it can have the most protective value, especially at the older ages. However speed and costs can definitely put it out of favor for an SI program. It can cost between \$40-200. The turnaround time is two to four weeks.

For other tools, there are still many other choices like electrocardiogram and dried blood spot testing. I also think a financial questionnaire for an SPIA-funded market can be prudent.

After that's all done, your next step is to set the age amount and table limits. These are going to be pushed up by what the market wants and restrained by mortality and price. Again, I have already mentioned the risks of anti-selection and the inability to identify and accurately rate some of these individuals. There are several solutions. One, you could cut it off, especially if it's not part of your target market. Two, you could keep the same program, but offer a substandard class as well, or, three, put tighter limits at the high-risk areas.

After you have determined the underwriting design, your next step is to assess the mortality. This can also be a considerable challenge. I think many actuaries who have been through this process can relate. The reason: limited mortality and lapse experience. It's a non-homogeneous product. It's still new. There are a lot of SI factors that affect mortality and some aren't easy to assess. Again, as always, work closely with your underwriting manager on other groups. It's the best chance of getting the right mortality.

Chart 5 shows an example of a fully underwritten distribution. I have just cut it off at Table 2 to represent a standard distribution. The next line is an example of an SI distribution with a Table 4 cut-off. One thing to note, 500 debits have linked together all the cases with high risks due to less underwriting, and I picked 500 because it happened to be the end of the table. What happens if you have more anti-selection? If your product is widely sold or if there are valued substitutes, the distribution curve will basically shift more to the right and the 500 debit cases are going to increase. If there is less conservative underwriting, the drop-off at Table 4 could happen at Table 5 and you can also get some anti-selection effects as well.

Now let me discuss the methods of determining SI mortality. The first is something I call the work site method because it was originally designed to value mortality. For SI products we more than likely do not know the distribution of mortality by debits. So one way to look at it would be to break it down into groups, say 100 percent, 300 percent and 1,000 percent of standard. Then with the help of the underwriters, you determine the distribution, first of your applicant pool, then after the underwriting of your accepted pool. After that you would calculate the mortality and you do scenario testing for plausible ranges.

Gen Re is also in the process of modeling mortality in terms of the protective value relative to a fully underwritten case. You start with millions of records of fully underwritten business and then you determine an index for the fully underwritten block. You then adjust the distribution for an SI applicant pool, strip away those tests that aren't done and then determine the relative mortality using Cox models. For example, a non-med with oral fluid program could be calculated. This is still in the process of being developed and still reliant on certain assumptions.

The final method I use to assess SI mortality is based on studies and individual experience. With published studies again the issue is with a non-homogeneous product. For individual experience, I keep a database of all the perceived risk factors that influence mortality. These are things like target markets, limits, application questions, etc. Then I use the credible cases as pivot points for the cases that I'm pricing.

One final thing about mortality; as Carl said, I would strongly recommend monitoring your mortality. Again, SI products have the risk of high mortality. Think of controls for monitoring your experience—for example, keeping track of your distributions or comparing your underwriting with random APS checks. If you notice high claims in the first year or a disproportionate number of substandard risks, consider revising your underwriting soon.

How are the insurers handling SI? One method is to keep a database. As I said before, all the risk factors are recorded and experience is monitored as it emerges. In the pricing process, underwriting and medical will review the guidelines for the program and when reinsurance is with my company there may be periodic audits. We also look for the ceding company to keep a reasonable retention on these new emerging SI products. I think this is very important and it helps to make sure that mortality interests are aligned. For the pricing, adjustments are made to reflect the particular risks of the program.

Finally I would like to go back to my original survey. The first question was: What was the protective value of some of these new tools? As you know, it depends heavily on your market, but I hope I gave you some ideas on what tools best suit your product. The second question was: What has mortality and lapse experience been like? As mentioned, as far as I know there is limited mortality and lapse

experience, but at least there are ways of estimating and managing the risk. I believe the SOA is coming out with a survey in the next six months and one of the things in their agenda is to address this issue in more detail. Finally, there is a question as to whether you can build an effective SI product with a good rate, say a residual standard rate. The answer, as expected, is really an actuarial one. Of course, there are a lot of variables to think through prudently, but I have seen programs with exceptional value and potential. So yes, I do feel there are good opportunities for SI programs.

FROM THE FLOOR: Mr. Hui, I understand that in the group of different kinds of automatically available things that you can use as underwriting tools,, you had a very complete list, but I noticed that you did not include credit risk reports. I have heard that credit risk reports are being more and more looked at as a source for potential mortality. Have you taken a look at that tool and decided for yourself what its benefit might be?

MR. HUI: Actually, I haven't had experience recorded on a company that has used it in their SI program.

MR. INGLE: As you know, they are coming out. The vendors are offering that as another option and it's another one of the new ones that are out there. As far as the overall protective value, it is still a little bit of a question, but it's a new weapon in the arsenal. I'm sure people will be considering that for the SI market.

FROM THE FLOOR: It seems to me that you can do the theoretical analysis as you've done, but the difficult thing to do is to quantify the anti-selection, which is going to vary according to the marketing program and various other things. Do you have any comments on how you can actually quantify the anti-selection in a given program?

MR. HUI: That's the key factor. Anti-selection is very hard to quantify. So for an SI program, to mitigate the risks of anti-selection, there should be two important goals: Aim for a preferred market and have the appropriate underwriting for that market. I remember examining the credible experience of a direct mail company. This particular company had mortality that was 300-400 percent of the 65-70 table. Predicting this type of mortality due to anti-selection is very hard in this case, without seeing another similar case with experience. Part of the problem is that there are various types of anti-selection. Three that I can think of are selective lapsation, sentinel risk and distribution risk of a greater substandard population being attracted to the SI products. By the sentinel effect I mean what's the additional risk if the applicant knows that they won't be tested for that? Selective lapsation can be modeled, but the other two rely on judgment experience data.

MR. INGLE: I do think this is more art than science and we should recognize that, but I would echo Ed's comments that it is important to monitor this experience early and often. Also, recognize that the anti-selection can occur not only at issue,

but on an ongoing basis with selective lapsation. Finally, recognize that this is a constantly changing environment and buying habits are changing all the time. That needs to be anticipated as well.

MR. JEFFREY T. ROBINSON: I think Doug addressed shaving tables. That is an old concept that's been used for a long time, but one of the problems, particularly in New York, was risk equity. Are people being treated fairly if you're shaving tables for some and not for others? I think it's a little different for simplified underwriting because you don't really address the table, but have you had any problems with regulators on that?

MR. INGLE: From my perspective, I haven't encountered a problem at this point in time. Products and programs have different mortality assumptions within them. The underlying mortality assumptions are different for different underwriting risk strata, simplified issue, fully underwritten, and so on, preferred and residual standard all have different mortality assumptions. Even the definition of a "standard risk" varies from one company to the next. I have not personally heard of anyone coming at that particularly to say that there's an issue with that.

MR. ROBINSON: The difference in shaving is that you know the tables and I know New York (this is 25 years ago) did have a problem with that and they wanted more facts on it. They didn't really like it because of the equity situation.

MR. INGLE: Right, because it is a subsidization that's going on there and you bring up a good point.

MR. ALEX N. MORAL: How would you translate the discussions you had to a direct marketing platform? A lot of the comments I was getting were from an agent platform. If you had a simplified issue that you're marketing through a direct marketing program like direct mail, do any of these get stratified in any way, or how do you transform these comments to direct marketing? I also had a second question that came up because of the credit rating. It is my understanding that there's been some backlash with the use of credit rating on the property and casualty (P&C) business. If we're considering that in the life business are we concerned about the same type of backlash in our industry?

MR. INGLE: Yes, underwriting is risk classification and the whole idea of mortality differentials related to the underwriting process and tools employed. There are lots of different components to how we can or cannot stratify risk and whether or not we should. That will be an issue that hopefully we'll link arms on as far as the underwriting actuarial community. If there's merit to what the techniques are such that we can show the regulators that there's a valid reason to use it, that would be beneficial. The credit check option is relatively new and I haven't looked at it in great detail. I've heard of a vendor or two that are out there promoting it right now. I'd like to look into it a little bit more. We have to make sure we find true

mortality differentials identified by these credit reports. Is this something that we as an industry want to defend or not? We'll see.

MR. FRIEDRICH: On the direct marketing question, I must admit I don't have direct experience with that. My understanding is the placement rates in those markets are very low compared to the types of programs they're talking about. That might imply higher anti-selection potential. On the other hand, I think experience shows that in many cases when the clients are answering questions directly to the company, without agent intervention, we may get more accurate and complete responses. That runs counter to the first point I made.

MR. HUI: Are direct-marketed products sold to pretty much everyone? The risk is that you're not targeting a preferred market. If you imagine the mortality distribution curve, you're not likely to get those preferred risks that help offset the costs of the substandard risks. As Carl mentioned, it could be heavily selected.

MR. GENE HELD: I think there are a lot more important factors than this in the whole simplified issue or table-shaving situation, but I think you need to be very careful against using averages. We've done some runs where we go through the distributions in an Excel workbook and come up with an average mortality. Then just to validate that, we've run the whole model through our pricing model. You can get some very different results than you would get using an average mortality. We haven't really talked about what table we're using here for our pricing. It would stand to reason that using a select and ultimate table like the 75-80 table would not really be an appropriate table for this. I was wondering how you go about adjusting that table. I've seen things like, for instance, assuming a percentage of the business is select and ultimate and a percentage would be ultimate in trying to blend the table. I've seen attempts at using the rationale that there may be some selective aspects of the business, but that the business would experience a much shorter duration of selection and a much less lower degree also. You really have some things to address in terms of the mortality table you're going to start with when you initiate that pricing process.

MR. HUI: In terms of mortality by duration, obviously we can't use a flat percentage of a standard, fully underwritten table. It doesn't make sense. There are three things I can think of that could be different. The first point would be the end of the contestability period, depending on how much anti-selection you have with a simplified issue product. There could be a much larger spike after the second year. I looked at one case that had 10 claims in the first year, but 40 other contestables. In that case I had to assume a big jump in the third year. The second point would be, as you mentioned, the select period. It doesn't make sense to use a 15 or 25 select period when you don't have as much underwriting as a fully underwritten block. A grading of a shorter select period is needed. The third point would be the type of mortality improvement that you assume, or if you do, that would be affected by the transparency of your product and how many valued substitutes

there are, which would cut the selective lapses. I would then determine how much of each of those three issues apply to your product and adjust accordingly.

MR. FRIEDRICH: I would comment that we have used, for many SI type programs, a semi-select mortality basis. It is really a blend between pure select and ultimate, and ultimate only tables. Often the 75-80 SOA table is a starting baseline. A key in the weighted blending is going to be the effective amount of underwriting that is actually utilized. However, on top of that, I do think you need to consider anti-selection over time. One final factor that we really haven't talked about is that you need to consider what you are marketing, and to whom. Is this the right baseline table to begin with or is this a different client in terms of socio-demographic characteristics? In many instances that is the case and your baseline mortality should be adjusted for that factor.

MR. INGLE: There's risk associated with using averages, which pretty much echoes what you were saying. You come up with a pricing model that has some assumption associated with it and the essence of my presentation was, here's an underlying assumption, what are the risks associated with using those assumptions? There are a lot of them.

MR. ROBERT J. TIESSEN: I always thought it was a bit odd to have an expert underwriter that figures out that something is Table 3 and then you issue it at standard and since you likely wouldn't do this for all of your products, you have issues when someone applies for a product to which a table-shaving program applies and then decides to switch to a program product that table shaving does not apply. It would seem that there are a lot of issues around how this can be implemented on a consistent basis within your company that's sort of separate from what the right price for it is. I was wondering if you have any comments on some of the management issues around having a table-shaving program that might not be across all products.

MR. INGLE: That one is simple, the answer is yes, that's a problem. If you don't have it on all of them, you have created an issue in your company.

MR. FRIEDRICH: Doug, we really haven't talked about pressure points under current fully underwritten programs. Where are you seeing pressures, as a reinsurer, from the direct writers as they're trying to cut the underwriting expenses? What particular hot buttons are out there today?

MR. INGLE: As you know, super-preferred mortality reductions are really driven by the underwriting tools themselves. When I refer to the "tools" I'm referring to the blood, urine, the different testing that goes on. Those tools drive mortality down. There's a pendulum shift that's going on right now where there's an attempt to eliminate the tools and issue business faster, quicker, simpler. So the push has been on chest x-rays and treadmills and things like that, the push is to drive the face amounts higher before ordering these underwriting tools. From my perspective,

after doing cost/benefit studies by eliminating these tools at certain ages and amounts, you're actually driving mortality back up again. Trying to build a balance with companies on these changes is always very interesting.

MR. THOMAS D. HULL: Ed, you talked a little bit about oral fluid. When I've looked at that in the past, the collection of those required a certain amount of training. Some agents still didn't want to do it. I wondered if you could talk in a little more detail about the price/benefit trade-offs with that method.

MR. HUI: Yes, as you said there are certain agents that when they first need to be trained, they're reluctant to do that. In terms of home office, I've read that there can be an uneasy feeling as to the potential for abuse for that. No experience to support the differences, though.

MR. FRIEDRICH: Doug, how are you seeing companies deal with table-shaving programs as they're starting from a platform of multiple risk class products? To what classifications are table two or table four being moved? Historically, the table-shaving programs I had seen often involve the table give-up even for the higher tables. Is that being utilized at all in the market today?

MR. INGLE: Some of what I've been seeing is they're coming up with a blended rate that is built generally off the residual standard class, and that would be where you would be placing those risks. That does run into issues where if you're taking the table two, three and four risks and putting them in this blended rate class, then the table five risks all of a sudden are just one step away from the blended rate. That's where all the pressure is coming in, but the companies have to work out the mortality assumptions appropriately for each risk classification that you set up, so you end up with a spike or a jump that occurs there that we've talked about. That creates an issue with the underwriting department.

MR. FRIEDRICH: The other question was higher tables. For example, in the past the table eight might have been discounted down to a table six or table four. Is any of that occurring in the marketplace today?

MR. INGLE: I think I've seen a little bit of that out there, but there again, the mortality doesn't go away. It has to be accounted for somewhere. So if there is a two-table drop from table eight to six, it's not that the two tables went away, it's that the drop has got to be priced for somewhere.

Chart 1

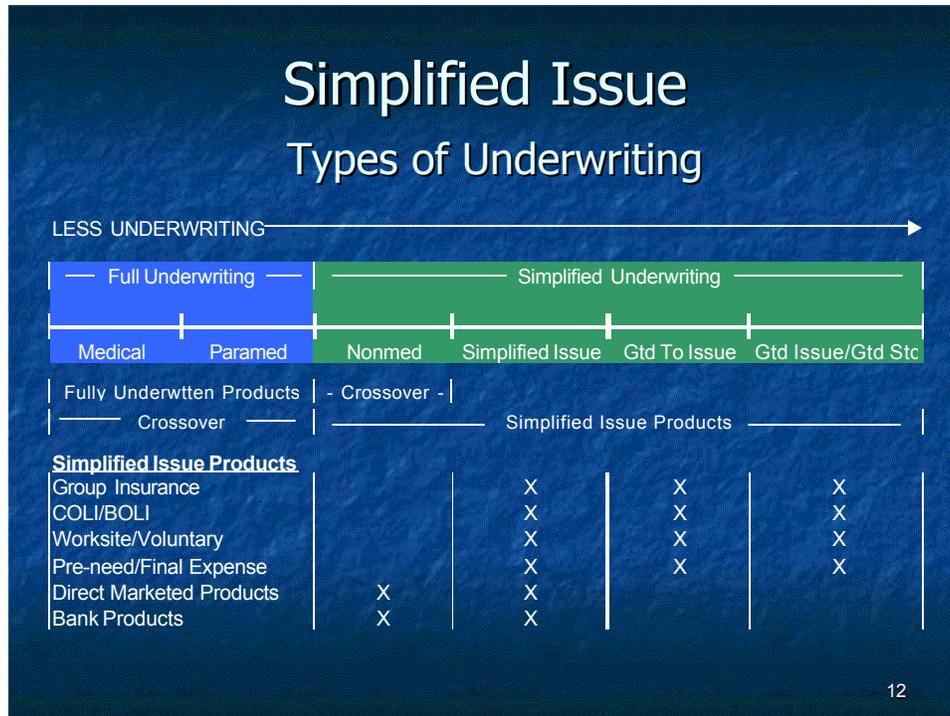


Chart 2

1995-96 SOA Select Period Experience Standard Individ. Underwritten Life Insurance 1975-80 Basic Table

Issue Age	Medical	Nonmed	% Change
0-19	60.7	63.9	5%
20-29	100.4	74.0	-26%
30-39	59.0	65.3	11%
40-49	59.4	67.8	14%
50-59	60.2	76.9	28%
60+	71.4	92.4	29%
Total	65.2	71.4	10%

15

Chart 3

Hypothetical Distribution

Rating	Percent Qualifying	Cumulative Total
Standard	86%	86%
Table 2 (150%)	4%	90%
Table 3 (175%)	3%	93%
Table 4 (200%)	2%	95%
Table 6 (250%)	1%	96%
Table 8 (300%)	0.5%	96.5%
Above Table 8	0.5%	97%
Decline	3%	100%

25

Chart 4

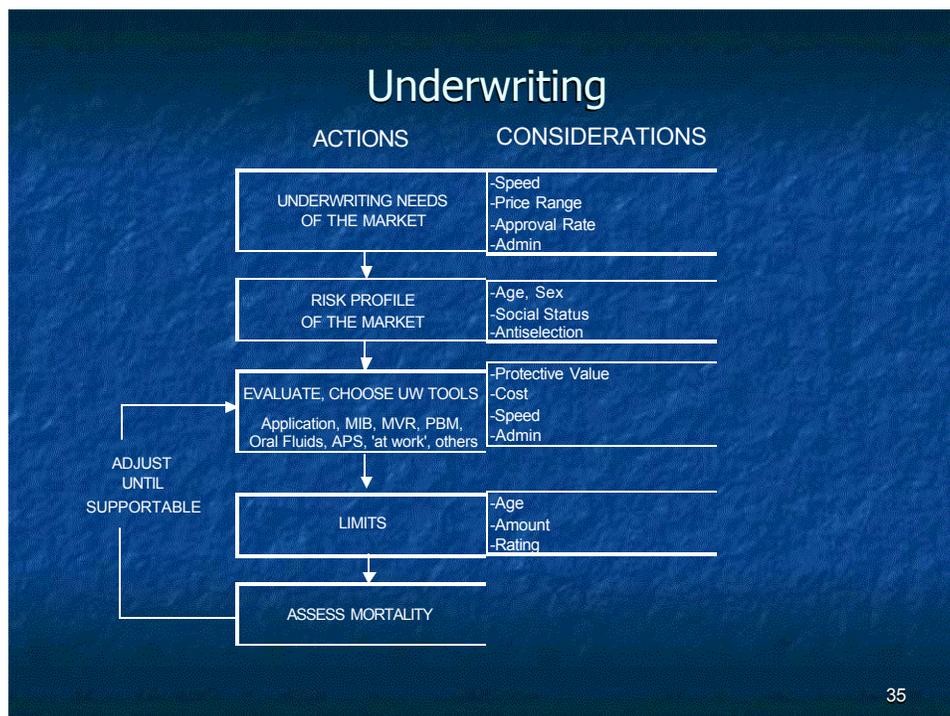


Chart 5

