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Managing Long-Term Care Risk: Do I Have the Reports I Need?

Track: Long-Term Care

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Summary: A familiar message is that a lack of information can ruin the chances of a profitable block on long-term care (LTC) insurance. Senior management wants to know what the business risks are and what you are doing to mitigate them. So, what kind of management reports do you need to manage the block successfully? How do these reports differ from the reports you get on other types of health insurance?

MS. PEGGY L. HAUSER: Companies are in the LTC business because we believe that we can provide a valuable benefit to policyholders. It is clear that we're also in this business because we think we can generate profit.

Today, I will talk very briefly about the risks surrounding LTC insurance. Then we will talk about what items companies should monitor and consider to maximize the likelihood that the profits assumed in pricing will materialize.

First, here is a list of the LTC business risks: sales, acquisition expenses, mix-of-business, persistency, morbidity and investment income. They are in chronological order, based on when experience will develop. The first three items: sales, acquisition expenses, and mix-of-business, require very early monitoring. In fact, it is never too early to start. Other items like persistency, morbidity, and investment income actually require that policies be in force for a period of time before monitoring can begin.

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First, I will address the early monitoring testing that carriers can do. Jake Lucas will talk about the experience studies that companies should be doing to monitor their persistency and morbidity risks. Then finally, Vince Bodnar will wrap-up with how to use the reports and how to make the reports come alive. With that, I will now talk about early monitoring.

It's never too early to begin the monitoring process. In fact, you can start even before sales begin, because in order to monitor, you must first know what your expectations are. Then, as soon as sales begin, you should begin to monitor actual results.

The initial priorities are to recover development and acquisition costs and to meet target profit objectives. There's a significant cost to get into the LTC business, so it's important to have a plan for recouping those development expenses. Of course, it's necessary to have sales to generate revenue, but those sales have to be profitable to generate income.

Some initial key items to be monitored are: submitted business, withdrawal rates, underwriting declines, not-taken rates, and issued-and-paid. The goal of all monitoring is to compare actual results to pricing expectations or forecasts. This is important since the company has invested significantly in getting into the market. It's important to have an idea of what sales are expected to be, and then monitor the sales as they come in, to see if they meet the plan that was set out.

The first item is monitoring submitted business, or applications. Do they meet your target forecasts? If they are not meeting them, why aren't they meeting them?

Then, in moving from actual submitted applications, ultimately it is necessary to get to an in-force policy. I've identified three ways that one might lose an application between the time it is submitted, and when it's ultimately an effective policy.

First, there might be policies that are withdrawn before the underwriting decision has been made. These are policies that were not approved or declined, but the applicant has changed his or her mind. Although the company hasn't completed the underwriting process, chances are they've incurred some underwriting expenses before the withdrawal occurred.

Secondly, some of the applications will be lost to underwriting declines. Initially, expect that agents and brokers will test underwriting criteria, and there might be higher declines. It's important to estimate underwriting declines, then test what ultimately comes in.

Finally, the last way you lose applications is through a not-taken policy. In this case, a company will have gone through the entire process of underwriting and made the decision that this was an insurable risk, but now the policyholder has changed his or her mind. This loss is more devastating than the withdrawn policy,

because with the not-taken policy, the company has incurred the full underwriting costs. It's important to monitor each of these items to make sure you're on target.

To demonstrate a case study that we encountered recently, I will talk about a cohort of policies at issue ages 65–74. I want to compare the pricing underwriting expense assumption to the actual underwriting costs for a cohort of issued policies.

First, the pricing actuary had assumed that the cost of making a decision, either if it was declined or accepted, at this particular issue age, would be about \$135. That cost included the following expenses: putting the application on the system, doing a telephone history interview, ordering risk management information (which might include a face-to-face assessment or an attending physician statement) and finally the costs of the underwriter reviewing all of the information, making a decision, and perhaps issuing the policy.

So, buried in the pricing actuary's assumption was the rate of ordering risk management information. In this case, we assumed that 30 percent of the applications at this age required an attending physician's statement (APS). The underwriting protocol was that we would always do a telephone history interview, but an APS would be ordered for cause only. Factoring all of those costs together, our estimate was \$135.

We anticipated that in this age range, we would decline roughly 20 percent of the applications that were submitted, plus, we anticipated a three-percent withdrawal and not-taken-out rate. That provided a resulting cost-per-policy issued of \$175. After we monitored sales for about a year, the actual results were available to review.

In fact, the actual cost-per-issue was considerably higher than the pricing assumption had been. The cost-per-decision was higher, because the APS assumption was off by 30 percent. We were ordering the APS on closer to 50 percent of the applications, so the \$135 cost-per-decision was actually \$145.

The decline rate was higher than expected, at 30 percent. This might be expected, because this was a new product and certainly the brokers and agents tested the underwriting criteria to see what would really be accepted and declined. What I found the most troubling was the not-taken rates were actually four times higher than what the pricing assumptions had been.

This experience resulted in a cost-per-policy-issued of \$250, or a difference of \$75 per policy issued. This might not seem like a lot of money, but if you lose \$75 on every policy issued, profits are eroded. For example, if the average premium is \$1,700 and you expect the policy to remain in force for seven-and-a-half years and are hoping for ten percent of the premium to be profit, you would expect somewhere near \$1,200, or \$1,300 in profit over the life of each policy. Right away, at issue, we lost \$75 on each of those policies, which is about six percent of

the profit we expected over the policy's life. If companies don't monitor this, you may lose money right out of the gate. With all of the risks coming downstream, it's a shame to lose money so quickly on something that could be monitored and caught. It's important to monitor this experience and take corrective action now.

If a company continually has higher decline rates than expected or than they prepared the agents to expect, it's very likely these agents will be discouraged and take their business elsewhere. It's really important that the agents are trained and that they have good agent guides. This way, they have a pretty good expectation of what will happen to an application they submit. When decline rates are considerably different than expected, a company must look to explain why that is the case.

In this case, we expected a lack of field underwriting, since applications were coming in that really shouldn't have been sent in. In addition, I was concerned about the agents' training. It appeared that the agents must not have convinced the applicants of the product's value, and that this was an important product for them to have, because so many were going through the underwriting process, then changing their mind after-the-fact. Clearly, some changes needed to be made.

In doing this initial monitoring, it's important for your company to maintain the capability to drill down and isolate why and where the differences occur. On this early information it's very important to have the ability to see whether it is just a particular agent or area that is having problems or a widespread problem.

Another variable to look at is variation by risk class or by preferred and standard. Are a lot of applicants not taking out their policy because they thought that they were going to be eligible for the preferred risk, and in fact, were offered the policy at the standard price? This problem would again indicate that more agent education is necessary. The agents need to have a better idea of what you will do when that application comes in the door.

It's important to drill down on these assumptions by issue age. Although a company may expect a 20 percent decline rate and experience 30 percent, this result could just be driven by the fact that the issue age distribution was different than expected. Your assumptions by age may be right on target, but because your average issue age was higher, you decline more than you would have expected. If you drill down, you may find that the aggregate result is off but the results by issue age are on target. It's also important to be able to monitor trends over time. You might expect to see your declines higher than expected initially, but certainly they should trend over time to meet with expectations.

The second early monitoring that is important for companies to do is watch their mix of business. Every company that issues LTC has subsidies built into its rate structures. Two subsidies that everybody has are gender and daily benefits.

We use unisex premiums for a product that we believe has very different morbidity

assumptions and likely mortality rates by gender. If the gender mix is off, that is important to know right away.

Similarly, subsidies by daily benefit are very common. Most companies' rates are based on perhaps a \$10 daily benefit, and all of the rates are proportional. If they sell a \$100 and a \$200 daily benefit, the premiums double. In reality, we know that there are fixed expenses such as underwriting costs, so there is likely to be more profit built into a \$200 premium than there is in a \$100 daily benefit premium.

It's likely the pricing actuary has assumed an average daily benefit in the pricing and if there ends up being a significantly lower average daily benefit, you might not have the profits thought to be built into the product. On the other hand, there may be more profits than expected if the average daily benefit issued is higher.

Other rate structure subsidies may occur by issue age, benefit period, and inflation protection option. This occurs when a company modifies target profit objectives at certain issue ages or benefit periods to be more competitive with rates out in the marketplace.

I see these subsidies a lot, especially with inflation option benefits. I have had discussions with other pricing actuaries about the additional risks with the compound inflation option. While it seems counter-intuitive, I believe the marketplace is not pricing the inflation options to return the same profit margin. It's very common for companies to accept a lower profit margin to get their rates in the ballpark of the market. Therefore, it's very important to monitor the mix of business assumption regarding who's taking inflation protection, because otherwise, anticipated profits will not be generated.

Finally, the marital status discounts and preferred discounts may create additional subsidies in the rate structures. The industry is getting to the point where we at least have some early duration experience. We can see differences between preferred and standard, and married and single morbidity. However, we don't know what the impact of these classifications will be ten or fifteen years down the road. We might not have explicit subsidies built into our rate structure, but we may have some implicit subsidies. Thus, it's important to monitor the expected mix of business to your actual distributions of business.

To monitor the mix of business, it's important to know first where the vulnerabilities are in the rate structure. One needs to know expected profit margins by rate cell, and further how competitive rates are by rate cell. It's important to look at the competitive situation, not only where you expect sales to occur, but for all of your rate cells.

Companies should do competitive comparisons for single, married, standard, preferred, and all the combinations. These comparisons will ensure that you have not, by accident, created some vulnerability in the rate structure. Especially in the

broker market, vulnerabilities will be found and exacerbated. It's important to know the vulnerabilities before sales begin, and if a company has subsidies, it's important to monitor and be on top of the situation.

Finally, it's not enough just to know there are potential problems, but also, how far the assumptions can vary from expectations before alarm bells should ring. If it looks like we're a little bit off, should somebody be really ringing the bells?

There are a couple of potential measures that you could use to test or monitor the mix of business. I tried to think of measures that a company has at their disposal that can be used to quickly identify whether there are problems in the mix of business. From the valuation system, GAAP net premiums are likely available. The ratio of the GAAP net premium to the gross premium can be compared to expected levels. Look at vulnerable rate cells and rate cells overall to see if these ratios are at the expected level.

If these ratios vary from expected, it is necessary to figure out why and whether action needs to be taken. We will be required, as states adopt the new rate stabilization regulation, to conduct a test that gross premiums are greater than statutory net premiums plus renewal expenses. The GAAP net premium to gross premium tests tells something about morbidity risk, but it does not tell if there are profit problems. Whereas, this rate stabilization test might also indicate rate cells with potential problems.

Finally, the ultimate measure of whether you are adding value to the company is to estimate the embedded value of new issues. Embedded value is the present value of the future profits expected to flow from those issues. This measure is an excellent way to monitor that a company is adding value by issuing the right mix of business and staying on target to what expectations had been.

Now, I will turn the presentation over to Mr. Lucas. Mr. Lucas is a consulting actuary with Tillinghast-Towers Perrin, where his focus is LTC. He also spent three years with Conseco, where one of his responsibilities was developing experience-monitoring capabilities for LTC.

MR. RONALD L. LUCAS: I'd like to build upon Peggy's comments and talk about experience studies. The two areas I will focus on are persistency and morbidity. As we go through these two ideas of experience monitoring, I will share some sample reports that I've developed and point out some observations. There are, of course, many different ways to look at the morbidity, and I'll share a couple of examples with you.

To start with, I will look at persistency, then look at the two components separately—lapses and mortality. If you don't have that capability, then you should look at your total termination rates versus expected rates. Something that we have all probably heard is that lapse rates continue to move lower, with lapse rates under

two percent. One thing that we've noticed in some of the work we've done is that those ultimate lapse rates actually occur much lower than anticipated in pricing. You may have priced for it to occur in the tenth or fifteenth duration, but it may occur in the fourth, fifth or sixth duration.

Another observation is that mortality has been better than expected, which we've seen in two areas. One is the impact of underwriting, which may suggest that you should use selection factors, and the other is that the ultimate levels are actually lower than expected, reflecting the fact that people are living longer. It's important, if your lapses and mortality both are lower than expected, to realize the impact on future profits, which may have a significant impact.

I will now move on to the first sample report that I want to share with you. It's a simple lapse report, broken down by age brackets and duration. There are a couple of observations to point out. As you can see, there's a variation by age, but they also converge rather quickly to what might be an ultimate level, one percent. Other key variations that we've seen in lapse rates are between group and individual underwriting classes.

Table 1
Lapse Experience

ABC Corporation						
Age Bracket	Duration					
	1	2	3	4	5	6
< 50	5%	4%	3%	2%	2%	1%
50-70	4%	3%	2%	2%	1%	1%
70+	3%	2%	2%	1%	1%	1%

The next component of persistency is mortality experience. Table 2 looks at an actual expected ratio for mortality, by age bracket and duration. Two things you might notice here are that for the under age 50 bracket, mortality is higher than expected in almost all durations. Here, durations 1-5 suggest that maybe it's not credible. It may be helpful to look and see if there is enough exposure at that age bracket, or if it is due to the underwriting or the lack of underwriting at the younger ages. The second item to point out here is that at age 50-plus, there is a gradual upward trend in A:B ratios, which might suggest you should be using selection

factors.

Table 2
Mortality Experience

ABC Corporation Actual-to-expected Ratios						
Age Bracket	Duration					
	1	2	3	4	5	6
< 50	110%	110%	120%	115%	140%	95%
50+	40%	50%	70%	80%	95%	105%

Now we will move on to morbidity experience monitoring. This can't be looked at from an aggregate level. I prefer to look at what I consider to be some of the major components of looking at morbidity. This involves the incidence rates, the claims continuance, and the amount of claim payments, so you can determine what your salvage might be, looking at the care setting, transferring between care setting and claims characteristics.

Table 3 looks at incidence rates of marital status by duration. If you're given a big discount for married or joint policies versus single ones, this type of report might give some indication of whether or not the durations are in the ballpark. To point out, here, in the first duration, the married A:E ratio is 25 percent and the single one is 60 percent. This is a substantial difference. Now look across, by duration, and see that they start to converge somewhat. Another area to look at regarding marital status is age bracket. There you can see if it actually converges as age increases.

Table 3
Incidence Rates

ABC Corporation Actual-to-expected Ratios					
Marital Status	Duration				
	1	2	3	4	5
Married	25%	35%	40%	40%	40%
Spouse	45%	50%	55%	55%	50%
Single	60%	70%	80%	75%	60%

Table 4 is another incidence rate report. The one thing I should point out here is when looking at incidence rates, it is worthwhile to look at expected ratios with selection factors and without selection factors, in order to really test the impact of the underwriting to see if we have the right selection factor patterns. This report looks at A:E ratios by attained age bracket and gender; and for the most part, in both genders, the A:E ratios are under one. But, see that for the males, it is lower than the female A:E ratios. Maybe a third observation here is that the 61–70 age bracket has the lowest A:E ratio.

Table 4
Incidence Rates

ABC Corporation						
Actual-to-expected Ratios						
Gender	<i>Attained Age Bracket</i>					
	<i>< 40</i>	<i>41-50</i>	<i>51-60</i>	<i>61-70</i>	<i>71-80</i>	<i>> 80</i>
Male	40%	75%	35%	30%	40%	70%
Female	110%	50%	45%	35%	50%	90%

The ratio seems to go up with age; if someone goes down in age, it goes up. It is a U-shaped pattern, which maybe has to do with the value of the underwriting that takes place at that age, or perhaps some other cause as well.

If we move on to claims continuance, Table 5 looks at two care settings—nursing home and home health care—as well as claim duration. We've seen that people are staying on claim longer than expected, which certainly applies in this case as well.

Table 5
Claims Continuance

ABC Corporation						
Actual-to-expected Ratios						
Care Setting	<i>Duration (in Months)</i>					
	<i>1</i>	<i>6</i>	<i>12</i>	<i>24</i>	<i>36</i>	<i>48</i>
Nursing Home	40%	75%	30%	30%	40%	70%
Home Health	110%	50%	45%	35%	50%	85%

Key variables to look at in addition to what appears in this report include assisted living facilities in the care setting (with the necessary data). This can also be looked at by elimination period for richness of benefits, an ideal benefit amount and compound inflation.

After reviewing incidence rates and continuance, the next logical thing to look at is claim payment level. Table 6 looks at the actual payout as a percentage of the maximum daily benefit amount, and shows that we expect to pay less than 100 percent across all care settings. Then the actual column shows that we are still paying under 100 percent, but the actual amount is higher than expected in three of the four categories.

Table 6
Claims Payment Levels

ABC Corporation Actual-to-expected Ratios			
Care Setting	<i>Actual Payout as a Percentage of Maximum Daily Benefit</i>		
	<i>Actual</i>	<i>Expected</i>	<i>A/E</i>
Nursing Home	90%	85%	106%
Assisted Living Facility	90%	95%	95%
Home Health Care	70%	60%	117%
Respite Care	50%	40%	125%

What are the implications of actual payouts being higher than expected? Two things come to mind. There is actually a higher payment stream going out and one may also increase total payout.

There are a couple of other things to point out here. If the home health care benefit is offered weekly or monthly, you need to take that into account as well to add some complexity to the actual payout for home health care. A key variable here is also the inflation benefit. If there is a compound inflation, then you're more likely to pay under 100 percent than for a non-inflationary benefit.

The next component of morbidity is the care setting distribution (Table 7). At which care setting did the patient initially go into claim? Here is an expected distribution of 35 percent for nursing home, 15 percent for assisted living and 50 percent for home health care. What we actually see in this situation is about 20 percent in nursing home, 20 percent assisted living and 60 percent in home health care. Now, is that merely a shift from one care setting to another, or is it a shift plus an increase in claims? You may want to tie this back to incidence rates and see if there's a connection.

Table 7
Care Setting Distribution

ABC Corporation Actual-to-expected Ratios			
Care Setting	Initial Care Setting		
	Actual	Expected	A/E
Nursing Home	20%	35%	57%
Assisted Living Facility	20%	15%	133%
Home Health Care	60%	50%	120%

Since we've looked at the initial care setting, the next logical place to look at is where the people ultimately end up. Here, you should look at transfer rates. Table 8 looks at an initial care setting and a current care setting. See where they ultimately end up and what paths they take to get there.

Table 8
Transfer Rates

ABC Corporation Actual-to-expected Ratios				
Initial Care Setting	Current Care Setting			
	Nursing Home	Home Health Care	Death	Recovery
Nursing Home	85%	10%	3%	2%
Home Health Care	10%	85%	3%	2%

Consider: ADL levels
Assisted Living Facilities

For example here, the initial care setting for nursing homes is 85 percent, and at the current time, this is the percentage of people still in a nursing home. Ten percent have moved to a home health care setting, three percent have died and two percent have recovered. Some additional considerations here are to bring assisted living into this matrix and look at the shift between the three-tier settings, and also look at transfer rates between activities of daily living (ADL) levels.

The final component of morbidity to point out is claim characteristics. What were expected distributions by cause of claim? I think the real value here is to coordinate the knowledge gained on the claim side to the underwriting practice, to continually improve underwriting guidelines. And again, this can also be tied back to the other morbidity component; do the incidence, continuance and payment levels vary between the different illnesses? And does the care setting vary between the different illnesses?

Now, I will wrap it up. To be successful in experience monitoring, you need to develop the capabilities early to look for emerging trends. I think it is even truer in the persistency than morbidity. In morbidity, it is necessary to have a mature block in place, but with persistency, it is possible to look at it early on. There are definitely examples of carriers who just didn't do that.

To start, you can look at data on an aggregate basis. Then, as the exposure base grows, you can start going down into the different key components. It is necessary to capture exposure in accounts, to measure the credibility of the data. I've seen some pretty extensive reporting capabilities and they showed basically what I did—the actual expected ratio—but it wasn't possible to see the data behind it to know whether it was credible or not. I think you need to capture that information. The last thing I will point out is to do experience monitoring on a regular basis. With that, I'll turn it over to Vince.

MS. HAUSER: Our last speaker is Vince Bodnar. Vince is a consulting actuary with Milliman USA. He has more than 11 years of experience with LTC and has been involved with pricing, plan design, financial reporting, and distribution strategies. Prior to joining Milliman last year, Vince was with GE Financial Assurance and KPMG.

MR. VINCENT L. BODNAR: My presentation will focus on a process that I call experience-based management, but I will refer to it as EBM for short. It really addresses how to use the information that should be collected in an experience monitoring system.

It's based on a set of best practices that I've observed in companies I've worked at and at client companies. To put it into context, I've yet to see a company use all of these principles. I've seen companies use pieces of it, but I have not seen anybody put it all together yet, so the complete package is unattested. I'd love to see somebody put it in place some day.

EBM can be best defined by differentiating it from purer experience monitoring. Experience monitoring involves data collection—the recording and observations of events and data—and the tabulation and summary of this data into reports. It also involves the tracking of actual versus expected results.

EBM, however, involves usage of information gathered from an experience monitoring system. It involves pertinent data analysis by ensuring that you're focusing on key profit drivers. It also involves the communication of findings, and it's important that things are put into the context of its effect on the business.

Early on, Peggy said that it costs \$75 extra to write a policy. What does that mean? How do you communicate that to management? What EBM will do is help to communicate that it means X percent of the expected future profit of this line of business. It also involves decisions based on these findings, which may include changing a product, pricing, or processes, or even killing a product. In addition, it involves ongoing refinement of data needs.

Within this presentation I'll focus on the need for EBM. I'll also explain the critical elements of such a process and give you step-by-step instructions for building an effective EBM process.

The need for EBM is particularly important with LTC. As many of you know, there's a long period between cause and effect. With LTC, you must be able to react to warning signs of losses, not just the poor financial results as they emerge, because often times this is too late. Early detection also provides more options. If you wait too long, often your only option will be a rate increase or something drastic. Profitability within LTC is subject to many variables, and a lot of times they're hidden by other variables such as claim costs, and are driven by two components: length of stay and incidence rates. One could be up and one could be down.

If you're just tracking one item, you may not pick up all the underlying causes. Utilization in costs vary greatly by care level, geographic area, and buyer. LTC delivery methods are still evolving, with the industry working its way out. Right now there's a trend from acute care to lower levels of care. It's important to understand these care levels and how they affect the product. Also, LTC incidence and length of stay are changing.

I'd like to share some of the most common root causes of LTC product failures that I've observed. Probably the biggest cause of failure is simply low production. Often companies will put millions of dollars into launching a product, only to see a few sales trickle in. As actuaries I think we tend to focus on the back-end profit drivers and don't really focus too much on pure volume. Often this is caused by distribution size itself. By that I mean the size of the distribution system that specializes in LTC and agent training, as well as the general level of interest from the distribution system in selling the product.

Another common cause is liberal underwriting—accepting questionable risks or risks

the actuary didn't intend to be accepted, poor plan design or a design that becomes obsolete over time with unintended levels of care or coverage.

Anti-election, reserve, and capital inadequacies are other causes of product failure, and are more common than you might think. This includes liberal claims processing and the pure-and-simple pricing assumption. All of these product failures can be avoided or at least mitigated if some kind of experience monitoring system is in place, or a robust discipline system for using that data is also in place.

There are three common mistakes in dealing with the root causes of product failure, even if monitoring experience. The first one is inadequate monitoring, and as an example, not monitoring durational loss ratios. I've had clients who simply look at first-year versus renewal-year loss ratios, and that's it. They don't understand the relationships of a durational loss ratio to overall results. They're not monitoring a key item, and as a result, they manage their business by hunch.

The second mistake, which is pretty common, is simply bad communication between an actuary and management. As a real live example, I once witnessed a communication stating that our loss ratio in Florida was 50 percent. Management's response to that was, "Okay, that's interesting. Our price is 60 percent, so we're doing okay, right?" What wasn't communicated was that the product was still in its first duration, and they were in trouble, to say the least. In this case, the issue was not put into context.

The third mistake is that warnings are simply ignored. Managers understand the implications, but they choose not to take corrective actions. Often they think they're painted into corners and there's only one corrective action that's even possible. They don't explore other options. Because that one option is all they're considering, they don't want to take it, and get wishful thinking, which I think we've all seen. With one client in particular, I hear, "This may go away. That's behind us now. That will hurt sales. We can't do that."

It is between the product manager or the actuary and upper management to make the decision on what to do with the product and how to react to it. As I see it, there are five key elements to effective EBM. The first is to know your tolerance level. At what point are you going to want to make or take action? The second is to know the key route drivers of your results. What drives profitability? What's important to watch? Third is to regularly monitor these key items, which I can't over-emphasize, and, to communicate the results in a timely and effective manner, then act when necessary.

There are some general guidelines to consider when building an EBM process. If possible, try to build it prior to launching the product. It can provide some great insights on the product and how to design it. It will alert you to risks ahead of time and often it may change the way you administer or distribute the product.

I want to get into a step-by-step description of how to build a process. The first step is to brainstorm about profitability drivers and decide what they are. This has to be done outside of an actuarial vacuum. You must involve other people in the company. More heads are better than one, plus often they are looking from different angles that can lend to key insights. Look to peers as well as the distribution system.

I'm amazed at how often peers are not included, but they can give some key insight as to issue processes that really affect production volume. A lot of times actuaries imagine that it's all about commissions, but often it's not. It usually has to do with how nice an actuary treats an agent when he calls, or how long it takes an application to be processed. Auditors, reinsurers, and of course, consultants, are also people that you may want to involve in a brainstorming session.

A key driver that may come out of the brainstorming session is production. It is based on the agent's life; unless they're trained, there is a new agent turnover, and a number of sales per agent. The underwriting process is a key driver of profitability—not just the quality of the applications, but also how long it takes to issue policies. It's the mix of business.

I think Peggy went into a long discussion about how just looking at the number of policies coming in that are inflation versus non-inflation could be a key driver. You may be subject to anti-selection. There may be a demographic miss or an opportunity that can help drive profitability, like lapse rates, commissions, investments, performance, expenses, claim incidence, and the length of stay.

These are some examples that we traditionally think of as the work of pricing actuaries. Other key drivers include the claims process, usage of case management, experience by rating class, reserve adequacy, and risk-based capital.

When brainstorming about profitability drivers, it is necessary to determine your tolerance levels. Also, you should clarify and get agreement on what the definition of adverse result is. An actuary's definition of adverse result may be different from management's definition, so it's important to understand and get agreement upon a common definition.

Here I've defined three different levels of tolerance. The least serious, I call informed. This happens when a deviation occurs. It's not serious enough to do anything about, but you want to let key people know that a deviation has occurred. The next most serious tolerance level is to investigate. When a deviation occurs here, you want to dig into the item and identify the root cause, as this may in itself lead to some corrective action. Then the most serious level would be to take action, and when a deviation occurs at this level, you want to take immediate corrective action.

It's important to make tolerance levels relate to something tangible, such as a

percentage of the expected profit margins or a percentage of the premium. The tolerance levels should consider both short- and long-term profitability measures, and also the duration at which the deviation occurs. It's important to relate the deviation to both current and long-term results because of items like persistency, which are good in the short-term and bad in the long-term. Again, it's important to get management agreement on levels ahead of time.

To help illustrate what I mean by these three different levels, I've come up with a few examples. The inform level may be defined as a deviation of profit; that is at least 20 percent of expected quarterly profit, which implies a 20 percent deviation from lifetime profitability, and a deviation that has occurred for one quarter. Again, in this way you're capturing an item such as persistency.

The investigate level may be defined as a deviation that's 30 percent of expected profits, and has only happened for one quarter, or that it's 20 percent and a deviation has occurred for two quarters. Corrective action may be the deviation at 50 percent, or it's been at 30 percent for two quarters.

The third step of building the process is to determine or prioritize the items that must be monitored. In doing this, you will quantify the tolerance levels for each item in relation to the overall tolerance. For example, a 20 percent deviation in annual or lifetime profit, which is the informed level on the illustration I gave on the previous slide, can be driven by a four percent loss ratio deviation, or a 15 percent time-to-issue deviation. For example, according to the distribution system's input, sales would drop by 20 percent if it takes a couple of days longer to issue policies. Another example is a five percent deviation in the mix of females.

Once the tolerance levels for each item are quantified, you can then determine their importance. Of course, small tolerance items will be more important to monitor and also indicate the need to drill down on that item, and break it into other things that are easier to track and monitor. It may give you even earlier warning of the deviation. An example is to drill down on additional root causes or obtain additional slices of that item to monitor.

The next step is to develop reaction plans for deviations for each item. If this is done ahead of time, it will be much better off. Early detection, again, provides more options. I've listed some options to consider as reaction plans for deviations. They are to revise the issue underwriting process or underwriting standards, and/or eliminate an underwriting class such as substandard or a preferred class. You might also rate all of the preferred standards. Review the claims management process, revise compensation, revise your planning and projection assumptions when it's time, discontinue an existing product, and restrict distribution by agent, product and area.

This can be done by changing compensation levels. One should revise the pricing and design of a new product as he or she gets information about how the old

product is performing. You may have to subsidize older products with new products as an alternative to rate increases. At some point, if adverse deviation continues to occur, it is possible to strengthen reserves and apply for rate increases.

The next step is to determine data sources, and look at the items and the priority of the items to track. Focus initially on the high priority items and keep the process simple initially.

I think if you wait for that magic data warehouse that we all get promised at one time or another during our careers, it may be retirement before you actually set up something like this. I propose keeping it simple; use data that's already available and collected at the start and refine it later. In a lot of cases, the data you need are already being collected by somebody who works in the company. Examples are marketing and claim activity reports, as well as application and new issue reports.

Next, assign responsibilities. Determine who will gather the data and who will deliver it. Again, leverage data and reports that will all be collected and generated. I think it's important to assign an overall process manager for this. This would be a central point of collection, an analysis for the EBM process. This person would determine where each key item is on the tolerance scale and will regularly communicate the status to management. When needed, this person would initiate or coordinate investigations and drill-downs, and coordinate corrective actions.

For illustration I've shown two examples of EBM manager tools that can be used. The first one is simply an Excel spreadsheet, which summarizes the status of each item that is being monitored, and shows where it is within tolerance levels. For example, the first row illustrates that we're tracking the percent of issues that are married. It shows where the information is coming from, who gathers the information for process managers, what the current value is, and it shows three different tolerance levels for that value.

In this particular case, it's in "investigate," because it's between "investigate" and "action" in one quarter. As a follow-up to this summary report, I envision a communications memo that would go out to all people interested in describing that deviation and what is currently being done about it.

The last step is to refine the process over time. This process will be subject to continuous improvement, especially if you start off simple. As time goes by, you can improve data quality and automate the process, and probably find new items to monitor as well.

In closing, I'd like to summarize a few of the benefits of experience data management. Of course, you will have an increased awareness of profit drivers and know which ones are key and what the current status is at any given time. There will also be a better understanding of the volatility of the results. Hopefully, you will practice early reaction to loss indicators instead of forced reaction of poor results,

and have real-time understanding of financial results as they emerge. With that, I'll hand it back to the panel.

MR. MIKE KHALIL: Here is a question for any of the panelists. It seems like the whole presentation was devoted to the traditional actuarial focus, and I didn't see much mention of investment income. I mean, we know the importance of investment income in long-term-care products. Are there any suggestions for monitoring investment income, either as you develop the product or going forward?

On a related note, in my company, I'm going through the process of developing new investment strategies for our long-term-care product line. In that vein, it involves sitting in on discussions with our senior management.

Our senior management is asking what sort of benchmarks we will have, because our feet will be to the fire with management. So the senior management for our health business is asking what sort of benchmarks you can give us. I wonder if you have experience in that way, and if so, what kind?

MS. HAUSER: You had asked what to do initially when developing the product. I think it's crucial that the pricing actuary knows what the allocation strategy or investment strategy will be for the long-term-care block of business.

Many companies use the company's portfolio rate and are allocated earnings, based on reserves. Companies could probably do better with a more targeted strategy and could benefit from buying assets for the expected liability pattern.

In the beginning, it's really important to know the company's allocation strategy. Then, there's nothing unique about LTC investment monitoring. Certainly it is important to monitor. However, following what Vince has mentioned, you know what the current quarter's performance has been, you know what you were assuming in your pricing and you need to be able to know what the impact of that deviation is on your long-term profitability of the block. But I am not an investment expert who would know what kind of monitoring should be going on in the investment department.

PANELIST: I agree that you would want to get buy-in initially on what investments are being allocated to the line of business. If you're looking for examples, you want to match it up with something that's got a nine-year life, and make sure to monitor that and be properly allocated. I know what is promised up-front doesn't always pan out in the future, so it's important to have communication with the investment people going forward to make sure you're getting an allocation of what you were promised early on.

MR. JAMES M. GLICKMAN: I will bring up a sideways discussion and get your reaction. I'm sure you'll all have favorable reactions to it, because I represent reinsurer, you represent TPAs and consultants. One of the things I've always seen

in dealing with a lot of different companies trying to get into this marketplace and even those that have already been in it for a while, is that they aren't creating the right expectations to try to manage it.

To give an initial example, many of you may be aware of the long-term-care experience exhibit posted by the NAIC. They have actual loss ratios; they have an expected loss ratio. If you look at those reports, and even though they vary widely from company to company, many in the industry know which ones are probably all right. The actual and expected loss ratios all seem to match up close to each other.

Likewise, very many large companies over the last few years have entered the marketplace, saying to look at all the opportunity here, they're going to do \$5 million, \$10 million, \$20 million, \$40 million or \$100 million over the first five years. Yet, there are some readily accessible reports that say that the very top companies that have been doing it for 10 or 20 or 30 years are still struggling to get above \$50 or \$70 or \$100 million in new business.

So where does that expectation fit in properly? Certainly where you're going to try to outperform the typical start-up points, there will be a major problem associated with what will be compromised in underwriting, or in pricing, or in benefits to get this kind of input and volume from people.

My ultimate suggestion is for companies not only in it, but those who are thinking of going in it. What they need to do is to try to involve reinsurers who give their experience. Certainly there are vendors who offer information and/or administrative ways to get aptitude in a more expedient fashion. There are also consultants who can help design what you can realistically expect to get out of this business, how soon and how to manage to it. I'll open that for discussion.

MS. HAUSER: I think your points are well taken, regarding how difficult it is to produce the production that you might want. We've had that experience with a number of carriers who had wanted to get into the market, chose to go the outsourcing route and had pretty healthy sales projections that, not surprisingly, haven't materialized.

I think it's important for the consultants or reinsurers to help these companies get more realistic goals. But regarding your comments on the experience exhibit, I'm not surprised initially that a lot of companies', actual-to-expected ratios, match each other; because, for the most part, those loss ratios are not based on paid claims, but instead are dominated by the claim reserves. They use their pricing assumptions to set the claim reserves.

So until things really start deviating, the reports of the actual versus expected should be right with each other. You really have to use a healthy dose of skepticism when looking at those reports, because they're only as good as the claim reserve practices and the continuance curves of the company producing the report.

PANELIST: I agree with your volume comment. I've seen many companies spend lots of money and time trying to launch a product. They treat it like a moon shot almost. It takes years to do this and they roll it out and get a couple of applications. I think a lot of that comes down to the distribution system. A lot of companies relatively assume that their existing distribution system will be excited about this product and want to focus on it. Nine times out of ten, however, that just doesn't happen.

The few success stories I've seen are companies that actually take a handful of agents and earmark them as long-term-care specialists, then tell them basically this is all we want you to sell and there is some success with that. Why is that the case? I don't know. I'm not an agent, but if I were, I would want to sell it in addition to the other products I sell. But I think it gets down to agents who sell life insurance or annuities. That's what they know and they're making good money at it, so why expand into something else?

You mentioned a couple of major carriers that have hit an upper limit. I think it's because they've tapped the limits of their existing distribution system.

If it's a career agency, their turnover is greater than the new agents they bring on, and what to do about that, I don't know. Being on the actuarial side, I can tell you that that's the root cause. There just doesn't seem to be enough interest in existing distribution systems to sell it. I think that's the angle from which companies have to attack. How do we sell this to our agents? Or how do we recruit or train agents who will focus on this product?

This is opposed to just drawing out glossy numbers and assuming that since they are with ABC company, and they're a household name, that when they come out with long-term care, everybody in the world will want to buy it from them. It doesn't work. I've seen it fail.

MR. PHIL BARACKMAN: This is more of a comment than a question. Actuaries were taught the principles of developing experience studies—developing the information—but almost nothing about practical ways of managing. Vince's presentation is about the first time I've seen, at an SOA meeting, a relevant model for management, and I'd like to see that incorporated into the education materials. Also, I think long-term care, especially because of that long cause and effect, requires more in the way of management. One of the challenges we have as companies and reinsurers and consultants is increasing the quality and commitment to managing skills.