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### A Review of Current Long-Term-Care Insurance Studies

**Track:** Health  
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**Panelists:** GARY L. CORLISS  
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**Recorder:** GARY L. CORLISS

*Summary: The SOA's Intercompany Experience Study, which deals with long-term-care insurance, has recently been released. Panelists discuss the results of this survey and the implications of the findings. Following the panel presentation, attendees have ample time for questions and comments about this study.*

**Mr. Gary L. Corliss:** This session will cover the Long-term-Care Insurance *Intercompany Study* prepared under the direction of SOA's Long-term Care Experience Committee. The first-ever intercompany insured lives study of long-term care (LTC) insurance was published in January 1995. Our expectation is that the second study will be completed in the fall of 1999. What we're reporting is a potpourri of findings associated with that second study, updating what was in the original report for the years 1984–91. It seems like it has taken eons since then to obtain the next two years of data, adding experience for 1992–93.

A number of you may wonder why it is taking so long to go from the previous study to this particular study. There are several reasons why it has taken that length of time. The first report was a developmental report, and we consider the second one to be a developmental activity also. There has been a lot of effort contributed by many folks on a voluntary basis. If they are all as busy as you are, you can just imagine how little time they have to dedicate to a major project such as this.

In addition to the voluntary consideration, several of the companies that contributed to the first study have completely revised their experience systems. That created a number of issues for us to solve in putting this second study

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together. Now we seem to have a basis that we can go forward with more regularly. The current objective is to add two more years of data to the original report published in 1995. Thus, we expect to publish the report for inclusive years 1984 through 1993 in the fall of 1999. Almost simultaneously with that release, we will be requesting data through 1998 from both the prior contributing companies and several new companies that have already agreed to participate.

There will be three of us presenting. I'm executive officer of Duncanson & Holt's long-term-care division, and I chair the Long-term Care Experience Committee for the SOA. Within that larger committee is a subcommittee of individuals who work just on the *Intercompany Study*, namely me, Linda Ball of Aegon, Pat Fay of Aetna, and Mark Newton of John Hancock. Pat and Mark will be presenting along with me.

Pat has the title of actuary at Aetna. She has been involved in LTC insurance for over five years and will be making remarks about persistency and mortality. Mark Newton has over eight years of experience in LTC care with John Hancock. He will be presenting the wonderful work he has done with incidence and continuance rates.

Let us start by talking about the characteristics of the data in the study. We had 10 companies contributing to the study that was published in 1993. Those companies were: Aegon, Aetna, Allstate, American Family Life, G.E. Capital, Bankers Life & Casualty, John Hancock, Lutheran Brotherhood, Prudential, and Transport. John Hancock's contribution in that first study was limited to its individual business.

The updated study includes four new contributors, all in the individual side: Country Life, Mutual of Omaha, Physicians Mutual, and Time/Fortis. In addition, John Hancock has now also contributed data from its group business. Thinking of Hancock as two separate companies, we now have a 50% increase in the number of companies participating.

By adding five companies and two more years of exposure, we've increased the number of insureds from around 900,000 to 1.3 million. Thus, the number of insureds has also increased about 50%. Similarly, the number of claims is up a little more than 50%. The significant difference between the two studies is that we now have a fair amount of experience on home care. The previous study had virtually no experience related to home care, while this study has home care claims totaling about 8.5% of the total number of claims.

There are a couple of characteristics of the overall exposure items that I would like to mention. Many of you are aware that the average issue age for LTC insurance has decreased over the years. You'll notice the same result in this

study's exposure (Table 1). The average age has gone down in the contributions that have been made. This result, of course, is not a surprise considering that we've added more group business. In total, the proportionate exposure has increased at issue ages under 60. An additional expectation when the average issue age decreases is the possibility that people can afford to purchase longer benefit periods. Table 2 demonstrates that, in fact, that did occur in the data we've accumulated.

Table 3 shows that claim benefit amounts have increased most noticeably where daily benefits exceed \$200. The \$200-and-greater claims increased from 1% of all claims reported in the previous study to 25% of all claims reported. Similarly, along with having exposure increasing for policies with longer benefit periods, it wouldn't be a surprise to see more claims with the potential of a longer benefit period show up. Table 4 shows that the number of claims incurred with a maximum benefit period exceeding 10 years has increased from 3% of all claims to 40% of all claims.

The last item that I found interesting relates to the percentage of claims that were still open at the end of the exposure period. When we released the last study, a little over 25% of all claims included in that database were still classified as open. We remarked in the original report that we would expect to see the average length of claim increase in future and updated studies. Even though we have more claims in total, there is now a smaller percentage of open claims; 19% are still open for the home- and community-based claims, and 16% are open for the nursing home claims.

**Ms. Patricia J. Fay:** I'm going to talk first about mortality experience in the *Intercompany Study* and then lapsation experience. Before I begin, I have one general comment to make. The data have been combined from companies that were not in business all at the same time. Thus, we sometimes notice funny things happening because the data might be a bit skewed.

The male mortality rates are graphed on a logarithmic scale in Chart 1. The diamond line is the information from the experience study, and the square line is the Unisex Pension (UP) 1994 table. This table was built from 1986–90 information that was projected to 1994. I think it's also known as the *Group Annuity Experience Study*. It's unloaded. I thought it would be an appropriate table to compare with the intercompany experience. At the younger ages, there's not very much credibility to the data. At about age 57, it starts to be a little bit more smooth. That's because we have larger amounts of data. As you can see, the results are significantly better than the UP table. This may be the result of underwriting or self-selection.

In Chart 2, we see similar results for females at the younger ages and the same gap at the older ages. This gap for females is actually broader than that for males, and increasingly so at the older ages. Because it's hard to see exact results from the graph, I converted Charts 1 and 2 to numbers (Table 5). This is the actual-to-expected table showing the actual experience over the 1994 UP table at each of the age groupings. In the younger years, the intercompany mortality is a little bit higher. That's probably because it tends to be employer group business, where there is guaranteed issue at the younger ages. That's my guess but I can't be sure. As age increases, they move apart. The female and the male rates are about the same at ages 70–74. However, if you look at the 80–85 age group, the female rates get much better than the male rates, as compared to the UP table. The female rates are about two-and-a-half-times better.

Now I'll comment on a mortality selection period (Chart 3). If you review the lines by duration, the diamond line (first duration) is generally lower than the square line (second duration), which is generally lower than the triangle line (third duration). I recorded actual numbers on the bottom of the graph. The very bottom number is the count of deaths that were included in each group, so you can get an idea of how much data we had. Again, there is slim data at the younger ages but volume increases as age increases. It appears that there is at least a two- to three-year selection period on mortality. It could be longer, but we don't have enough data to see if it actually would continue longer.

Turning to the female rates (Chart 4), we find the same general pattern as was noted for the males. There is a clear selection period for the first couple of durations. I'm not going to go over them in great detail. There are way too many numbers. Because I couldn't look at graphs and determine all the specific information I wanted, I took the duration five through nine rates and divided those by all the previous ones to see what a selection factor might be (Table 6). The male selection factors are a little higher than the female factors. However, they both kind of disappear by about the fourth policy duration.

Now we will go on to lapse results. For the first peek, I reviewed lapse rates by duration (Chart 5). I graphed large companies and small companies against each other. I defined the cutoff between large and small as 75,000 total exposures; it is not necessarily the size of the company, but the size of the data contributed that determines the distinction. The bars at the bottom are the exposure, so you can see which periods have the greatest exposure. The lines are the lapse rates. You will notice that lapse rates generally decrease by duration.

I graphed them also by quartile (Chart 6) based on the average lapse rate for all of the data contributed for each company. Then I broke those into quartiles by

inspection because there were certain groups that just seemed to go together naturally. The lapse rates were pretty close. There are four different groupings here. The top line represents three particular companies in the study. They have a strange lapsation curve. That doesn't happen with every company, and that's why I believe it might be due to some turnover in their business. You will notice that the other ones all pretty much decrease by duration. If you look at the actual numbers rather than the graph, it's much clearer. The graph pushes them down so it's difficult to see the decrease by duration. All groupings generally have a decrease across different and increasing duration periods.

Chart 7 looks at lapse rates by issue age. Lapse rates do increase by issue age. That may be due to the pricing. When they buy it, the higher-priced policies may be harder to keep in force. And that is true regardless of policy duration. The increase by issue age is true if you look on a duration basis as well.

Next I will cover lapse rates by issue year (Chart 8). We seem to be securing better persistency in the industry. The general exception is in 1985. However, there wasn't a lot of business in that year, which could be the reason that 1985 looks so different. The other issue years generally stack by duration, so that the closer we get to today, the better rates we're seeing.

Finally, I will comment on lapse rates by market (Chart 9), group versus individual data. Again, I added numbers at the bottom of the graph so you could see the actual size of exposure. Obviously, there's less exposure for the group business. However, a valid global comment is that there is a clear distinction at all ages, with group data showing much better persistency than individual. I think that that generally holds true because of ease of the payroll deduction process, making it difficult to lapse. I have looked at the individual data, but at this time I don't have any way to separate the individual electronic fund transfer results from the overall data. That's not in the study.

**Mr. Mark B. Newton:** I'll be talking about incidence rates and then continuance (persistency on claim). There are a couple of unusual things that I think you'll find interesting as we go along.

While Gary gave you some background initially about the kind of data we have and where they came from, remember that you should not rely solely on these data for pricing or valuation. Let me just go through a few issues that you should be aware of. There's a broad variation in distribution systems, underwriting, administration, premium, and the products that are in these data. We've also had to address a number of data quality issues. The mix of individual and group business is sometimes brought together on these charts. I'm hoping in the study that we'll be able to separate them a little bit. Finally, the newly participating companies gave us some problems—not that they were alone and not that we

have a problem with accepting data from anybody, but the comparison of the old study to the new study is sometimes skewed because of the data that come from the new companies. There were also some data changes from the companies that participated in the first place. That's enough with the caveats.

Let's go over what we found, starting with Chart 10. In general, the x-axis is going to be attained age. The y-axis is the incidence rate per 100 lives exposed. In this particular chart the diamond curve is the curve of incidence rates in the study that was published by the SOA several years ago. The square curve is a preliminary version of the new study that I presented in the fall of 1998 at the New York meeting. It looks very much like the triangle curve, which is the current version of the new study. The New York data are not very different in this particular aggregation than they are now in Seattle. However, you will notice some differences in later slides. Those of you who attended the New York meeting heard me whine about some of the data issues. You'll be able to see that there is slight improvement here.

What is difficult to see on Chart 10 is that, even though it looks like the incidence rates at the very young ages are basically the same as in the old study, they're not. When you get the actual numbers in the study, you will find that the incidence rates in the new study are above those of the old study. Crossover exists at age 70–74, where the overall incidence rate is 685 versus 652 per 100. I mentioned using the data with care. This is a good example. It looks so unusual. You look at this graph and say, "What is going on at attained ages 80 and 85+?" As we analyze the older ages, we find that carriers write much longer elimination periods now than they used to, especially at the younger ages. What we're seeing is a shift to longer elimination periods and, thus, lower incidence rates.

We can see this a little better in Chart 11, which gives incidence rates broken down by elimination period. The square curve is the incidence rates for zero-day elimination periods. There were a great deal of zero-day elimination period data in the old study, and while there's still some in the new study, companies have moved away from the zero-day elimination period. The square curve does not have exposure nearly as large as some of the other curves. Although it looks like it's contributing to this diamond curve, which combines all the elimination periods, the zero-day exposure that goes into the overall aggregate is quite small. There has been a fundamental shift in the mix of business by elimination period. The diamond curve is heavily weighted by the longer elimination periods.

In addition, data are skewed by relatively larger contributions from a few carriers. That poses some difficulty for the committee. We'd like to be able to break some data out by carrier, but doing so can expose the data of a particular carrier, which is not really what we want to be doing in an intercompany study.

Chart 12 gives incidence rates by duration. This is another instance where more and better data are revealing. The old study had a modest increase at durations four to five. The text of the old study speculated that this might be due to a wearing off of selection. This is a gray area, and, as my mother always told me, be careful of gray areas because they're probably grime. But, at duration four and five, the old study had a lot more four and not very much five. The reason that four and five are low in that study is because it generally represents four rather than five. In the new study, I put four and five together, and I think it makes a smoother curve. If you mentally split what you think four might be and what five might be, you can probably get continuous points on the curve. Duration six looks quite large, but is based on a somewhat modest amount of data.

Chart 13 has incidence rates by attained age and gender. These were very, very close in the old study, and they're still very close in the new study. In the old study, the female incidence rates were slightly higher. However, if you look in a little more detail at the data, you can see that there were a number of areas where males were slightly greater than females and vice versa. It wasn't exactly clear. The way I interpret this graph is that the incidence rates are very close all the way along, except for males whom I qualify as being in "geezer" status. If you're a male and you're a geezer, you probably need as much care as females. You're just not willing to admit it as much as they are.

Chart 14 shows incidence rates by issue year for ages 65–69. Again, this is all elimination periods combined, so it is a fairly broad cut at the data. The diamond curve is the initial study. The triangle curve is the Seattle data. The incidence rate by issue year is declining. This is my happiest slide by far. The new data have higher incidence rates. Basically that's because it includes more durations than the old study. As you can imagine, the old study was at much earlier durations. We add on a couple more, and you'd expect to get higher incidence rates. But what is really happening, in almost all parts of the curves, is that incidence rates are declining by issue year.

Let's look at Chart 15 because this may give a little more information. The x-axis still begins with 1986 and ends with 1992. The diamond curve is duration one data, the square curve is duration two, and the triangle curve is duration three. This gives more of an indication of what's happening as we isolate some of the variables. I also think it makes sense. All the incidence rates by issue year or by duration are declining as we go across issue years. If you look at duration by itself, you'd expect the diamond curve to be at the bottom because that's where the most select data lie. Then the next higher curve (squares) is the duration two data, and the highest curve is duration three. I only included three durations because I didn't want a really complicated graph. We do have more durations,

which you'll see in the study. As durations increase, the data volume drops quickly. While duration four and five and even some of the six plus will look similar to this, the curves get messier and they bounce around. We hope to get a lot more data the third time around, and hopefully that will show some valuable results.

We'll get off incidence rates for a while and talk about length of stay on claim. Here we have some really attractive charts. However, you need to know what's going on behind these charts and how they're built. Chart 16 shows the length of stay on claim in days, and the y-axis is the percentage persisting for  $n$  days. The diamond curve is the old study, and the square curve is the new study. On the x-axis, data from days one through 20 is by day, in single-day increments. Data starting at 20 and ending with 120 days is in five-day increments. From 120–360 days, which is the last point on these curves, the data are in 30-day increments. This method makes the graphing a little more compact. The data in Chart 16 show that more people persisted longer in the new study than in the old study. However, there are some differences that I had not expected. I'm not sure whether this is due to the addition of new companies or whether this is really a phenomenon that we can see across the board.

The last example was fairly aggregate. Let's look at results broken down into particular elimination periods. I don't want elimination-period shifts in the data contributing to any conclusion.

Chart 17 is an elimination period of 5–45 days. The diamond curve is the old study, and the square curve is the new study. I think the timing of the first reporting of claim is different in the new study. Thus, we will have to mentally compare the starting point of each of these curves if we want to know whether claimants are terminating faster. The new curve starts higher but ends at about the same point in time. It's apparent to me that people are persisting over shorter periods of time than they did in the old study done a couple of years ago.

Chart 18 looks at the same thing for the 60–365-day elimination period. Most of these data are stacked around the 90-day and 100-day elimination periods. The vast majority falls into those two buckets. Notice a rather striking decrease in persistency once you're on claim.

Chart 19 shows claim continuance by gender. I'm not sure whether it's worth stating the obvious here, but these curves look the same to me. The data that goes behind them is shockingly close at almost every single daily increment. This is quite amazing, but once males and females are on claim, they appear to behave basically the same way.

Chart 20 has a continuance table by age grouping. I chose to represent four age groupings. The full range of available data will be in the full text. It's apparent that the younger you are when you go on claim, the more quickly you'll go off claim. There's a fairly good chance of recovery at the younger ages. As you age, the chance that you'll actually recover from whatever it is that caused you to achieve claim status is far less. The actual data that you'll receive in the next study will actually go out several years. The volume of data reduces fairly quickly after only a couple of years. You'll need to think about what that means when you're doing your pricing or valuation.

**Mr. Corliss:** Recognition needs to be given to Linda Ball of Aegon who accumulated the data that I'm going to talk about. These data relate to cause of claim and average length of claim. To provide a reference for you, I have displayed these data by type of claim—home care and community care versus nursing home care (Table 7). Earlier I mentioned that about 8.5% of the claims in the database are related to home care claims. This breakout indicates the relativity between male and female claimants. There is no surprise between the proportion of claimants that are male and female, either by home care or by nursing home. The exposure has always been basically 2:1 female purchasers versus male purchasers. It would be reasonable to expect about the same claim results (2:1 in favor of females) at least in early policy durations.

This table also denotes the average length of claim by gender. Mark already commented on gender differences over the continuum. We're not totally clear at this time about how much is related to the fact that we've added a significant number of claims that are in the later policy years. Mark's continuance table provides information that you can take to the bank. However, when looking at the average days, we must remember that we are only seeing a snapshot of results at one point in time. The average days of claim can change relative to the total picture as there is more closure. We would expect more of a change when there are more open claims. There are slightly more open claims on the home- and community-based data.

In Table 7, average length for a home and community claim was 120 days. With the few such claims that we had at the time of the original study, we had a larger average of 169 days. The nursing home average length of 360 days now compares to an average claim of 388 in the 1995 study. In a couple of places we do seem to see some shortening related to the claims.

Table 8 breaks out nursing home claims more finely by attained age (the age at which the person went on claim). Mark showed you that at the older ages there had been a dramatic reduction in the incidence rate between the two studies. Here we witness a reduction in the average number of claim days for claim incurrals under age 80. The average claim in the old study was 570 days for the

category under age 65 and 425 days at ages 75–79. The difference between average claim groupings has narrowed such that results are 485 and 373 respectively in the new study.

If we look at the home and community care claims in Table 9, we see that there is a more dramatic change in that the older the claimant, the shorter the claim.

The last portion of my comments will be on the causes of claim. Here is the area in which underwriting will have an important role in deciding the claim results of each company. Companies that reduce their number of claims in certain categories of claim will obviously have better financial results. We've separated cause of claim using coding from the International Classification of Diseases-9th Revision (ICD-9). I wanted to give you a flavor for how those fall out relative to the total picture.

Let's look at the absolute number of claims incurred (Table 10). The largest categories of cause for claims are Alzheimer's, Cancer, Circulatory, Injury, and Other. The most interesting piece of information between the two study periods is that previously almost 20% of the claims were found in the Alzheimer's and central nervous system condition categories. For this study, the total for these two categories of cause is 12%. Considering the change from a total of 20–12%, it seems to indicate that underwriters are screening better for these particular disorders, causing the numbers of claims to decrease.

Let's cover cause of claim by average number of days (Table 11). I will make three observations. First, there is a common finding between the average home care and the average nursing home care claim. Alzheimer's claims are rather lengthy, regardless of the type of care that a person receives. Second, hypertension results really surprise me. One might think, as I do, that hypertension, diabetes, and circulatory disorders would have a similar average length of care, and the category they might code them into could end up very similar. There may be a coding issue, or perhaps these data are telling us something. It's a little early for us to tell, but it's certainly something to keep looking at over time. Maybe some of you have an explanation. The third item of note is that the central nervous system claims, such as Alzheimer's, are among the longest of claims, regardless of the type of care received.

Table 12 is quite busy. It breaks out results by male and female within each one of the care categories. I have noted with an asterisk four of them that I wanted to bring to your attention. Note the male/female relativity for those four categories. Mark pointed out that, in the totality of the data, there's not a whole lot of difference between male and females in terms of the continuance. However, when the data are segmented by diagnosis, there are gender differences in average length of claim. The length for Alzheimer's for females is obviously

longer than it is for males, regardless of home care or nursing care. A similar kind of comment can be made for circulatory claims. The reverse is true for diabetes and hypertension. There is such a wide discrepancy for the male and female home care results for hypertension that it can cause one to wonder whether the result is real or just an aberration in the data.

Table 13 dramatically demonstrates what I want everybody to carry away from this presentation. It relates to the initial comments I made at the beginning of this session. The *Intercompany Study* has been a developmental study. Let me draw your attention to the unknown category. Those are claims for which the submitting company could not electronically provide us the cause of claim. By breaking out cause of claim into the year of incurral groupings, one can see how well companies now can pass to us their causes of claim. Notice that the unknown claims went from 74% of claims in the early years down to 7% for the most recent two years that we've added.

This concludes our overall comments. I leave you with this summary. The *Intercompany Study* has been a developmental activity during the first two study periods. We expect to publish the second report in the fall of 1999. Basically, all the tables that were prepared last time have already been prepared again. Our task, at this point, is to determine which additional tables will be useful. We expect to specifically address trend observations and a mortality section.

Relative to persistency, there are obvious observations. Persistency increases by duration. Persistency increases as issue-age increases. Persistency has improved by issue year as well. Anecdotally, many actuaries have been talking about noticing these same persistency results. For continuance, there has been some shortening relative to the overall claims by cause. You can see that there's a wide difference between injury claims, which have very short duration, and central nervous system disorders, which are very long claims. It does appear that the average length of claim is shortening. We're a little unclear at this time about whether shorter claims are due to the fact that there now is a larger number of claims reported, which is leading to more appropriate results in the current study, or whether there is a trend developing.

**Ms. Sue Rynearson:** Do the lapse rates include mortality?

**Ms. Fay:** No. Mortality is outside of lapse.

**Ms. Rynearson:** How did you break mortality out?

**Ms. Fay:** Most of the companies indicated whether it was a death or a lapse in the data that they presented.

**Mr. Bruce A. Stahl:** I was wondering how you adjusted for benefit periods in calculating the average length of stay?

**Mr. Corliss:** That's a valid question that comes up frequently. At this point, we have not made any adjustments for benefit periods or for elimination periods. We did put in a continuance table that laid out, side-by-side, the zero-day category and the 90-day category. What we discovered last time was that the continuance came together at about the same point in time from the original incurral date. This surprised us. Relative to benefit period, there is one item that we didn't discuss, but it will be in the final report. It is a layout of the different claim statuses at the end of the claim or observation period. It's quite remarkable how many people recover. Thus, we have not made an adjustment for it.

**Mr. Newton:** The data that we have right now show large drop-offs at the end of obvious benefit periods. We have to rerun the data to take out people who are closing out on claim because they terminated at the end of their benefit period. We'll do that, too.

**Mr. Corliss:** There's so much that we could have covered in terms of the closure of claims. For example, it continues to surprise me that death is not a bigger reason for closure of claims. Death is the reason a claim ends on only about 10% of the claims closed so far. Considering that we only have 19% open, the reason for closure due to death can't go over 30%. That's an amazing result, because most people have the idea that once there is the need for LTC services, those services will be utilized until death.

**Mr. James M. Glickman:** One comment on mortality. I would suggest that, in addition to running it against the UP table, that it be run against the life insurance select-and-ultimate tables, whatever the latest version is in Society studies. Because this is all select period experience, you'll get a much different flavor for the actual-to-expected ratio. Second, on the main part of the study, I am glad that you're emphasizing that there are many caveats pertaining to the fact that this is select experience and that the zero-to-90 days has a major impact on this. We hope that people who may not be as well indoctrinated with the data don't try to use it directly as experience.

I would also suggest as an addendum (and with caveats) that an attempt be made to apply selection factors to the duration experience. Try to apply incidence runoff against the zero-day to bring it out to 90, and bring the 30-day experience into relativity with both the zero-day and the 90-day elimination period experience so that we at least have some common basis for looking at some of the aggregate data. See what impact that has (even though it would be guesswork), and at least try to put the data on a more level playing field.

**Mr. Corliss:** On the mortality tables, we are making our first attempt at analysis. We aren't sure what final tables we will use. We'll take your comments into consideration. You're also suggesting adding a 30-day elimination period. As I mentioned earlier, there was a zero-day and a 90-day comparison of continuance in the original study. Hopefully there will be enough information in that middle category to be able to do another one, such as the 30-day that you suggest.

**Mr. Newton:** I'll just add that we are going to try to do that on the continuance section as well because the elimination period obviously reflects the continuance rate from time to time.

**Mr. Michael S. Abroe:** I'd like to comment on mortality. It seems to me that there's a lot of underreporting of the deaths. That's what I hear in talking to the actuaries that are working for the contributing companies. I'm just wondering if it might be preferable to show the total decrement, lapse, and mortality combined. This would allow the actuary to back out some type of mortality table synthetically so that the total of the deaths and mortalities would be appropriate in pricing or in valuation work.

**Ms. Fay:** We could do that, but the lapse rates are generally so much higher than a death rate would be. I don't think it would change the lapse rates very much.

**Mr. Abroe:** How do we know unless we see it? That's the question I have.

**Ms. Fay:** Right. It can be done. I don't think it's going to make a huge difference. I do believe there is some underreporting. It's clear that some of the companies can't determine what their lapses due to death are. What I find particularly curious is that the female rates are much better than the male rates at the older ages, and I can't understand why you would underreport female deaths more than male deaths.

**Mr. Abroe:** It's because the data aren't available to know whether there's a death or a lapse. That information is not part of what the company needs to know in order to administer its policies.

**Ms. Fay:** I don't think gender would make a difference in terms of whether you get the data or not. It seems curious to me that for one gender it's significantly different from the other.

**Mr. Robert C. W. Howard:** I have a different gender question for you. It has to do with the continuance results. I was very surprised to see how close male and females are. I've been looking at some population data in Canada. There's a significantly higher prevalence for females than for male. I'm wondering if you

would comment on whether that's something that is commonly seen in population data or whether the close proximity of the male and female data is something you see in other studies as well.

**Mr. Newton:** I have to admit that I'm not as familiar with other population studies regarding the male and female issue. Frankly, I'm astonished that they're so close because at almost every point in the curve they're not very far away from each other. In the original study, even where the male and female incidence rates were different, they weren't different by more than 10% at most of the cells. Due to the amount of data in some of those cells, I consider that a surprising result. I would have thought that there would have been a greater difference.

**Mr. Corliss:** Within the original subcommittee, we discussed these surprisingly similar gender results, which were not as expected from general population data. Our primary conclusion was that there might be an effect of underwriting that alters what the general population data would lead us to expect.

**Mr. Glickman:** I'd like to suggest that perhaps the reason for deaths, similar experience, and shorter-than-expected continuances is the fact that this is all select period data. Therefore, you haven't had a chance in any of these data to view the emergence of the chronic, final, debilitating illnesses that would normally creep in. In theory, a lot of this was detected in the underwriting process, as you just mentioned, and, therefore, all of the data being only select has not given the chronic conditions a chance to emerge.

**Mr. Corliss:** I think that's a valid point, Jim. When claims are broken out by cause, one would logically expect claims to be longer ones and they are indeed longer. During the original study, we felt there was at least a five-year select period. We haven't decided yet for this study how long we think the select period is now.

**Mr. Newton:** That's a good point, Jim. Eric Stallard and I were talking about continuance on claim and the fact that there are many conditions where continuance is basically short term. People on claim can be separated into those who will only last a little while and recover and those with conditions that will last a long time. There's sometimes not a whole lot in between those two. The fact that we're looking at a picture of many, many shorter stays can influence the data in a lot of different ways.

**Mr. John C. Wilkin:** I just have a quick question about the home care continuance tables. When you said days, do you mean days on which a claim is paid or calendar days? I was struck that home care continuance was so much shorter than nursing home continuance, and I was thinking that it might be that you don't count days for which a claim is not paid.

**Mr. Corliss:** The term that we've used is "visits." The data we had made it difficult to separate what it would be on a calendar basis so we had to devise an approach. We took the total amount of claims paid in terms of dollars and divided it by the maximum daily benefit. It's not pure, but I think the best answer to your question would be that it's in terms of service days or visit days. That could explain the point you are making as to why they seem so short.

**Mr. Newton:** There may be a difference between what Gary was showing and what I was doing with my continuance curves.

**Mr. Wilkin:** What did you do?

**Mr. Newton:** My data are nursing home and home health mixed together. It's just days.

**Mr. Wilkin:** For nursing home, calendar days and paid days tend to be almost the same thing, but in home care, it's a lot different.