RECORD OF SOCIETY OF ACTUARIES
1990 VOL. 16 NO. 1

HEALTH CARE TRENDS UPDATE

Moderator: KAREN A. UNTERREINER
Panelists: JOHN P. COOKSON
JONATHAN M. NEMETH
Recorder: MARY G. LAVONAS

- o Current claim experience
- o Variations by block of business, product
- o Problems in determining claim experience
- o Effect of selection on experience

MS. KAREN A. UNTERREINER: Our panel consists of Jonathan Nemeth and John Cookson. Mary G. Lavonas of Milliman & Robertson is our recorder.

Health Care Trends has been on the program for a number of years now, and it appears to be an issue that is not going to diminish in importance for many years to come. Our panel will be sharing some of their experience in this area and hopefully will be helping us with our aim when we throw our darts where we think the trends are going to be.

John Cookson of Milliman & Robertson will be our first speaker. John has expertise in group health insurance and statistical methods applications. He is widely known for his research in health insurance trends, and he will be focusing on trends from the carrier's perspective.

John will be followed by Jonathan Nemeth of Actuarial Science Associates. Jonathan provides consulting services to both retiree and active employee health plans. He will provide us with a look at trends from their perspective.

MR. JOHN P. COOKSON: The points in the program outline for this session refer to a number of issues related to problems with analyzing health insurance trends. One of the biggest problems is the lack of information. This session is not going to solve the problem, but probably will confirm it. Part of my presentation is based on responses to a recent survey I distributed concerning health insurance trends.

Based on my observations and discussions with a number of commercial insurers and Blue Cross and Blue Shield Plans, experience trends have moderated during 1989 and financial results have improved significantly. However, rating assumptions appear to remain stubbornly high.

To find out what trends are being used, the survey asked the question of 42 commercial insurance companies. Thirty-six responded. Of the 36, about 12 had premium or premium equivalents of a billion dollars or more, and 24 were in the one billion or less category.

The survey requested trend assumptions by risk class, Administrative Services Only (ASO), experience rated (ER), manual rated, and BABY group. Not all responded for each class since many do not write all of the classes. (In the tables, the totals do not equal 100% due to rounding.)

Table 1 shows the responses for experience-rated (ER) trends for all who responded for the ER risk class.

The first question asked, "What are the current annual trend assumptions for a typical, experience-rated CMM plan?" For those who responded, we split the answers into smaller carriers, larger carriers, and a summary of the total. For the small carriers, you can see 10% responded that they were using trend assumptions in the 17-19% range. The balance of the 90% were equally split between the 20-22% trend assumption range and 23-25%. For the larger carriers, there were none with a trend assumption of less than 20%, and three-quarters were using a trend assumption in the 20-22% range. The balance was higher. These seemed to be consistent with trend assumptions that have been generally in use during most of 1989. It does not appear that there has been much movement up to this point in time.

For most carriers, expected trends were indicated to be in the same range as their assumed trends. However, a number of carriers indicated their expected trends were less than their current rating assumptions. This would tend to indicate that there is more likely to be a downward bias in trend assumptions in the future if financial results further improve.

This is borne out by Tables 2 and 3, which address the question of expectation of future assumed trends relative to 1989 assumptions. The question may have been somewhat ambiguous because it asked for both 1990 and 1991 relative to 1989. However, in looking at the results, there is a strong consensus of expectation that trend assumptions later in 1990 and 1991, or both, will come down.

Over two-thirds of the small carriers' and 80% of the large carriers' expectations were that in either 1990 or 1991, or both, they expect their trend assumptions to be lower than they were for 1989.

The next question concerned trends by block of business. The differences related to ASO versus experience rated, manual rated, or BABY groups. In the answers to the questions of assumed trends by block, most carriers used the same trends for all blocks regardless of the size of the block. However, for those who used different trends, there was no consistent pattern. Some rated ASO higher and manual and BABY lower. Others had just the opposite pattern.

2 MANUAL	Higher than others
2 MANUAL	Lower than others
2 ASO	Higher than others
2 BABY	Higher than others

TABLE 1

What is your current annual trend assumption for a typical, experience rated CMM plan?

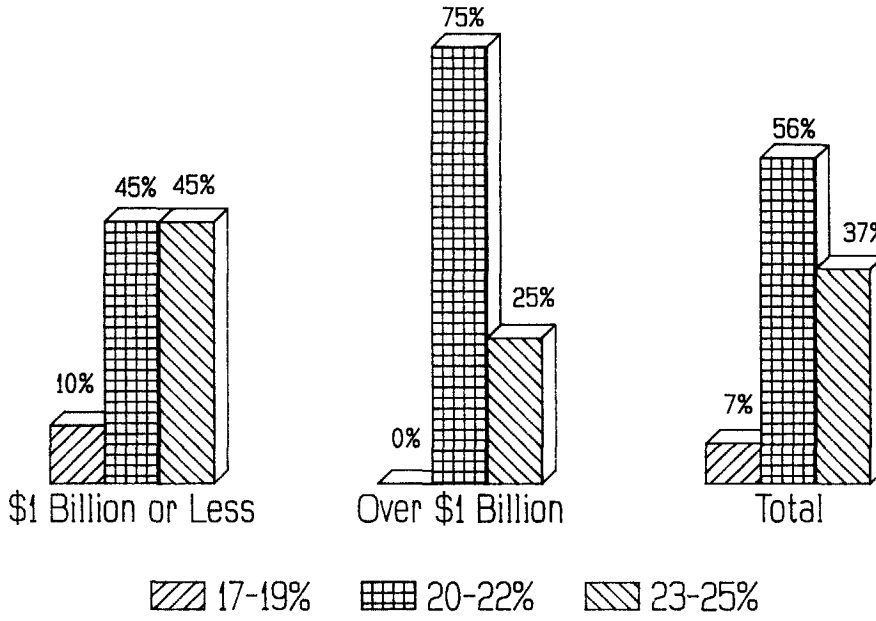
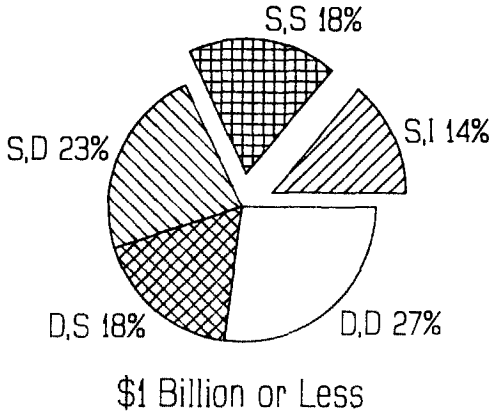
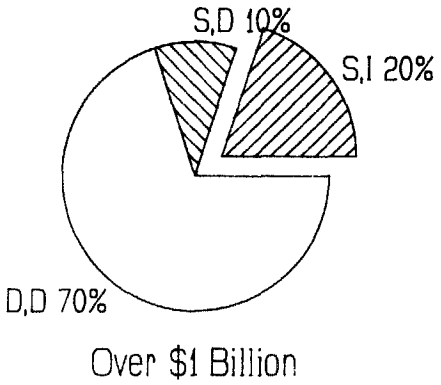


TABLE 2

How do you expect your trend assumptions for 1990 and 1991 to compare to 1989 assumptions?



$1 Billion or Less



Over $1 Billion

TABLE 3

How do you expect your trend assumptions for 1990 and 1991 to compare to 1989 assumptions?

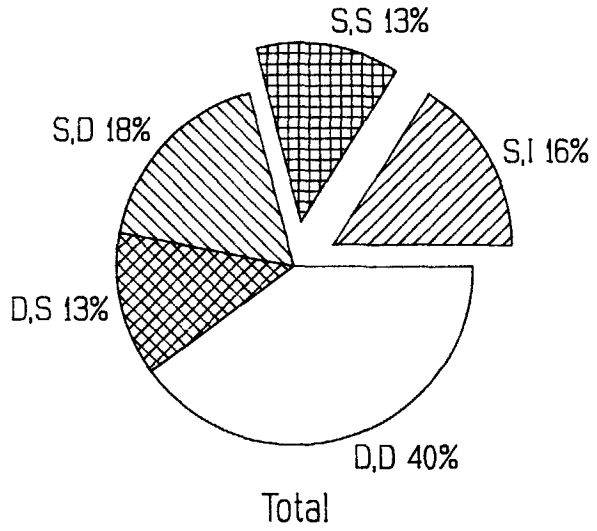


Table 4 further addresses the question of whether or not they attempted to segment trends by block of business.

In general, the smaller carriers indicated that they did not segment trends by block of business. Only 12% indicated they attempted to look at trends by block of business, whereas in the larger carriers, obviously with more resources available, closer to half, or 42%, indicated that they attempted to look at trends by block or size.

Some also indicated they segmented the trends in looking at their results but did not necessarily alter or differentiate their rating assumptions. This does not mean that they segmented all the lines identified previously. Some may have separated out just the BABY group or just looked at ASO. One other issue that was raised by a number of respondents was different deductible levels, higher deductibles versus lower deductibles, and the effect of different leveraging. Some also mentioned the effect of wrap-around and supplemental major medical (where they sell those types of products over the Blues in some areas), and the significant differences that might be expected in those kinds of products.

Table 5 addresses the issue of antiselection in trend analysis/assumptions. What was somewhat surprising to me was the higher propensity of the smaller carriers to try to identify antiselection in their trend analysis or trend assumptions. Forty-one percent of the smaller carriers indicated that they attempted to do so, as opposed to 25% of the larger carriers. This issue addressed the question in a very broad context. It talked about antiselection from HMO (Health Maintenance Organization), PPO (Preferred Provider Organization), or flex benefits. Some indicated that they may try and do something with respect to one, but not necessarily all of these options.

A number indicated that they made rating adjustments for antiselection, but they did not necessarily try to do anything with respect to their trend analysis. One issue that might result, depending on how the rating adjustments are made, is double counting, or double accounting, for the effects of antiselection if it was built into your trends. Also, you are adding to some groups without taking away from others. This is an issue that is important in terms of how your data base is being analyzed, and then how you are incorporating the effects in your future rating.

Table 6 addresses trends by geographic region. Again, surprisingly, smaller carriers (almost 30%) were more likely to attempt to identify geographic trend differences than the large carriers (only 8%). Some referred to periodic adjustments by geographic region. However, that sounds more like changes in area factors than ongoing trend adjustments that would provide higher rating factor.

The next question (Table 7) addressed the issue of adjusting the BABY group or other trends for durational effects of underwriting/preexisting conditions exclusions. The smaller groups (slightly over a third) indicated that they attempted to do this, and the larger carriers (almost half) attempted to make some adjustments or take some recognition of the durational effects into account.

TABLE 4

Do you segment trends by block of business?

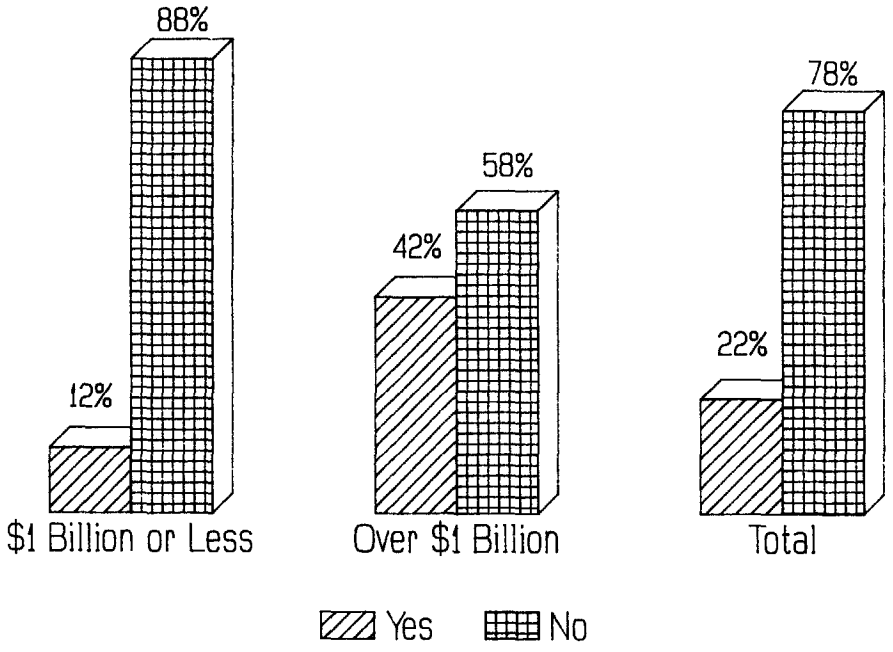


TABLE 5

Do you adjust your trend analysis/assumptions for the effects of antiselection?

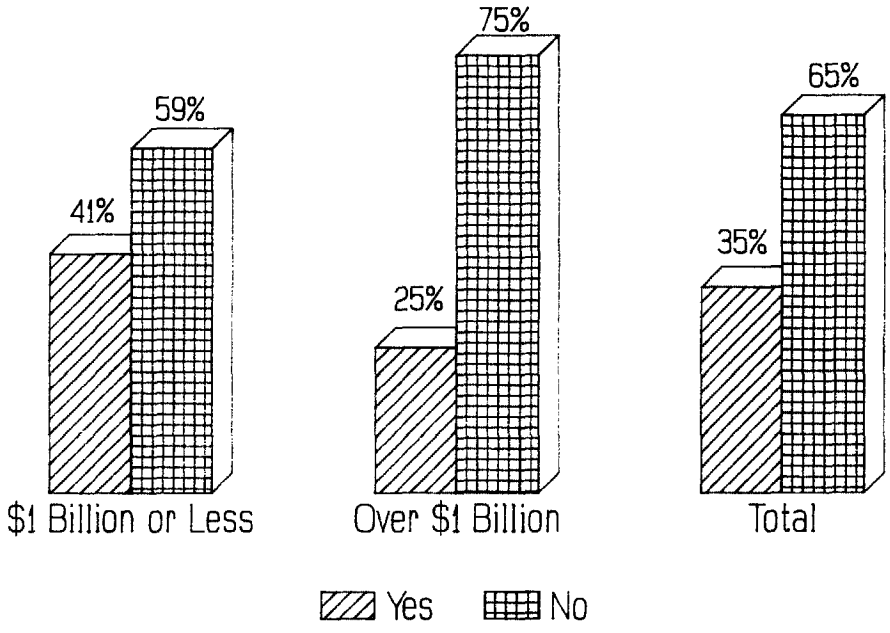


TABLE 6

Do you use different trend assumptions for different regions of the country?

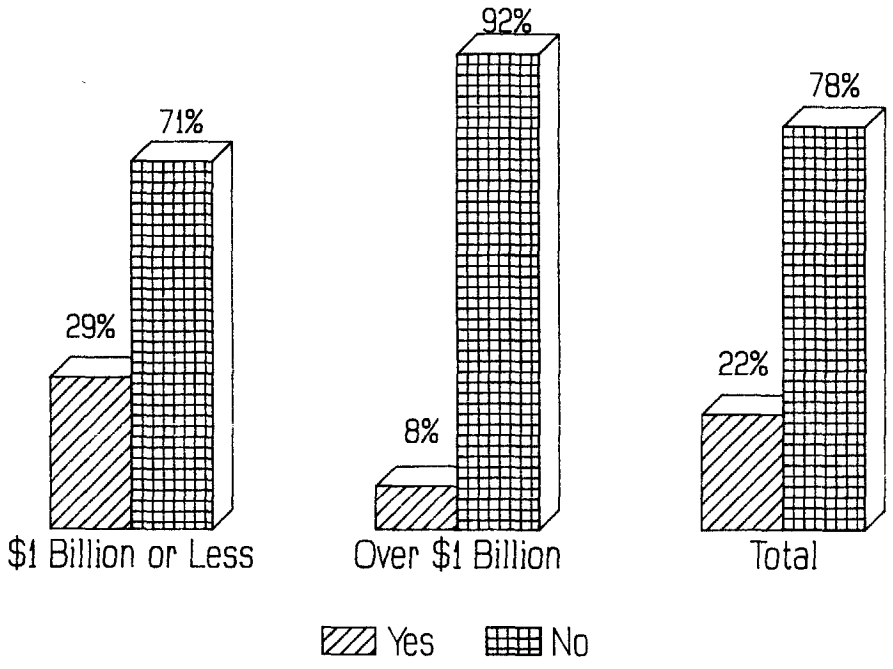
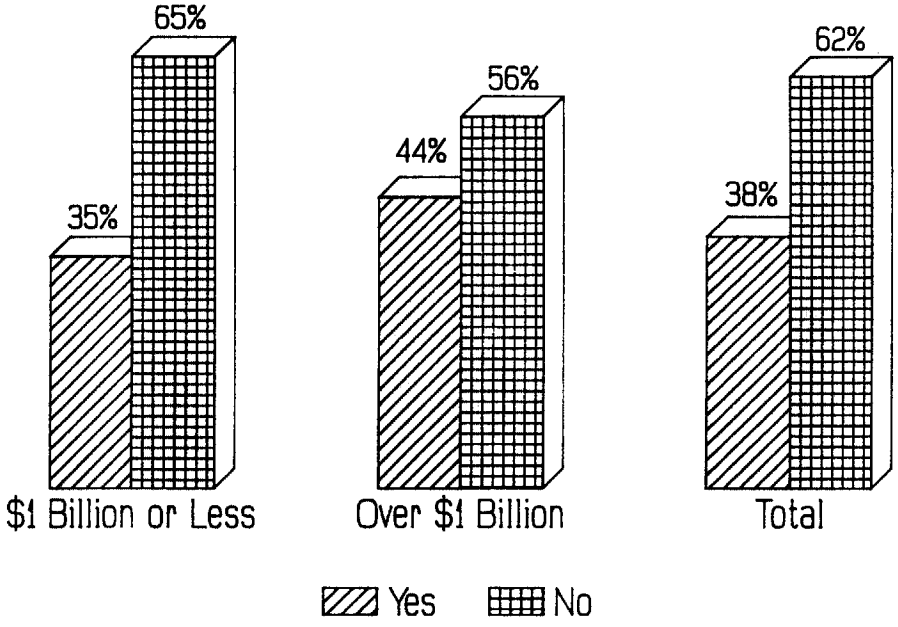


TABLE 7

Do you adjust BABY group of other trends for the durational effects of underwriting/preexisiting exclusions?



A large number did not write BABY groups and did not answer this question. A number also indicated they adjusted rates, but implied they did not adjust their trend analysis. This is another potential issue where double counting might arise. For example, if you have a maturing block that is aging and has some effects of selection wearing off which is increasing your observed trends, but you are also making adjustments in your rates, your trends could be overstated while you are simultaneously making adjustments for that in your specific rating factors.

The next issue (Table 8) was the effects of federal and state mandated benefits or other benefit enhancements; and, here again, there was quite a bit of consistency by size. About a third of both the small and large carriers indicated that they attempted to make some kind of adjustment or to get some kind of indication of the effect of mandated benefits. Again, though, a number indicated that they made adjustments in their rates with the possibility that there is double counting.

It seems, given the diversity of answers, that all we have done is list the problems in trend analysis, and I think those problems are really borne out in the response to this next question (Table 9). I asked the carriers to rate their ability to analyze trends relative to what they desired their ability to be, and I received some very interesting responses. In the small size categories, none of the carriers estimated their ability to be excellent. Twenty-five percent estimated it as good, 38% as fair, and 38% as poor. In the larger carriers, although there was some higher level of estimation, the results are still interesting. Seventeen percent of the carriers estimated their ability as excellent, 17% as good, but the majority, 58%, only estimated their ability as fair, and 8% as poor. Overall, I think this indicates a very high degree of dissatisfaction with trend analysis capabilities in the industry.

Now, what we really addressed is a number of issues or problems in trend analysis, and I would like to go back and look at them in a little more detail or in a different light. We talked about the issues by block of business. Obviously, there are differences that can emerge, particularly in the BABY groups with the effects of underwriting; but, even within blocks of business, there are problems that might result. For example, you may be shifting business to a new PPO product which can create a lot of problems in how you account for that in your data. In some cases, the PPOs may have higher benefits to induce the subscribers or the members to use the PPO providers. In other cases, lower benefits are implemented on the people who do not use the PPO. This creates some interpretation problems, in addition to the potential selection that might occur as a result of these opportunities. Another issue, and this has been particularly true in the Blue Cross and Blue Shield plans in the last five to seven years or over most of the 1980s, is a shifting of base plus supplemental plans to comprehensive major medical products and the problems that that might entail in having consistency from one time period to the next.

Given the high rate increases and the high trends that have been in use, there has been a tendency to make many benefit changes in the last few years through higher deductibles, cutbacks, or other types of controls in the programs. One of the things that we try and do in looking at trends and trying to make some sense out of experience is to look at covered charges, rather than benefits incurred or paid benefits to minimize the effect

TABLE 8

Do you segregate the effects of federal/state mandates or other benefit enhancements from your evaluation of trends?

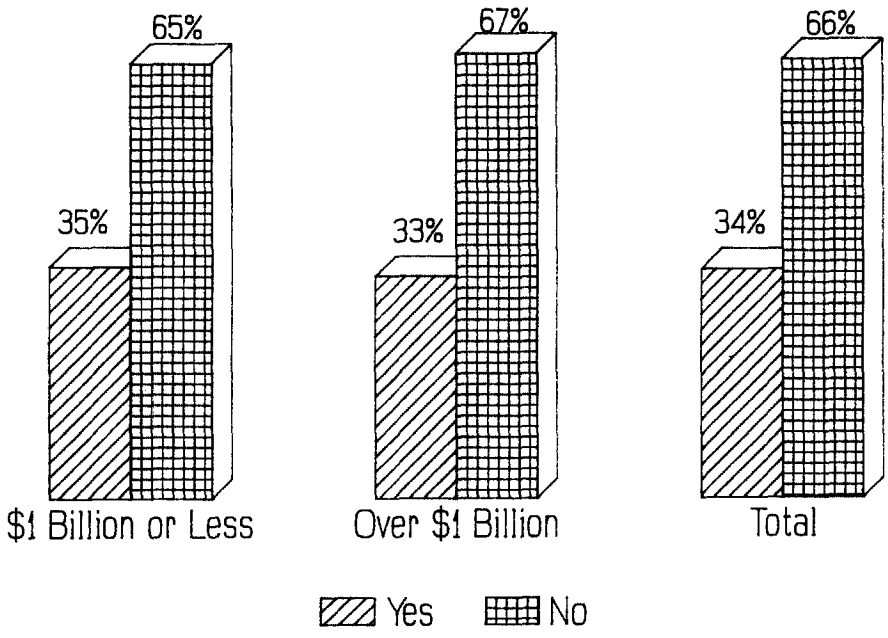
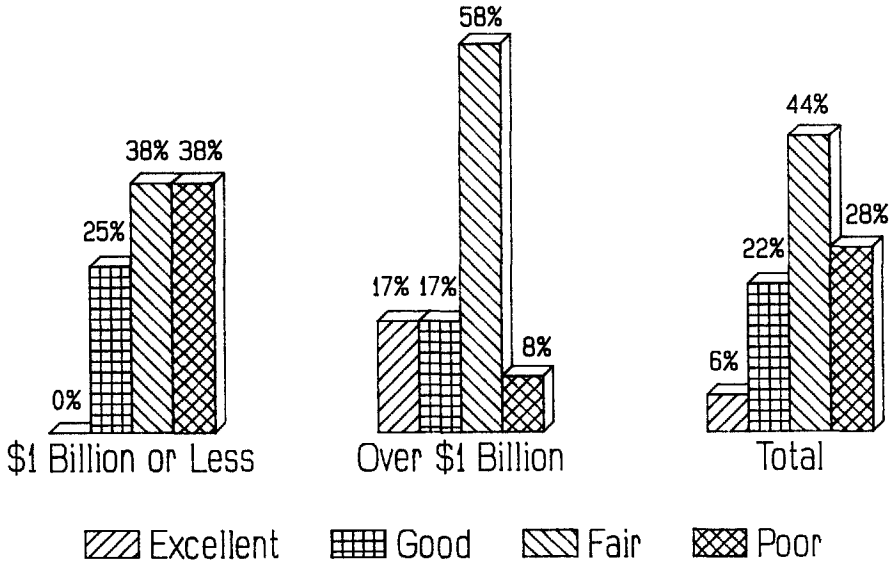


TABLE 9

How would you rate your company's ability to analyze trends relative to what you would like it to be?



of the changing benefits. That is not always a perfect answer, but at least in some cases, it helps as long as there is not a big difference in the overall benefit changes.

Another related issue in terms of situations where trends are being looked at by means of monitoring loss ratios resulting from benefit changes is the effect of the accuracy of your rating factors for changed benefits. For example, if you are giving rate reductions for certain benefit changes or if your rate adjustments are not accurate, it is going to affect your loss ratio and will be perceived as changes in trends when it is really revenue adjustments that are inappropriate.

Antiselection is another issue. It is sort of built into the trends that are being observed on an average basis, but it is obviously not uniform group by group. Some groups have severe antiselection. Other groups may be getting favorable selection. We have observed experience for some HMOs that have gotten unfavorable experience, severe antiselection because of very rich benefit products when they have gone up against employer plans with very poor benefit products. In effect, they have gotten the worst risks. You may have some of your employers experiencing favorable selection. If you have overall unfavorable selection in your trends, you are penalizing them, and there could be a great disparity in the appropriateness of the trends that should be used in those cases.

Furthermore, I see antiselection as a rating problem, not a trend problem. I do not believe that antiselection is a trend. It is a change in the risk characteristics, and I think we need to do a better job of measuring the risk characteristics and of trying to recognize that directly rather than masking it in the overall trends. An important issue related to this is, in particular, where groups use their indemnity rates in setting contribution levels for HMO and PPO participation. The reason is that when we use excessive trends, we accelerate the problem, because, if selection increases the trends, it increases the contributions for the indemnity rates and makes the managed care alternatives even more attractive. It also costs the employer a lot of money.

With respect to regional differences, I have observed significant differences in trend by region in the last five years. Some of this may be attributable to the effects of the Diagnostic Related Groups (DRGs) and the implementation of PPOs and managed care by region. What is difficult from a carrier's perspective is having a significant volume of data that you could make any sense out of on a regional basis or an even smaller area basis, because trends can vary significantly by state and by metropolitan areas within states. In this respect, local carriers like the Blues, HMOs, or PPOs that have a very local presence and an extensive local knowledge may have a considerable advantage on what is happening at a state or metropolitan statistical area level.

With respect to the underwriting on the preexisting conditions issue for the BABY groups, if there is no adjustment in the analysis for these factors, great distortions can occur as the block matures, reflecting the volume of new sales and lapses. It can give a very inaccurate picture of the true, underlying trends. I would suggest, to the extent possible, that you make use of durational, expected relative values to adjust underlying trends to at least attempt to get a picture of what the underlying trends are. I know a lot of Multiple Employer Trust (METs) probably do take a close look at these issues,

they are very aware of the effect of their new sales and lapses on the resulting cost (the aging curve) and the increases in claim costs that occur over time.

The issue of the federal and state mandates also creates problems from the standpoint that ASO business is generally exempt. They are not required to provide the mandated benefits. The mandated benefits, again, vary by state and region, depending on which state and what that state legislature passes. I also believe that the federal and state mandates vary over time. As rate increases get very high, and there is a lot of anxiety in the marketplace about continuing escalating health care costs, legislatures are less prone to pass mandated benefits; but as we go through the cycle and results improve, then it is giveaway time. This exaggerates the underwriting cycle. When trends or rate increases are low is about the time when trends are on their way back up, and that is also about the time when legislatures are likely to add mandated benefits. But, by the time the benefits get implemented, the trends are on their way up, so it has a double effect. Again, I look at these mandates as benefit changes, not trends. They are changes in the risk characteristics of the program.

Another issue that everyone is familiar with is the issue of exposure. For example, in many cases such as ASO business, plus self-accounted cases, where the exposure is limited, trying to get an adequate exposure number is almost impossible.

I mentioned earlier the issue of loss ratios and trying to make sense out of what trends are doing by looking at loss ratios. You have the complication or the interaction of the effects of rating actions on trends; and, in addition, to really make sense out of it, you need to understand who renewed and who did not. You may have certain people going out with 30%, 50%, and 10% rate increases. The reason they have those different levels of rate increases is because they have had different experiences in the latest experience period. If you think about what happens in experience of groups over time, you have a lot of jumping up and down. You do not have a smooth progression of costs, so a group that has had a big increase in experience in one period is more than likely to have either a much flatter trend in the succeeding period or maybe even a decline. If those are the groups you scare away by giving larger rate increases, you are removing from your portfolio those that are likely to hold the trend down in the succeeding period.

Another issue related to this is the outstanding claim liabilities issue. There is a significant delay in knowing what is happening because of the inaccuracy in understanding claim liabilities. I think there is at least as much as six months before you are fairly sure about what happened in a particular quarter. Then you have the issue of was it a one-time aberration or is it an ongoing trend? So, you are really delaying taking action to the changes in the environment, and this is what delays the cycle of our reaction to what is happening in the health care trend environment.

I think we could significantly improve our claim liability techniques by using statistical techniques. We currently use very little of the information that is available. We generally do not split frequency and amount, and they have very different patterns in terms of how they compete. We do not isolate the effect of large claims. Large claims can contribute the bulk of the variance in our claim distributions, and I maintain that they also contribute the bulk of the variance in our outstanding claim liability estimates.

There is also the possibility of using sampling techniques. Where are the claims coming from? What kinds of claims are being paid? When did they come in the door? What kind of providers? There are a lot of things that could be done to improve estimation techniques for outstanding claim liabilities. I think for those who could improve their knowledge and the timeliness of their understanding of what is happening to their financial results, they could gain a competitive advantage.

Table 10 is from a recent commentary I wrote in the *Health Costs Index Report* discussing the differences between the underlying forces of health care trends and what carriers may be observing based on what their rating assumptions are. I started with the peak 1988 trends in the Health Costs Index Model of 15.3%. This is intended to be a representation of the underlying force of nonMedicare trends excluding the effects of antiselection, mandated benefits, private sector cost shifting, etc. I then tried to make assumptions or identify information that would give me some way of estimating the contribution of a number of these factors to what is likely to be perceived of as measured trends. For example, the growth of HMO/PPO enrollment contributes to both selection and cost shifting in the private sector. Between 1987 and 1988, the percentage of the population covered by HMOs and PPOs was estimated to increase from 33-40%. If those additional 7% coming out of the indemnity sector have lower relative costs, then there is going to be an increase in trends due to antiselection in the indemnity sector. At the same time, if there are provider discounts involved in those additional HMO and PPO participants, then those individuals will be depressing the revenue, and what we are measuring in the overall trends. The indemnity sector is going to be seeing actually higher charge trends as a result.

TABLE 10

Health Cost Index Trends and Insured Charge Based Reimbursement Trend Differences

Health Cost Index	15.3%
Anti-Selection	1.2
Cost Shifting	1.2
Mandated Benefits	.5
COBRA	.7
Medicare Secondary	.5
Higher Deductibles	.5
Higher Mental Health Coverage	1.5
Total	22.7%

There is no good information in terms of trying to evaluate the effects of state mandates except that some of the HIAA information shows that the average state has somewhere between 5 and 10 mandates. I just made an assumption as to what the impact might be. For the impact of COBRA, which is being phased in during this period of time, I made some estimates based on surveys that were taken in Spencer's Reports. For Medicare COB recoveries, I used information available from Medicare in terms of total secondary payer savings. In addition, since our index is based on a $100 deductible plan, and over

the last few years there has been a lot of shifting to higher deductibles, I added an additional .5% factor for the $200-250 deductible range as an additional leverage. The final factor I looked at was a factor reflecting the impact of differences in mental health coverage. In our standard model, we have fairly limited mental health benefits in terms of what is in our product. On the other hand, many employers, particularly large employers, have very liberal mental health benefits. In many cases, they are the same as any other disability, or much more liberal, than what is included in our standard product. The common perception is that the trends in mental health care have been substantially higher than the underlying trends in the rest of the health care sector. If you have one program that has perhaps 10% of its dollars being paid to mental health care with very restricted benefits, whereas a more liberal plan ends up with 20% of its dollars being tied up in mental health benefits, and if those two alternatives are seeing much higher trends than the average, the one with the more liberal mental health benefits is going to end up with much higher underlying trends. In putting all these factors together, albeit assumptions, just for illustrative purposes, we came up with an estimate of an underlying trend of 22.7%, almost 23%. This is actually in line with a lot of the trend factors that were being used and which I spoke about earlier.

To digress a little on some other issues related to trends in a slightly different tack, in the survey that I took, a number of comments were made about continuing concern about cost shifting from Medicare and concern about new actions that Medicare may take.

Table 11 looks at the impact of Medicare reimbursement to hospitals from the effect of DRGs. It identifies revenue per day for the Medicare and nonMedicare population, and you can see that immediately after the time when the DRGs were implemented, Medicare reimbursement per day increased dramatically. The hospitals, measured on a per-day revenue basis, had a large increase in revenue from Medicare. At the same time, that took pressure off the private sector, and there were fairly low trends in terms of revenue per day in the private sector. You can see since 1985 when Medicare began to hold down the update factors for DRGs, the significant reductions that were being imposed. The situation reversed, and the nonMedicare revenue per day increased dramatically relative to what Medicare's increases were. I expect that the Resource Base Relative Value Scale (RBRVS) will likely increase pressure on the private sector. I am not sure it will be of the same magnitude as the effect of the DRGs, or have the same timing because of the phase-in process and because it is not 4,000 hospitals. It is 400,000 doctors who are reacting to these changes, and the time process and the evolution may be quite a bit different than it has been for the DRGs.

Another aspect that may scare you is the increase in per-capita growth in health care service sector employment (SIC Code 80, all health services employment). You can see in Table 12 that the per-capita growth is near 6% for 1989. This is an alarming trend. However, if we look a little deeper into some of the subcomponents, it may not be quite as bad as it looks. Look at three of the key subcomponents: physician offices, hospital, and outpatient facilities. The increase in the per-capita growth rate in physician offices was about 7.5% for 1989; for hospitals, it was somewhat under 5%; and for outpatient facilities it was slightly under 20%. Each of these has a different contribution to the

TABLE 11

Trends in Inpatient Revenue Per Day
Over 65 Versus Under 65
Twelve Month Moving Averages

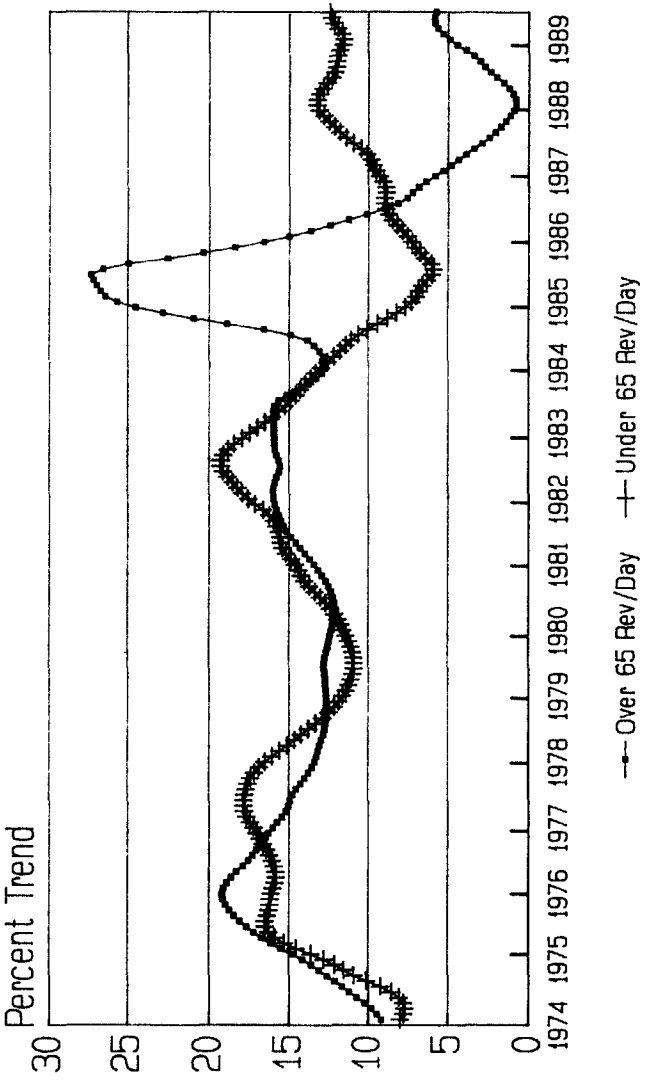
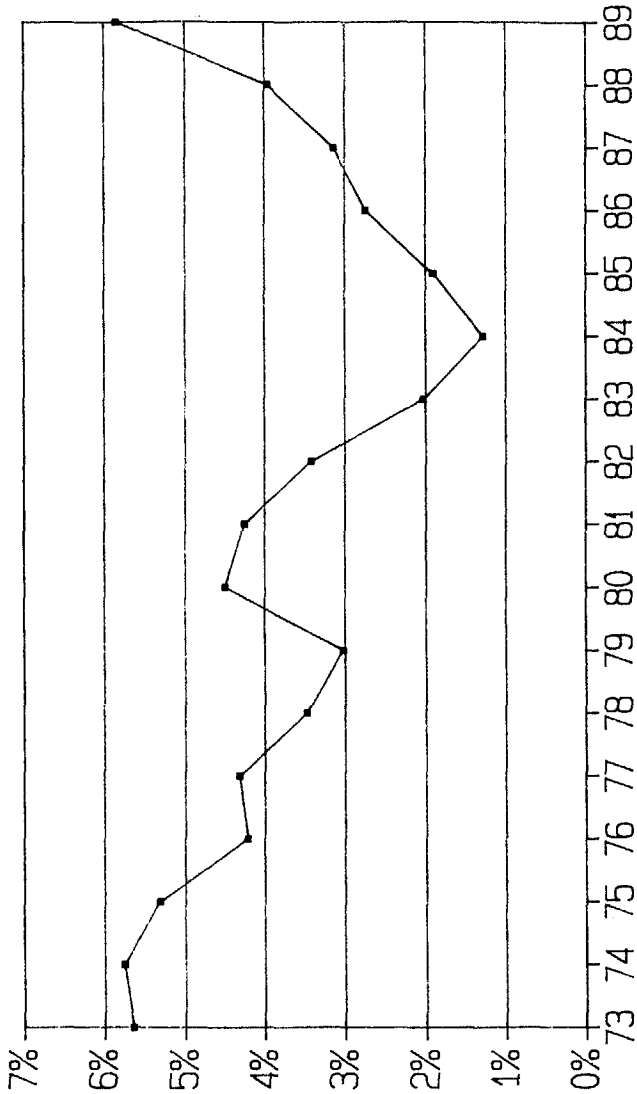


TABLE 12

Health Services Employment Per Capita Trends



Source: Data supplied by Bureau of Labor Statistics

total. Physician offices are somewhat over 20% of the total health sector employment; hospitals, over 45%; and outpatient facilities, less than 5% of the total.

Represent of Total	Subcomponents	Increase In Per Capita Growth
>20%	Physician Offices	7.5%
>45%	Hospitals	<5.0%
<5%	Outpatient Facilities	<20.0%

There is one other issue that is also fairly significant. Hospital costs are very heavily driven by payroll. About 50% of their costs are payroll related. On the other hand, for physicians' offices (since this does not include the net profits of the physician, but just the payroll costs), only about 15% of their gross revenue is payroll related. It is not as much of a cost-push item on the physician side as it would be on the hospital side.

Table 13 is interesting from the perspective of looking at hourly earnings between the health care sector and the overall economy. For the last several years, the increase in hourly earnings for the health care sector has been above, and increasing, relative to the overall economy. In fact, this is only the hourly earnings. It does not include the effect of fringe benefits which, if you add the health care price increase, adds somewhat to these overall trends; but if you compound this with the growth in the per-capital employment in the health care sector, you are talking about underlying payroll costs in excess of 12% in 1989.

Another different perspective on health care trends is the effect of health research and development (R&D). Table 14 comes from data from the National Institute of Health, and shows that the growth rates have generally been in excess of 10% since the early 1970s. In fact, in 1979, health R&D was about 13% of the total R&D in the entire economy. By 1988, health R&D represented about 15% of the entire R&D in our entire economy, and when you compare that to the 11-12% that health represents of our GNP, it says to me that this is one of the driving factors in what is contributing to our health care costs. In fact, health care research and development costs represent about 3.6% of total health care GNP in 1988, according to the National Institute of Health data.

One final issue (Table 15) I would like to show is with health care construction trends. This primarily affects hospitals and other health care institutions and generally would not include rental of doctors' offices or shopping mall clinics, etc. You can see that there was a significant drop in terms of trends in the mid-1980s that coincided with the effect and the implementation of the DRGs and Medicare, but we have begun to see a significant recovery in the last few years from the negative levels that had been ongoing.

MR. JONATHAN M. NEMETH: I am an actuary at Actuarial Sciences Associates, Incorporated, which is a wholly owned subsidiary of AT&T. Although ASA is owned by AT&T, we perform employee benefit consulting services for a number of other

TABLE 13

Trends in Average Hourly Earnings

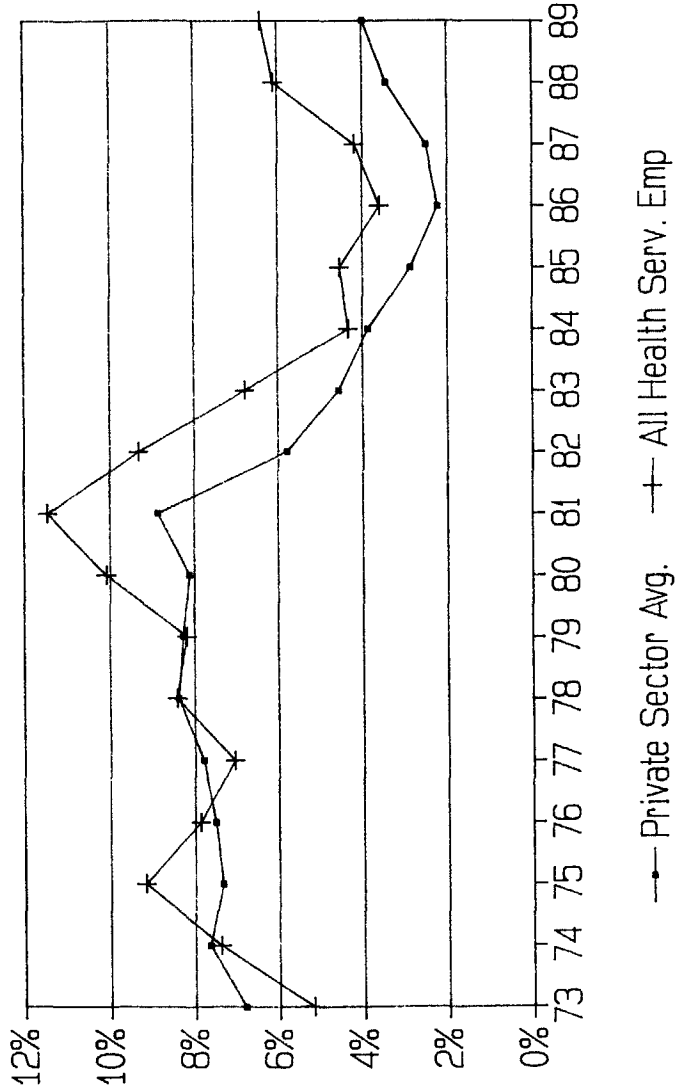


TABLE 14

Trends in Expenditures on Health Research and Development

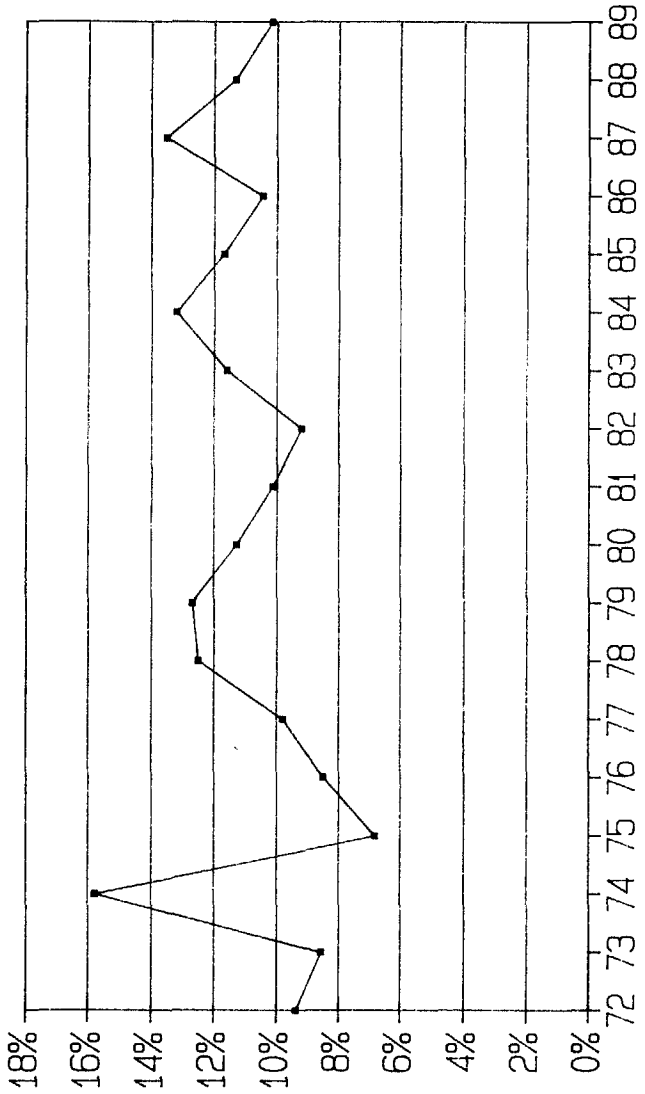
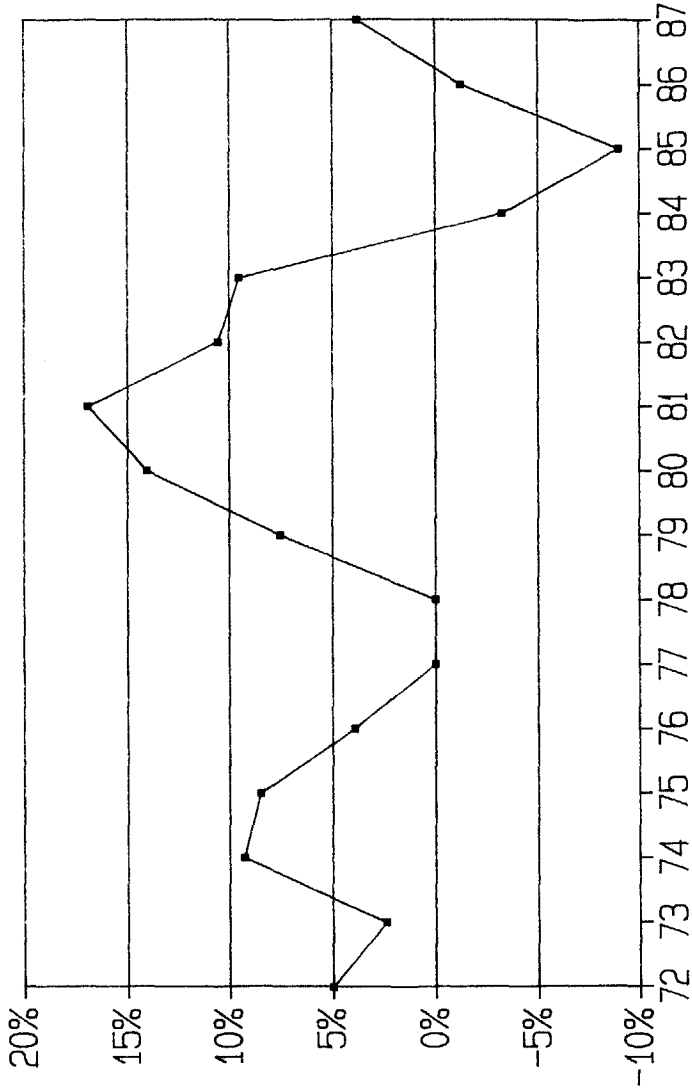


TABLE 15

Trends in Construction of Medical Care Facilities



employers. I have worked in the health care field as a consultant, insurance company actuary, and an insurance regulator, so my background is quite broad.

Unlike John who concentrated primarily on the insurance company aspect, I am going to talk much more about what large employers have seen. Most of my clients are Administrative Services Only (ASO) and large health care costs have affected them in both plan design and in cost. I would also like to spend some time discussing some of the reasons behind these trends and some of the problems in determining trend rates.

The first subject I would like to discuss is what is a trend rate. Although this seems simple in concept, it is so often misquoted and misused both inside and outside the actuarial profession that I feel justified in spending a minute on it.

People tend to quote the health care trend rate using the figure which represents the percentage that affects them. Take, for instance, your typical large employer. They may regard their trend rate as the amount of claims paid. For example, if last year they spent $1 million on claims and this year they spent $2 million on claims, they may quote trend as 100%. This number may be used even though the employer's population has doubled! They do not seem to take that into account. I point this out, not to provide you with any additional insight that you did not know already, but to encourage you as actuaries (and as leaders in the health care field) to filter through much of the false information being stated as facts and to provide meaningful information in this area.

As John mentioned, most employers have had large cost increases in 1989 despite record numbers of cost containment efforts and record numbers of employees enrolled in managed care systems such as HMOs and PPOs. From the information I see with my clients and general data from other sources, I concur with John that the typical active employee trend rate for medical coverage has been 15-25% in 1989.

On the retiree side, things are slightly different. I spend much of my time these days on analyzing postretirement health coverage. With the recent release of the FASB exposure draft on postretirement benefits other than pensions, the analysis of retiree health care costs has become increasingly important. For retirees, the medical trend rate seems to be lower both pre-65 and post-65. On the pre-65 basis, this is due partly to the "open window" arrangements many employers are implementing, whereby the average age of pre-65 retirees is being reduced. An employer provides economic incentives for its older workers to take early retirement. These older employees may be considerably younger than other pre-65 retirees in the health insurance program and that is driving down the costs. On the post-65 retirees' side, it seems the increased inpatient hospitalization benefits under the Medicare Catastrophic Coverage Act (MCCA) which was recently repealed by Congress had a mitigating effect on trend in 1989.

By type of service, from my studies, and I will have to qualify, it is hard to get good data. It seems that outpatient hospital charges had the largest percentage increase in recent years. This could be the result of the numerous pre-admission review programs that a lot of employers are implementing, among other reasons. Mental and nervous, as John has said, has also been one of the big increases, and that could be because my clients do tend to have liberal programs in this region.

HEALTH CARE TRENDS UPDATE

There are countless reasons given for increased health care costs. I mention some to dramatize a point. Following are some of the major reasons generally discussed:

- Increased utilization of medical technology
- Larger and more frequent catastrophic claims
- AIDS
- Substance abuse
- Cost shifting (37 million uninsured, MCCA repeal, Medicare shifting costs, PPOs)
- The high cost of malpractice insurance
- Unnecessary procedures (RAND, a firm in California which does various types of health care studies, recently estimated as much as $50 billion of the nation's $600 billion medical expenditures are unnecessary.)
- Aging of the population
- Social change (More people want better benefits and this trend will continue.)
- Legal decisions (Tisna Rollo)

Courts have become a little more aggressive, and certain legal decisions have adversely affected trends. Blue Cross and Blue Shield of New Jersey recently denied a claim for a bone marrow transplant for an eight-year-old girl claiming that it was experimental in nature. The young girl's family did not like that answer and took Blue Cross and Blue Shield to court. The court ruled in favor of the family, and Blue Cross and Blue Shield was forced to come up with about $135,000 for the operation.

I do not think $135,000 will make or break the health care system in America, but I think it illustrates a point; and that point is that if there is one common theme to the causes I mentioned above, it is that they are largely out of the direct control of the actuary. Although actuaries can, through plan design and other areas, mitigate the growth in health care costs, there is little the actuary can do by his or herself to slow this growth. By and large, I think this is an issue much bigger than this profession, and something that will need some national solutions. It is for that reason, I believe, that in the areas where actuaries provide their expertise, such as pricing and reserving, we should continue to expect and forecast large increases in cost, at least in the near future.

To develop these increases, traditionally, actuaries have used past claim experience to develop trend rates. Rather than expand upon some new techniques, I would like to take the "devil's advocate" approach and discuss some of the pitfalls I have experienced in developing trend rates.

- Matching claims to exposure -- especially if the claims are from two different sources. I can never seem to get the numerator and denominator to match. It appears that my clients have their traditional fee-for-service plan. They have half a dozen or a few hundred HMOs and PPOs. They have a mail order drug program in Oshkosh, Wisconsin. Trying to get those different claims together never seems to be easy. On the denominator side of the equation, it is hard sometimes to find out who is actually being covered. Most of my clients are large, nationwide employers, and it is hard to pull them together. They have

surviving spouses and people on long-term disability and retirees. It is quite an art.

- Data quality -- especially when an employer switches carriers or an insurer changes data processing systems. They switch carriers often, and the life of a claim system is getting shorter and shorter. Whenever there is change, there always seems to be some sort of problem involved.

- Receiving adequate detail of information -- separate retiree or active. More and more, actuaries need detailed information, and it seems that a lot of times that is not forthcoming. As I mentioned before with the FASB exposure draft, employers more and more want to see what their retirees are doing, but quite often it is very hard to separate retiree data from active data, especially when retirees receive the same benefits as the benefits in the active plan.

- Dependent data -- For self-funded plans it is not necessary to track dependent information, especially if it is noncontributory. They know how much they paid in claims, and you come up with a number. However, dependent data always seems to be a problem. As John mentioned before, in analyzing specific lines of business or types of services, it becomes very difficult.

- Developing trend rates when cost containment programs are implemented -- preadmission review, second surgical opinion, or concurrent review programs. Employers are constantly looking for ways to reduce their health care liability, and they constantly come to me and ask, "What is defective in this cost containment program?" They implement some cost containment measures and not others, and to try and analyze what the specific effect of any one of those is on trends is a challenge.

- HMOs providing claim data -- In a recent survey of employers by Hewitt Associates, a consulting firm, 95% stated that they do not receive adequate information from HMOs. I have constantly heard that HMOs have siphoned off the good risks from the indemnity plan, and I am sure they have in many cases. However, it would be nice to get some information to see what is actually happening in that situation.

- Different terminology -- Inpatient hospital is a typical problem area. Some insurers include inpatient psychiatric admissions, skilled nursing facility coverage, etc. Other companies do not, and I think this is a problem.

- Inadequate information in SPDs -- As consultants, most of the time we rely on information found in summary plan descriptions (SPDs), and in general, these SPDs give you a basic flavor for what the plan does. However, I think they can be misleading and maybe should provide more information.

- Especially for retiree health programs, we find multiple benefit plans. There have been a lot of legal decisions lately implicitly implying that there is vesting of retiree plans. A lot of employers do not want to change retiree benefits, so

every time they change the active plan, they do not change the retiree plan. Consequently, you might find retirees, pre-1985, with a base plus supplemental plan, and retirees between 1985 and 1986, in a comprehensive plan.

- Costs are sometimes hidden, especially in mental and nervous, and in studies of the affect of AIDS. You want to analyze the effect, but often someone goes to the hospital for pneumonia and you might not pick it up as AIDS. Or, someone could be a heavy drug user and they are in the hospital for something else, even though it is really a substance abuse problem. It is very hard for an actuary to analyze.

How do trend rates affect plan design? As we have been discussing, health care costs have been increasing and will in all likelihood continue to increase. This leads us to how trend rates affect plan design. An employer offering solely a traditional fee-for-service (FFS) program has been dead for quite some time.

Most employers still offer a traditional FFS program (more often than not it is a comprehensive major medical plan rather than a base and supplemental plan) and several HMO options.

With average premium rates for HMOs increasing at a rate about the same as conventional programs, many employers have concluded that HMOs have not delivered the promised savings. This may be one of the reasons that HMO enrollment has been flattening over the last few years (rising 3.5% last year compared to 10% in 1988 and 21% in 1987, according to Interstudy, a firm which does many studies of HMOs). I will not discuss whether or not HMOs are more efficient than traditional programs, but only point out that there is the perception in the marketplace that HMOs are not doing what they were supposed to do.

I believe that the marketplace increasingly perceives that the new "panacea" for curing the health cost crisis is PPOs. In the recently concluded collective bargaining agreement in the telecommunications industry, AT&T and several of the "baby bells" have agreed to implement PPO networks. Since major union agreements frequently predict future trends among employers, it can be expected that PPO growth will be significant in the future.

HMOs have not lost sight of this, and we begin to see some HMOs behaving more like PPOs by permitting so-called "open-ended" options. An open-ended option permits HMO members to be partly repaid for care received outside of the HMO network. It is my understanding that Kaiser Permanente in California, the largest HMO in the country, is experimenting with this approach.

We also see as a trend in the marketplace, employers increasingly shifting costs to their employees; and, I should also add, to retirees. One of the most evident features of plan design that I have seen recently is that employers are consistently shifting more and more of the cost to those sections. Currently, about 60% of all medical plans are contributory. I believe this percentage will rise significantly in the future.

Corporations have also begun to apply the same concepts to health insurance that are traditionally associated with retirement plans, namely the concept of a defined contribution plan. Flexible benefit plans, whereby an employer can fix expenses by providing a defined number of "flex" credits to purchase medical coverage, are becoming increasingly popular. I believe their growth will continue barring any major changes in the tax code.

Employers are also using flexible benefit plans to mask plan reduction. Unions have not lost sight of this; and from my research, I have seen many more salaried plans than union plans that have "flex" programs. When an employer implements a "flex" program, it is very easy to disguise it. It is easy to mask if you are only providing enough money in flex credits to purchase a comprehensive plan rather than a base plus supplemental plan. Defined contribution plans are also being used by some employers to cap their liability for postretirement health coverage. AT&T and several of the Bell companies have recently instituted a plan whereby future increases in medical costs will not be funded by an employer. A typical plan like AT&T's says that in 1995, for any retirees after 1991, the amount of the contribution is fixed at 1995 levels and that at any future date any increases above that level will have to be paid by the retirees. However, 1995 is not yet here, and we are not sure if AT&T or the other Bells will stick to these caps. It does have a dramatic effect upon reducing the liability from FASB.

As I said a few times before, I do not believe there is much actuaries can do to mitigate rises in health care costs.

The individuals who have the most power to solve the health care crisis are the state and federal governments. Unfortunately, in my opinion, leadership in this area is sorely lacking. The lack of leadership, though, may be better than many of the proposals currently in Congress, which, in my opinion, will only exacerbate the problem.

To get a feel for the direction the Feds are moving, we should briefly discuss the Pepper Commission Report on health care (named after former House of Representative's member Claude Pepper) which was released March 2, 1990. I do not have time to discuss much of the report; and in fact, there are many parts which are laudable. In brief, the Pepper Commission proposes an $86 billion a year plan to provide universal health care and long-term care (LTC) to Americans. What it does not say is from where the Federal government's share of the cost, which is estimated to be $66 billion spread over several years, would come. Considering the large budget deficit and President Bush's vow not to raise taxes, many of the recommendations, in my opinion, are dead on arrival. Still, I urge you to read the report because many of its recommendations such as:

- Denying an employer the right to limit claim liability for pre-existing conditions;
- Mandating that all employers with more than 100 lives provide a minimal amount of coverage or pay into a general fund; and
- Mandating that an insurer not be able to exclude any individual from a group regardless of his or her health

will surely be discussed in the coming year; and, in the long term, may be implemented by Congress.

In conclusion, if there is a conclusion from all this, it is that the work cut out for the health actuary in the coming years will be difficult; and I am sure that we will respond to the challenge.

MS. MARLA A. CELLUCCI: I just had three quick points. When we have been monitoring our trends, we usually monitor net claim costs per contract, and we have had a very difficult time because our seasonal patterns have been changing. January's relationship to February this year was very different than last year. So, rolling twelves occasionally help you, and sometimes they do not.

The second thing I wanted to mention was exposure considerations, contract count. We have a system that will tell us who we bill; and we are now introducing a system that tells us not only who we billed, but who actually purchased our coverage. Many times during renewal months you send out a bill for 100 people, but three months down the road, you find out that some of those people have canceled or have changed their contract. We call that an earned exposure rather than a billed exposure.

The last thing I wanted to bring up was in terms of monitoring our trends. Since Blue Cross and Blue Shield of Virginia is within one state, what we have done is institute a system that we call the early warning system. Last year, our hospitals had to file budgets with the health regulatory system within the state of Virginia, and what we did was look at the budgets of 27 hospitals. These 27 hospitals account for approximately 50% of our charges, and we found that hospital budgets are very good indicators of their costs. They do a great job of budgeting.

For 1990, we reviewed those 27 hospitals' 1990 budgets, and made a call on, given their budgets, what that would do to our trends. The initial indications that we have from our early warning system is that the 1990 cost trends in our area will probably be up 2-3%. There is a line of the budget, I am not sure of the specific name, but it is the hospitals' estimate of what they are not going to get reimbursed from Medicare, Medicaid, and bad debts, and when we monitor that number on their budgets, we can estimate the cost shifting impact on Blue Cross and Blue Shield trends. I just wanted to share that with you.

MR. ANTHONY J. WITTMANN: I have two questions. John, your cost shifting of 1.5%, is that just the effect of Medicare or is that also the HMO/PPO type arrangement?

MR. COOKSON: That was just the HMO/PPO type of arrangements. Medicare is already taken out of our base number.

MR. WITTMANN: I guess that would vary quite a bit by rural versus metropolitan area. Obviously, it would be much higher in the metropolitan areas where you have the saturation of the HMOs and PPOs.

MR. COOKSON: It probably also varies quite a bit by the part of the country; and in terms of trends, it varies quite a bit by the timing. In a mature area where the HMO/PPO participation is becoming stabilized, you would have a static condition;

whereas in areas where there is rapid growth and development of those products, you would find much more rapid cost shifting.

MR. WITTMAN: What would be a maximum number that you would see in that rapid growth situation?

MR. COOKSON: I would hesitate to really guess. I would not think more than 2% or 3%, in general, for nonMedicare. Medicare is about a third of the hospital revenue. So, I think the bulk of the cost shifting has come from Medicare in the past.

MR. WITTMAN: And, Jonathan, you mentioned that you saw the future in the growth of PPO plans. Can you give a prototype design of some of the PPO plans that you are seeing?

MR. NEMETH: The typical PPO plan that I have seen being implemented gives the option of either going to a PPO plan and being reimbursed in full for the procedure; or if the employee does not go to a PPO physician, they would have to pay a $200 deductible with a 90/10 comprehensive plan. I will give you a little bit of a background. We have been negotiating roughly 8% discounts off the physicians' charges so that we feel that for the comprehensive plan, if they did not go, there would be a reduction of about 8% off their current base plus supplemental major medical plan. I am not exactly sure if that is what you are looking for, but that is what we have been seeing. That is typical.

MR. WITTMAN: On the PPO side, is it a full reimbursement?

MR. NEMETH: It would be a full reimbursement.

MR. WITTMAN: These would be large companies with very large plans?

MR. NEMETH: Yes. AT&T and several of the "baby bells" are doing that sort of an approach right now.

MR. THEODORE W. GARRISON: John Cookson, when you analyze trend by area, and if you, indeed, see that the trend in a given area has increased faster than in another area, would you make your projection for the future that that same accelerated rate will continue or might you draw the conclusion that the area that had the recent burst has had its burst and now will stabilize, and the area which was stable in the recent past is about due to have its burst?

Also, you commented on the increase in the number of medical provider personnel per capita. Would you know about M.D.s? What has been the recent increase, or has there been any increase, in the per capita number of doctors in this country?

MR. COOKSON: I agree with your first response; and, in fact, studying the long-term trends by region, over longer periods of time, the cumulative trends do not vary significantly, but there are different cycles as they reacted to things that happen in their own current environment. I think generally what you see is some areas are in periods of

stability, whereas other areas are in periods of high trend. When the areas in high trend start to recede, other areas will pick up and maintain the pace on sort of an overall basis. What was the second aspect?

MR. GARRISON: Concerning the number of increased physicians per capita.

MR. COOKSON: I do not know what the numbers are. They are continuing to increase. I do not think the increase in the number of physicians per capita is as high as the rate of overall health personnel, though.

MR. RONALD E. BACHMAN: John, on your charts you showed some trend numbers, and then you indicated that your survey showed an expectation of dropping trends out there, I guess, by large group policyholders or your clients, customers, one way or the other. I was wondering what your own breakdown of your trend studies is showing. Does it show whether we should not be expecting it, or if there is any particular components of trend now that you would expect to drop, whether it is from utilization or cost shifting or technology or whatever? Do you break out your 15% base along with those other numbers that you had and monitor those, and what expectations might we have for dropping trends?

MR. COOKSON: We monitor the base quarterly, and the base has been declining since mid-1988. It has come down fairly dramatically. In fact, I expect that probably within the next quarter or two it will probably be at a low point and will either flatten out for some time or begin to increase again by late 1990. This is interesting because it is probably about the time when the competitive pressures will begin to move the trend assumptions in the marketplace down. On the other hand, the trend assumptions relative to the base have considerable margin, or considerable differential, over and above that. With respect to the other components, they are not as easy to monitor on an ongoing basis. My own belief is that they tend to be cyclical and that they tend to increase more as trends are going up and declining as trends are coming down. They go along with the uptrend, the antiselection and factors that occur when trends are going up increases, which makes it even worse. At the same time when the marketplace begins to react and things begin to settle down, as rates get up to an adequate level, the selection and things begin to diminish to some extent, and those factors tend to come down. And so, obviously, the insured trends are much more dramatic, I believe, in terms of their swings over time than the underlying base because of those effects, but, basically, I do not find a simple way to monitor them on an ongoing basis.

MR. BACHMAN: With the base coming down, are you also saying that you cannot break that down and know why the base is coming down? The federal government still puts a cap on Medicare and continues to hold for budgetary restraints. Is there any other component of that that you would say is coming down? Is utilization dropping? Is underlying inflation dropping?

MR. COOKSON: There has been a number of factors. One is that the most recent Medicare DRG increases, even though they are small, have been higher in terms of percentage increases than they had been in the recent couple of years. In addition, in the last 12 months, I believe that the rate of decline in inpatient utilization had been

diminishing, but in the last 12 months, it had picked up again to some extent. Also on the outpatient side, the high trends on outpatient hospital visits have come down in the last 6-12 months, and the average revenue or the average revenue per visit on an outpatient basis on the hospital side has also tended to stabilize in the last six months or so. Therefore, I think some of those factors are cyclical in terms of how the providers can react to changes. If you think about any kind of business venture as a situation where you have a new technique introduced or a new product, and then you have slow growth and then rapid growth followed by a maturing phase, I think what we are seeing is a lot of what happened in the outpatient sector after the advent of all the cost containment initiatives in the mid-80s and the shift to the DRGs and the PPOs. I think you are seeing a playout or a playdown of the effects of that in the transition. The providers are going to have to find some new things to do and probably will be looking for it in the near future.