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HEALTH PROGRAM EXPERIENCE ANALYSIS

Moderator: VAN ALLEN JONES
Panelists: GREGORY N. HERRLE
F. KEVIN RUSSELL
RICHARD D. STOVER
Recorder: CLARK E. SLIPHER

- What analysis is effective in measuring recent medical care experience?
- Are the projected cost-containment savings presented to plan sponsors being realized?

MR. GREGORY N. HERRLE: The Newborn Family Care Program is a managed-care program implemented by Med Centers Health Plan, a Health Maintenance Organization (HMO) in Minneapolis/St. Paul, which has approximately 200,000 enrollees and is primarily controlled by a multi-special group practice of about 400 physicians.

In 1980, the average length of stay, on a normal delivery, within the Health Plan was about four days. However, Med Centers implemented an alternative-care program with discharge planning. The goal was to reduce the average length of stay without beating the employer and physicians over the head with cost-containment restrictions and mandated lengths of stay.

The program is strictly voluntary. It consists of a series of visits with a staff of registered nurses (RNs). In the fifth week of pregnancy the HMO pays for an early pregnancy class which introduces the concept of a two-day stay for a normal delivery. In the tenth week, the patient first visits the obstetrician (OB) and receives an information packet outlining the program. In about the 34th week of pregnancy, an invitation to enroll in the program is mailed.

Program enrollment can take place at any time during the pregnancy. In the 35th week of pregnancy, enrolled members are assigned a registered nurse who is responsible for that member for the rest of the program. The program emphasizes father participation as well. In the 36th week of pregnancy, the RN covers the program contract, the hospital routine and the choice of a pediatrician.

After delivery, the RN visits on the day of discharge which is typically the second post-partum day. The two-day stay is a standard used by many HMOs. On the discharge day, the RN reviews with the parents what to expect at home, physical and emotional changes they might encounter, and concerns about the baby.

On the first day after discharge, the RN calls the parents to discuss any concerns arising at home. On the second day after discharge, the RN visits the home to discuss any problems and provide support. Thereafter, the staff is available for phone calls, or home visits if necessary.

The results of the program are interesting. The average length of stay for a normal delivery dropped to less than 2.5 days by the end of 1984. However, early discharges did not significantly increase for the first three years of the program. Part of the problem was that a systematic approach did not exist for enrolling members, because it was a voluntary program. Also, the physician and staff education didn't seem to work. Finally, the doctors didn't aggressively push for the program because they didn't want to be viewed as the "bad guys." They wanted the HMO to set a mandated length of stay.

HMO members presented another obstacle to the program. Initially, many felt that they had paid for and deserved longer stays in the hospital. Med Centers felt that the early pregnancy classes helped solve this problem, and the percentage of dissatisfied participants eventually dropped to less than 2%. The hospital staff also resisted the program because they felt that patients were being shortchanged by the short hospital stays. The increased threat of layoffs as the hospital census declined seemed to further exacerbate that problem.

HMO efforts to coordinate the program with head nurses at the hospital, and to relay positive feedback from members to the staff helped alleviate this problem.

Med Centers estimated that this program saved between $700,000 and $1,400,000 in 1984 or roughly 1% of the HMOs total medical costs. This estimate assumes that the annual cost of a program coordinator and ten RNs is approximately $400,000, and that this program cut the average length of maternity stays by one or two days on 970 patients. Of course, these are very rough estimates which don't contemplate all the trends and variables that also might have helped cut the length of stay.

A second example of a managed-care program is a patient care coordinator program recently instituted by the same HMO. The objectives of this case-management type program are: to control usage of high cost, acute hospital care, and to shift services to less expensive skilled nursing facilities or home health care agencies. This was especially critical, since Med Centers has a large number of Medicare enrollees. In general, it wants to take an active approach to managing care.

The patient care coordinator's responsibilities in this program are to: (1) review hospital admissions; (2) initiate discharge planning discussions with the patients; (3) expedite the level of care assessments -- determine the best setting for care (skilled nursing facility or in the home); (4) provide a list of existing services such as home care or social services in the community; (5) participate actively with physicians in discussing alternative methods of treatment; (6) provide concurrent review.

The program started in April 1984, and Med Centers estimates a savings of one-half to one-day in the average length of stay (at about $300 per day) for 80 participants per month, which equates to about $250,000 per year. The cost of the program included the salary and benefits of two coordinators and management and development expense, (about $800,000). Med Centers feels that the program is worthwhile.

Utilization rates for Med Centers in Minneapolis/St. Paul fell from 1981 through the first half of 1985. There appeared to be some decrease in utilization prior to the development of the patient care coordinator program, but the decrease seems to have accelerated after its introduction. A nurses strike in Minneapolis/St. Paul may also have influenced these 1984 utilization rates.

Med Center's Medicare utilization rates follow the same pattern. The decline started in 1982 and 1983, and continued, quite rapidly, in 1984. The Medicare patient utilization in 1984 and 1985 is quite low compared to other similar programs. California tends to have the lowest Medicare utilization rates.

One of the most important keys to success of the two HMO programs is education. This includes education of providers, employees, employers and staff. The amount of education required to provide a payoff is debatable. Therefore, educate as well as possible and even then, you may not reach all the people that you need to.

Another key to the success of these types of programs is the need to monitor results and measure savings. The numbers that I gave to you were not exact; we need a more detailed analysis of the real savings and costs in these programs. Experience analysis is critical in comparing the value of the numerous cost-containment and managed-care programs.

As actuaries, we should be intimately involved in this type of analysis. We're the ones that must know what types of data should be reviewed. There are various uses for experience analysis that we all run up against. One is to measure savings under cost-containment programs, or to evaluate the effectiveness of managed care programs offered by HMOs, PPOs and insurance companies. Another is to measure the efficiency of providers. As employers take a greater lead in controlling health care costs, and as PPOs grow in popularity, the analysis of specific provider data -- such as hospital and physician data -- becomes more important. This introduces a new set of data that we haven't traditionally reviewed. We are required to meet the employers' demand for data. Employers need this data to establish their health care budgets.

HEALTH PROGRAM EXPERIENCE ANALYSIS

An example of data requirements by one health care coalition was one for the Minnesota Coalition on Health Care Costs. The problem that it had was that its member employees had too many insurance options to choose from, and it wanted to establish some type of criteria to evaluate the health carriers versus various HMOs, who weren't providing all the data that the coalition wanted. The coalition wanted to develop a standard set of data comparisons.

The types of data requested fell into four broad categories: (1) Membership information; (2) Hospital Inpatient experience; (3) Hospital Outpatient experience; (4) Clinical Medical Center experience.

The coalition primarily reviewed utilization rates, and average charges and costs -- both at the company specific level and at the aggregate HMO level. On the HMO side, it looked at member months, the age/sex distribution of employees, contract mix and average family size to determine the differences between its group and the overall HMO. The HMOs were reluctant to share this type of data with specific groups because the HMOs federal qualification requires community rating of employer groups, and does not allow experience rating of specific groups.

The hospital experience was also analyzed on a group specific and an aggregate HMO basis. The coalition reviewed admissions, hospital days and average length of stay by various admission categories including medical, surgical, OB, mental health, and chemical dependency. The outpatient experience was analyzed in terms of emergency room visits, x-rays, lab procedures and outpatient surgeries. The clinical Med Center data was reviewed in terms of physician encounters such as office visits, surgeries, eye exams, x-rays and lab procedures.

This type of analysis poses problems for the HMOs for a number of reasons. One problem is that HMOs typically don't have Management Information Systems (MIS) to provide data at the level of detail that is requested. Second, federally qualified HMOs aren't legally allowed to experience-rate specific employer groups within its membership. Third, the HMOs run the risk of misinterpretation of data. Every carrier and HMO compiles data differently, so the employer is never really sure what is included in the data that is being provided.

In conclusion, there's been a definite shift to managed-care programs, perhaps even beyond mere cost-containment programs. Education seems to be one of the keys to these programs' success as well as data information, experience and analysis. That's where the actuary comes into play. We're supposed to know which questions to ask and how to interpret this data. Some of the data analysis might be new to us, in that we're analyzing claims data in much finer detail than we have in the past. Now we're reviewing detailed hospital and physician information, and dealing more with procedure codes and implications to providers. We're getting much more involved with health care delivery systems. Contacts with providers, whether it be hospitals or physicians, will be increasing considerably over the next several years.

MR. F. KEVIN RUSSELL: There is no question that health plan sponsors are asking for greater analysis of their experience than they have in the past, and that insurers and administrators are responding to that request with ever-increasing volumes of data summaries, analyses, charts and graphs. The plan sponsor and the insurer are eager to uncover the effect of the latest cost-containment effort, such as pre-admission certification or mandatory second surgical opinion. The sources for these reports vary by organization. In some organizations the reports are developed by marketing; in others by claims, medical affairs, underwriting, actuarial, a special data analysis department, or by a combination of these.

If you're not actively involved in the process, you should be. Actuarial expertise is needed to assure that these reports are complete, accurate, and consistent with other information the plan sponsor is receiving, particularly the renewal rates. If reports to the plan sponsors are developed without regular input from the actuarial or underwriting departments, it is unlikely that proper adjustment is being made for claims incurred but unpaid. There are enough factors involved to make it quite likely that incurred claims for the experience review period differ significantly from paid claims.

Much of the analysis needs to be reported compared to norms. These norms should be adjusted according to the demographic characteristics of the group -- age, sex, single versus family status, geographic area and industry.

The actuarial department should be the source of these demographic adjustment factors.

You should be involved because you can learn much about the effectiveness of cost-containment programs from examining the experience on a group-by-group basis, as well as the traditional global actuarial analysis of all groups within the program. Differences in circumstances concerning implementation of the same cost-containment program may be excellent predictors of the program's success for that group. One such factor is education of employees and spouses on cost-containment program features.

The data reporting plan sponsors are receiving can be divided into three categories. The categories are:

1. Reports for which neither demographic, nor incurred but unpaid claim adjustment is needed.

2. Reports for which only demographic adjustments are needed.

3. Reports for which demographic as well as incurred but unpaid claim adjustments are needed.

Examples of those reports that provide meaningful information without demographic or incurred-but-unpaid adjustment are:

1. Hospital Inpatient Utilization (counts of admissions, days, dollars) by hospital,

2. Hospital Outpatient Utilization (counts of services, dollars) by hospital,

3. Hospital Inpatient Claims by diagnosis (DRG or other categorization) (counts of admissions, days, dollars),

4. Inpatient surgical procedures by frequency,

5. Ambulatory Surgery Procedures by place of treatment (inpatient, hospital outpatient, doctor's office),

6. Weekend hospital admissions by hospital and diagnosis.

The first two reports point to potential savings to be achieved by redirecting utilization toward more cost-efficient hospitals. These reports can also provide useful data for price negotiations with hospitals. The third, fourth and fifth reports provide information on potential cost reduction through redirection of certain claims from an inpatient to an outpatient setting. The sixth report points to potential savings made possible with admissions delayed to the date of surgery.

All of these reports analyze paid claims. There is another type of report, which details the administrative process of a cost-containment program. As an example, here's the type of information that might be reported on the administration of a pre-admission certification program. (The report is greatly simplified and the numbers are for illustration only.)

Pre-Admission Certification

	Days	Admissions
Certification Requested	600	100
Denied or moved to Outpatient	15	5
Days of stay reduced	90	0

This type of report is generally prepared by the department responsible for pre-certifying the admission. The base numbers are the number of days and admissions that the physicians ask to be pre-certified. This is not necessarily the number of days and admissions that would have occurred if the pre-admission certification program had not been in place. One shouldn't expect the incurred claim statistics to show hospital utilization reductions of the magnitude shown in this type of operational report.

Another report that can summarize efforts of the claim adjudication process, negotiated cost savings, and cost sharing plan designs, is:

Claim Adjudication Statistics
(Illustrative)

	Dollars/Claim Count
Total Claims Submitted	110
Claims Denied	10
Total Eligible Charges	100
Medical Plan Payments	75
Other Carrier Payments	3
Negotiated Cost Savings	7
Claimant Payments	15

Each line in this report can be analyzed in greater detail. Claims can be denied for a variety of reasons -- most common are duplicate claims, or claimants not covered at the date of incurral. But other reasons are important from a cost-containment perspective:

- o pre-existing conditions,
- o cosmetic surgery,
- o service not medically necessary,
- o service for condition excluded from coverage.

Listing claims denied by these categories shows the plan sponsors that the claims are being adjudicated properly.

"Total Eligible Charges" means the providers' charges for services which are covered by the health plan. These services will be paid by a health plan or the patient, or will be charged off by the provider due to negotiated fee arrangements.

"Other Carrier Payments" deserves its own report. In it, the other carriers are split into:

- o Coordination of Benefits with other carriers, including Medicare,
- o Workers' Compensation, and
- o Subrogation against auto and other casualty insurance.

"Coordination of Benefits" might deserve further analysis. With the recent implementation of the new "Birthday Rule" for determining primary liability for children's claims, some groups will experience an increase in COB savings; others will experience a decrease. Year-to-year comparisons with splits by relationship of claimant to the employee would explain the reasons for the change in COB savings.

"Negotiated Cost Saving" could be split into several categories, including:

- o Hospital discounts,
- o Usual, Customary and Reasonable (UCR) limits, and
- o Preferred Provider Organization (PPO) schedule.

Another category of reports are those for which demographic adjustment is needed for full understanding. These reports generally compare a group's utilization to a norm. To be meaningful, norms need to be adjusted to account for the difference between the group under consideration and the "average" group. This category of reports doesn't include utilization measures based on enrollment in the medical plan. Instead, these reports categorize claims and compare the percentage of claims in those categories with norms. Here are a few examples of this type of report:

1. Hospital Inpatient Claims (admissions, days, length of stay, dollars) by type of service (surgical, medical, obstetric, psychiatric)

2. Hospital Inpatient Utilization (admissions, days, length of stay, dollars) by age, sex and relationship to employee, and

3. Hospital Outpatient Utilization (dollars, cases) by type of service (surgery, lab and x-ray, emergency room and other).

The first report, which shows a group's inpatient claims by type of service, is useful to determine if a particular type of service is being overused. But this comparison can be almost useless, unless demographic adjustments are made. For example, showing a group with an 80% female workforce that their obstetrical claims are much higher than those of an average group only tells the group

what it already knew. Telling the group that it is within 5% of the demographically adjusted norm for obstetrical claims as a proportion of all claims is more meaningful.

One use for the second report is discovering that the male spouses covered by a group's medical plan are producing 10% of total claims, when they would be expected to produce only 5% because of their demographic makeup.

A use for the third report is uncovering that emergency room usage is a high portion of hospital outpatient for the people covered.

The third category of reports are those for which both demographic and incurred-but-unpaid adjustments, ought to be made. These reports all involve utilization rates per 1,000 participants. Generally, data used to develop the utilization analysis is the same data used to develop renewal rates for the group. If the utilization analysis and renewal rates are being presented to the group at the same time, it is important to use the same paid claim data. It is even more important that the analysis and renewal rates be consistent with one another.

There may be temptation to avoid making any adjustments for incurred but unpaid claims. It would be convenient to assume that the runout of claims paid during this period, but incurred in the prior period, are matched with claims to be paid in the next period, but which were incurred in this period. To make this assumption valid, all the following conditions must be present:

1. Claim lag patterns must be the same from one period to the other. If a new cost-containment program is included in the new period, then the administrative work required may produce a longer claim payment lag.

2. There must be no material change in utilization, or cost per service or benefit plan payment for claims in the old claim runout as compared to the new.

3. There must be no material change in the group's enrollment over the course of the experience period. This includes not only no change in the number

of employees covered, but there also must be no change in the single versus family coverage.

The unlikely occurrence of all these events makes it necessary to make adjustments for incurred but unpaid claims. Without proper adjustment, the reported utilization reduction may actually be only a slowdown in claim payment, or an increase in enrollment.

If the goal is to make utilization analysis consistent with the renewal rate calculation, I would suggest that the methods of Incurred But Not Paid (IBNP) calculations be similar. If the renewal rating formula uses the familiar:

$$\text{Incurred Claims}_t = \text{Paid Claims}_t + \text{IBNP}_t - \text{IBNP}_{t-1}$$

then the utilization analysis should use the same.
If the formula is instead:

$$\text{Incurred Claims}_t = \text{Claims Paid and Incurred}_t + \text{IBNP}_t$$

which doesn't self-correct over time, then the same should be used for utilization analysis.

A few examples of reports that need adjustment for both incurred but unpaid claims, and demographic adjustment are:

1. Hospital inpatient utilization (days, admissions, dollars) per 1,000 participants,

2. Hospital outpatient utilization per 1,000,

3. Physician utilization and charges per 1,000, and

4. Total charges per 1,000.

All of these reports compare incurred claims to norms that have been demographically adjusted. Proper adjustment of some of these statistics may require development of new types of claim completion factors. For example,

hospital inpatient dollars, days and admissions all have different completion rates. New products often complete claims slower than old established products. This is particularly true for products with increased administrative complexity. If you drop down a level of detail, then you'll have even more claim completion factors to calculate. For example, if you split hospital inpatient utilization per 1,000 into medical, surgical, obstetrical, and psychiatric utilization per 1,000, your results should reflect the fact that obstetrical claims complete faster than psychiatric claims. Of course, if these smaller categories are used, there is more risk that statistical fluctuation will obscure results, particularly with smaller groups.

The variety of utilization analysis is limited only by imagination, available data, and the willingness of groups to digest it. This utilization analysis must be consistent with the renewal rates, so adjustment for incurred but unpaid claims is a necessity for many utilization reports. For these and other reports, demographic adjustment of norms is needed to provide a meaningful comparison of how utilization compares to what is expected. The actuary needs to be involved regularly in making and updating these adjustments.

MR. RICHARD D. STOVER: Home Life is very active in most of the areas of cost-containment that many of you are aware of, including provider networks. The main focus of my presentation will be on our hospital utilization review program.

We feel employer and employee education on the value and impact of these programs is critical to the success of cost-containment programs. While there are certainly some cost savings from the stick or benefit penalty approach after the patient has started treatment, the real savings from these programs is with the carrot -- to inspire the patient to take a more cost-effective and better medical course of treatment before entering the medical care network. Employer and employee communication is critical to this process.

All medical plans sold by Home Life to employers with 15 or more employees include most of the following features.

Mandatory Second Surgical Opinion on nine specified procedures is one feature. If the second opinion is not obtained, benefits are payable at 60% instead of 80%, and the expenses do not count towards the coinsurance level. The second opinion is covered at 100%, and need not confirm the first opinion.

Voluntary Consultation Benefit for elective, in-hospital surgery is another feature. The second and third opinions are covered at 100%, up to $100. This benefit has little value as a cost-containment feature. We waive the deductible for out-patient surgery and preadmission testing. Hospice and Home Health Care are provided, with 100% benefits up to prescribed levels.

By far, the most valuable cost-containment benefit we offer is hospital utilization review, also known as preadmission review (PAR). This benefit is actually made up of review, concurrent review and retrospective review. While some carriers only offer the preadmission review, we feel the concurrent review is just as valuable, and the retrospective review affords enough extra protection to be worth the additional effort and cost.

We use outside vendors to conduct the utilization review process. We feel that using an outside vendor lends greater credibility to the utilization review program and affords us a layer of legal protection. Depending upon the vendor, the initial contact with the patient's doctor is either by a nurse or a doctor. However, admissions that are not authorized, or that the attending physician questions, are directed to an MD. The cost for this type of program generally runs from $1.00 to $1.50 per employee per month. Vendors also typically charge a set-up fee for each case (added to the program) and/or additional charges for printed materials.

Under the preadmission review program for non-emergency hospital admissions, the insured must notify his doctor of the utilization review program. The doctor must then call the vendor, prior to hospitalization, for authorization. If the stay is authorized, a pre-defined number of days is given for the stay. For emergency stays, the doctor must call within two days of admission. If this preadmission authorization process is not followed, only 80% of the covered expenses will be considered in calculating benefits. This benefit reduction is strictly enforced.

If the call is made, and the hospital admission is not authorized but the doctor and patient still decide to proceed with the admission, only 80% of the covered expenses are used in calculating benefits. In this situation, however, we are more flexible in applying the benefit reduction, depending on the case particulars. The retrospective review part of our program comes into play in reviewing the medical necessity of the full course of treatment. Our experience to date has been that very few claims fall into this category. Generally, the doctors reach an agreement prior to treatment.

One major consideration with this utilization review process is that the onus is on the patient to initiate the process; thus, the importance of employee communication. One of our larger clients was sued in small claims court because of a benefits reduction as a result of the utilization review process not being followed for non-emergency hospitalization. The client won the suit, and one key defense item was a signed form from the employee indicating that he had received and understood the benefit program. This is standard practice for this employer each year.

Another approach we have taken on PPO business is to require the PPO doctor to initiate the process instead of the patient. If he does not, the patient is held harmless and the doctor's reimbursement is reduced, not the patient's. This procedure is probably not practical outside of a controlled provider network.

The concurrent review process is implemented by our vendor. One day before the pre-authorized number of days runs out, the doctor is called by the vendor to review treatment and the patient's prognosis. If the patient needs to stay in the hospital longer, continuing stays are generally authorized one day at a time. If the patient stays longer than the authorized number of days, extra days are covered at only 80% of the normal covered level.

Retrospective review is conducted after the hospital stay is completed. Its purpose is to review emergency and non-emergency stays, to ensure that proper care was given. This review can benefit the patient by covering medically necessary hospitalization that might not otherwise have been covered.

We have sold utilization review as an option on one of our small employer trusts since May, 1985, and on our large group business since July, 1984. It has been a very popular benefit, with 90% of our new trust cases having taken it. Even with this high level of sales, the option is more accepted in some parts of the country than others. For example, while standard in California, it is less accepted in Texas.

In pricing the utilization review benefit, we have assumed a savings in hospital costs on the order of 10%. I have seen estimates from other insurers and consultants ranging from 5% to 25%. Although we do not offer the preadmission and concurrent review programs separately, we feel the concurrent review is worth about a third of the total savings. In developing rate adjustments for utilization review, care must be taken not to give double rate credits for the overlap of utilization review programs with other cost-containment features such as second surgical opinion programs, outpatient surgery coverage and additional one-day hospital deductibles.

Since we have been issuing this benefit for a little over a year now, we are establishing a credible base of experience for plans with utilization review which is in line with our pricing assumptions. Some of the reports we have from our own claims systems, and from our vendors help us to evaluate the worth of these programs on both a case and a block-of-business basis.

Most of you will, or probably have taken the same approach we did in using an outside vendor to administer your utilization review program. Exhibits 1 and 2 are two types of reports we receive from one of our vendors. These reports are available on a portfolio basis and a case basis.

These reports include some valuable information, but they must be used with care. For example, this report only includes data on hospital admissions that went through the utilization review process with this vendor. You will need to verify whether admissions that went through the utilization review process but were turned down are included or not. And certainly, hospital admissions where the vendor was not even contacted are not included. To truly evaluate the effect of this program, you will need your own internal reporting.

HEALTH PROGRAM EXPERIENCE ANALYSIS

EXHIBIT 1

Pre-Hospital Review Services
Group Utilization Report
Utilization Summary
10 Month Study - Year 1

Insurance Carrier: Home Life
Employer:
State: Group No.:
Average Number of Covered Employees: 4,942
Total with Dependents (Avg.) 9,282
Interval Covered: Jan 1, 1985 - Oct 31, 1985

Hospital Utilization Statistics
Year-to-Date

	Without Inpatient Psych.	With Inpatient Psych.
Total Admissions	343.0	363.0
Days Requested:	2002.0	2750.0
Days Authorized:	1710.0	2298.0

Performance Index, Year-to-Date
(Per Thousand People Per Year)

	Without Inpatient Psych.	With Inpatient Psych.
Admissions	44	47
Bed Days Requested:	259	356
Bed Days Authorized:	221	297

EXHIBIT 2

MONTHLY DISTRIBUTION PROFILE
(EXCLUDES PSYCHIATRIC ADMISSIONS) FOR:

Month/ Year	*Hospital Admissions*	*Days Requested*	*Days Authorized*
JAN 85	38	196.0	170.0
FEB 85	33	215.0	198.0
MAR 85	40	297.0	224.0
APR 85	40	184.0	161.0
MAY 85	23	105.0	97.0
JUN 85	37	177.0	153.0
JUL 85	41	408.0	364.0
AUG 85	41	190.0	158.0
SEP 85	23	99.0	91.0
OCT 85	27	131.0	94.0
NOV 85			
DEC 85			
TOTAL	343	2002.0	1710.0

Total Days Requested (To Date)	2002.0	
Total Days Authorized (To Date)	1710.0	14.6% Decrease

UTILIZATION - MAJOR ADMISSION CATEGORIES

	Admiss	*% Total Admiss*	*Days Req*	*Days Auth*	*% Days Decrd*	*% Days Auth*
Medical:	98	27.00%	984.0	838.0	14.84%	36.47%
Surgical:	139	38.29%	601.0	503.0	16.31%	21.89%
Obstetrical:	104	28.65%	414.0	366.0	11.59%	15.93%
Perinatal:	2	0.55%	3.0	3.0	0.00%	0.13%
Psychiatric:	20	5.51%	748.0	588.0	21.39%	25.59%
Total:	363	100.00%	2750.0	2298.0	16.44%	100.00%

Many vendors will illustrate your savings based on the ratio of days authorized to days requested. Doctors, trying to play the game, may inflate the days requested from what is really needed, hoping to get more days authorized. Of course, this will inflate your apparent savings.

You also need to understand which days are included in the days authorized. Does it include additional days authorized under concurrent review? How do authorized days compare with actual days in the hospital -- which can be more or less than the days authorized? Again, your own internal reports are valuable here.

Real savings from utilization review are more difficult to measure than just determining a ratio of days used to days requested for another reason. Suppose the doctor requests five days, and four days are authorized by the vendor -- an apparent savings of 20%. However, if the patient stays in the hospital for five days -- the last one unauthorized -- the employer and insurer will not save the full value of the fifth day. While we will reimburse this additional day at a reduced rate of 64% instead of 80%, we will still pay benefits, greatly reducing the apparent savings. The real value of utilization review is in avoiding the fifth day entirely. Even if the patient in this example stays in for only the authorized four days, your savings are less than one average day's costs because you compress more services into fewer days, generally saving only the cost of one day's room and board, but not the cost of the additional services.

Savings may also be quoted by vendors based on national averages for admissions and bed days per 1,000. If possible, it is much better to measure your savings off your own case or portfolio experience. Short of that, make sure that the vendor comparison data is realistic and not distorted by geographic data, HMO penetration or Medicare patients. Your own exposure data also needs to properly reflect employee and dependent lives adjusted for those variables.

Given all of the above caveats, two of our vendors have indicated savings of 50% under their programs for Home Life in 1985. One indicated an admission rate of 61 per 1,000 employees and dependents, and bed days of 345 per 1,000. They compared this to adjusted national averages of 121 admissions and 607 bed

days. The other vendor, looking only at California, illustrated 58 admissions and 300 bed days versus industry averages of 122 and 768.

Large employers are probably going to want these types of reports to justify the complications of adding utilization review to their benefit program. We distribute these reports monthly to some clients. As you can see, however, care must be taken to explain to the employer exactly what the reports include. Monthly reports that indicate a savings of 50% to the employer, followed by a 30% renewal increase can be difficult to explain.

Home Life has developed a number of claim care management reports for medical and dental clients which help us and the employer to better monitor the effect of these programs. These reports are used to help identify claim problems and areas of potential abuse to make better use of the employer's benefit dollars.

Exhibit 3 is a sample of our in-patient claim care management report for one case. There are actually two separate reports printed on this one exhibit. The figures at the top are for 1984. For maternity, psychiatric and all other causes, this report breaks down hospital admissions by number, average stay and average charges per day. On the bottom of this Exhibit are comparable figures for this case in 1985, the same year as covered in the vendor report in Exhibits 1 and 2 for this same case. Utilization review was added to this case effective 01/01/85 so running this report separately for calendar years 1984 and 1985 helps to analyze the impact of adding utilization review to this case.

Some interesting points emerge from this report. First and foremost, during 1985, while the vendor authorized 436 admissions, 566 patients were actually hospitalized. Fully 23% of the hospital admissions on this case did not go through the utilization review process, or were not authorized. The employer probably already has, or should expect employee complaints if benefits are being cut back on that many admissions. Better communication of the utilization review benefit program is needed.

The average length of stay, for all cases, from the vendor was 6.3 days. Exhibit 3 indicates an average of 6.7 days. Were the additional days due to longer stays than authorized, or to the unauthorized admissions? Claims by

HOME LIFE INSURANCE COMPANY

POLICY / AGREEMENT NUMBER: TOP 0 HOSPITALS BY NUMBER OF CONFINEMENTS

DIV ALL CLASS ALL CONFINEMENTS STARTING 01/01/84 ENDING 12/31/84

BASED ON CLAIMS PAID THRU 12/31/84

HOSPITAL NAME & LOCATION	MATERNITY NUMBER OF CNFNMTS	MATERNITY AVERAGE # DAYS CONFND	MATERNITY COVERED CHARGE PER DAY	MENTAL & NERVOUS NUMBER OF CNFNMTS	MENTAL & NERVOUS AVERAGE # DAYS CONFND	MENTAL & NERVOUS COVERED CHARGE PER DAY	ALL OTHER CAUSES NUMBER OF CNFNMTS	ALL OTHER CAUSES AVERAGE # DAYS CONFND	ALL OTHER CAUSES COVERED CHARGE PER DAY	TOTALS NUMBER OF CNFNMTS	TOTALS AVERAGE # DAYS CONFND	TOTALS COVERED CHARGE PER DAY
ALL OTHER HOSPITALS (280)	100	4.9	365	31	19.3	378	425	6.2	352	556	6.7	358
TOTAL ALL HOSPITALS (280)	100	4.9	365	31	19.3	378	425	6.2	352	556	6.7	358

DIV ALL CLASS ALL CONFINEMENTS STARTING 01/01/85 ENDING 12/31/85

BASED ON CLAIMS PAID THRU 12/31/85

HOSPITAL NAME & LOCATION	MATERNITY NUMBER OF CNFNMTS	MATERNITY AVERAGE # DAYS CONFND	MATERNITY COVERED CHARGE PER DAY	MENTAL & NERVOUS NUMBER OF CNFNMTS	MENTAL & NERVOUS AVERAGE # DAYS CONFND	MENTAL & NERVOUS COVERED CHARGE PER DAY	ALL OTHER CAUSES NUMBER OF CNFNMTS	ALL OTHER CAUSES AVERAGE # DAYS CONFND	ALL OTHER CAUSES COVERED CHARGE PER DAY	TOTALS NUMBER OF CNFNMTS	TOTALS AVERAGE # DAYS CONFND	TOTALS COVERED CHARGE PER DAY
ALL OTHER HOSPITALS (293)	93	4.4	415	38	24.6	301	435	5.9	383	566	6.9	367
TOTAL ALL HOSPITALS (293)	93	4.4	415	38	24.6	301	435	5.9	383	566	6.9	367

diagnosis can also be compared. For example, for this case, psychiatric claims are less likely to go through the utilization review process than other claims, and more controls may be required in that area.

Exhibit 4 shows the additional detail available in this report. Experience can be broken down by hospital for up to 99 hospitals. Exhibit 4 details the top ten hospitals. This is valuable in assessing costs by hospital for an employer. We can also review experience on a block of similar cases in our portfolio, for example, cases in a PPO in Los Angeles County. Exposure data on the case in this report can also be used to determine the bed days per 1,000. That data indicates a figure of 450 days per 1,000. While this is a very good result, it is 50% worse than the figure of 297 days per 1,000 from the vendor report.

Exhibit 5 details out-patient services for this case for 1984 and 1985 respectively. Again, if desired, information by facility is available. Note that from 1984 to 1985 there was a significant decrease in emergency room use, and an increase in out-patient surgery use. Apparently this was the result of the plan changes made on 01/01/85. Preadmission testing is still infrequently used.

Exhibit 6 is a sample report detailing results by day of admission and length of time to surgery, with and without the use of preadmission testing. This can be used to review abuses of weekend admissions and the effectiveness of preadmission testing.

Exhibit 7 is a copy of two reports for 1984 and 1985, showing the utilization of second surgical opinion benefits. In 1984, this case had voluntary second surgical opinion where we pay the second and third opinion at 100%, but with no reduction in benefits for noncompliance. Thus no benefit cutbacks. In 1985, this case added mandatory second surgical opinion, and the effect is clearly shown. Eight of the 48 claimants failed to get second opinions and had their benefits cut back from 80% to 60%.

We also have reports that provide detail on psychiatric, maternity and other claims.

HOME LIFE INSURANCE COMPANY

POLICY / AGREEMENT NUMBER:

TOP 10 HOSPITALS BY NUMBER OF CONFINEMENTS

DIV ALL CLASS ALL

CONFINEMENTS STARTING 01/01/84 ENDING 12/31/84

BASED ON CLAIMS PAID THRU 12/31/84

HOSPITAL NAME & LOCATION	MATERNITY			MENTAL & NERVOUS			ALL OTHER CAUSES			TOTALS		
	NUMBER OF CNFNMTS	AVERAGE # DAYS CONFND	AVERAGE COVERED CHARGE PER DAY	NUMBER OF CNFNMTS	AVERAGE # DAYS CONFND	AVERAGE COVERED CHARGE PER DAY	NUMBER OF CNFNMTS	AVERAGE # DAYS CONFND	AVERAGE COVERED CHARGE PER DAY	NUMBER OF CNFNMTS	AVERAGE # DAYS CONFND	AVERAGE COVERED CHARGE PER DAY
MORTON PLANT HOSPITAL CLEARWATER FL 33517	5	7.0	364	0	.0	0	14	6.6	408	19	6.7	396
OVERLOOK HOSPITAL SUMMIT NJ 07901	2	6.0	387	0	.0	0	10	5.3	302	12	5.4	317
ST JOHNS MERCY MEDICAL CENTER ST LOUIS MO 63150	5	5.2	332	0	.0	0	6	5.8	194	11	5.5	253
C.F. MENNINGER MEMORIAL HOSP TOPEKA KS 66601	0	.0	0	9	30.4	309	1	30.0	308	10	30.4	309
MOSES H CONE MEMORIAL HOSP GREENSBORO NC 27420	3	5.6	279	0	.0	0	5	4.8	288	8	5.1	284
NEWTON WELLESLEY HOSPITAL NEWTON LWR FALL MA 02162	1	4.0	355	0	.0	0	6	20.1	349	7	17.8	349
RARITAN BAY MEDICAL CENTER ELIZABETH NJ 07207	3	3.0	327	0	.0	0	3	3.3	374	6	3.1	352
BON SECOURS HOSPITAL GROSSE POINTE MI 48230	3	2.6	398	0	.0	0	3	2.6	386	6	2.6	392
BRONX MUNICIPAL HOSPITAL CENTER BRONX NY 10087	2	5.5	475	0	.0	0	3	3.3	258	5	4.2	372
LONG ISLAND JEWISH HILLSIDE MEDICAL CENTER NEW HYDE PARK NY 11042	2	5.5	417	0	.0	0	3	6.0	353	5	5.8	377
ALL OTHER HOSPITALS (270)	74	4.8	366	22	14.7	436	371	6.1	355	467	6.3	365
TOTAL ALL HOSPITALS (280)	100	4.9	365	31	19.3	378	425	6.2	352	556	6.7	358

HOME LIFE INSURANCE COMPANY

POLICY / AGREEMENT NUMBER: TOP 0 HOSPITALS UTILIZED FOR OUTPATIENT SERVICES

DIV ALL CLASS ALL CLAIM PAYMENT PERIOD 01/01/84 THRU 12/31/84

HOSPITAL NAME & LOCATION	EMERGENCY ACCIDENT AND SICKNESS NUMBER OF OCCURRS	EMERGENCY ACCIDENT AND SICKNESS AVERAGE COVERED CHARGE / CLMT	OUT-PATIENT SURGERY NUMBER OF OCCURRS	OUT-PATIENT SURGERY AVERAGE COVERED CHARGE / CLMT	PRE-ADMISSION TESTING NUMBER OF OCCURRS	PRE-ADMISSION TESTING AVERAGE COVERED CHARGE / CLMT	ALL OTHER OUT-PATIENT SERVICES NUMBER OF OCCURRS	ALL OTHER OUT-PATIENT SERVICES AVERAGE COVERED CHARGE / CLMT	TOTALS NUMBER OF OCCURRS	TOTALS TOTAL COVERED OUT-PAT CHARGES	TOTALS AVERAGE COVERED CHARGE / CLMT
	EMERGENCY						ALL OTHER				
ALL OTHER HOSPITALS (585)	560	130	105	478	0	0	680	183	1,345	247,066	184
TOTAL ALL HOSPITALS (585)	560	130	105	478	0	0	680	183	1,345	247,066	184

DIV ALL CLASS ALL CLAIM PAYMENT PERIOD 01/01/85 THRU 12/31/85

HOSPITAL NAME & LOCATION	EMERGENCY ACCIDENT AND SICKNESS NUMBER OF OCCURRS	EMERGENCY ACCIDENT AND SICKNESS AVERAGE COVERED CHARGE / CLMT	OUT-PATIENT SURGERY NUMBER OF OCCURRS	OUT-PATIENT SURGERY AVERAGE COVERED CHARGE / CLMT	PRE-ADMISSION TESTING NUMBER OF OCCURRS	PRE-ADMISSION TESTING AVERAGE COVERED CHARGE / CLMT	ALL OTHER OUT-PATIENT SERVICES NUMBER OF OCCURRS	ALL OTHER OUT-PATIENT SERVICES AVERAGE COVERED CHARGE / CLMT	TOTALS NUMBER OF OCCURRS	TOTALS TOTAL COVERED OUT-PAT CHARGES	TOTALS AVERAGE COVERED CHARGE / CLMT
	EMERGENCY						ALL OTHER				
ALL OTHER HOSPITALS (547)	455	121	194	524	3	296	645	166	1,297	264,970	204
TOTAL ALL HOSPITALS (547)	455	121	194	524	3	296	645	166	1,297	264,970	204

EXHIBIT 6

HOME LIFE INSURANCE COMPANY
DAY OF SURGICAL HOSPITAL ADMISSION STUDY

DIV ALL CLASS ALL

CONFINEMENTS STARTING: 01/01/85 THRU 12/31/85
CLAIM PAYMENT PERIOD: 01/01/85 THRU 12/31/85

	DAY OF ADMISSION							
	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
NUMBER OF ADMISSIONS WHERE:								
PRE-ADMISSION TESTING BENEFITS PAID	0	0	0	0	0	0	0	0
PRE-ADM'N TESTING BENEFITS NOT PAID *	9	30	30	19	25	6	4	123
TOTAL ALL SURGICAL ADMISSIONS **	9	30	30	19	25	6	4	123
AVERAGE NUMBER OF DAYS FROM ADMISSION TO SURGERY WHERE:								
PRE-ADMISSION TESTING BENEFITS PAID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRE-ADM'N TESTING BENEFITS NOT PAID *	2.1	2.3	2.1	1.6	1.6	1.2	1.8	1.9
TOTAL ALL SURGICAL ADMISSIONS **	2.1	2.3	2.1	1.6	1.6	1.2	1.8	1.9

* EITHER PRE-ADMISSION TESTING BENEFITS ARE AVAILABLE AND NOT UTILIZED OR THESE BENEFITS ARE NOT AVAILABLE UNDER YOUR PLAN
** CONFINEMENTS DUE TO MATERNITY, PSYCHIATRIC OR ACCIDENT CAUSES ARE NOT INCLUDED

EXHIBIT 7

HOME LIFE INSURANCE COMPANY

POLICY / AGREEMENT NO. MANDATORY SECOND SURGICAL OPINION UTILIZATION

DIV ALL CLASS ALL CLAIM PAYMENT PERIOD: 01/01/84 THRU 12/31/84

SURG PROCEDURES SUBJECT TO MANDATORY SECOND OPINION, AND	EMPLOYEE NUMBER OF SURGERIES	EMPLOYEE COVERED SURG CHARGES	SPOUSE NUMBER OF SURGERIES	SPOUSE COVERED SURG CHARGES	CHILDREN NUMBER OF SURGERIES	CHILDREN COVERED SURG CHARGES	TOTAL NUMBER OF SURGERIES	TOTAL COVERED SURG CHARGES
1. PRE-CLEARED WITH HOME LIFE, PAID AT PLANS								
REGULAR BENEFIT RATE	20	24,862.20	17	21,181.98	10	4,678.00	47	50,722.18
% OF TOTAL PROCEDURES	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2. NOT PRE-CLEARED WITH HOME LIFE, PAID AT PLANS								
REDUCED BENEFIT RATE	0	0.00	0	0.00	0	0.00	0	0.00
% OF TOTAL PROCEDURES	00.0%	00.0%	00.0%	00.0%	00.0%	00.0%	00.0%	00.0%
TOTAL PROCEDURES 1 + 2	20	24,862.20	17	21,181.98	10	4,678.00	47	50,722.18
% OF TOTAL PROCEDURES	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CLAIM PAYMENT PERIOD: 01/01/85 THRU 12/31/85

1. PRE-CLEARED WITH HOME LIFE, PAID AT PLANS								
REGULAR BENEFIT RATE	19	27,588.72	14	27,381.36	7	4,325.00	40	59,295.08
% OF TOTAL PROCEDURES	73.1%	66.6%	93.3%	93.3%	100.0%	100.0%	83.3%	78.9%
2. NOT PRE-CLEARED WITH HOME LIFE, PAID AT PLANS								
REDUCED BENEFIT RATE	7	13,865.00	1	1,975.00	0	0.00	8	15,840.00
% OF TOTAL PROCEDURES	26.9%	33.4%	06.7%	06.7%	00.0%	00.0%	16.7%	21.1%
TOTAL PROCEDURES 1 + 2	26	41,453.72	15	29,356.36	7	4,325.00	48	75,135.08
% OF TOTAL PROCEDURES	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

We are currently developing a report similar to the one on second surgical opinion for utilization review benefits to fill in the details on unauthorized hospital admissions. These reports I've shown you were developed primarily as client reports, and we do various studies off our claim data base to study our portfolio experience. An important part of monitoring these cost-containment features should be your communications with the employer on their impact.

One thing I would like to impress on you, as an actuary in reviewing your experience, is the importance of meeting with underwriters, claims examiners, sales personnel and all other affected areas to make sure you are all on the same track and there is a clear understanding of how these programs work. We have only begun to produce these reports, and are in the early stages of detailed analysis of our experience.

MS. HEIDI RACKLEY: Mr. Russell referred to the comparison of a group's experience to the norm. How are these norms determined? Are they based on one company's experience, or on national statistics? Are the norms adjusted to reflect ideal utilization as opposed to actual experience?

MR. RUSSELL: At Blue Cross/Blue Shield of Virginia, we calculate the norms by combining all the experience from our insured groups of 250 lives or more. All of the experience is from Virginia, and we do not separate our experience by benefit plan.

MR. THOMAS R. CASNER: I am skeptical of the reported savings under precertification programs. The small amount of data, and the measurement biases (doctors padding the number of days requested for precertification) diminish the credibility of the reported savings. Increased public cost awareness may also contribute to the savings. What are the real savings under precertification programs?

MR. STOVER: I do not trust the savings reported by our vendors on their precertification business because of their method of data analysis. And individual case studies are subject to large statistical fluctuations even though this type of information is valuable at renewal time. I give the most credibility to studies conducted on a portfolio of business.

MR. JAMES M. MCCREADY: Pressure is mounting in Michigan to allow experience rating. A few court cases have dealt with defining experience rating, and the legality of HMOs implementing it. I believe that the latitude in the law, and the availability of information in HMO data bases will cause the spread of experience rating. Some HMOs are already making adjustments for demographics and family size.

Regarding experience analysis, we have been applying trendline analysis on our new precertification programs. We compare expected cost and utilization statistics with actual experience. This helps us identify avoided admissions, since we already know how many admissions have been denied. Hence, the customer is given some idea of the success of the program.

Regarding data adjustments, we make case-mix adjustments in addition to demographic adjustments, and adjustments for incurred but unpaid claims. For example, we would make an adjustment if a group had a high frequency of heart attacks which abnormally affected its hospital days per 1,000 insureds. The first step in the process is breaking our company's total claims down by major ICD9 groupings, and by age category. From this breakdown, we develop relative inpatient cost weights for each diagnosis/age cell. We then apply these standard weights to the diagnosis/age distribution of the inpatients of a specific group to determine the case mix adjustment for that group.

MS. RACKLEY: Most of the reports that we've seen today seem to focus on the acute care hospitals. However, utilization of home health care and skilled nursing facilities is becoming more prevalent. Are these additional costs being factored into your reports?

MR. HERRLE: Yes. For example, our analysis of Med Centers' experience indicated a sharp drop in inpatient costs and a corresponding increase in skilled nursing care and home health care, especially in its Medicare experience.

MR. CHRISTOPHER H. WAIN: I appreciate the elaborate data that Mr. Russell's company prepares, but what is its resulting value? Can a Blue Cross/Blue Shield plan use this data to experience rate employers?

MR. RUSSELL: The group for which we prepare experience analyses are typically rated and renewed based on their own experience. This may be on a prospective basis funding, or it may be on a cost-plus basis.

MR. ROBERT CHIPKIN: Mr. Stover estimates that precertification reduces hospital costs by 10%. The savings on the entire plan would then be 4%, if we assume that hospital costs account for 50% of the total comprehensive plan costs, and that the cost of outside precertification services is 1%. Is a 5% savings enough to successfully introduce precertification to small group business?

MR. STOVER: We currently offer precertification as an option, which about 95% of our small group cases take. In order to increase the pricing differential between the precertification plan and the non-precertification plan to more than the 4%-5% differential, we introduced hospital utilization review and underwriting changes, in addition to precertification. In essence, we increased rates on the non-precertification plan over what was required to push sales of the precertification plan.

MR. GREGORY TODD SWIM: One concern in the small group market is that small employers have little or no personnel departments to communicate their insurance plan provisions to employees. What are insurers doing to ensure proper communication of the special claim procedures required under precertification plans?

MR. STOVER: At Home Life, the sales representative helps install the precertification plan. Each employee receives an employee packet which fully describes the benefit program. A separate envelope labeled, "Before you do anything, please open this", is included, which describes the precertification and hospital utilization review process.

Some precertification vendors sell wellness magazines for employees. A company could insert additional information about the precertification program in these magazines.

The number of plans requiring precertification and utilization review is increasing. We currently have 600-700 cases averaging about 30 lives each. To date, we haven't had any complaints about the new procedures.

MR. ARTHUR L. BALDWIN III: Mr. Stover, have you been able to use information in the reports that you described to assist the underwriter in experience rating an account, or to make changes in the manual rate structure?

MR. STOVER: We have been producing our own reports for only a few months, but we are starting to use the information from them. The underwriters and the sales representatives had been using the vendor reports, but as I mentioned in my presentation, I believe that these reports alone are worthless.

MR. ANTHONY J. HOUGHTON: These utilization programs are extremely valuable, but I think that the statistics are sometimes flawed. For example, as doctors become aware of the number of days that will normally be allowed, their request for precertified days will become more reasonable. Doctors soon learn that maternity stays will only be certified for three days, so instead of asking for six days, they will only ask for three or four days. Because of this learning process, the apparent savings on some reports may decrease when, in fact, a significant savings is being achieved. Mandatory second opinion is a similar situation. When doctors realize that many plans require a second opinion for hysterectomies, they advise the patient of both the surgical and nonsurgical alternatives.

The success of a precertification program can be measured by comparing the experience of the precertification business and the experience of the non-precertification business. For example, one might discover that only 50% of potential ambulatory surgeries are performed on an outpatient basis under the non-precertification block, versus 85% under the precertification block. I also believe precertification and mandatory second surgical opinions will reduce the frequency of large volume operations such as hysterectomies.

Some of the savings will be invisible. Doctors and insureds won't request some procedures once they understand the rules. Insurers should explain to

policyholders that the goals of utilization programs are to enhance medical care and that much of the savings may be invisible.

MS. JOAN P. OGDEN*: I'd like to offer a caveat regarding second opinion surgical programs. If an employer is concentrated in a small metropolitan area, physicians may be reluctant to disagree with the opinion of the first physician. I have an insurer client who has been using a second opinion surgical program for a year, and to date has not had a nonconfirming second opinion.

MR. RUSSELL: We refer most of our employers and employees to a panel of doctors for a second surgical opinion, not to a local doctor. I believe implementing both a utilization review program and a mandatory second surgical opinion program may be redundant. What is the need of a mandatory second surgical opinion program if a good utilization review program is in place?

MR. KENNETH S. AVNER: Regarding the effect of the 1984 nurses strike in the Twin Cities, our analysis indicates the decreased level of hospital lengths of stay was maintained even after the nurses returned to work. We were setting reserves on an insured plan in anticipation of increased hospital utilization when the nurses strike was settled; however, the large change in utilization patterns was not observed until after the end of the strike.

* Ms. Ogden, not a member of the Society, is a consulting actuary with Wilcox and Cannon.