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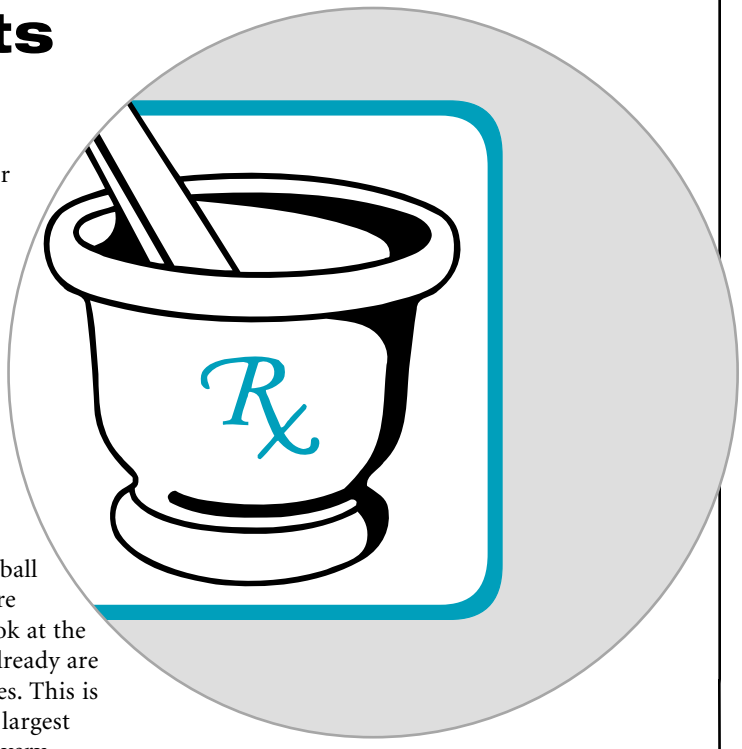
Large employers face hard choices on retiree health benefits

by Steve Coppock and Frank McArdle

Providing health benefits for retired workers is an increasingly difficult burden for employers. The cost of providing coverage—often comprehensive health benefits for early retirees and wrap-around policies for those on Medicare—jumped sharply in 2002, and the situation is certain to get worse in the years ahead.



The near-term challenge for employers is balancing the financial needs of their organizations while maintaining vital benefit programs for retirees and spouses. The alternative to acting now is being forced to undertake more drastic changes down the road or abandon retiree health benefits altogether.

Employers need no crystal ball to see where these trends are leading. They need only look at the impact these health costs already are having on their bottom lines. This is a problem not only for the largest corporations, but also for every employer paying the lion's share of premiums for workers and families, even in retirement.

Last year, Hewitt Associates and the Henry J. Kaiser Family Foundation surveyed 435 large U.S. companies—including one-third of the Fortune 100 companies and more than one-quarter of the Fortune 500—about their retiree health plans. The findings put this retiree health care crisis into focus and offer a preview of steps that many employers are taking to keep these costs under control. "The Current State of Retiree Health Benefits—Findings From the Kaiser/Hewitt 2002 Retiree Health Survey" can be accessed at *www.hewitt.com or www.kff.org.*

The surveyed companies employ at least 1,000 workers; most have more than 5,000 employees and one in five employs more than 20,000. These 435 companies, by themselves, play a large role in both the American economy and employer-sponsored health care. Their health plans cover more than 23 million Americans—18.5 million workers and family members and more than 5 million retirees and spouses. Here is what these large companies told Hewitt and the Kaiser Family Foundation.

Costs for employers and retirees

The total cost (employer and retiree share) of providing retiree coverage jumped 16 percent in 2002. Retiree health benefits cost these large companies and their retirees $14.5

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editorial

Craig Kalman
Loretta J. Jacobs
(not pictured)
Co-editors responsible for this issue

Personalizing the actuarial perspective

by Loretta Jacobs

Thirteen years ago, I had a very serious automobile accident. I was driving, with my husband in the front passenger seat, at high speed on the Alaska Highway from Denali National Park to Fairbanks and hit an 1,800-pound bull moose crossing the road.

Miraculously, both my husband and I suffered only minor injuries in the accident. The front end of the car looked like an accordion and the roof was crushed downward toward the ground, presumably from the weight of the moose landing on top of it. The windshield had shattered, covering us both in glass and, after getting out of the car and inspecting the damage, I realized that the difference between life and death that night for my husband and me was a matter of inches. If the moose had been slightly taller, or the car, which was really an early version of an SUV, had been slightly lower to the ground, we would have been dead.

I was shaking in fear and had actually gone into shock. We were in the middle of nowhere, 60 miles from the nearest town and over 100 miles from Fairbanks. It was pitch black outside and the temperature was starting to drop. Neither of us was in any condition to drive, which didn't matter because our car was totaled anyway. The moose was actually still alive after the accident but obviously in a great deal of pain.

We used our CB radio to call the nearest police station (60 miles away) to ask for help. The policeman told my husband that, since neither of us was seriously injured, he wasn't going to come out to the crash site that evening, but would arrange for the car to be towed the next morning.

Huh????? How were we supposed to get home? Didn't we need to see a doctor? What were we supposed to do with the car? What was going to happen to the moose?

Luckily for us, another driver heading to Fairbanks stopped and gave us a lift to the hospital, where we were treated and released. Before that, a hunter stopped, put the animal out of its misery and claimed the carcass. The next day, a tow truck did arrive for the car. So, the story had the happiest ending that could be expected, given the circumstances.

I have never forgotten the events of that night and, in particular, I was bothered for a very long time by the (at least to me) insensitive reaction we received from the policeman over the radio. I mean, didn't he get it? We had escaped death *by inches!* Didn't he care? Wasn't he concerned about us at all? I had just had the most terrifying experience of my life to that point. Didn't that make any difference to him?

With the benefit of years of hindsight, I can now look at the accident from what I think was his perspective. That policeman had probably received dozens of phone and radio calls similar to the one we made to him that night over the course of his career. Literally hundreds of moose accidents occur every year in Alaska, with a large percentage of these including fatalities and life threatening injuries. All we had were some cuts and bruises, for goodness sakes. We didn't need immediate medical attention.

In addition, since he was 60 miles from the crash site, he probably (and correctly) assumed a passerby would help us before he could have reached us, so why should he bother to leave his station. What if a "real" emergency had occurred while he was driving out to help us? The only real immediate concern was what could be done for the moose. Since it was hunting season, he again probably (and correctly) assumed that a hunter with a shotgun would pass by to claim the animal.

This same 20-20 hindsight led me to ask myself another question: If an outsider were to witness me performing my day-to-day tasks as a health insurance actuary, would he come away with the same impression I was left with from the policeman the night of my accident?

Large employers face hard choices on retiree health benefits

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billion, up $2 billion over the previous year. These firms and their retirees paid an aggregate $28 million each, on average, for retiree health benefits in 2002. The 97 "jumbo" companies—those with more than 20,000 employees—and their retirees paid $95 million on average. These costs have a huge impact on corporate profitability.

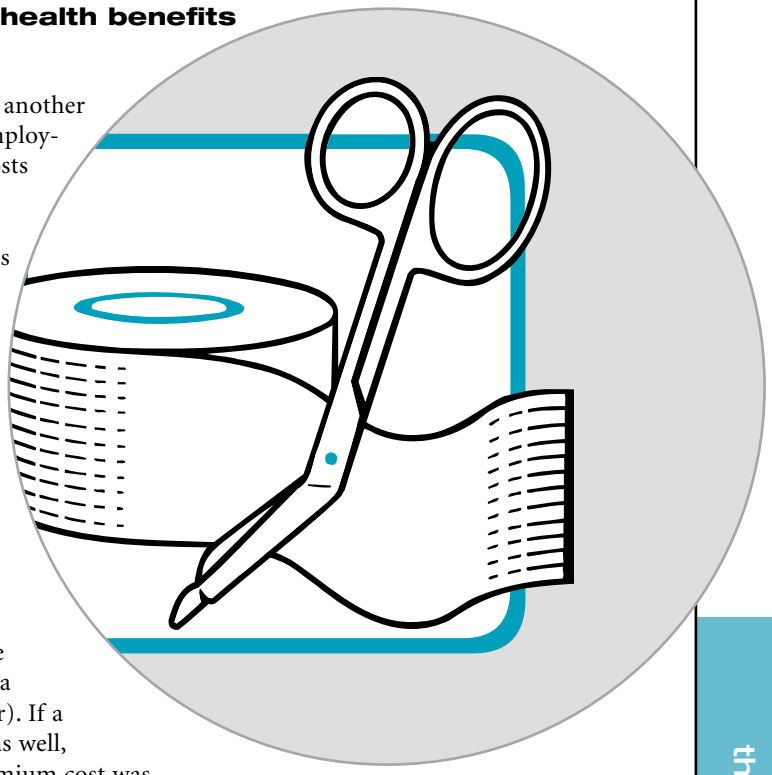
The chief executives of these large companies are painfully aware of how expensive this coverage has become. Eighty-eight percent of survey respondents said their CEOs were concerned about retiree health costs; 52 percent said their CEOs were very concerned.

Not long ago, big companies could drive better bargains in the health care marketplace. But size was little or no shield against the sharply rising premiums that have roiled the market in 2002. Retiree health costs rose 15 percent for the firms with 10,000 or more employees and 17 percent for those with fewer than 10,000.

Looking at findings from another Hewitt survey of large employers in 2002, the overall costs of retiree health benefits rose faster than for active workers: 16 percent versus 13.7 percent.

With respect to average premiums, the Hewitt-Kaiser survey came up with the following figures:

- The average total premium (employer and retiree share) for someone prior to age 65 in 2002 was $365 a month ($4,380 a year). If a spouse was covered as well, the average total premium cost was $729 a month ($8,748 a year).
- For those age 65 and older, the average total premium was $194 a month ($2,328 a year) for an individual retiree and $406 a month ($4,872 a year) for a couple.



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Personalizing the actuarial perspective

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Truthfully, I think the answer is probably "yes."

As a health actuary, I'm involved with both pricing and valuation of health insurance products. One day when I was reviewing the calculation of seriatim claim reserves for a particular product line, I realized that I didn't even think of the claimants as individual people anymore. They weren't people, nor even system generated claim numbers to me, but rather just rows of data in a valuation spreadsheet.

Rows in a spreadsheet! To the claimants and their families, suffering through serious illness or injury is a traumatic experience, and certainly worthy of much more thought and concern than that.

Another day I was reviewing accidental death rates for input into the pricing of a new product and realized that these death rates were just *statistics* to me—I didn't stop to think that these "statistics" represented the millions of real people who had died in unfortunate accidents during the last year. In fact, but for a matter of inches, I would have been part of the 1989 accidental death mortality statistic, and someone with an attitude and outlook similar to my own, pricing an accidental death product 10 or so years ago, would never have given another thought to my life and what its loss would have meant to my family and friends.

For three months after 9/11, I couldn't say the words "World Trade Center" aloud without tears coming to my eyes. Recently, I was reviewing reserve calculations and came across several items mentioning the World Trade Center event. I was glad when I realized that merely reading the words still brought back the gruesome images to my mind of the events of that fateful day.

Finally, here was something that I wasn't able to dismiss or consider solely as a number or statistic.

Obviously, it's important for actuaries and all professionals to maintain professional attitudes and approaches to their work. But, maintaining professionalism doesn't have to be at the expense of recognizing that sickness and death are profoundly personal experiences to the people whose lives are affected by them.

The people touched by tragedy should be remembered for what they contributed to the world, and not just thought of as statistics or rows in spreadsheets. It's especially sobering when you remember that the next life to be touched by sickness or death could be your own.

Large employers face hard choices on retiree health benefits

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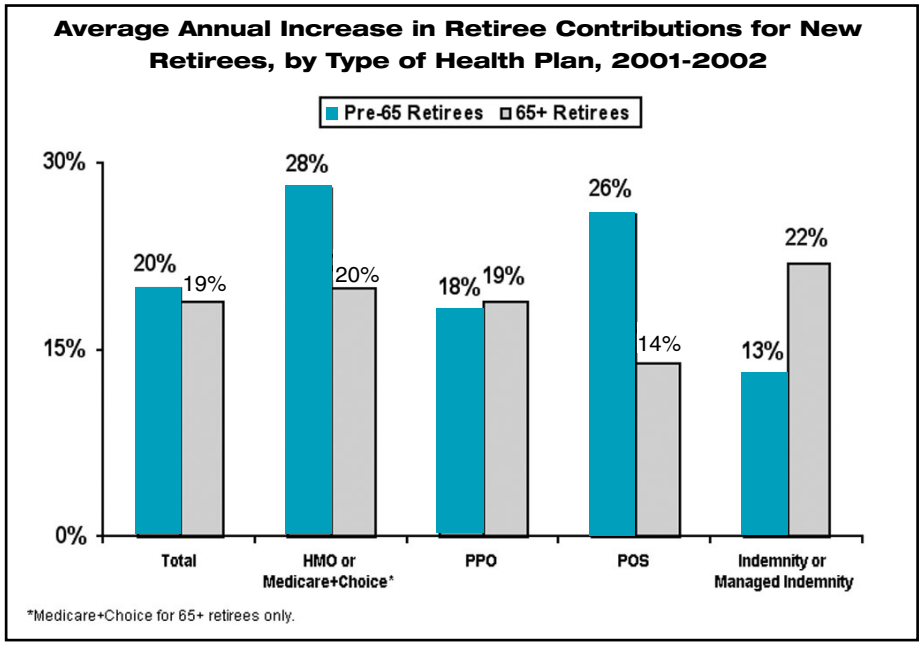
Figure 1



Note: Based on responses from private-sector firms with 1,000 or more employees that offer retiree health benefits. Premiums for retiree-only coverage for full-time employees retiring on or after Jan. 1, 2002, in plans with the largest of enrolled retirees.
Source: Kaiser/Hewitt 2002 Survey on Retiree Health Benefits, December 2002

- Although new retirees' contributions increased about 20 percent, employers still bore most of the cost of this coverage.(See Figure 1 breakdown by health plan type.) The average retiree contribution for someone under age 65 was $153 a month ($1,836 a year), and $328 a month ($3,936 a year) if the spouse was also covered.

- For those age 65 and older, the average retiree contribution was $79 a month ($948 a year), and $165 a month ($1,980 a year) if the spouse was also covered.

FAS 106 and caps on contributions

Many companies are facing an added complication to their efforts to deal with these rising costs. A decade ago the FASB tightened its rules on how companies must account for future costs of health and other nonpension retirement benefits. To comply with FAS 106, many companies imposed caps on the company contribution to retiree health benefits. These caps put a ceiling on how much the company was obligating itself to contribute. Once the employer share was frozen, retirees would be expected to pay for any remaining difference between the total cost and the employer's frozen subsidy. Most companies set these caps high enough so that there was no danger of hitting them for several years.

But, after the recent spike in health care inflation, many companies now are bumping up against these caps. Half of the firms surveyed had caps, and approximately two-thirds of these companies with caps have either hit them already or expect to do so in 2003. A significant portion of the remainder is likely to hit the cap within three years.

This means that, even after a 20 percent premium jump in 2002, there will be even more pressure on contributions for new retirees in 2003 and beyond. For those organizations that said they had a cap on their subsidy, 2002 contributions for retirees increased 27 percent. With the employer's subsidy frozen, these contributions will continue to increase significantly in the near term.

Prescription drugs

For many retirees, the most valuable part of their employer-sponsored health plan is the coverage for prescription drugs. Medicare, for the most part, does not pay for prescription drugs, unless a patient is hospitalized. Spending on prescription drugs has risen at double-digit rates for several years. Many employers have focused on managing their costs for this benefit through a combination of increases to cost-sharing features (e.g., copays) as well as through specific cost management features associated with the prescription drug plan.

The Hewitt-Kaiser survey found that, in 2002, the median copayments retirees paid to get a prescription filled at a retail pharmacy were $8 for generic drugs, $15 for formulary or preferred drugs and $25 for nonpreferred brand-name drugs.

Medicare, for the most part, does not pay for prescription drugs, unless a patient is hospitalized.

In addition, over the last two years, 37 percent of employers have moved to require prior authorization to get prescriptions for certain expensive drugs filled.

Time to tighten belts

Managing retiree costs is certainly not a new challenge. A significant number of large companies already have taken steps to share this growing burden with their retirees. The Hewitt-Kaiser survey found that, in the last two years:

- More than 40 percent of companies required retirees to contribute more toward premiums.
- More than one-third (36 percent) raised cost-sharing requirements.
- Thirteen percent terminated health benefits for future retirees.

But the survey indicated that these were just the first steps to economize. Retirees can expect further changes ahead—in cost-sharing as well as broader changes. That is clear from the companies' responses when asked to forecast what will happen with their retiree health benefits in the next three years.

- Twenty-two percent expect to eliminate benefits for future retirees.
- Eighty-two percent will ask retirees to pay a larger share of premiums.
- Seventy-one percent will raise patient copayments for doctor visits.
- One-quarter will shift to a defined contribution approach.
- Twenty-four percent will offer a Catastrophic+Spending Account coverage plan for retirees.

Imperative for action

The combination of issues outlined makes it all the more imperative for companies to reassess their health care strategies now and to take decisive action to keep these costs from negatively affecting corporate profits in an already challenging economic environment.

Americans have heard for years that the United States spends more than any other country on health care, and how health care is claiming an ever-increasing share of our gross domestic product. It finally is apparent what this trend bodes, both for corporate profits and for employee benefits. The money to pay these rising premiums comes directly out of the funds available to meet a company's other pressing needs. It also comes out of workers' paychecks, not just in their share of premiums, but also in forgone wage increases.

Those already retired are likely to keep their coverage. But they will also see many changes in their plans and benefit packages in the near future.

In a country that relies on voluntary, employer-sponsored health coverage for most of the population, retiree health benefits occupy the most precarious position. Tough choices must be made.

The bottom line?

Those already retired are likely to keep their coverage. But they will also see many changes in their plans and benefit packages in the near future. Deeper cuts are in store for those behind them—both those on the verge of retirement and younger workers.

It is no easy task for large employers to maintain these retiree health benefit programs. It is imperative for companies to weigh the costs of these benefits against other business needs and the costs ofattracting and keeping a skilled, productive workforce.

With Congress finally poised to take up the question of overhauling Medicare and adding prescription drugs to the benefit package for seniors, employers would do well now to take a hard look at shaping up their own retiree health benefit plans.

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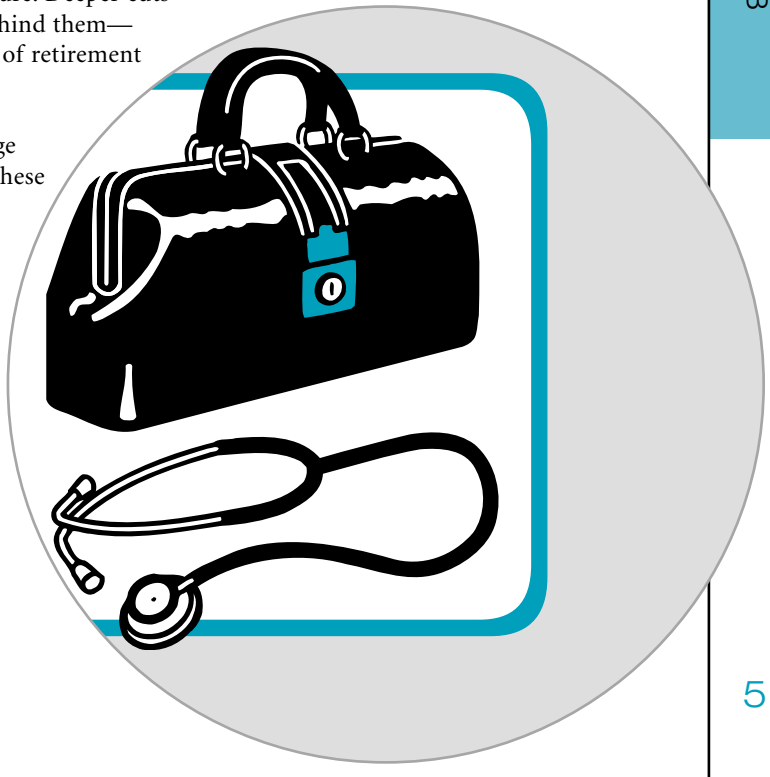


Employer-sponsored health plans in flux

by G. Todd Swim and Beth A. Umland

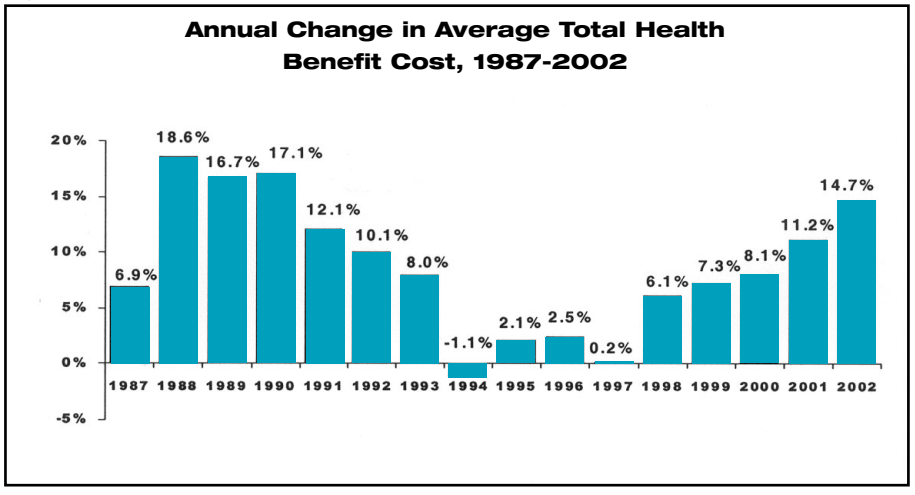
U.S. employers saw an average increase in their workers' health benefit costs of 14.7 percent in 2002 (Figure 1)—seven times the rate of general inflation and the largest rise since 1990, according to a national survey conducted annually by Mercer Human Resource Consulting Inc.

Nearly 2,900 employers participated in Mercer's 2002 survey, which is conducted using scientific survey methodology and has an error range of +/–3 percent. All employers, private and public, with at least 10 employees were sampled. The survey results represent about 600,000 employers and more than 90 million full- and part-time employees.

Figure 2 on page 6 shows that the total cost—including all employer and employee contributions for all plan participants, including dependents—of health care benefits that include all medical and dental coverage averaged $5,646 per employee in 2002.

This is the second straight year of double-digit increases; over the past five years, cost has risen 57 percent (from $3,594 in 1997). Employers predict an average increase of 14 percent for 2003.

Figure 1



Note: Results for 1987-1998 are based on cost for active and retired employees combined. The change in cost from 1998-2002 is based on cost for active employees only. *Source:* Mercer Human Resource Consulting, 2002

Nearly one-fourth of all employers (23 percent) expect an increase of 20 percent or higher.

The relentless rise of health insurance cost has forced some very small employers to drop coverage for their workers altogether.

The unrelenting climb in health care costs during the past several years stems from a confluence of events. In the mid-1990s, employers achieved decreases in annual health benefit costs by moving employees out of traditional indemnity plans and into managed care. But the recent backlash against managed care plans, particularly HMOs, has won patients easier access to physicians and helped physicians win more favorable reimbursement contracts.

At the same time, medical costs are rising as technology produces new and more expensive medicines, diagnostic equipment and various other breakthroughs in the treatment of diseases and conditions that once were untreatable.

Small employers hit hardest

With less negotiating power and fewer resources to devote to cost management, small employers were hit hardest by benefit cost increases. In organizations with 10–499 employees, health care cost rose 18.1 percent in 2002, while larger organizations were able to hold the average increase to 11.5 percent.

Small employers typically provide a less generous package of benefits and, with higher employee contribution requirements, a smaller percentage of their employees elect dependent coverage (42 percent, compared to 55 percent among those with 500 or more employees). In 2002, average per-employee cost remains lower among smaller employers—$5,492, compared to larger employers' $5,758—but the gap has narrowed to about 5 percent, from 17 percent five years ago.

The relentless rise of health insurance cost has forced some very small employers to drop coverage for their workers altogether. The percentage of employers with 10–49 employees offering a health plan fell from 66 percent in 2001 to 62 percent in 2002.

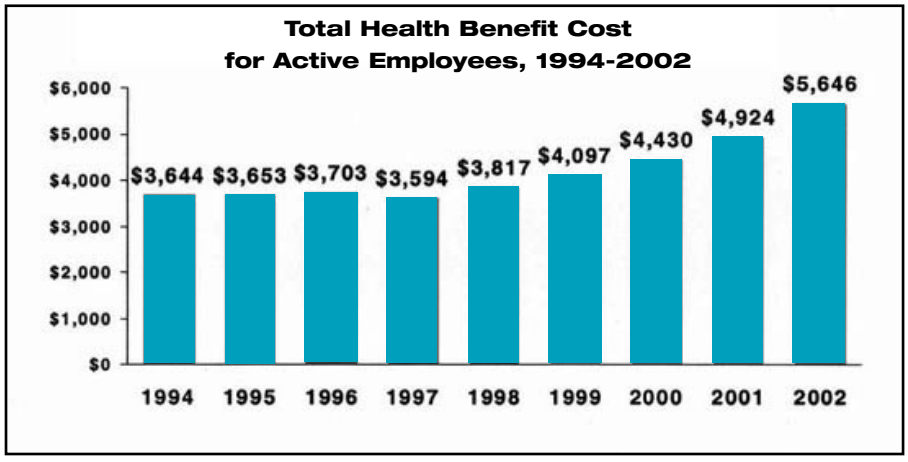
Regional differences

Health benefit cost varies significantly around the country due to regional differences in cost of living, type of industry, average wage, employer benefit practices and health care markets.

Average cost is highest in the Northeast, at $6,096, and lowest in the South, at $5,271. Cost rose most sharply in the West, where employers experienced an average increase of 20.6 percent.

While costs within regions may increase at different rates in any given year, over time these differences tend to even out. Nationally, cost has risen 57 percent over the past five years. In the South, West and Midwest, five-year increases range only between 51 percent and 53 percent. In the Northeast, although cost has risen 40 percent since 1998, its average cost has remained the nation's highest for that entire period.

Figure 2



Source: Mercer Human Resource Consulting, 2002

Medical plan cost

While the HMO remains the lowest-cost medical plan, for the past two years, the cost of HMO coverage has been rising at about the same rate as PPO coverage, despite the stronger utilization controls that HMOs are designed to deliver. In 2002, HMO cost rose 15.3 percent, to $4,803, while cost for the less-managed PPOs rose 15 percent to $5,227(see Figure 3).

In considering the difference in the average per-employee costs of HMO and PPO coverage—$424—it is worth noting that employees enrolled in HMOs are a year younger, on average, than those enrolled in PPOs (ages 37 and 38, respectively) and that HMO enrollees are less likely to elect dependent coverage (41 percent, compared to 44 percent of PPO enrollees). When cost is adjusted (using regression analysis) to account for these demographic differences, the cost gap is reduced to about $250.

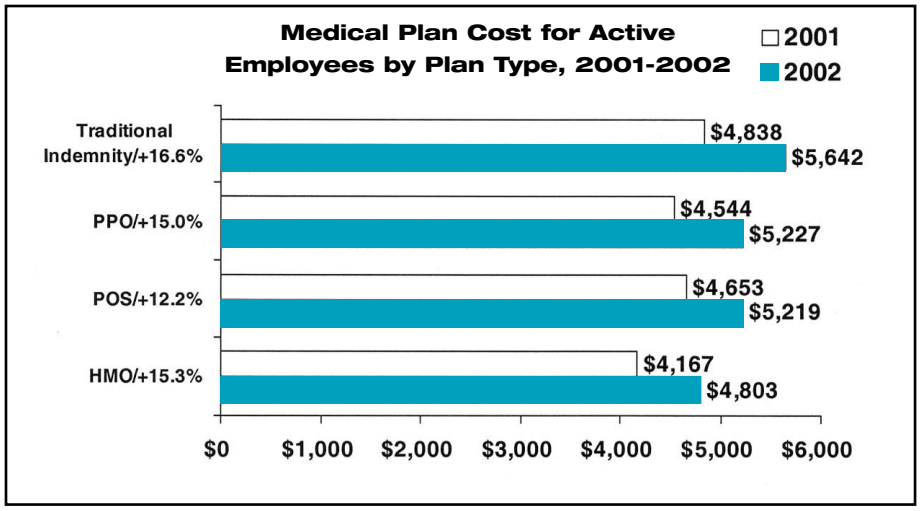
The average cost of point-of-service (POS) plan coverage was essentially the same as PPO coverage—$5,219, up 12.2 percent from 2001. Traditional indemnity plan coverage was once again the most costly, at $5,642, up 16.6 percent.

After steady growth in the late 1980s and early 1990s, HMO enrollment hit a long plateau. But between 2001 and 2002, enrollment fell by a substantial four percentage points, from 33 percent of all covered employees to 29 percent.

...for the past two years, the cost of HMO coverage has been rising at about the same rate as PPO coverage...

Given the negative publicity surrounding HMOs in the past several years, industry analysts have been expecting that participants with a choice of plans would begin to select other options. But it appears that employers had a hand in the enrollment shift by changing plan designs in 2002. For employees, one of the HMO's biggest selling points has been negligible out-of-pocket cost. But, faced with sky-high renewal rates, employers are asking HMOs to add hospital deductibles—a cost-sharing feature not found in early HMOs. Now 45 percent of employers' HMO plans include a hospital deductible (up from 35 percent just two years ago), and the median deductible amount is a substantial $250. Average employee copayments for physician office and emergency room visits also rose in 2002.

Figure 3



Source: Mercer Human Resource Consulting, 2002

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Long-term care disabled life reserves:

Overview of methodology for a growing product line

by Deborah A. Grant

Long-term care (LTC) insurance is a relatively young insurance product, and companies are learning to deal with a variety of problems associated with the management of this specialized line. As blocks of LTC grow and mature, the valuation of their disabled life reserves (DLRs) becomes a concern for companies. While DLRs remain a smaller component of total reserves than active life reserves, the total dollar amounts involved are no longer *de minimus* in many companies.

This article provides an overview of the methods used to value LTC DLRs, and discussion of problems that may arise in their implementation. For the maturing LTC block that is the subject of this article, the largest dollar amount of DLRs will be the reserve for the open claims deck. The other major component is incurred but not reported (IBNR), which, for practical purposes, can be interpreted as "incurred but not reserved by the tabular method."

The ability to perform a DLR calculation accurately using the tabular method depends on the appropriateness of the continuance table used.

Methods to establish claim reserves

There are many possible methods for establishing health claim reserves. These include:

- Tabular method.
- Lag or claim run-out method.
- Average claim size method.
- Formula method.
- Loss ratio method.
- Individual claim estimates.

All of these methods are used for all kinds of health insurance under different circumstances, depending primarily on (1) the nature of the claims being reserved and (2) the availability and reliability of data. It is prudent for actuaries to consider all possible methods and tools available, given the circumstances, and adjust the methodology accordingly. All of the methods are applicable when setting LTC DLRs.

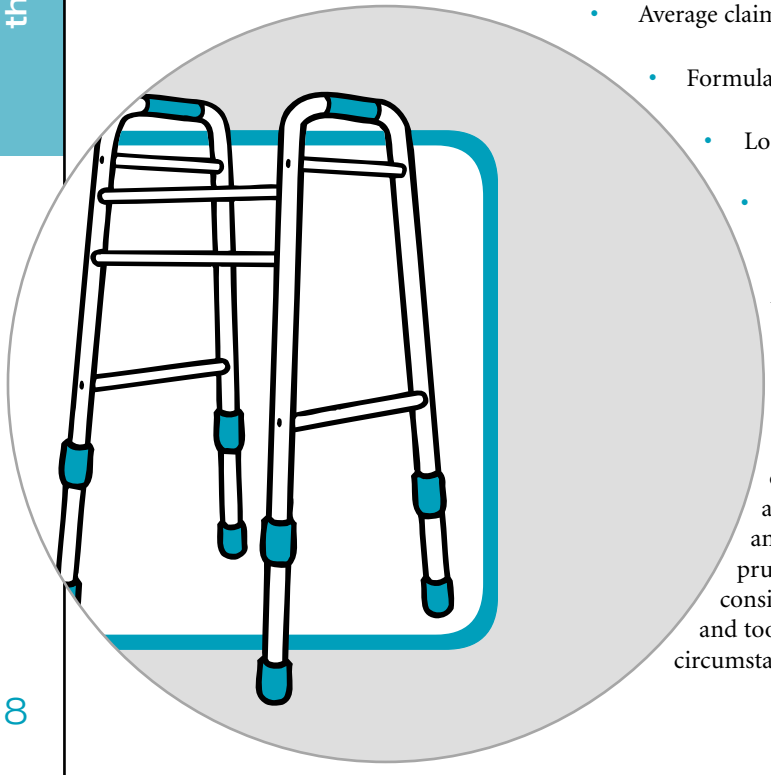
Tabular method

The tabular method is used for open claims—claims where the eligibility for benefits has been established and covered expenses (as required by the policy) are incurred. It also may be used for pended claims with sufficient information about incurred date and type of services (these reserves are then adjusted by a factor to represent the probability of moving from pended to open).

The ability to perform a DLR calculation accurately using the tabular method depends on the appropriateness of the continuance table used. Continuance is theoretically expected to vary by the site of care (institutionalized and noninstitutionalized), and by clinical care path (transfers between sites of care). A company that has worked hard to validate and update expected claim costs still has the problem of validating the separate components of claim costs—incidence and continuance—in order to produce accurate liabilities.

Many of the problems that companies are experiencing with disabled life reserves are attributable to an inappropriate continuance table. It is typical for companies to maintain only one set of continuance tables (and they often limit these sets to nursing home vs. home health care instead of tables for multiple care paths), and then validate aggregate claim costs in a more refined manner for pricing or experience monitoring purposes.

For example, a company might maintain separate claim costs for policies with different benefit triggers, but not maintain separate continuance tables.



Continuance tables are difficult to create, and a company may not have sufficient data to develop a table based on its own experience.

While the theoretical application of the tabular method is well understood, companies have difficulty with software packages or spreadsheets that do not calculate DLRs with sufficient flexibility for LTC. Specific problems include:

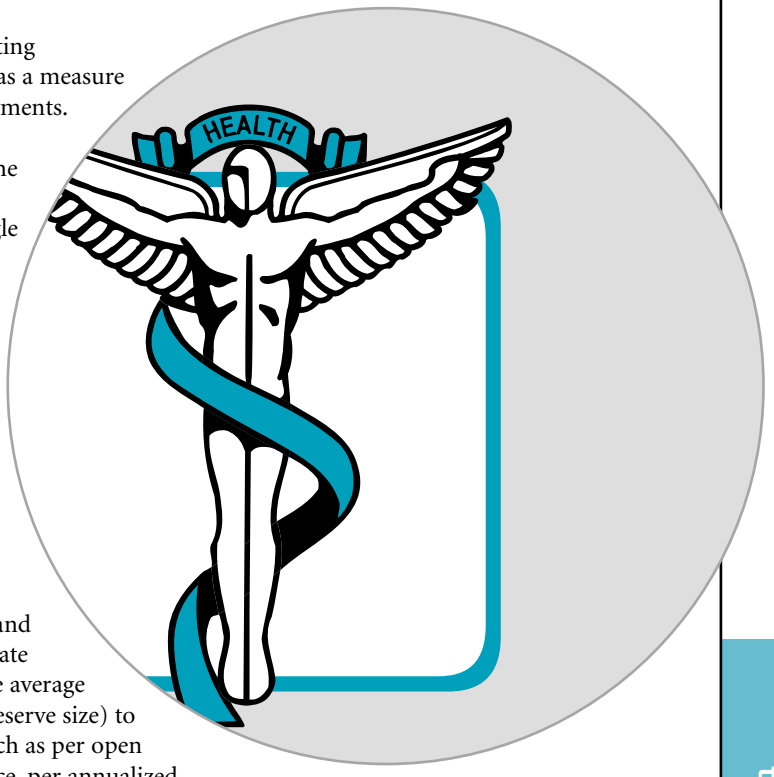
- Not increasing the daily benefit amount or maximum lifetime benefit for policies with inflation protection once on claim.
- Not extending the benefit period for policies that express the maximum benefit period in dollars when the actual dollar expense is less than the daily (or monthly) maximum, or when services are not received on all calendar days.
- Not handling the elimination period appropriately.
- Not handling the integration of nursing home and home health care benefits in comprehensive policies appropriately.
- Not determining the actual incurred date appropriately. This is especially significant for a claim in which the claimant has changed care paths.

Lag or claim run-out method

Using a lag or claim run-out method for LTC liabilities is generally not recommended as a primary method. However, it can be a very valuable tool when used in conjunction with the tabular method. First, the method can provide a comfort level with the tabular results or, alternatively, can provide an early alert to an inappropriate continuance table.

Second, the lag method gives an indication of the variability of the payments on the block. By running the LTC claims triangle through lag factor calculations, the variation that emerges from the various methods of calculating lag factors can be used as a measure of stability of claim payments.

Third, in order to use the lag factor calculation method, a claims triangle is required. This forces the maintenance of the LTC period claims triangle, which is required for validated liability and accident-year experience studies.



Average claim size, formula, and loss ratio methods

The average claim size and formula methods estimate reserves by applying the average claim size (or average reserve size) to an appropriate base, such as per open claim, per policy in-force, per annualized premium in-force or past claim counts.

These methods are, therefore, appropriate for the estimation of IBNR claims, and also are used as reasonableness checks on the tabular method. A cautionary note should be included when applying these methods to LTC blocks: Adjustments for duration—both policy duration and duration of claim—need to be considered. The average claim size is sensitive to policy duration and claim duration.

Individual claim estimates

Individual claim estimates, or "case reserves" are made by the claims department (or legal department) based on its judgment of the remaining payments. LTC insurance has two unique applications for case reserving. The first occurs when there is delay in reporting claims because the insured was not capable of filing a claim and/or the family members or power-of-attorney were not aware of the policy. The company may not learn of a legitimate claim until well after the incurred date, and often after death.

The second application is when a company has an active care management program in place. The plan of care prepared for a policyholder will give the estimated duration of the claim up to one year. This estimate from the plan of care

Typically, a pegged loss ratio may be used for the four most recent monthly durations, but may be extended if circumstances warrant.

The loss ratio method estimates incurred claims based on expected loss ratio, and calculates the reserve by subtracting the paid-to-date from the estimated incurred. For the most recent claim durations, loss ratios (or claim costs) are pegged based on the trend of recent experience.

Typically, a pegged loss ratio may be used for the four most recent monthly durations, but may be extended if circumstances warrant. IBNR estimated by the loss ratio method is typically a significant portion of the total IBNR.

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Long-term care disabled life reserves

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may then be used to establish a reserve for claims of expected duration of one year or less. The tabular method (with modified continuance) is used for claims expected to be greater than one year in duration. This methodology provides a solution to the problem of an appropriate continuance curve for the first year of a claim, but is dependent on good care management and a flexible administration system.

Validation

The NAIC Health Insurance Reserves Model Regulation requires a validated liability calculation. This is a recalculation of the reserves established at prior valuation dates given the updated claim payment information through the current valuation date. It is also recommended that companies calculate accident year loss ratios (and claim costs) at each reserving date, and compare emerging experience quarter by quarter as another method of validation.

Health actuaries are familiar with these calculations; however, too many LTC companies have not made them a routine part of their quarterly work flow.

One reason for not performing this calculation is that companies are not maintaining an LTC claims triangle. Without such a triangle, it is difficult to make the interest adjustments to payments that are required to calculate the validated liability properly.

The validated liability calculation alerts the company about a pattern of deficiency and redundancy. For the older claim

SOA study analyzes demographic experience of continuing care retirement community residents

A study published last year by the Society of Actuaries provides financial and demographic analyses of continuing care retirement communities (CCRC) and other senior-citizen congregate living arrangements.

"Collection and Analysis of Demographic Experience of Continuing Care Retirement Community Residents," by Harold L.Barney and Dave Bond, was jointly funded by the National Institute of Aging and the Society of Actuaries.

The authors examined data from 72 facilities and developed actuarial decrement rates for mortality, morbidity and withdrawal patterns. The study examined whether these rates would vary by age, gender, type of residential contract, medical screening, geographical location and differences in the health care delivery system.

The study yielded several significant results. For example, the observed actuarial decrement rates varied significantly from facility to facility. This may indicate differences in admission standards, but this conclusion is beyond the scope of the actual study and yet to be proven.

Another noteworthy result was that there were no statistically significant differences observed for the decrement rates between extensive, modified and fee-for-service resident contracts. As was expected, mortality and morbidity rates were consistently higher for rental facilities compared with other forms of resident contracts.

There also were some interesting comparisons between the mortality rates of CCRC residents and annuitant buyers. The findings in this area are still open to speculation and interpretation, with some reservations being expressed about the consistency of the findings from the study compared with previously found decrement rates and life expectancies from proprietary databases.

A surprising development discovered by the research team involved the selection patterns typically observed in insurance industry experience (and assumed by actuaries involved in CCRC analysis). These typical patterns were not found in this CCRC data experience.

A more expected outcome was the significant differences found in the voluntary withdrawal rates between the contract types. As would seem to be logical, rental contracts had the highest withdrawal rates, and fee-for-service contracts (with no health care guarantees) had higher withdrawal rates than the extensive contract.

Finally, the length-of-stay analysis illustrated a distinct correlation between both the resident contract type and the health care configuration of the facility, and the time spent in the health center (assisted and skilled care) during the resident's lifetime. Contrary to expectations, residents with contracts offering extensive health care guarantees spent less time in health centers that did their counterparts with alternative contracts.

At the time of his death, Harold L. Barney of Actuarial Forecasting & Research had completed the collection and verification of the data used in the study. Dave Bond, managing partner of CCRC Actuaries LLC, Finksburg, Md., completed the analysis and presentation of the results. He can be reached at dave.bond@ccrcactuaries.com. *To access the complete study report, visit the Web site* http://www.soa.org/research/nia_report.pdf.

durations where an IBNR does not appear, deficiencies/redundancies are directly attributable to problems with the continuance table. If problems are appearing in more recent claim durations, it must be
determined whether the problem is with continuance or IBNR.

Take-home lessons

This article has provided an overview of problems that occur when calculating LTC disabled life reserves. The following summarizes potential solutions:

- Archive the open claim deck monthly. The data contained in the open claim deck is a valuable resource for future claim studies, such as continuance and the difference between actual charges and daily maximums in the block.
- Maintain the LTC paid claims triangle for ready calculation of vali dated liabilities, calculation of disabled life reserves by lag factor method and accident-year experience monitoring.
- Perform validated liability estimates for both the seriatim-tabular reserve (to check the continuance tables) and the IBNR component (to check the IBNR methodology).
- Do not rotely calculate LTC reserves, neither the tabular nor the IBNR portion, but consider the most appropriate methods at each quarter. Available data and emerging experience may dictate changes.

Finally, the calculation of disabled life reserves is only as good as the software package or spreadsheet used for their calculation. It is recommended to use a product designed specifically for LTC, and one that efficiently allows the comparison of different methods or approximations (such as an adjustment for pot-of-money versus calendar-year benefit periods) that may have been used by the company in prior valuation periods.

Deborah A. Grant, FSA, MAAA, is an actuary with Milliman USA, Chicago. She can be reached at deborah.grant@milliman.com.
This article is an abridged version of an article entitled "LTC Disabled Life Reserves," available at the Milliman USA Web Site, http://www.milliman.com.

New newsletter to serve life insurance practitioners

The Life Practice Area is getting ready to launch a newsletter to serve the SOA members who have identified "life insurance" as their primary area of practice. This membership group includes those whose focus is annuities, as well as any individual insurance product with a significant mortality risk or a long-term contractual obligation that gives rise to investment-related issues.

The newsletter is expected to be published two or three times per year, with the first issue targeted for May 2003. A name for the publication has not yet been chosen. Please e-mail your suggestions to Narayan Shankar at *nshankar@soa.org.*

The goals of the publication are to:

- Create a Life Practice Area (LPA) identity, a community of actuaries with common life company professional needs (generally employed by a life insurance company or an organization serving life insurance companies).
- Build a dialogue around LPA direction and communicate initiatives undertaken by the LPA and its leadership.
- Communicate SOA initiatives relevant to LPA members.
- Communicate "emerging issues," who is working on them, and how to find out more information. Also, we plan to relate how the SOA is getting involved in addressing them (if at all).
- Communicate the "life industry" environment insofar as it affects LPA members.
- Communicate the achievements of LPA volunteers, particularly on the various committees and task forces.
- Provide information that is helpful in "career-pathing."
- Seek feedback from LPA members on professional needs, including research needs and desired education and examination content.

We think this newsletter will fill an important need and are excited about enhancing our service to members in this fashion. Be sure to read your copy when you receive it, and provide your feedback on how it can be improved to meet your needs better.

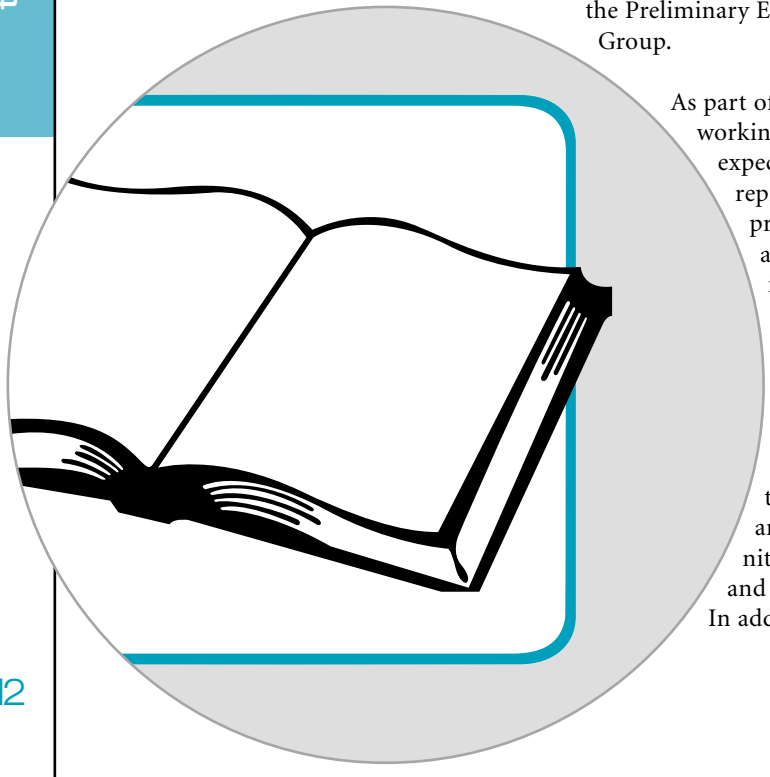
Key issues identified by SOA task force studying E&E system

by Stuart Klugman and Stephen A. Eadie

This is the first in a series of articles addressing changes to the E&E system. Look for follow-up articles in future issues of The Actuary.

At its October 2001 Board of Governors' meeting, the SOA established two working groups to pursue changes in its education and examination (E&E) system. This article describes the events that led to the formation of the groups, the accomplishments of the groups to date and key issues still under consideration.

The SOA's Joint Task Force on Academic Relations released a white paper in March 2000 proposing a number of ideas and initiatives, several of which related to E&E activities.



The result was the formation of two working groups to address a variety of issues and consider making major changes to our education system: the Actuarial Education Working Group and the Preliminary Education Working Group.

As part of their charge, the working groups were expected to involve broad representation from the profession. This was accomplished by ensuring that each working group had two members each from the four practice areas (life, health, retirement system and finance/investment), two from the education and research community, two from the AAA, and two from the CIA. In addition, the Casualty Actuarial Society provided four members to the Preliminary Education Working Group, and the actuarial associations of the United Kingdom and Australia provided observers to both groups. In addition, working with SOA staff actuaries, advisory groups were created for the four practice areas. These groups (averaging about 15 members per group) continue to provide exceptional input into this process.

To further the discussion, the Task Force on Education and Qualification 2005 was formed; its report was distributed to the membership in August 2001, and the Board discussed the recommendations at its September 2001 meeting. (The report can be found on the SOA Web site at *http://www.soa.org/eande/task-force_2005.pdf.)*

In that discussion it became clear that, while the Board was interested in many of the suggestions, the syllabus changes in 2000 had created additional concerns.

As part of their charge, the working groups were expected to involve broad representation from the profession.

The rest of this article outlines the key issues surrounding the E&E initiative. At this time, the Board has not formally approved any of the following recommended changes, but has endorsed the general direction the working groups have taken.

1. Strike an appropriate balance between practical and theoretical material. This has been one of the most difficult issues and is one the working groups continue to ponder. This balance is fundamental to our education system because we must expose our candidates to current practices so that they may participate in the profession's businesses. We must also expose them to the underlying theories so that they may actively participate in the management of change to our current practices and the development of new areas of practice, should they be so inclined.

- With regard to preliminary education, this issue mostly affects the modeling course (those parts of current Courses 3 and 4 not relating to life contingencies).

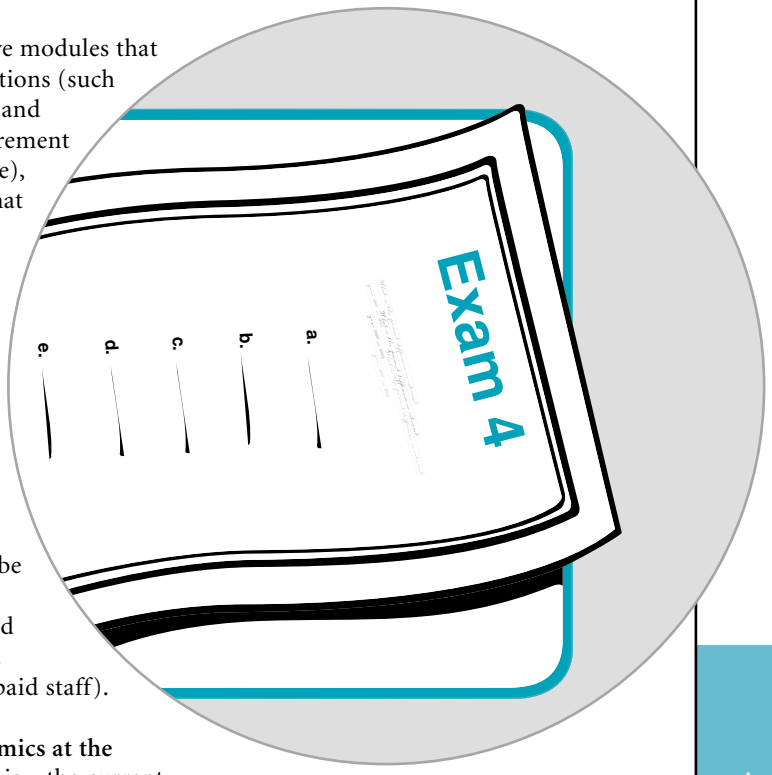
- With regard to later education, this issue relates to the balance between general principles and current practice. A corollary is that, when theory

is presented, the strengths and weaknesses of current practical application should be made apparent.

2. Incorporate elements of "business savvy." The market research done by the SOA indicates that employers want more than number crunchers. They want communication skills and knowledge of business practice. The working groups recognize that much of this is not relevant when it comes to qualifying actuaries for practice, but also recognize that our education system serves other purposes. The ASA Course (see No. 4) is an attempt to satisfy this need. At its Jan. 7, 2003 meeting, the Board deemed that to be sufficient and that no separate education on these issues is needed.

3. Consider alternative verification mechanisms. The working group has recommended that there be three levels of verification. They are (1) prerequisite (not verified in any way, but candidates are strongly advised of their importance), (2) experience (normally through an approved course offered by a university, college, or other entity) and (3) examination. Current working group thinking is that calculus will be prerequisite; economics, corporate finance and mathematical and applied statistics will be verified by experience; and probability, math of finance, contingencies and modeling will be examined. The verification systems for the exercises proposed under the ASA Course (see No. 4) would become part of the formal examination process.

4. Do a better job of introducing candidates to financial security systems. The current Course 5 contains dry readings followed by a memory test. The working groups propose the "ASA Course." It is a year-long set of interactive modules that presents a variety of functions (such as pricing and reserving) and applications (such as retirement benefits and life insurance), followed by an exercise that actually requires candidates to do something relevant. The candidates' work on the exercises would be verified. The course concludes with a seminar. The communication aspects of the current Course 7 would be retained with a focus on practice skills. There are a lot of details yet to be worked out as well as estimates of the associated costs, both in dollars and staffing (volunteers and paid staff).



5. Cover financial economics at the appropriate level. Some view the current Course 6 as providing more coverage than is needed to apply the common methods currently used in their area of practice. At present, the working groups are leaning toward incorporating financial economics throughout the syllabus, as appropriate, rather than having specific courses. We must decide how much financial economics is fundamental to our profession. Furthermore, to fulfill the next objective, the split between ASA and FSA must be decided based on how much material for many topics should be included for all Fellowship candidates.

Employers want more than number crunchers. They want communication skills and knowledge of business practice.

6. Position the ASA so that it comes sooner in the process. The current position appears to be eliminating the "career ASA." The Board has asked the working groups to make the ASA meaningful, yet be as close to the halfway point to Fellowship as possible.

7. Increase the number of practice-specific exams. The current system has only one practice-specific exam with the expectation that candidates will select practice-oriented subjects for their professional development (PD) plans. The Board has asked for more practice-specific concentration in recognition of the increasing specialization within the profession, which we believe should be accomplished through the adoption of practice-specific Fellowship tracks. The practice area advisory groups have created syllabi that are extremely oriented to their specific practice needs. They are now looking for common elements so that some common post-ASA courses and/or portions of courses can be constructed.

8. Explore the creation of other tracks. An emphasis on practice areas in the Fellowship tracks may leave out some key constituencies. The working groups are exploring the possibility of other tracks (e.g., a generalist track.) The first

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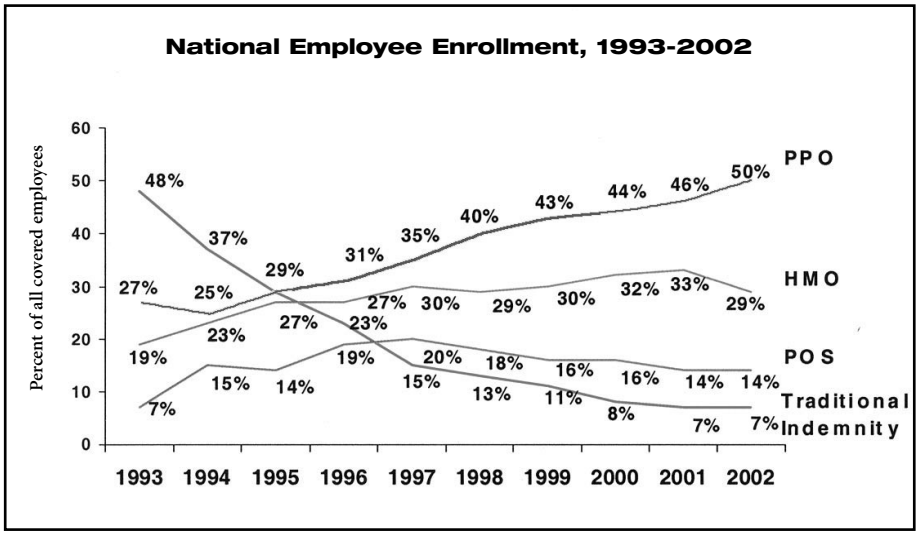
Employer-sponsored health plans in flux

continued from page 7

Figure 4



Source: Mercer Human Resource Consulting, 2002

In addition, large employers, who typically hold contracts with multiple HMOs, have responded to significant increases in renewal rates by dropping some HMOs—presumably those with the highest renewal rates. Among employers with 500 or more employees, the median number of HMOs offered to employees at any one location has fallen from two to one. Among the very largest employers (those with 20,000 or more employees), the average total number of HMO contracts held, across all locations, has fallen to 24, from 34 in 2000.

An employer who offers three HMOs and drops the most expensive one can achieve flat or low growth in its total HMO cost the following year, even if cost rises 20 percent in the remaining two HMOs. By pruning costly HMOs and making plan design changes, large employers were able to hold the average HMO per-employee cost increase to 8.1 percent in 2002 (by contrast, average PPO cost rose 14.9 among this group). Smaller employers, who typically offer a single HMO, were hit with a 25.9 percent increase in cost.

PPOs gain enrollment

In 2002, exactly half of all covered employees were enrolled in PPOs, up from 46 percent in 2001 (see Figure 4). HMO enrollment fell from 33 percent to 29 percent. Enrollment in POS plans, which has been falling since 1997, held steady at 14 percent (from 1997's peak of 20 percent). Just 7 percent of employees remain in traditional indemnity plans, unchanged from 2001.

The drop in HMO enrollment occurred throughout the country, including the West, where the HMO market is strongest. Now just 39 percent of covered employees in the Western region are in HMOs, down from 43 percent in 2001. PPO enrollment reached 43 percent, surpassing HMO enrollment for the first time.

This switch occurred in the Northeast as well, as HMO enrollment fell from 37 percent to 33 percent, and PPO enrollment rose sharply from 32 percent to 41 percent (drawing enrollees from traditional indemnity plans and POS plans). PPO enrollment is highest in the Midwest, at 57 percent (up from 53 percent), and the South, at 55 percent (unchanged from 2001).

Employers to shift more cost to employees

A fourth of all employers (and nearly half of large employers) said their workers would pay a larger share of health plan costs in 2003 through higher premium contributions.

Raising employee premium contributions, because of the immediate effect on employees' paychecks, is a more drastic move than simply increasing copays and deductibles; an increase in the copayment actually will affect only those employees who go to the doctor often. At companies that increase contributions, every employee's paycheck is likely to be hit. However, despite the fact that many employers threatened in last year's survey to raise premiums, the average employee contribution as a percent of premium did not rise in 2002. It may be that employers weren't pushed far enough yet to risk angering employees with contribution increases.

At companies that increase contributions, every employee's paycheck is likely to be hit.

Instead, employers stuck mostly to raising copays and adding deductibles. In HMOs, the median copay for a doctor visit rose to $15 from $10. Plus, as noted previously, many employers had their HMOs introduce hospital deductibles.

Some PPO cost-sharing provisions got a bit stiffer as well. The median family in-network deductible rose from $900 to $1,000. The percent of PPO sponsors

requiring employees to pay a share of in-network hospital charges rose from 67 percent to 76 percent, and the median out-of-network maximum rose from $2,000 to $2,850 per individual.

A fifth of all employers say they will shift more cost to employees through similar cost-sharing provisions in 2003. The larger the employer, the more likely it is to make changes—44 percent of all large employers, and 56 percent of those with 20,000 or more employees, say they will do so.

Prescription drug costs skyrocketing

This year saw another big increase in the use of a three-tiered copayment design, under which employees pay a set amount for a generic drug, a higher amount for a brand-name drug listed on the plan's formulary, and a still higher amount for a brand-name drug not on the formulary.

Among large employers, three-tiered copayments are now used in 51 percent of drug card plans, up sharply from 40 percent in 2001. Average copayment amounts rose slightly as well. In three-tiered card plans, the average copayments are $10/$19/$35, up from $9/$17/$31. While tiered copayments are a way to shift cost to employees, they also promote greater consumerism by providing financial incentives to choose less expensive drugs. Prescription drug benefit cost increases for large employers abated slightly for the second year in a row. Cost rose 16.8 percent, following an increase of 17.8 percent in 2001 and 17.5 percent in 2000. And employers expect an increase of 17.3 percent in 2003.

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CIA seeks planners, presenters and papers for 2003 Stochastic Modeling Symposium

Members of the Committee on Investment Practice of the Canadian Institute of Actuaries (CIA) invite you to mark your calendars for the 2003 Stochastic Modeling Symposium, to be held Sept. 4-5, 2003, in Toronto.

The objectives of the symposium are to (1) build on the 1999 Symposium on Stochastic Modeling for Variable Annuity/Segregated Fund Investment Guarantees and (2) develop and promote other actuarial applications for stochastic modeling techniques.

The CIA, the SOA and the Actuarial Foundation will cosponsor the symposium and its associated call for papers which can be found at *www.actuaries.ca/publications/2003/203013e.pdf*. Papers presented at the symposium will cover three main topics:

- Advanced Concepts in Stochastic Modeling for Variable Annuity/Segregated Fund Investment Guarantees.
- Use of Economic Models to Calculate Actuarial Liabilities and Capital Requirements.
- Use of Stochastic Models in Risk Measurement and Management for Life Insurance Companies.

The symposium also will feature teaching sessions, not necessarily tied to the papers, where expert practitioners will present practical actuarial applications of stochastic modeling.

Anyone interested in writing a paper, helping out with planning the symposium or presenting at the symposium, may e-mail one of the following organizing committee members:

- Robert Berendsen (*Robert.Berendsen@mercer.com*)
- Josée Deroy (*josee.deroy@axacorporatesolutions.com*)
- David Gilliland (*dg@ggy.com*)
- Martin Roy (*mroy@ymg.com*)
- Ken Seng Tan (*kstan@icarus.math.uwaterloo.ca*)

Key issues identified by SOA task force studying E&E system

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step in this process is to identify those groups that are left out and determine their needs. It is not clear at this time if another track will be recommended.

9. Create a syllabus that meets the standards likely to be adopted by the International Actuarial Association. The syllabus should match, to the greatest extent possible, the work being done by other English-speaking actuarial bodies. This has been accomplished through regular meetings of a joint task force that assures communication among the parties.

The working groups continue to discuss the issues raised above. They report at each Board meeting in order to gain feedback and direction. For example, at the January 2003 Board meeting, definitions of the ASA and FSA designations and their consequences were discussed.

When more progress is made and more specifics are determined, the membership will be invited to respond. Additional updates will also be provided on the SOA Web site at *www.soa.org*

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Stephen A. Eadie is with Robertson Eadie & Associates, Oakville, Ont., Canada and chairs the Actuarial Education Working Group. He can be reached at seadie@rea.com.

Strength in numbers—quality health care in high demand

In the April 2003 issue of the *North American Actuarial Journal*, two authors take a pragmatic approach to health care on an international level, expounding on the high demand for quality health care.

In "Designing a World-Class Health Care System," Howard J. Bolnick examines the important role actuaries can play as national health care systems continue to evolve. He explores the potential for and performance of health systems around the world as well as the advantages and disadvantages of public and private health financing.

Bolnick develops a framework for improvements in today's mix of health care financing and high-level principles for a better-coordinated relationship between public and private programs.

In "Adult Polycystic Kidney Disease and Critical Illness Insurance," Cristina Gutiérrez and Angus Macdonald analyze the financial relationship between the narrow definition of genetic testing and critical illness (CI) insurance.

Gutiérrez and Macdonald propose a multiple-state model for CI insurance to consider the costs arising in underwriting, whether or not adult polycystic kidney disease (APKD) risk information is used. The authors expand on the causes of claims on the basis of the relational models of age, gender and family history emerging from adverse selection other than APKD.

Abstracts of these articles are currently available on the SOA Web site at *http://www.soa.org/bookstore/naaj03_04.html*. If you are interested in any of the articles appearing in the April 2003 issue of the *NAAJ*, we invite you to submit a discussion of the article for publication in a future issue. Please contact Kimberly J. Wargin, editorial assistant, at *kwargin@soa.org* for a copy of the entire article.

Boston Annual Meeting *Record* sessions are now available at *http://www.soa.org/bookstore/record.html*.

SOA task force working on structural improvement opportunities

by Karen Gentilcore, SOA senior project manager, practice areas

Things sure do change in 11 years. Think back to 1992. The S&P was in the 400s. Johnny Carson made his final appearance as host of the Tonight Show. Tiger Woods became a PGA golfer at the age of 16. George Bush was president,...Okay, so some things don't change.

Late in 1992, the Society of Actuaries moved from an organization structured solely by function to one that interfaced practice area concerns with functional concerns. While direction setting stayed with the committees and officers, the staff assumed responsibility for implementation.

Practice Advancement Committees (PACs) in each of the four areas of practice—finance, health, life and retirement—were established and given the mission of advancing actuarial practice of SOA members in their practice areas. A member of the Board of Governors heads each PAC. While the internal workings of the practice areas may have been invisible to many of our members, their output has been vital in advancing the research, education and professional development of the actuarial profes sion.In contrast, sections are practically senior citizens. The first section was created in 1981 (the honor goes to the Health Section) to better fulfill the educational needs of the specialty. We now have 16 sections, and most put a great deal of effort into organizing continuing education sessions for the SOA Spring and Annual meetings. Each section, through its elected council, maintains its own budget and decides which activities it wants to pursue. A section may also publish newsletters, put on symposiums and commission research projects.

Sections tend to have a bottom-up, grassroots approach. Practice areas are seen as having a top-down perspective.

You are no doubt intimately familiar (aren't you?) with the SOA strategic plan (*www.soa.org/strategic/strategic_plan.html*), but are you aware that there is an initiative in progress to address item No. 12? A task force was created to find a way to meet the following objectives on this strategic item: Leverage section strengths, incorporate the long-term perspective of the practice areas and directly link to the governing body. Task force members considered several alternatives and made recommendations that best met these objectives. Check out their report at *www.soa.org/committees/itfspa.html.*

Now that the structure has been in place for a while, it's time to evaluate the results. Is this still the most productive way to fulfill the mission of the SOA?

Sections tend to have a bottom-up, grassroots approach. Practice areas are seen as having a top-down perspective. But the distinctions often get fuzzy. Sections and practice areas are both doing research. Sections and practice areas are both putting on symposiums. Now that the structure has been in place for a while, it's time to evaluate the results. Is this still the most productive way to fulfill the mission of the SOA? How can we take the best of both to serve the needs of our members?

The Implementation Task Force (ITF) on Sections and Practice Areas is now working through some of the key improvement opportunities and implementation issues: communications, roles and responsibilities, alignment candidates, representation and finances. In addition to the ITF, we regularly seek additional ideas and comments from the ITF Review Group and section councils.

No matter how we structure our organization, there is a need to communicate with our members. We need to do a better job of telling you what's going on at the SOA in your area of practice. So if you're reading this (and you are reading this, aren't you?), we've made a start. Expect to see periodic articles and e-mails on our progress, and we invite your feedback. For additional information on this strategic initiative, contact me at 847.706.3595 or *kgentilcore@soa.org.*

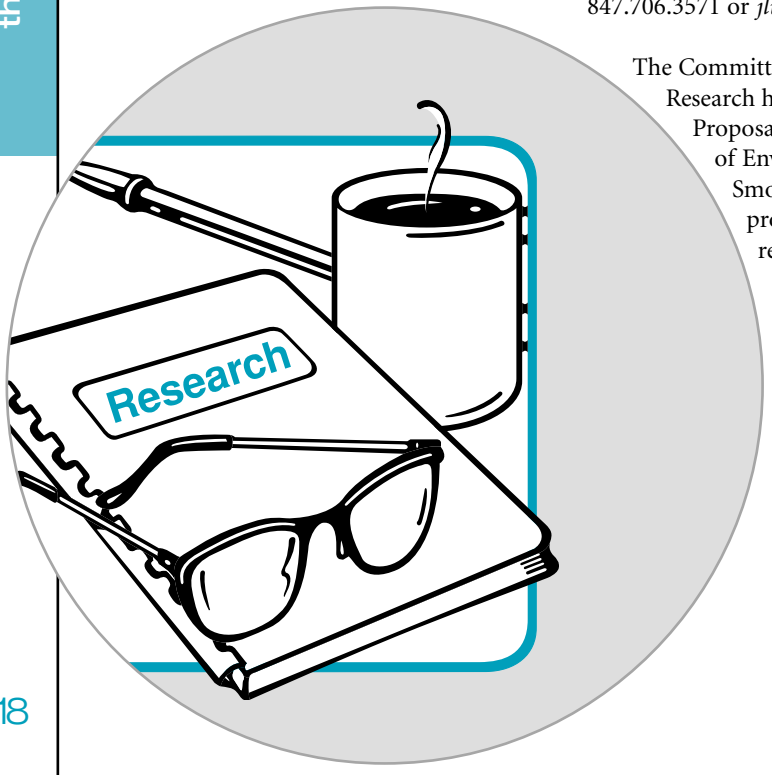
SOA releases new studies

Finance

The "Retirement Planning Methodology and Software" report, produced in collaboration with LIMRA and InFre International, has been completed and is now on the SOA Web site at *www.soa.org/bookstore/mono.html*. The report is particularly relevant given current events, and it is sure to stimulate much discussion.

Health

The Continuing Care Retirement Communities Task Force has completed its study (see story on page 10 in this issue.) The objective of this study was to develop a valid resident experience database to allow financial and operational analyses of CCRC and other senior congregate living arrangements based on data specific to these facilities. Utilizing experience from 72 facilities, the study developed actuarial decrement rates for mortality, morbidity and withdrawal patterns. This report can be found on the SOA Web site (*www.soa.org*) under "Research."



The SOA Group Life Experience Committee is preparing a new group term life mortality study and a premium waiver experience study. The former will be an update to the 1985-89 Group Life Experience Study. The specifications for these studies can be found on the SOA Web site (www.soa.org) under "Research."

The SOA Group LTD Experience Committee is preparing a new group LTD experience study. This will lead to an update of the 1987 Commissioners Group Disability Table. The specifications for these studies can be found on the SOA Web site (*www.soa.org*) under "Research."

Life insurance

The Technology Subcommittee of the Society's Committee on Life Insurance Mortality & Underwriting Surveys has completed its report. Its purpose was to explore the various uses of technology by life insurance companies, as well as examine its impact on mortality studies and underwriting. This report can be found on the SOA Web site (*www.soa.org*) under "Research."

If you have any questions, contact Jack Luff, SOA experience studies actuary, at 847.706.3571 or *jluff@soa.org*.

The Committee on Life Insurance Research has issued a Request for Proposals (RFP) on the "Effects of Environmental Tobacco Smoke." The goal of the project is to produce a report that reviews currently published research and provides an analysis of its actuarial and statistical relevance to the insurance industry. The RFP can be found on the SOA Web site at *http://www.soa.org/research/eetsmm_rfp.html*.

Retirement

A contract has been signed with Victor Modugno to complete the "Factors Affecting Retirement Mortality—Phase II" project.

AERF activity

Wooddy Scholarships

The Actuarial Education and Research Fund (AERF) is pleased to announce the Wooddy Scholarship program for the 2003-2004 academic year. AERF will award up to four $2,000 (U.S.) scholarships to undergraduate students who will have senior standing during the 2003-2004 academic year.

The deadline for applications is Friday, June 27, 2003. Winners will be notified by Aug. 31, 2003.

Applications for the Wooddy Scholarship are available on the AERF Web site, *http://www.aerf.org/grants&competitions.html*, or from Sheree Baker, AERF's academic relations and research coordinator, 847.706.3565, e-mail: *sbaker@soa.org*.

Global reach requires global outreach

by Harry Panjer

Spring should have arrived where I live by the time you read this. I'm writing this column on the evening of Saturday, Feb. 15, in the People's Republic of China. It is the last evening of the Spring Festival that follows the Chinese New Year celebrations.

From my 13th-floor hotel room, a blind person would think that a war has started. The sound of constant gunfire, both small and large weaponry, has echoed through my room for the past several hours. It is actually the sound of fireworks going off throughout the city—in streets, in alleys and from rooftops.

My initial thoughts were that this would never be allowed in the United States or Canada. It would be considered just too dangerous. Yet, I expect to hear about no serious damage or injuries tomorrow. We have different cultures, attitudes, perspectives and approaches to issues facing us. The only expression I hear from the Chinese about the fireworks is, "Very beautiful."

The actuarial profession has become highly respected in China as the insurance sector has expanded. There are now almost 30 life insurance companies, more than half joint-venture companies with American, Canadian or European partners. Just this year, the non-life sector was liberalized, and there is now a great need for trained P&C actuaries.

Some 15 years ago, the SOA became the first foreign actuarial association to assist China in developing actuarial professionals by sending instructors and books to one university. This investment has paid off handsomely. There are now about 20 universities offering actuarial programs in China. Last year, there were about 1,400 individuals writing SOA exams in China!

Although the SOA's motivation in supporting the development of actuarial science in other countries has been the development of the local profession, an additional result will be significant growth of SOA membership outside North America. The SOA and its predecessor organization, the Actuarial Society of America, were organized as bi-national bodies, hence, the eagle and the maple leaf on the SOA crest.

There is similar, but less dramatic, growth in SOA exam-takers in other countries. In 2002, close to 20 percent of Course 1 exam-passers were from outside Canada and the United States. This percentage has been increasing dramatically over the past few years (see Table 1). For the first time, the number of successful Course 1 Canadian candidates has been surpassed by the combined number in the remainder of the non-North American world.

Table 1

Course 1 Distribution by Country (%)

Country	2000	2001	2002
U.S.	69.9%	67.4%	64.8%
Canada	18.4	17.6	16.5
Other	11.7	15.0	18.8

Growth rates by country in the absolute number of Course 1 exam-passers show dramatic differences between North America and the rest of the world (see Table 2). The rate of growth is more than double that of North America.

Table 2

Course 1 Growth by Country

Country	2000-2001	2001-2002
U.S.	30%	31%
Canada	30	28
Other	74	71

As actuaries, we know that, down the road, more rapid growth outside North America than in it will translate into changes in the demographics of the SOA. This will result in a greater diversity of members' locations in addition to greater diversity in cultures, attitudes, perspectives and approaches.

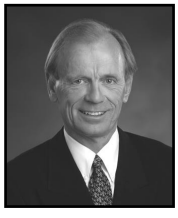
Is this what we want for the SOA? International growth is a two-edged sword. It can be good for business. North American companies, both insurers and consultants, wishing to do business in new markets can have access to local actuarial talent if we (SOA members) are there already. The globalization of individual corporations, of many industries and of the entire economy, will undoubtedly create an increased demand for broadly recognized and highly respected professional designations such as the FSA.

At the same time, however, the SOA Board will need to think about how, in the future, the SOA can provide services to members in many parts of the world. It will undoubtedly require a broadening of the focus of meetings, seminars and other continuing education offerings.

My own perspective is that growth of the SOA is good for the organization. Even though internationalization may not be of direct interest to most individual members, as it doesn't benefit them personally, I think that the SOA's credentials become more highly valued overall as they become more broadly recognized. This creates the opportunity for greater influence by the Society.

It is a great credit to the SOA that persons in so many countries are choosing to take our exams.

Remember the old Chinese curse: "May you live in interesting times."



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