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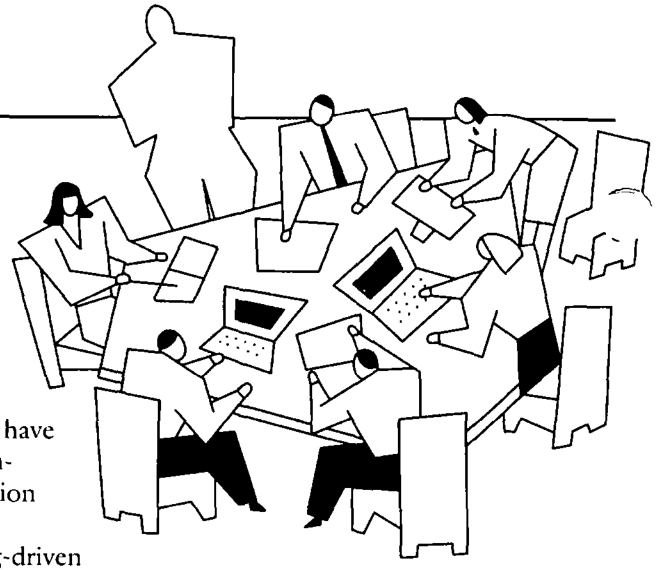

An absence of actuaries?

by Linda Heacox
Public Relations Specialist

Over half a million U.S. life insurance policyholders will die from cancer this year; more than $1 billion in AIDS-related claims will be made; and thousands of life policyholders will die from Alzheimer's and heart disease. In an age when illness can linger much longer and use up resources much faster, many entrepreneurs see a market emerging. So far, it's been a market where actuarial sightings are few and far between.

As alternatives for financing terminal or critical illness begin to appear, the absence of significant actuarial input is obvious. In May 1996, *The Actuary* looked at one alternative — viatical settlements — and discovered that no major viatical company employs actuaries. A few, such as Skokie, Ill.-based Neuma, Inc., occasionally contract with consulting firms for actuarial services, and others, such as Viaticus, Inc., a wholly-owned subsidiary of CNA, have recourse to their parent's actuarial expertise.

Since *The Actuary's* May report on the viatical industry, one of its major players, Dignity Partners, Inc., San Francisco, has stopped purchasing policies of AIDS victims. Bradley Rotter, Dignity's president, told the San Francisco media the rationale behind the decision was that medical breakthroughs were allowing AIDS patients to live longer, reducing the profit margin for Dignity. Since more than 95% of its business was buying policies from AIDS victims, the value of its publicly held stock has plummeted.

When Dignity Partners publicly offered its stock, of course, a prospectus was prepared. But was there actuarial input of any kind? Were the right questions even asked during due diligence meetings? Could an actuary have done a better job of forecasting the differences in the market that could occur because of advances in AIDS treatments? Would he or she have parceled out the risk to a reinsurer, making Dignity's position safer for its stockholders?

"It's an entirely marketing-driven industry," said Per Larson, a New York financial advisor and author who works with the terminally ill. "When I am asked to viaticate a life policy for someone and I put it out for a competitive bid, the range of bids I get in the first round is vast."

As an example, he cited the bids he's received for a recent sale. "The policy has a face value of $1 million. The first round of bids was 36%, 58%, 71%, 73%, and 73%. If I were an actuary, I'd be very interested in this market."

David Binter, president of Neuma and a past president of the Viatical Association of America, believes the field has no actuaries because it isn't old enough to have a sufficient quantity of data. His firm contracts with a Chicago office of a large consulting firm for actuarial services when necessary.

"Years ago, the first question we asked the actuaries was, 'what sample size is required?' I did not want to find out I was in a business where there were 3,000 lives needed to be statistically diversified. I didn't want to have to rely on any one life. Their answers led to the next set of questions on the confidence intervals on doctors' estimates. Last spring, the firm completed an actuarial study on my portfolio."

Loaning for life

Despite their absence in the viatical settlement industry, however, actuaries are emerging in a tangential industry. Toronto actuary Daniel Kahan is president of Canadian Life Line (CLL), a company that loans money to terminally ill policyholders against their life policies. It is an arrangement that Kahan and fellow CLL actuaries Brian Brown, Keith Deviney, and Derek Clayton say is preferable to buying the policies outright.

CLL joins a handful of other U.S. companies offering this service. LifeWise, Salt Lake City, formerly a viatical settlement firm, has been in the lending business less than a year but already has loaned money on more than 240 policies, but without actuarial input.

Mark Livingston, president and chief operating officer of LifeWise, believes loaning is "inherently more fair" than viaticating. "Unlike viaticals, there is no personal liability. The loan payment is all due on maturity; there are no regular payments while the debtor is alive. And, unlike viaticals, we don't receive a windfall if there is a surplus over the balance due on the loan. That money goes to the beneficiaries," he said.

In an industry where cost of capital is everything, Livingston said, there is a deficit of long-term institutional lenders, perhaps because they don't like trying to gauge the value of life policies as collateral. Or perhaps, as Kahan believes, because they don't like the negative publicity that can be associated with this type of loan.

How they work

In a loan of this kind, applicants' medical histories (case studies) are sent to doctors for review. Most loan companies say they are careful in their selection of the physicians who review the case studies. LifeWise uses full and associate professors at Louisiana State University medical school to do the review. The doctors make their recommendations to the credit officers, who then are supposed to apply a fairly rigid set of standards to determine whether to make or deny the loan.

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Viaticals (continued from page 14)

The credit officers have what Livingston calls "a two-bucket approach" to the analysis. The insurance carrier's status is analyzed and also the status of the individual policy. The whole process usually takes several weeks.

Accelerated death benefits

Meanwhile, over 200 of the 2,000 life companies in the United States offer accelerated death benefits. This business niche isn't considered a prime prospect for large profits. According to Abraham Gootzeit, principal, Tillinghast-Towers Perrin, St. Louis, it is a segment that life insurers see as a service to the terminally ill, rather than a potential market.

Larson thinks more people should consider accelerating benefits, but he knows that many are unaware of their existence. "Patients interested in selling their policies may do well to accelerate the maximum amount and viaticate the rest," he said.

Comparing the options

For the terminally ill, the current three options to raise cash to pay uncovered costs resulting from their illnesses are:

1) Loans against their life policies
2) Accelerating the death benefit, also known as living benefits, so they can use the money while still living
3) Viaticating the policy for a cash or annuity settlement

According to Larson, any of these options, or a combination of them, could be the answer for any given patient. The critical factors are life expectancy and financial status of the patient and his or her beneficiaries.

In a recent article he wrote for *Case Review*, a health care providers journal, Larson said that patients use the sale of life policies to "fulfill life dreams, pay for nonreimbursed medical costs, stabilize their families, reduce stress, and improve the quality of family life. No amount of cash from life insurance can replace medical insurance. Private medical insurance is statistically associated with higher chances of survival."

"A layer cake of funds is usually the best solution," he said. "The key in all layers is liquidity. No one layer is enough. Together, they can enable people to prevent illness from destroying their lives."

In comparing the advantages of each option, Larson said viatication is the most commonly used because of its wide applicability. Loans are desirable under these circumstances:

- Beneficiaries have access to funds other than the proceeds of life insurance.
- Proceeds from sale or acceleration of the policy would be taxed.
- The sale of the policy boosts the seller to an income level that would keep him or her from receiving government needs-based funds.

Accelerating the benefits can be tricky because group policies offer it only rarely; individual policies offer it only sporadically; and it is not available on policies smaller than $25,000.

First NAAJ papers (continued from page 15)

on inheritances, clerical livings, and mortality, and it analyzes the way in which these issues are central to Austen's novels. It uses a contemporary mortality table to assess the accuracy with which Austen's characters estimate life expectancies and annuity calculations. It presents a close study of *Sense and Sensibility*, a novel in which several actuarial issues are central to the plot and are presented in great detail. Finally, it suggests that Austen's own background and family life meant that actuarial issues were important in her life and therefore reflected in her novels.

This paper offers a new argument for the relevance of great literature and a new perspective from which actuaries can explore and understand the history of their profession.

Statistical Independence and Fractional Age Assumptions
by Gordon E. Willmot

This paper considers the issue of statistical independence of the curtate future lifetime and the fractional part of the future lifetime of a general status.

Statistical independence is often employed in actuarial contexts, primarily because it leads to simple relationships between quantities of interest and statistical information that is of a discrete nature, such as a life table. This uniform distribution of deaths (UDD) assumption is the most commonly used because of its simplicity and intuitive appeal, but it can be somewhat restrictive. For example, all deaths or withdrawals may be assumed to be at a particular point in the year, such as the middle. Assumptions of this type are often made in a multiple decrement context. This paper attempts to unify these assumptions and extend their applicability in an actuarial context.

The conditions for independence need to be stated carefully, and the last-survivor status is cited as an example in which failure to do so can lead to erroneous conclusions.

The fractional independence (FI) assumption is defined, and it is demonstrated that many of the formulas for life table functions that hold under the more restrictive UDD assumption are extended easily to the general FI case. The simple relationship under UDD between insurances payable on other than an annual mode and those payable at the end of the year of death is extended to the FI case as well. These results are then used to obtain results for annuities and reserves, again generalizing UDD relationships. It is then demonstrated that many contingent probabilities in the multiple life context are exactly the same under the FI assumption as under the more restrictive UDD assumption. Finally, a very general result that holds in the multiple decrement context is shown to hold under the FI assumption.