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Editorial

100,000 × 100,000 and Heathrow

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I 'm sure that all the readers can eventually get the right answer to the arithmetic problem in the headline above. I have to be careful of the decimal places myself, but I ran this problem by a few people recently and almost everyone who answered got the right answer of 10 billion.

Now $5 billion is the order of magnitude of the profits of the life and health insurance industry. The $10 billion is 100,000 new AIDS cases per year with a cost to the industry of $100,000 each.

The SOA has recently published the reports of the Committee on HIV Research – "U.S. General Population Projected AIDS Mortality Rates" – and the Task Force on the Financial Implications of AIDS – "The Financial Implications of AIDS for Life Insurance Companies in the United States." Thomas W. Reese was the chairperson of the first group; David J. Christianson, of the second.

The Reese report develops three different projections of annual new AIDS cases and deaths for the general population. The middle projection is somewhat less than 100,000 per year. The high projection is around twice that and the low projection about half that level. (Read the reports for the right numbers). The Christianson report develops methods for translating these numbers to be applicable to the operation of a company and the work of the valuation actuary.

There are good reasons for arguing that my initial example of 100,000 × 100,000 gives a result that is too high. It seems to me that it would still be difficult to argue that any plausible reasoning would lead to the conclusion that AIDS will not, in the future, have a major impact on the profits of the industry. Nevertheless, I have recently spoken to several life insurance executives who seem to believe that AIDS is a problem whose time has passed.

Several reasons are given for this. One is that changed behavior will prevent spread of the disease. The report of the task force of the Institute on AIDS raises questions about whether the changes in behavior are sticking or whether that behavior is reverting to previous dangerous patterns. Another argument is that AZT and other, newer medications will control the disease shortly – or a vaccine will be developed. Optimism is a survival trait. Ignoring reality is not. We are not even sure whether the number of undiagnosed cases is closer to 500,000 or 1,500,000. There are too many open questions to assume away the problem. As far as I can tell, no medical expert is yet ready to claim victory over AIDS in the near future. Even if the confidence in medicine is correct in this case, AIDS will not be the end of the story.

In London's Heathrow Airport is a mural showing all the airplane routes connecting Heathrow with the rest of the world. You can be sure that if someone sneezes in Heathrow, the virus will be transmitted around the world in 24 hours.

In this issue of The Actuary, we have reprinted an article that appeared in a recent edition of Science News. In my opinion it is the best magazine published in the United States. The article details the many viruses available for distribution by British Airways and our own airlines. The conclusion seems that there is every reason to expect that another virus or bacteria will come along to produce a suitable disaster as follow-up to AIDS.

We will survive the plagues and have better medical care as a result. However, we must reverse a trend of the early 1980s. Not only were we using the most recent and favorable mortality data in setting rates, but future mortality improvements were a normal part of rate-making techniques. Actuaries in the largest and most respected companies were including resurrection factors in their mortality assumptions.

Maybe those were the good old days that we look back to with fond recollection. Then was then and now is now. We have no reason to expect mortality improvements. With AIDS and other new bacterial and viral infections we can expect higher mortality in the future. In addition, the new infections will spread more rapidly and more widely than others in the past. At the very best we should now accept that mortality rates in the future will be less susceptible to prediction than we are used to. A much greater degree of uncertainty should be attached to future projections of mortality.

Which all comes down to higher margins in mortality assumptions to make up for the increased uncertainty about the values. If term insurance rates have been adequate when we believe mortality is surely going down, they are inadequate when we come to the realization that they are more likely to rise and are surely unstable.

As the Science News article makes clear, don't count on the doctors. They will be the first to go.

CCRC researchers chosen

The SOA Research Committees have selected a research team for the Actuarial Aspects of Continuing-Care Retirement Communities (CCRC) Research Project. The team is directed by William F. Bluhm and Stanley A. Roberts of Milliman & Robertson, Inc.

This major research project will include:

• a review of the literature, with special emphasis on actuarial models for CCRCs and data sources;

• identification or development of a recommended actuarial model or models;

• development of a plan for the collection or development of data sufficient to test the model(s) (coordinated with the SOA's Long-Term-Care Experience Task Force, as necessary); and

• evaluation and validation of the model(s), using sensitivity analysis, simulations, and other approaches, as appropriate.

The team has begun work and anticipates that the project will be completed in 1991. The progress of the project will be monitored by the CCRC Project Oversight Group, chaired by Faye Albert. Reports and preliminary results will be published as appropriate.