SOCIETY OF ACTUARIES

Article From:

The Actuary

February 1987 – Volume No. 21, Issue No. 2

The Actuary
The Newsletter of the Society of Actuaries
VOL. 21, No. 2 February, 1987

FEB 8

CAREER ENCOURAGEMENT COMMITTEE SURVEY

Late in 1985 the Career Encouragement Committee undertook a survey of the 1,400 U.S. and Canadian employers of Society members, to elicit information about the process by which actuaries are hired, and the results of these hiring practices. One of its Subcommittees was particularly interested in relations with colleges and universities, while another is concerned with minority recruiting. The survey, influenced to some degree by these Committee concerns, asked eight questions, some of which required considerable detail for a complete reply.

270 employers responded, most of which were able to answer the entire range of questions. The 20% response rate was a bit disappointing, especially as compared with a 46% response rate to a 1983 survey on the demand for actuaries. Possible reasons for the lower response rate include the lack of a second mailing or telephone follow-up, the sensitivity of some of the information requested, and the more voluminous detail.

The 270 responses out of a 1,400 population can not be considered to be a large or a random sample, so the results of this survey must be cautiously interpreted. The sample size, however, is not small. The responses covered nearly 500 newly hired actuarial students and about 1,300 exam attempts, all during the 1985 calendar year. Because employers of the larger numbers of actuaries were the better responders, the responses covered well more than 20% of the population.

The Subcommittee on Relations with Colleges, Universities, High Schools

(Continued on page 6)

AIDS: HOW MANY ICEBERGS?

By Daniel F. Case

AIDS has sometimes been likened to the tip of an iceberg. For every AIDS patient there are many persons who have been infected by ("exposed to") the AIDS virus and who are likely to get AIDS. For example, there were as of Dec. 1, 1986 nearly 12,400 nationally reported AIDS patients in the United States (equaling 28,246 cumulative reported AIDS patients minus 15,853 deaths among them), but at the same time it was estimated that there were from one million to two million infected persons in the U.S. The "iceberg" consists of all currently infected people, including those who have AIDS, those who do not have AIDS but do have AIDS-related symptoms such as chronic persistent lymphadenopathy, and those who have no particular symptoms. One must assume that while many persons are moving up within the iceberg towards its tip (AIDS), many others are being brought in at its base by reason of becoming infected.

Persons who have been infected by the AIDS virus are, as a group, at very high risk of serious illness and death. Last June, government researchers projected that of the persons who had been infected as of that time 20% to 30% would get AIDS by the end of 1991. For males in their early 30's the mortality risk has been estimated at about 2600% of standard select mortality over a seven-year period. Little is known about any "cofactors" which might enable insurers and others to identify those infected persons who are at highest risk of getting AIDS (or of getting it relatively early) and those who are at lower risk of getting it (or of getting it relatively early). By contrast, analysis of the known AIDS

(Continued on page 5)

IMPROVING EXPERIENCE STUDIES

By Mark G. Doherty

A number of improvements are occurring in the *Reports on Mortality and Morbidity Experience.* The Experience Committees of the Society are examining their various studies and making significant changes. In some cases, the studies have been terminated, such as "Experience Under Individual Medical Expense Policies" and "Group Weekly Indemnity Insurance", due primarily to the decline in the amount of data and number of contributing companies. The "Medical Expense" study is in the process of being completely restructured and new data contributors sought. However, it may be several years before any experience is reported.

One of the major concerns of the Experience Committees is the timeliness of data. To move toward more timely presentation of information, several approaches are proceeding simultaneously.

To ease the burden on companies, we are modifying input formats to request data in seriatim, rather than summary form, for several studies. In other cases, the strict input formats are being altered to allow companies to provide data on a free form basis. In addition, data for biennial and quinquennial studies are being requested on an annual basis to avoid a last minute effort to collect data and to prevent loss of data from change over in computer systems. The idea is to eventually obtain information from participating companies as a byproduct of their year-end data processing.

The obvious implication of the simplification of data contributions is that more computer time will be required to compile the experience studies than in the past. However, over the last several

(Continued on page 6)

AIDS

(Continued from page 1)

patients by categories such as homosexual/bisexual males and IV drug users has led to considerable adduced knowledge of how infection occurs.

Traditional underwriting principles would lead insurers to want to know an applicant's AIDS or AIDS-related history, if any, including the results of any prior tests for AIDS virus antibody (the presence of which indicates that the person has been infected by the virus). Insurers might also wish to order their own AIDS virus antibody tests in large-amount cases and in cases of applicants who, because of their medical history or because of their other personal characteristics and what is known about how the virus is transmitted, seems relatively likely to have become infected.

The cost of administering a series of antibody tests (typically an ELISA, followed by a second ELISA and a Western blot, if necessary) and of counseling persons who test positive may be about $40 for applicants who would not otherwise have been examined medically or paramedically. Accordingly, insurers cannot now afford to test every applicant. Because of society's distaste for intrusion upon one's personal life, however, and because of evolving legislative and regulatory restrictions, there are limits on the cost-effectiveness with which insurers can make use of AIDS virus antibody tests. For example, three states and the District of Columbia have by law prohibited asking an applicant about prior test results. Three of those jurisdictions have by law prohibited requiring an applicant to take certain AIDS-related tests, and the National Association of Insurance Commissioners has adopted recommended underwriting guidelines which prohibit taking into account in any way an applicant's sexual orientation.

How serious an effect will these various limitations (regulatory and other) have on the life and health insurance business? Two observers, J.D. Hammond, Ph.D., and Arnold F. Shapiro, Ph.D., F.S.A., offered the following "tentative" observation in their paper, "AIDS and the Limits of Insurability," *Milbank Memorial Fund Quarterly,* Fall 1986: "Economic losses from AIDS cannot adequately be addressed by the insurance technique."

The authors explained:

> AIDS would appear to lack several characteristics of insurable risks. Its attack does not at this time appear to be random within the general population and the problem of adverse selection seems significant. Its maximum possible loss, for an exposed individual, may be similar to that of diseases which are insurable but, in the aggregate, that value will likely become quite high and, most important, occurring within short intervals.

Advocates of restrictions on underwriting for the AIDS risk have cited privacy as a major concern. They have pointed to discrimination in employment and elsewhere against persons known or thought to be gay and persons known or thought to be AIDS patients or carriers of the AIDS virus. They do not want information on any of those characteristics to be contained in insurers' files. Another major concern, however, has been unavailability of individually underwritten health insurance to persons who test positive or, perhaps, to males known or thought to be gay (since homosexual and bisexual males constitute one of the high-risk groups). That brings us to another "iceberg" of which AIDS may represent only the tip. This second iceberg is the desire for full health insurance availability.

Back in the 1960s, when Medicaid was being created, it was recognized that a major illness could exhaust a family's financial resources, even in some cases where private health insurance was helping to pay the costs. A family which thus exhausted its resources was said to have become "medically indigent". It was to avoid throwing those families onto the mercy of free clinic care that Medicaid was created.

Since that time, society's attitude seems to have changed. Many people now feel that a family should not have to exhaust its financial resources because of illness. This philosophy has already given rise to the establishment of state health insurance risk pools in ten states.

The advent of AIDS has added impetus to the drive toward some form of full health insurance availability. For the first time we see a well-organized, influential advocacy block which is pushing the concept. That block consists, of course, of gay rights groups. Those groups know that homosexual and bisexual males, in the aggregate, are at relatively high risk of getting AIDS. Already active in fighting discrimination, they are now also working for full health insurance availability.

At the present time the insurance industry is supporting the concept of state health insurance risk pools established on a sound basis. One requisite of a sound basis is inclusion of uninsured health care plans in the assessment base. If state risk pools become the general pattern in the United States, the next thing to see will be whether they are an adequate solution to the problem. For example, after many more persons at high risk of getting AIDS have been added to the state risk pools, will the assessments to insurers and uninsured health-care plans become so high that the health insurers and/or uninsured plans can no longer feasibly bear them? Will the number of persons who, because of the size of the premium rates, decide not to buy health insurance be so large that the states or the federal government will turn to some other solution?

Gerald M. Oppenheimer, Ph.D., and Robert A. Padgug, Ph.D., in "AIDS: The Risk to Insurers, the Threat to Equity," *Hastings Center Report,* October 1986, stated: "The expense of this dread disease, if not the ethical considerations of assured access to health care and the broadest distribution of its costs, may drive us as a nation to accept government-sponsored universal coverage."

So much for the second "iceberg". A third one has to do with the use by insurers of medical tests generally.

One of the greatest fears of life and health insurers in the face of the AIDS epidemic is that persons who have had themselves tested for AIDS virus antibody and have been told that they tested positive will successfully use that knowledge to select against the insurers. There is nothing essentially new about this problem. For decades, people have been in a position to select against insurers after being told that they had high blood pressure or an abnormal chest x-ray or EKG or some other test result. The distinguishing factors in the case of AIDS are that a positive test result implies such a dramatically high mortality

(Continued on page 6)

Career Encouragement Committee Survey

(Continued from page 1)

and Related Matters can now furnish the survey results to anyone contacting W.E. Hall, the Subcommittee chairperson, at his *Yearbook* address. Only the highlights will be presented here:

As to Recruiting

Unsolicited applications accounted for 50% of the new actuarial students hired, with employment agency referrals accounting for 29%, and campus recruiting 21%.

183 of the 332 campus visits were to colleges and universities with actuarial programs.

The rate of job offers made to applicants interviewed at company sites was 65% for campus recruits, 48% for unsolicited applications, and 42% for agency referrals.

The offer acceptance rates, in the same order as above, were 38%, 69%, and 61%.

Insurance companies accounted for 86% of the actuarial students hired in 1985, consulting firms 12%, and all other 2%. (But note that consulting firms may be underrepresented in the sample).

40% of the 1985 hires had just graduated from college; 44% were hired from other employers.

63% of the 1985 hires were at exam levels 0, 1, and 2, with another 24% at exam levels 3, 4, and 5. 6% were already FSAs when they were hired.

Students hired for the summer concentrated at exam levels 0, 1, and 2, with these exam levels representing 1/3, 2/5, and 1/5, respectively, of the 176 total.

As to Minorities

14% of all students hired during 1985 were in a minority classification. The percentages of minorities hired by insurance companies, consulting firms, and government agencies were 14%, 16%, and 20%, respectively. The availability level indicated by the EEOC was 18%.

Among actuarial students at all exam levels, only 7% were in minority classifications, with the greatest minority distribution in the early exams.

The overall exam pass rate during 1985 was 31% for minorities, 47% for non-minorities.

Minorities accounted for only 9% of the summer students hired.

Among the minorities identified, there were more Blacks than Hispanics, and more Orientals than either. The Oriental to Black ratio is approximately 3 to 1.

The 270 companies responding to the survey made a total of 332 recruiting trips to college campuses, but only six were to schools with a minority population of at least 50%. (A list of some 73 minority schools was sent with the survey). □

March Will Be The Actuary's 20th Anniversary Issue

AIDS

(Continued from page 5)

risk, that there are members of the populace who have reason to believe that they may test positive and who are able to get themselves tested free of charge, and that regulatory and other considerations are limiting the use of tests by insurers.

Alongside the controversy over AIDS virus antibody tests is the present controversy over drug testing. Looming on the horizon is the prospect of extensive genetic testing, which may reveal that certain individuals are prone to this or that serious disease. An important question with respect to all these tests is who should have access to the results.

There are indications that the debates which have been inspired by the above types of tests may reach back to cover tests which insurers have been using for decades. The implications with respect to tests not heretofore widely used are awesome enough. If existing tests are swept in, the possible repercussions are far-reaching indeed.

These three "icebergs" may not be the only ones which AIDS has brought into view. They seem enough, however, for today and this article. □

Improving Experience Studies

(Continued from page 1)

years, we have centralized all our data processing for the *Reports* at MIB, Inc. which is a service bureau for the insurance industry. We no longer have to rely on various insurance companies to prepare the data compilation. The Center for Medico-Actuarial Studies at MIB has a staff that reviews and processes the experience data in a timely fashion. Furthermore, they are revising the old computer programs to take advantage of faster processing techniques and languages as well as modifying the output tables to look exactly like those found in the *Reports*. The latter change will facilitate electronic transfer of formatted data to the typesetter rather than relying on keyboarding tables and proofing the results. All of these improvements will serve to reduce the compilation and production time for the presentation of the study results.

The various Experience Committee Chairpersons will be writing synopses of their studies as the results become available. Our intention is to have articles prepared for publication in *The Actuary* to provide some insights into the important aspects of the studies.

As corrected page proofs are prepared, an announcement of the studies' availability will be posted. Members can obtain copies of specific studies by paying a duplication and mailing charge prior to the publications of a *Reports* volume. In fact, a form is enclosed with this edition of *The Actuary* to order page proof copies of several studies. The *1983 Reports* will be distributed in Spring 1987.

Another concern of the Experience Committees is the preparation of studies that cover the appropriate topics. For example, the "Annual Ordinary Study" is expanding to cover universal and variable life as well as to track mortality in smoker/non-smoker policies. The general concern over smoker/non-smoker differences also may be reflected in other studies. Suggestions by interested actuaries on what topics and/or products to study as well as companies interested in contributing data to studies are sought. □