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Actuarial examination candidacy and its effects on social relationships

by Stacey Brundin

This article is based on an indepen-dent study examining the effects that time spent studying for actuarial exams has on social relationships, especially marriage relationships.

A questionnaire was mailed to 83 persons who attended Lebanon Valley College (1) with a major of actuarial science or (2) with a math major and known to be working in an actuarial field. Lebanon Valley College is a small, church-related, liberal arts college.

Fifty-four responses were received, for an excellent return rate of 65%. The return from those known to be working in the field was 70%.

Consistent with male dominance in the actuarial field, there were responses from 37 males and 17 females, ranging in age from 22 to 44. The oldest male was 44 and graduated in 1965, while the oldest female was 29 and graduated in 1980. There were responses from 13 male Fellows (FSA or FCAS) and only one female Fellow. For information on marital status, see Appendix A.

The remaining information is based on tabulations which exclude three responses received from people who did not graduate from Lebanon Valley College and did not pursue an actuarial career.

Most respondents felt there was no link between their actuarial careers and their marital status. A few

Analysis of CDC AIDS case data

by Thomas W. Reese

The Centers for Disease Control (CDC) make available, at the end of each quarter, a computer diskette containing data about each AIDS case reported to date. A separate record for each reported AIDS case gives infor-mation about age, region of residence, type of infection transmission, month of diagnosis, reporting month, etc. Information is given only in broad categories, such as ages 13-29, so that individual cases cannot be identified. Sorting these records in different ways allows analysis that is not possible from the information in the CDC's weekly reports.

To relate the information more closely to the general insured popula-tion, I have made some analyses that exclude all intravenous drug abuser (IVDA) cases. That modification reduced the number of AIDS cases being analyzed by about 25%. Results discussed in the four studies below apply to this non-IVDA population unless stated otherwise.

Regional analysis

The distribution of today's AIDS cases represents infections as of some years ago, not current or future infections. Part of the higher prevalence of current cases in certain areas simply reflects an earlier introduction of the epidemic in some places.

For example, of cases diagnosed through 1982, over 42% of patients whose residence is known lived in the Northeast region's Standard Metro-politan Statistical Areas (SMSAs) of one million or more residents, while less than 14% were not residents of an SMSA with over one million popula-tion. Currently, however, only about 23% of these cases are from the North-east region SMSAs, while the propor-tion not from an SMSA with more than one million residents has climbed to about 22%.

This is not to say that geographic variation isn't important. The AIDS concentration in the Northeast SMSAs, with under 8% of the total population in the 1980 U.S. census, is certainly greater than that of the non-SMSA population, with over 58% of

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the population. Rather, the point is that geographic variation will likely become less significant. The prevalence of AIDS cases is generally increasing fastest in those regions where the prevalence rate is lowest.

Age distribution

Age distribution assumptions derived from total AIDS case data are irrelevant for some population groups.

For example, about 10% of total nonpediatric (ages 13 and above) AIDS cases are diagnosed at ages 50 and above. When IV drug abusers are removed, however, that percentage changes to over 12%. Further, the percentage in this age group ranges from about 9% for males classified by the CDC as homosexuals to about 15% for males classified as bisexuals to about 30% for males classified as heterosexuals. The percentage for females is about 20%. These results for heterosexual males and for females are mainly caused by the influence of blood transfusion cases, of which about 64% are diagnosed at ages 50 or older.

Of AIDS cases classified by the CDC as caused by heterosexual transmission, the proportion diagnosed at ages 13-29 is about 30% for males and 40% for females. These are significantly younger distributions than for homosexual and bisexual males, among whom about 21% of cases are diagnosed at ages 13-29.

Death rates

Michael Cowell and Walter Hoskins derived the familiar "45%-45%-35%-25%" pattern of death rates after AIDS diagnosis by analyzing data from the cases (including IVDA) reported to the CDC through the first quarter 1987. Comparing this formula's modeled deaths to the reported deaths (shown in Table 2 on page 20 of Hoskins's paper: "HIV Mortality") results in a ratio of actual deaths to expected deaths of about 104%.

We expect lower death rates now, since the CDC liberalized the definition of AIDS cases in the fourth quarter of 1987. Such a drop in AIDS death rates has occurred. Applying Hoskins's model to total CDC cases reported one year later, i.e., the end of the first quarter 1988, produces an actual-to-expected (A/E) ratio of only 95%. Removing IVDA cases leaves the ratio relatively unchanged at about 94%.

AIDS death rates vary for different population groups. For homosexual and bisexual males diagnosed at ages 13-29, the A/E ratio is only about 89%. For members of those groups diagnosed at age 50 or above, the ratio climbs to about 104% for homosexuals and to about 108% for bisexuals. For heterosexual males and for females diagnosed at age 50 or above, the A/E ratio is about 123%. For members of those groups diagnosed at ages 13-29, the ratio is only 86% for heterosexual males and 93% for females.

Reporting delays

AIDS cases continue to be reported with diagnosed dates in prior years. Several attempts have been made to analyze past reporting delay ratios to develop "IBNR"-type ratios that can be applied to currently reported case numbers to estimate the number of cases that will eventually be reported. The CDC's change in AIDS case definition makes historical ratios invalid, however. The new definition has added over 10% of current cases that would not yet have been reported under the former definition. In effect, the reporting of AIDS cases was accelerated beginning with the fourth quarter of 1987.

One potential problem with delays in reporting would be the distortion of death rate studies if AIDS cases that have already resulted in death are reported with less delay than those which have not. The individual case CDC data make a study of this hypothesis possible. While there is evidence that this occurred in the early AIDS reporting years, there is no evidence of such distortion in the data for the past few years. For example, cases reported through the second quarter 1988 show an average reporting delay for cases diagnosed in 1987 of 3.3 months for alive cases and 3.7 months for deceased cases.

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G-523 exam rescheduled

The examination for Course G-523, Non-Pension Benefits for Retired Employees, has been rescheduled. It will now take place from 1:30-2:30 p.m., Thursday, November 3. It was previously scheduled from 8:30-9:30 a.m. that day.