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AIDS in the United States

A perspective after the first decade

by Thomas W. Reese

The first news article describing part of the AIDS epidemic appeared in the summer of 1981. The article reported five severe cases of pneumonia caused by common organisms easily held in check by normally functioning immune systems. The patients were all homosexual men in Los Angeles. A month later, another article reported 20 homosexual men in New York and six in San Francisco with the pneumonia and a normally benign skin cancer.

Thus in 1981, the Centers for Disease Control (CDC) began tracking an unnamed syndrome. Interviews soon determined that some patients were not homosexual. It was not easy to discover they were intravenous drug users. The drug addicts usually contracted the quick-killing pneumonia, rather than the slower-killing skin cancer more common in homosexuals, and were dead by the time they were reported to the CDC.

By December 1981, the official count of cases had climbed to 151 men and one woman. The syndrome had an unofficial name — Gay-Related Immune Deficiency (GRID) — although the CDC preferred calling it "the epidemic of immune deficiency."

By April 1982, patient tracking studies identified a Canadian airline attendant called "Patient Zero." Of the first 248 gay men reported with GRID, at least 40 had sex with him or with someone else who had.

Homosexuals were not the only ones affected. In 1982, the risk groups were identified as the "Four H's" — homosexuals, heroin addicts, hemophiliacs, and Haitian immigrants. By the end of the year, blood transfusions began to be identified as a risk. The syndrome was given its official name — AIDS, Acquired Immune Deficiency Syndrome. Others with the disease now included infants and some women who were sexual partners of male AIDS sufferers.

The changing face of AIDS

On the face of reported cases, it may appear that the AIDS epidemic has accelerated in 1993. The number of new cases reported in the first half of 1993 was more than 2.5 times the number reported in the same period of 1992. In June 1993, the cumulative number of reported U.S. AIDS cases crossed the 300,000 mark. The 200,000th case had just been reported in January 1992.

The sudden increase in reported cases, however, is due to the CDC's new liberalized definition of AIDS cases effective for 1993. The new definition identifies AIDS cases earlier than the previous definition adopted in September 1987. The 1993 reporting surge shows more of the epidemic earlier rather than indicating an actual increase in its size.

The population of AIDS cases is changing over time. For cases reported in 1992, 80.2% were homosexuals and/or intravenous drug users, compared to 86.5% for cases reported in 1988. Hemophiliac and blood transfusion cases declined from 3.6% in 1988 to 2.1% in 1992.

The fastest growth rate has been for AIDS cases from heterosexual contact. These have increased from 3.8% of all cases reported in 1988 to 7.8% in 1992. Reported cases from heterosexual contact were still increasing more than 25% per year in 1991 and 1992, compared to less than 5% per year for all cases combined. The percentage of female reported cases increased from 11.0% in 1988 to 14.1% in 1992.

Insurance company impact

Compared to early fears, the insurance industry has managed AIDS claims reasonably well. Estimates of total life and health AIDS claims reached $1.4 billion in 1992, "only" a 240% increase from five years earlier. The rates of increase have slowed dramatically, indicating perhaps at least a temporary plateau in AIDS claims costs at about 2% of total claims (4% for group life).

It is too soon, however, to conclude that AIDS claims have reached their peak or have even yet reached a slow-growth plateau. HIV testing and underwriting efforts are paying off in reducing early AIDS claims. There will be further AIDS claims as infections occur after issue and as these insureds eventually progress to AIDS. Further, drug treatments have slowed progression to AIDS for many people, but probably medical treatments cannot prolong good health indefinitely.

AIDS has changed the underwriting practices of life insurers. The huge number of HIV tests needed created a growth industry for insurance testing labs. The dramatically increased use of these labs has changed the nature of underwriting. HIV testing was the catalyst for companies to increase testing, but other valuable tests available for blood specimens have justified their costs in allowing insurers to better classify risk levels for prospective insureds.

Product pricing by many actuaries "includes" the cost of AIDS by eliminating future mortality improvements that would have been assumed without AIDS. U.S. population mortality rates have declined in the first AIDS decade, except for males aged 25 to 44, where mortality rates also would have declined if AIDS were removed. Insured mortality has improved even

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Health care reform volunteer opportunities

The American Academy of Actuaries, the designated organization for providing actuarial advice to the Clinton Adminis-tration, Congress and the public on health care reform, and the Society of Actuaries, the profession's education and research organization, are forming several work groups and task forces. This is a chance to become involved in helping shape the solution to this important national issue. Please consider volunteering your services if you have experience in one of the areas listed below.

American Academy of Actuaries Work Groups — Duties: Assigned a well-defined issue to discuss, gather information, and develop into issue and position papers. Contact Howard Bolnick, chair of the Academy Health Practice Council, or the work group chair if listed.

- Structure of the President's Proposal and Cost Estimates (co-chairs Howard Bolnick and John Bertko)
- Guaranteed National Benefits Package (Julia Philips, chair)
- Mental and Nervous Benefits (chair to be announced)
- Payer Administrative Requirements and Cost Savings (Dick Niemiec, chair)
- Solvency (Bill Bluhm, chair)
- Budget Development and Enforcement (chair to be announced)
- Health Plan Pricing (Paul Fleischacker, chair)
- Health Risk Adjusters (Alice Rosenblatt, chair)
- Casualty Actuarial Issues
- Long Term Care (Hal Barney, chair)
- Medicare and Medicaid
- Transition Rules
- ERISA Changes
- Health Alliances

Society of Actuaries Task Forces — Duties: Original research, rather than issues discussion, done on a longer time frame than the Academy's work groups. Contact Sam Gutterman, SOA vice president.

- Risk Adjusters
- Effects of Life Style
- Health Care Financing Issues
- Mental Health
- Effects of Managed Care
- Medical Effectiveness

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more dramatically, largely because of better underwriting information received from laboratory testing.

Some companies have established reserves for future AIDS claims, and there have been some adjustments in product design. Advance payment of death claims for insureds who are terminally ill is one product design innovation in reaction to AIDS.

Actuarial projections

AIDS poses great uncertainty, because its true size is hidden. Past epidemics worked their way through the population quickly. AIDS, however, requires years to progress from infection to symptoms.

This is why the impact of AIDS cannot be understood without mathematical modeling. Are the cases we are seeing the first end-results of a huge problem that is unseen because of very slow progression rates from infection to AIDS? Or is the real size of the epidemic smaller, resulting from a smaller infected population progressing to AIDS at faster rates?

Actuaries have applied their skills to this problem, starting with a landmark actuarial paper published in 1987, "AIDS, HIV Mortality and Life Insurance," by Michael J. Cowell and Walter H. Hoskins. The paper developed several important new concepts in modeling AIDS and presented alternative projections of the future of the epidemic. Other projections have followed since.

A rough characterization of the early series of actuarial AIDS projections might be that they were "in the ballpark," but in general were too high. These over-estimations were because of scanty early data and because the assumptions were drawn from early populations of AIDS patients who were quicker to spread infections and who progressed to AIDS faster than infected populations that followed. Further, drug therapies are slowing the course of the epidemic by prolonging the time from infection to AIDS diagnosis. To their credit, actuaries avoided the hysterically high forecasts often bandied about by the media.

Attention paid to AIDS has lessened dramatically in recent years, both among the public and the insurance industry. Some perceive the AIDS problem as small in contrast to the high forecasts that did not materialize.

The AIDS epidemic surely is not insignificant, however, and we do not know its ultimate impact yet. Appropriate insurance industry responses to control anti-selection have contained this threat to what appear to be manageable levels. Continued diligence by companies and actuaries is needed to assure that the insurance mechanism continues to work as future experience unfolds.

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