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**WHATEVER HAPPENED TO ACQUIRED
IMMUNE DEFICIENCY SYNDROME (AIDS)**

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Debaters: JOHN M. KARON*
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The discussion of AIDS has become almost a murmur. Where is the disease now? How good were the forecasts? What is the current impact on pricing?

MR. MICHAEL J. COWELL: We have a most impressive panel. Our first speaker is John Karon. Dr. Karon is chief of the statistics section of human immunodeficiency virus (HIV) prevention at the Centers for Disease Control (CDC) in Atlanta and comes to us with a wealth of knowledge. John says that all he does is track HIV and AIDS. Gregg Sadler, as many of you know well, is prominent in the insurance business as president of Home Office Reference Laboratory (HORL) and executive vice president of Lab One. Gregg has published extensively on the subject of AIDS and its impact on the industry. Our third panelist, Mike Reilly, is vice president and actuary for The Equitable. Mike manages the profit and loss and financial reporting for interest-sensitive life business and will be speaking to us on the questions of the impact of AIDS on pricing.

Before we get too far into the program, let me just take a quick poll. How many of you were at the Annual Meeting in Montreal in October 1987 at our AIDS panel? You may recall we had standing-room only. We had a room for about 150 and about 250 people showed up. Maybe the fact that we're down to a manageable size at this session is a good sign. We'll talk about that during the session.

We are going to move rapidly because we want to leave plenty of time for questions. At the luncheon at this meeting, Jon Howe asked how many people remembered what was on the cover of *Time* magazine back in 1987, and nobody could recall. I'm sure you probably can't recall what was on the cover of *The New York Times* Sunday Magazine in November 1993. The feature story was, "Whatever Happened to AIDS?"

We will talk about where the disease is now, how well the forecasts worked out, what the current impact of the epidemic is on pricing, and where we go from here, beyond the year 2000. We'll probably address the last topic in the question and answer period. The program says, "At the conclusion of this session, you will have been exposed to various points of view about the impact of AIDS on life insurance product development and where the disease is right now."

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The World Health Organization (WHO) made an estimate of HIV infection throughout the world as of the end of 1994. The large numbers are in Africa. There are relatively small numbers in the Americas and fairly high numbers in Asia. The good news is that, in North America and Europe, the disease's rate of growth seems to be slowing down. Unfortunately, in Asia and Africa, it's almost going off the scale, and is projected to be extremely serious as we move into the 21st century.

One of the aspects that makes projecting or checking your forecasts difficult is that the CDC has changed the definition of AIDS a couple of times in recent years which is something that John will be addressing. The 1993 definition significantly adds to the numbers. What has happened to AIDS? I guess I'd say, in summing up, that the epidemic is still with us. It's worse in some areas than others.

DR. JOHN M. KARON: What I'd like to do is go over, briefly, the new AIDS surveillance definition, which makes monitoring the AIDS incidence trends more difficult. How it is possible to monitor deaths from national data? Then I'd like to show you some graphs of AIDS diagnosis trends in the U.S. and show you some information about HIV prevalence trends. If I have time, I will show you some data from insurance applicants, as well.

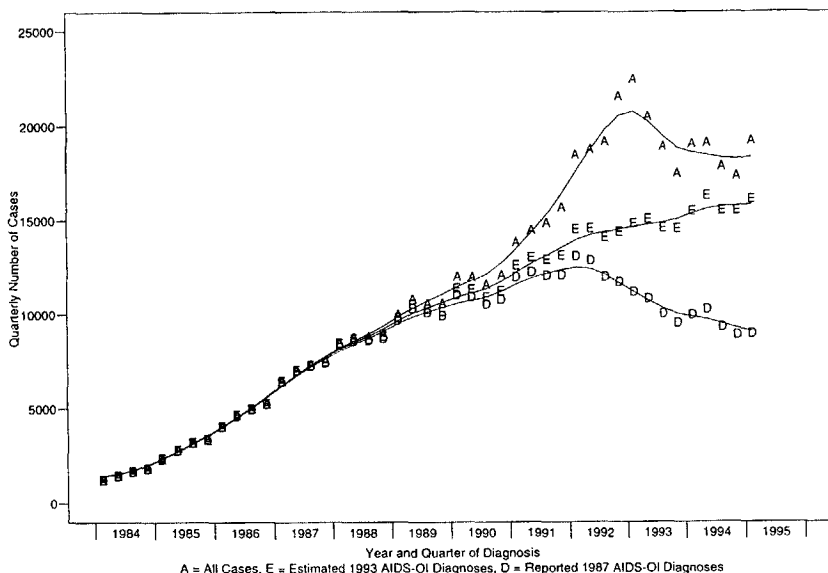
There are several problems in looking at AIDS diagnosis trends (Chart 1). First, you need to know that AIDS is a reportable disease in every state in the U.S. and also in the territories. CDC spends some tens of millions of dollars a year collecting these data. It is not an easy job, and a great deal of time is spent obtaining the data. We know that not all AIDS cases are reported to us. We believe that about 90% of diagnoses of opportunistic illnesses were being reported in the early 1990s. There are some difficulties in interpreting the data. First, not all AIDS diagnoses are reported. Second, diagnoses are not necessarily reported promptly. Some cases are reported four or more years after diagnosis, so the delay in reporting has to be taken into account if you want to look at recent trends.

The graphs I'll show you have been adjusted for delays in reporting, so these are estimated numbers of diagnoses; they are not the numbers that we have yet. They're an estimate of the numbers we ultimately will have. Line D in Chart 1 shows the trend in diagnoses through about 1990 or so. This was before the definition was expanded. The E's show estimated number of diagnoses per quarter under the expanded surveillance definition. It is opportunistic illnesses (OI) only and was expanded as well. The expansion took place in the first quarter of 1993. We added three new opportunistic illnesses. The most prominent were pulmonary tuberculosis (TB) and recurrent pneumonia in the presence of an HIV test that's positive. We also added—and this is the most important change—HIV-infected persons with a documented CD4 count of less than 200. More than half of all AIDS cases are now being reported on the basis of the CD4 criteria, not on the basis of opportunistic illnesses. Some of those people could have been reported with opportunistic illnesses, but a CD4 count is easier to document than an opportunistic illness. Many of those people have gone on to develop opportunistic illnesses, but it is not the responsibility of the local surveillance staff to report later diagnoses. Once a case is reported, the staff's work is done, although we ask that they also report when that person dies. The lower curve (D) is opportunistic illnesses through the end of 1993. This fall-off is not real; there are fewer cases reported with opportunistic illnesses because they are reported earlier based on a CD4

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count. This (curve A) is total AIDS cases. Most of the difference is based on persons reported due to the CD4 criteria. This decline also is not real.

CHART 1
AIDS IN THE U.S.—ADULTS AND ADOLESCENTS*



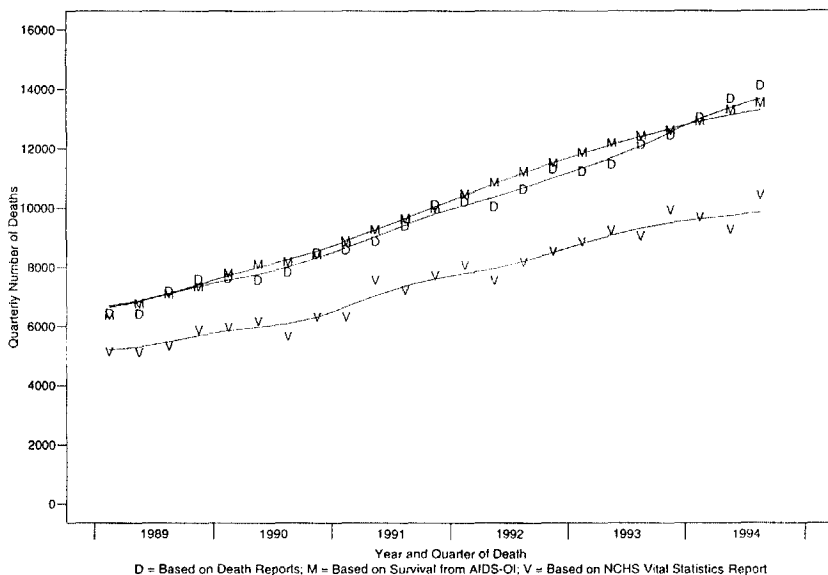
*Note: Figures have been adjusted for reporting delays based on cases reported through September 1995.

When the definition was changed, there were probably over 100,000 people with a documented lower CD4 count who were eligible to be reported. There were at least 50,000 such persons. We asked for the most recent low CD4 count, and we changed the definition. We tended to get counts right about the time of that change. We are able to estimate the number of AIDS opportunistic illness diagnoses using the time from a particular CD4 count to diagnosis of an AIDS OI. Because we can estimate that probability distribution of time, and do it by CD4 count, we can estimate when all of these people will develop an AIDS OI, and that is what the center curve shows (E). What you can see from this curve is that the incidence, the number of diagnoses per quarter, is roughly constant. We believe the number is around 70,000 per year, adjusting for unreported cases. It is possible that the number of AIDS cases being diagnosed has leveled off.

We can look at mortality in several ways (Chart 2). The *D*'s represent number of deaths, adjusted for reporting delays. It is difficult to get accurate counts for the last several quarters. This chart goes through 1994 instead of through 1993. It's difficult to get accurate estimates for the last several quarters because of uncertainty about reporting delays. The *M*'s represent survival experience of persons diagnosed with AIDS opportunistic illnesses. The *M*'s are more likely to be correct than the *D*'s. There is a very sudden upswing, which seems improbable. The *V*'s are obtained from data on death certificates. The National Center for Health Statistics publishes a 10% sample, as you may

know, on a monthly basis. This is the 10% sample multiplied by ten. You can see that it is roughly parallel to what we get from AIDS surveillance. However, you can also see that it's an underestimate because a substantial proportion of the deaths among persons diagnosed with AIDS are not labeled as associated with HIV infection on the death certificate. You could use the National Center for Health Statistics (NCHS) series to look at trends, but you should know that the number of deaths is an underestimate. The point is that you could monitor the trend, but not the actual number.

CHART 2
AIDS MORTALITY IN THE U.S.



Let's discuss our estimates of AIDS OI incidence. We have taken the CD4 cases and number of deaths and, in a technical sense, "smeared" them forward over time. This is among all persons in the U.S. You can see the trend is upwards. The jumps that may occur in this period are unreliable because of the effect of the new surveillance definition, and when these people were reported based on the CD4 criteria. This has leveled off. The number of deaths is continuing to increase, as you can see. It should, of course, ultimately reach the number of persons being diagnosed.

Chart 3 shows AIDS cases in the U.S. among men who have sex with men. It is clear that the number of diagnoses may have leveled off but the number of deaths is increasing; however, the rate of increase may have slowed somewhat. Among IV drug users, once again, incidence may be somewhat leveling off (Chart 4). The number of diagnoses and the number of deaths is still increasing. The picture is not good for persons infected through heterosexual contact (Chart 5). However, you should know this is also probably overstating the problem due to misclassification. This chart reflects people whose mode of transmission is reported to be heterosexual contact. This mode of transmission has become better accepted in recent years, so it becomes easier to be accepted, and it's more likely to

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be accepted by someone who's conducting AIDS surveillance, instead of always carefully finding out whether there's another mode of transmission. This probably reflects overstating of the cases.

CHART 3
AIDS CASES IN THE U.S.—MEN WHO HAVE SEX WITH MEN*

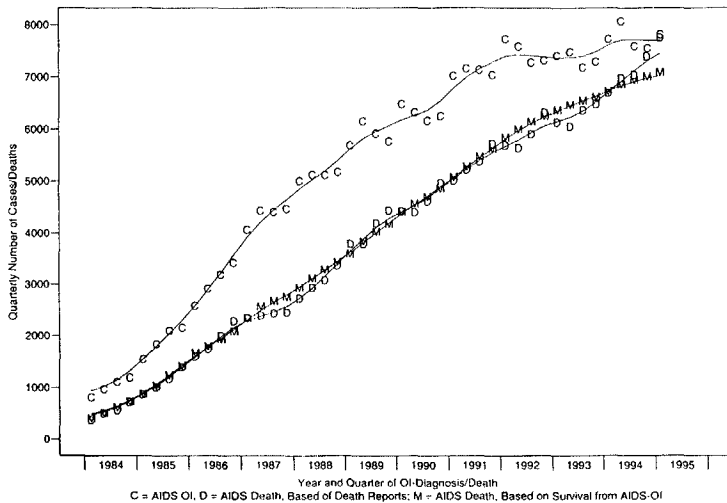
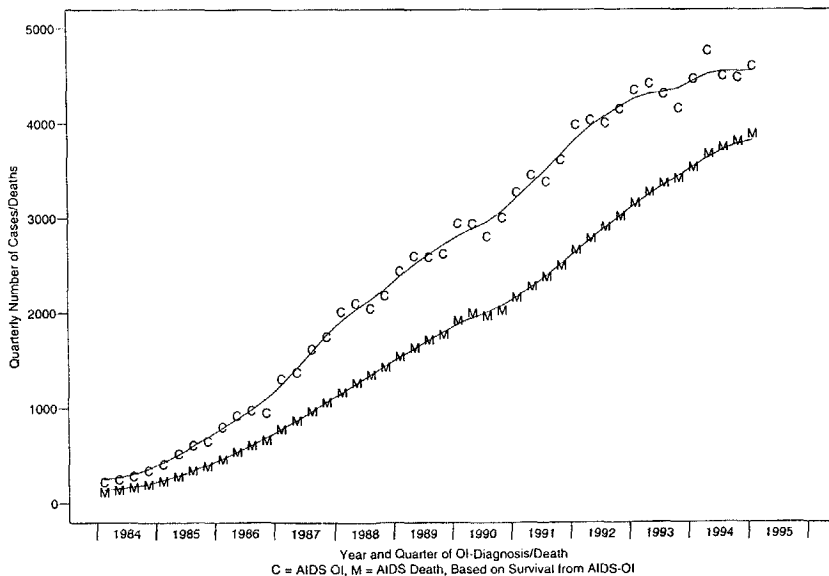
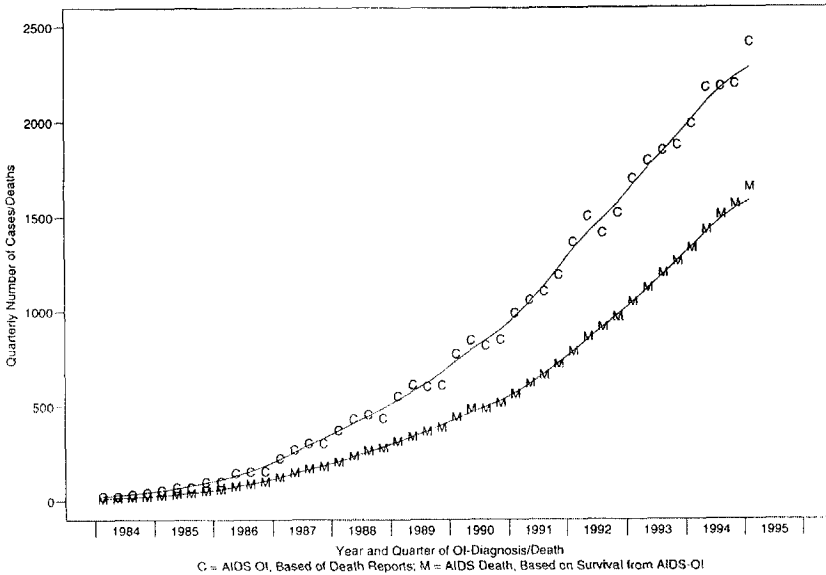


CHART 4
AIDS IN THE U.S.—IV DRUG USE*



*Note: Adjusted for reporting delays, with redistribution of NIRs and forward smearing of non-OI cases based on cases/deaths reported through September 1995.

CHART 5
AIDS IN THE U.S. — HETEROSEXUAL CONTACT*



*Note: Adjusted for reporting delays, with redistribution of NIRs and forward smearing of non-OI cases based on cases/deaths reported through September 1995.

FROM THE FLOOR: Are the numbers on the same scale?

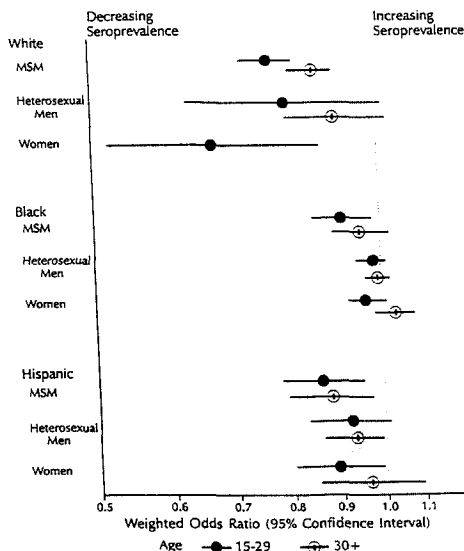
DR. KARON: No, they are not. They are all scaled differently so the curve fills up most of the picture. The emphasis here should be on the trend, not the absolute numbers. What I'd like to do is switch to results from surveillance that tells us the proportion of persons who are infected. CDC conducts a number of surveys; for example, persons attending sexually transmitted disease (STD) clinics, persons who are in treatment for drug use, and so on. These surveys are designed to estimate HIV prevalence in these people. These are selected populations, so generalizations cannot be made about the whole country; these are select locations. This shows you the trend in the proportion infected, for example, in 1993, divided by the proportion for 1992, so it's an annual change. If the estimate is one, then there is no change in prevalence. Prevalence is remaining constant, but that does not mean there are no new infections. It means that the number of newly infected persons is replacing the number who died. If this estimate is less than one, that means that prevalence is decreasing. If it's greater than one, then it means that it's increasing from year to year.

Chart 6 covers 1988–92. Each of the dots is a point estimate for a number of locations combined, and the line is a 95% confidence interval for that point estimate. The chart shows persons attending STD clinics. You might be most interested in men who have sex with men. In general, the prevalence of HIV among men who have sex with men is decreasing. There is a question about whether these men are continuing to go to the publicly funded clinics where these surveys take place, so there are sources of bias that may

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be present. This supports the idea that AIDS incidence may be constant. Prevalence may be declining and does not clearly seem to be increasing.

CHART 6
SEROPREVALENCE AMONG PATIENTS ATTENDING STD CLINICS—1988–92*



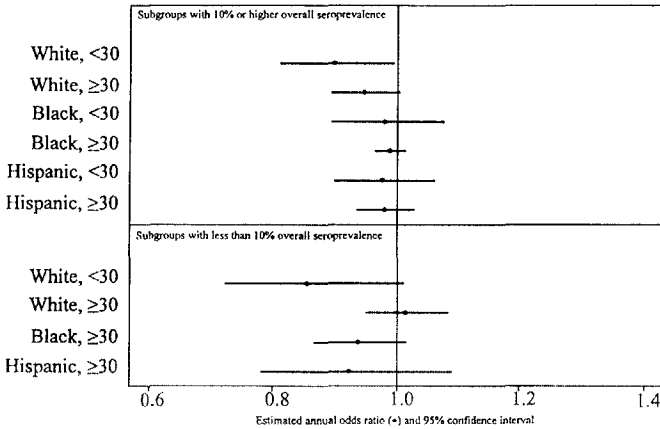
*Note: Summary annual odds ratios of prevalent HIV infection among patients attending STD clinics by race/ethnicity, gender/sexual orientation, and age group, for 1988–92. The summary odds ratio was calculated by weighing the odds ratio for each clinic by the inverse of its variance.

Source: Used with permission of Lippincott-Raven Publishers, Philadelphia, PA, Weinstock, H.S., et al. "Trends in HIV Seroprevalence Among Persons Attending Sexually Transmitted Disease Clinics in the U.S., 1988–92," *Journal of AIDS*, Vol.9, pp. 514–22, 1995.

Prevalence for heterosexual contact and for women are both decreasing. If we look at men who have sex with men, who are enrolled in STD clinics, the conclusion the epidemiologists reach is that prevalence is decreasing in all groups, and it's decreasing in the younger group than the older (that's not shown here) and it's decreasing in whites. It's not necessarily decreasing in nonwhites. [Data not shown.]

For people in drug treatment centers, we have the same kind of a picture that you saw before (Chart 7). Once again, you can see that prevalence is decreasing, although not in all groups. This certainly isn't true in all places. The geographic variation is remaining the same: there's low prevalence in the West, intermediate prevalence in the Midwest, and high prevalence on the Eastern Seaboard, including Florida. Similar trends exist for men and women. The prevalence tends to decrease for whites and is less stable for blacks and hispanics. I must add a note of caution to this: what I have told you does not mean that there are not important statistics for new infections in all groups.

CHART 7
ODDS RATIO OF HIV PATIENTS IN DRUG TREATMENT CENTERS*



*Note: Summary annual odds ratios of prevalent HIV infection among persons attending drug treatment centers by seroprevalence level, race/ethnicity, and age group, 1988-93. The summary odds ratio was calculated by weighing the odds ratio for each clinic by the inverse of its variance.

There have been two studies done among young gay men in San Francisco. One study recruited men who were attending venues or locations where young gay men tend to go. This is not at all a random sample. It found that as many as 15% of these men are infected by age 21. These probably represent recent infections. This study was conducted in 1992. Despite all the prevention efforts in San Francisco, infection is continuing.

A second study was a population-based study in the Castro district, which is where many gay men live. In that location, it is possible to go door to door and, by random sampling methods, recruit people for a study who are probably representative of the people who live there. The prevalences found in that study were somewhat lower than in the study based on venues, but 10% or 12% were infected by their mid-20s. New infections are continuing to occur; that is clear.

Let's discuss some data from Osborn Labs. Osborn sent us a data set containing persons tested for HIV in 1991-92. Chart 8 is a summary of prevalence by type of insurance (life, health, or disability) and sex. About 0.7 per thousand men applying for life insurance were testing positive. What we did that may be of more interest was to look at the association between the proportion infected and age, and the amount of insurance applied for, among male life insurance applicants. These were persons tested during 1991-92. These are prevalences per thousand. I have used a statistical technique to fit a smooth curve to the data. I did not specify the form of the curve; the data specified the form. You can see in Chart 9 that prevalence is highest in men about 20 years old, reaching one per thousand, and declines to 0.3 per thousand for the older men. We cut it off at age 64 because of small numbers; the prevalence declines with age.

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CHART 8
HIV-1 AMONG APPLICANTS FOR LIFE, HEALTH,
AND DISABILITY INSURANCE, 1991-92

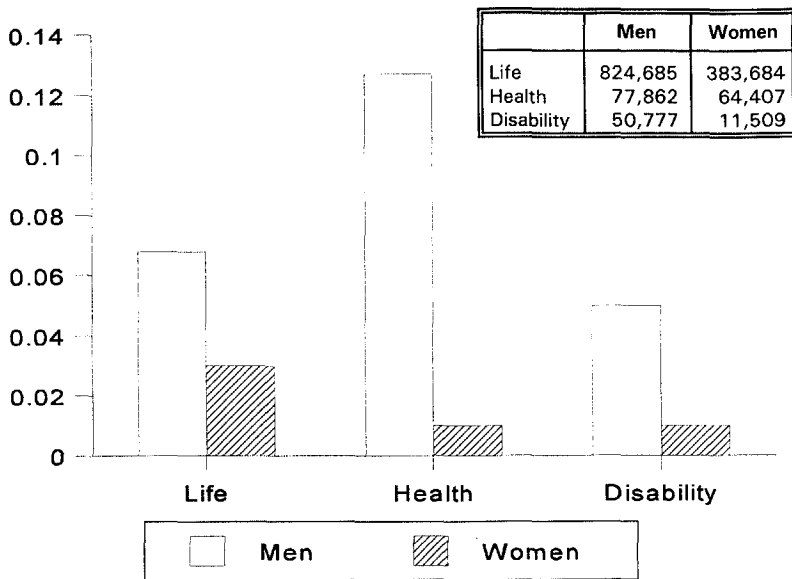
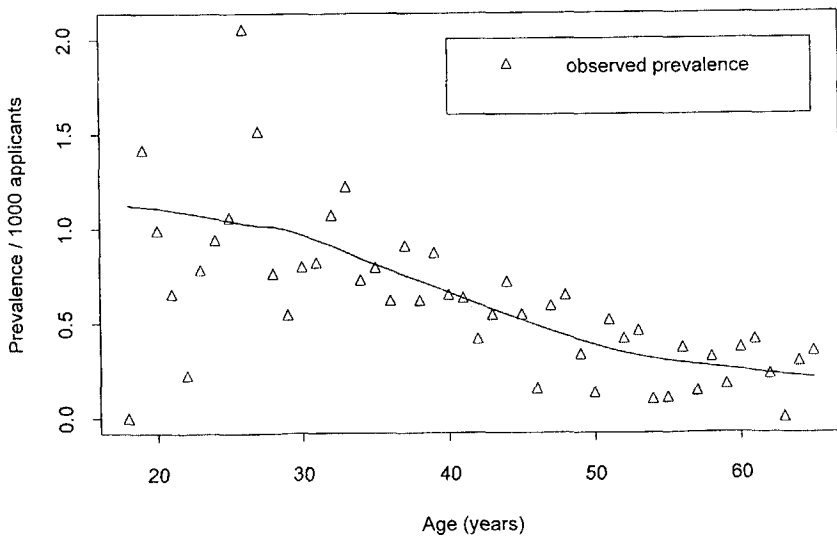


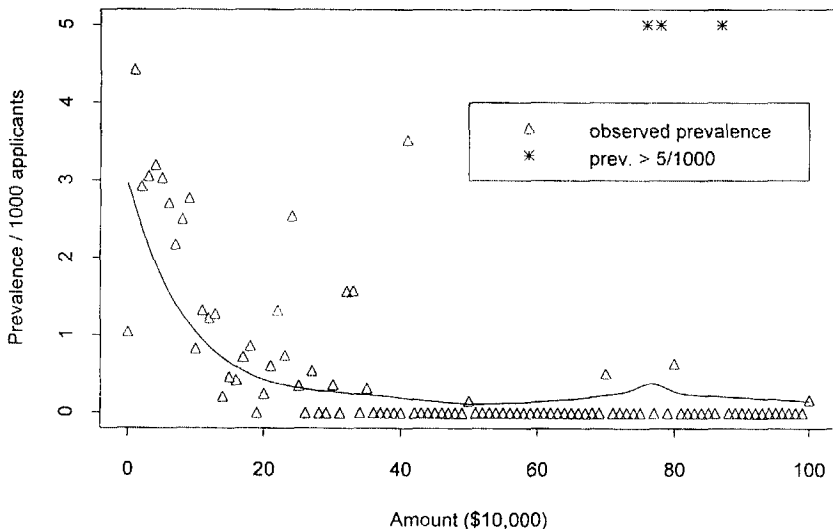
CHART 9
ASSOCIATION BETWEEN AGE AND HIV PREVALENCE
AMONG MALE LIFE INSURANCE APPLICANTS*



Note: Curve is prediction from model fit using amounts of \$0-100,000.

We also looked at the association between prevalence and the amount of insurance that was applied for (Chart 10). The scale is in \$10,000 increments. You can see that the highest estimates are for those who applied for low, relatively small insurance amounts. The blips or points in the upper part of the chart probably represent three people applying for a high insurance amount.

CHART 10
ASSOCIATION BETWEEN AMOUNT AND HIV PREVALENCE
AMONG MALE LIFE INSURANCE APPLICANTS*



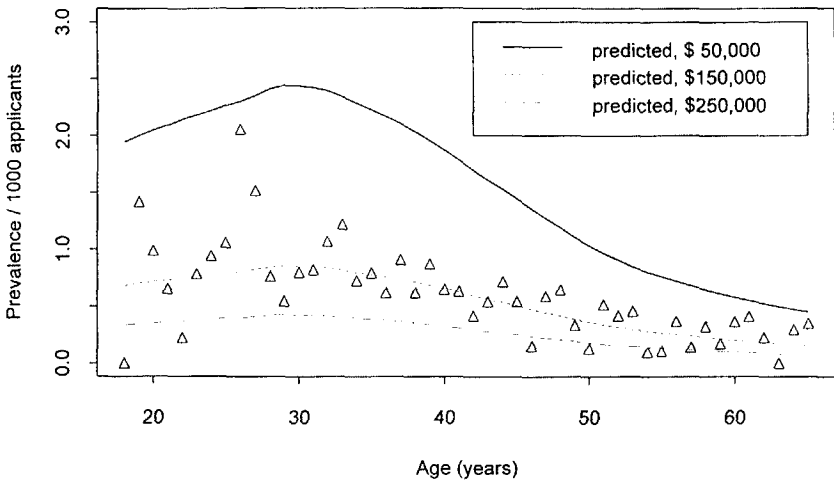
*Note: Curve is prediction from model fit using ages 18 to 65.

Chart 11 shows the two factors combined. Age is on the horizontal axis. The prevalence per thousand is on the vertical axis. The top solid line is the predicted value for \$50,000 of insurance. That's higher than all the individual points, because individual points are all amounts of insurance combined. This is the association for \$50,000 of insurance. The model predicts that the prevalence actually increases somewhat to age 30, and then drops off, for \$150,00 and \$250,000. There is an association between both age and amount. The association with amount is stronger than with age in these insurance applicants. [Note: the above results were presented by J.T. Weber at the Second National Conference on Retroviruses and Related Infections, Washington, D.C., January 1995.]

Finally, we looked at the association between the AIDS diagnosis rate and the insurance testing rate in males, both per thousand and by state (Chart 12). Each point is a single state. These are on logarithmic scales so that you can actually see the points. The straight line is a line of equality. These states had no positive insurance applicants. Most of them had less than 10,000 persons tested. With a rate of 0.1 per thousand being up here, if you have less than 10,000, you'd expect under one positive test. But you can see that, in general, there is very good agreement between the AIDS diagnosis rate for 1992-93 or 1993-94, and the insurance applicant positive rate. Insurance applicants follow the general pattern.

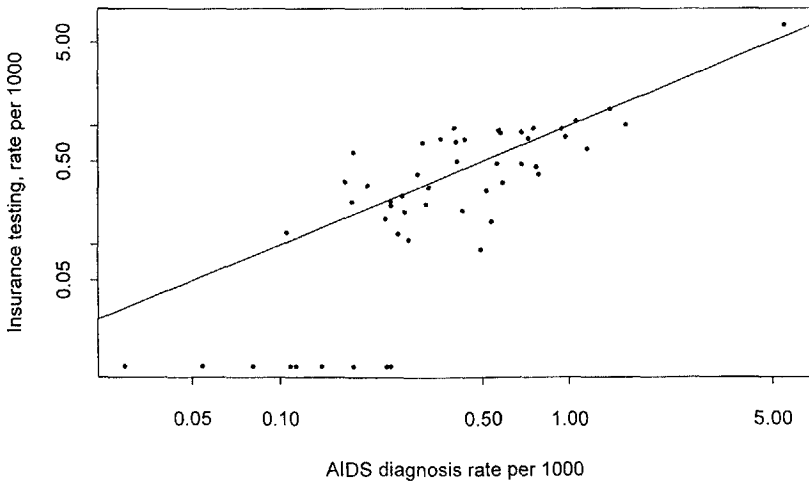
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CHART 11
ASSOCIATION BETWEEN AGE, AMOUNT, AND HIV PREVALENCE
AMONG MALE APPLICANTS FOR LIFE INSURANCE*



*Note: Curves are predictions from model fit using amounts of \$0 to \$1,000,000 and ages 18-65 years.

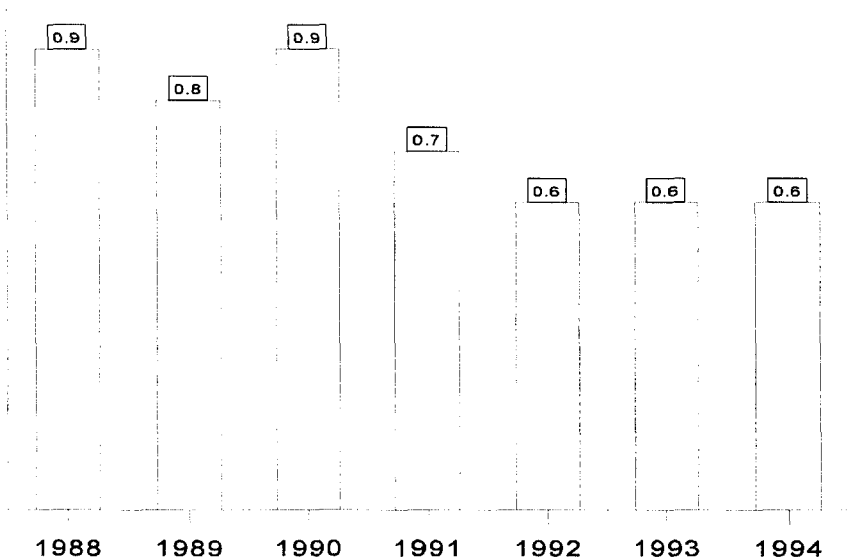
CHART 12
LIFE INSURANCE APPLICANT HIV PREVALENCE PER 1,000
VERSUS AIDS DIAGNOSIS RATE PER 1,000
MALES AGES 18+, BY STATE



MR. COWELL: I think John has given us an interesting report indicating that AIDS is still with us, although it's not getting worse any faster. Now Gregg Sadler is going to describe his company's work in locating where this disease is in the insured population.

MR. GREGG R. SADLER: At Home Office Reference Laboratory, now called Lab One, we began testing for HIV for insurance companies in late 1985. And by mid-1986, I think most companies had started testing, and certainly by early 1987, most companies had moved their testing thresholds to account for the AIDS epidemic. You can see in Chart 13 the actual number of positives per 1,000 tests, of specimens that were sent to our laboratory. Our laboratory receives specimens from more than 50% of the applicants that are tested by insurance companies. You can see, in 1988, we were running a positive rate of about 0.9 per thousand. In the last three years, the positive rate has been 0.6 per thousand. Certainly the number of positives are important to an insurance company. In a testing program, keep in mind that a more important factor than the positive that your underwriting department gets is the sentinel effect from people who know they're positive but don't apply for insurance because they're not going to submit to a test for insurance purposes. They may buy a policy under the testing limit, but in terms of the value of testing, there's probably more value to the sentinel effect than there is to the actual positive that we see. I don't have any statistics to support this, but by talking to my colleagues and talking to your medical directors and underwriters, I believe that the vast majority of the positives that we report to your companies are on people who don't know they're positive. For one, if you knew you were positive, you probably wouldn't submit to a blood test for insurance purposes.

CHART 13
HORL RESULTS
HIV POSITIVES PER 1,000 TESTS



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Table 1 is the only table or graph where I've made an estimate; the rest are factual statistics from our testing database. I've estimated the total number of HIV positive in the U.S. that are reported by laboratories that serve the insurance business. I estimate that somewhere around 2,100 people, and certainly over 2,000 people, are tested positive by the life insurance industry each year. Our average insurance amount of an HIV positive for the year 1994 was \$128,000, so simple multiplication tells me that the face amounts of insurance totaled around \$270 million. That's for one year's worth of positive results. And that gives you an overall perspective of the magnitude of the numbers that we're talking about.

TABLE 1
ESTIMATED ANNUAL HIV POSITIVES FROM INSURANCE APPLICANTS

	Estimate for U.S. and Canada Combined
Number of positives	2,100
Face amount of insurance	\$270 million
Average insurance amount	\$128,000

Table 2 shows a comparison of the HIV-positive rate in the U.S. versus Canada versus Puerto Rico, which is significantly higher. Table 3 shows the number of positives that we see in various states. It's a bit unfair to compare Washington D.C. to the others, of course. If I took New York City or San Francisco out of the data, they would be much more comparable to the District of Columbia. Florida has actually been the number one state in terms of the positive that we see at our company for the last couple of years. As you see, New York is 1.1 per thousand. California is down to 0.5 per thousand. I have actual numbers for every state.

TABLE 2
1994 HORL RESULTS
HIV POSITIVES PER 1,000 TESTS
BY COUNTRY

U.S.	0.6
Canada	0.3
Puerto Rico	1.5

TABLE 3
1994 HORL RESULTS
HIV ANTIBODY POSITIVES PER 1,000 TESTS BY STATE

State	Positives	State	Positives
DC	5.3	Louisiana	0.8
Florida	1.5	Oklahoma	0.8
Maryland	1.3	South Carolina	0.6
Delaware	1.2	Texas	0.6
New Jersey	1.1	North Carolina	0.6
New York	1.1	California	0.5
Georgia	0.8	Tennessee	0.5

In Table 4, I grouped the positive, and I used my own definitions. I put about the top third of the states in the highest category, the middle third in the middle, and the bottom third in

the bottom, to give you an idea of how the HIV incidence varies by age, and by region. You can see, there is a dramatic difference in HIV positive results by region, which is no surprise to anyone.

TABLE 4
1994 HORL RESULTS
HIV ANTIBODY POSITIVES PER 1,000 TESTS
BY AGE AND INCIDENCE AREA

Incidence Area	Ages 20-29	Ages 30-39	Ages 40-49	Ages 50-59	All Ages
Highest	1.0	1.1	0.8	0.5	0.9
Medium	0.3	0.4	0.2	0.1	0.3
Lowest	0.1	0.1	0.1	0.1	0.1
U.S. Total	0.7	0.7	0.5	0.3	0.6

FROM THE FLOOR: In general, are these results passed on to the applicants?

MR. SADLER: Yes. In most cases, the medical director of the insurance company either contacts the applicant directly, or that applicant's personal physician, which the insurance company knows. Table 4 shows the pattern by age, which is no surprise that the highest incidence occurs in the 20-30 age group, and is lowest at the older ages. Again, our overall hit rate in the U.S. is 0.6 per thousand.

Table 5 shows the split between male and female. The male incidence rates range from 0.8 to 0.9 per thousand in the younger ages, down to the 0.3 per thousand at the older ages. The female positive rate is more level by age. The male percentage of positives has actually been dropping slightly. The female percentages have actually been coming up slowly from one year to the next.

TABLE 5
1994 HORL RESULTS
HIV ANTIBODY POSITIVES PER 1,000 TESTS
BY AGE AND GENDER

Ages	Male	Female	Total
20-29	0.8	0.5	0.7
30-39	0.9	0.4	0.7
40-49	0.5	0.4	0.5
50-59	0.3	0.2	0.3
All Ages	0.7	0.4	0.6

As John mentioned, the most dramatic difference in the positive rate that we see is in the amount of insurance. Chart 14 shows 1994 and again, represents over half of the insurance applicants that were tested in the country—the positive rate on \$25,000 policies was 2.3 per thousand, ranging down to 0.1 at the \$500,000 and over range. There's a dramatic difference in the positive rate by amount of insurance. Now, you're going to say, well, that's based on the fact that there's a higher hit rate at younger issue ages. It's natural that people at younger ages tend to buy smaller policies; that's what is producing this effect.

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CHART 14
1994 HORL RESULTS BY AMOUNT OF INSURANCE

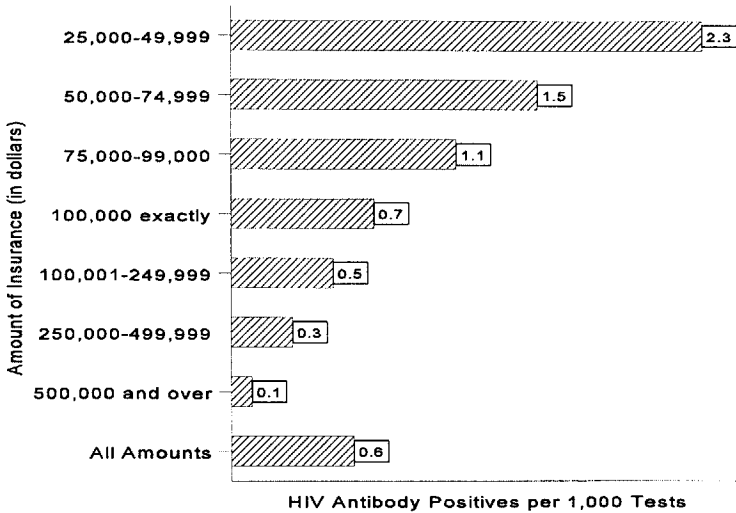


Table 6 shows hit rates—positive rates by amount of insurance—but it breaks it out into various age groups. Once again, you can see the pattern is very clear. There are still dramatically more positive rates at younger ages and smaller insurance amounts compared to very low positive rates at older ages and higher amounts of insurance.

TABLE 6
1994 HORL RESULTS
U.S. POSITIVE HIV ANTIBODY RATES PER 1,000 BY AGE
TESTED BY AMOUNT OF INSURANCE

Insurance Amount	Ages 20-29	Ages 30-39	Ages 40-49	Ages 50-59	All Ages
25,000-49,999	1.9	4.1	3.4	1.3	2.3
50,000-74,999	1.8	2.4	1.5	0.5	1.5
75,000-99,999	1.1	1.4	1.4	0.2	1.1
100,000 exactly	0.7	0.9	0.6	0.4	0.7
100,001-249,999	0.5	0.6	0.5	0.2	0.5
250,000-499,999	0.4	0.3	0.2	0.1	0.3
500,000 and more	0.5	0.1	0.1	0.1	0.1
All amounts	0.7	0.7	0.5	0.3	0.6

You can study that and say, “Now, wait a second. I know that my company varies our testing thresholds by state. In the high-risk states, my company is testing at a lower limit. Naturally, that’s going to produce this sort of an effect. If you’re testing in D.C., New York, Florida, and in some of the other high-risk states at a lower policy size, that’s going to force this sort of a pattern as well.” I took it one step further. Table 7 is just New York applicants, ages 30-39; it removes any possible effect of different testing thresholds in

different states. You can see that the pattern is still very dramatic, from almost 10.5 per thousand in the small policies down to, again, very low numbers—0.72 and 0.15—in the high policies. I haven't picked this state just because it shows this pattern. You can go into just about any state. Table 8 shows Florida, and we see the same results. The positive rate in Florida is the highest that we've seen for the last two years. You can see there's a dramatic difference in positive rates by amount of insurance.

TABLE 7
1994 HORL RESULTS
NEW YORK APPLICANTS, AGES 30-39

Amount of Insurance	HIV Positives per 1,000 tests
\$ 25,000-49,999	10.49
50,000-74,999	3.96
75,000-99,999	2.63
100,000 exactly	2.17
100,000-499,999	0.72
500,000 and over	0.15
All amounts	1.30

TABLE 8
1994 HORL RESULTS
FLORIDA APPLICANTS, AGES 30-39

Amount of Insurance	HIV Positives per 1,000 tests
\$ 25,000-49,999	10.50
50,000-74,999	4.29
75,000-99,999	2.17
100,000 exactly	2.09
100,000-499,999	1.61
500,000 and over	0.25
All amounts	1.95

FROM THE FLOOR: Your earlier comment was that most of these applicants did not know they were HIV positive.

MR. SADLER: I believe so, though I have no proof of that. You can probably get a better idea of that by talking to your underwriter and medical director at your company because that's where I get my information. We merely report the result to the insurance company, and the company takes it from there. But underwriters and medical directors say that, oftentimes, the applicant did not know he or she was HIV positive. I don't know what percentage of the time that occurs.

Let me shift gears here a little bit to another factor that you may want to consider. Back in February, the Food and Drug Administration (FDA) announced that home collection kits for HIV are now approvable. The FDA has not approved any yet, but have stated that the kits are now approvable. At least three companies have filed for a home collection kit.

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There was a recent article in *The Wall Street Journal* [May 11, 1995] outlining two of these companies: Johnson & Johnson and a company called Chemtrack. The newspaper reporter speculated that, as early as some time this year, the FDA may, indeed, grant approval of a home collection kit for HIV.

The time may soon come when people in the U.S. can go to their pharmacy, drugstore, or grocery store, and purchase an HIV test that's just like a home pregnancy test or the other home test kits that are available. It's a finger-stick type of collection that can be done at home. People would put it on filter paper. Part of the system includes a confidential numbering system and the test is mailed into a laboratory that provides the testing results. After a few days, the person that has done the test can call in with their confidential number to find out the result of their test.

If this test is approved, it may pose an interesting challenge for the insurance industry. If there's going to be an at-home test, with completely confidential results, the potential for antiselection could be tremendous, especially if the numbers we're seeing in our own experience over the last few years are true (that is, that the positive results we're seeing are for people that don't know they are HIV positive). There are many people who are not going to go down to a health clinic to see if they're HIV positive, but they will purchase a Johnson & Johnson home collection kit. I think Johnson & Johnson has done some market studies on that. I just attended a Johnson & Johnson presentation recently, and they believe that the market for a home collection HIV kit is very large. I know a number of your companies' underwriters and medical directors are having meetings now on how their company, and how the insurance industry is going to react when that day comes.

FROM THE FLOOR: If you predict that people who get a positive result will be surprised by the result, how likely is it that those people would buy a kit to begin with?

MR. SADLER: I'm talking about people that have not been previously tested at all, and find out they're positive through a home test kit, and then decide to buy insurance. Since it's a completely confidential result, it's different from an insurance company's underwriting department that will go to their doctor and find out all the results of their test. It's a confidential result. The potential exists for them to go to an insurance company, buy a policy, and get insurance, before they go to their doctor.

Some of you may have heard that a company called Epitope received FDA approval for a saliva-based HIV test. Many companies are looking at that test, particularly in combination with this home test system that may soon be available. Insurance companies are looking for an economical way to test significantly more people, so you may be hearing more about this Epitope saliva test. This is a test that's available through a number of laboratories; it's not something that's proprietary to us. Right now, there are two tests that are available from OraSure: the HIV-1 antibody screen, and a cotinine test (cotinine is the metabolite of nicotine). Epitope has also filed a 510(k) with the FDA for a cocaine test that hopefully will soon be available as a saliva test, as well. The FDA has not yet approved a confirmatory HIV test on saliva. If any positive screen is received on the saliva specimen, a follow-up blood test is required to confirm the result.

The OraSure product has a little pad on the end of a stick; it's about the size of a toothbrush. It comes with a vial, and there's a blue preservative solution in the vial. It is proprietary to Epitepe. The little pad just slides in between the cheek and gum, and the individual holds it there for approximately two minutes. It's not actually saliva that's being tested; it's the mucosal transudate solution that is absorbed by the pad. The individual places the pad and the stick in the tube containing the preservative solution, breaks off the stick, and sends it to the lab for testing. In summary, this is a product that you may hear your underwriters and medical directors talking about as they formulate their testing thresholds in the future.

MR. COWELL: Before Mike gets started, I'd like to give some statistics. So far, we've spent most of our discussion on the epidemic in relation to the population, but I'd like to discuss the insurance perspective. This information shows the percentage of total AIDS claims across the U.S. industry, and it's taken from the joint ACLI/HIAA (American Council of Life Insurance/Health Insurance Association of America) survey. The important information here is that, for individual life and health products, claims reported as AIDS-related represent 2.3% and 1.5% respectively, of total claims; for group A&H, the percentage was 1.3%, but for group life insurance, representing largely untested business, the AIDS-related claims were over 4% of the total. Each category of business accounts for several hundred million dollars a year in AIDS-related claims, and the total for the industry to date exceeds \$10 billion. With this background, I'll turn it over to Mike Reilly, who will tell us about the pricing implications of what we have heard.

MR. MICHAEL G. REILLY: When I joined the Equitable in 1989, with responsibilities in the individual life business, a number of us at the company were grappling with the potential magnitude of the AIDS epidemic, and what kind of effect it would have on our life insurance business; I'm sure many of you and your associates at your respective companies were doing the same. I would like to review with you Equitable's individual life experience with the AIDS epidemic. I will review what assumptions we made about AIDS, and I'll report on our actual AIDS death claims and compare those to the death claims we expected, based on the assumptions that we had made back in the late 1980s. I'll discuss the positive steps we took to affect our future business. I'll also report on how much we think AIDS is affecting our new business and our pricing today.

First, in 1989, we decided to construct an AIDS-only mortality table to be used within the Equitable in conjunction with Equitable's pricing and dividend mortality tables. Using as much currently available information about AIDS from the CDC and industry sources, we constructed an AIDS-only mortality table. We started by identifying the high-risk portion of the general and life insurance populations, which we identified as a percentage of the male population ages 20-59. We estimated the likelihood of antiselection by different years of issue periods. The mathematical model we followed was as described by Cowell and Hoskins in their 1988 paper on AIDS ["AIDS, HIV Mortality, and Life Insurance," *7SA XL, Part II* (1988): 909-72]. Besides estimating the high-risk population and the extent of antiselection by different years of the issue periods, we also needed to make numerous other assumptions, including current and future HIV infection rates, progression rates from HIV infection to AIDS (where we followed a blended version of the Frankfurt study and the Weibull progression), and death rates by duration once people had contracted AIDS, which we based on then current CDC experience.

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We assumed that there would be significant antiselection by the high-risk population and that the extent of this antiselection would vary considerably by year of issue due to the general awareness of AIDS; it obviously would be affected by Equitable's individual life blood testing limits, which had started in 1986, and had been reduced continually over the prior three-year period. Gregg mentioned his experiences with different companies, and the incidence of blood testing in the mid-1980s.

Back in 1989, we were trying to get our hands around a potentially devastating problem. We concentrated on the male high-risk population and excluded from our analysis incidence of HIV infection due to contaminated blood transfusions, which we reasoned should be close to zero after the early 1980s. We excluded IV drug users because they did not fit the profile of our policyholders; we also excluded women and the impact of heterosexual transmission, since these percentages, at that time, were so small. Our 1989 AIDS mortality table was a male table for issue ages 20–59. The rates varied by different years of issue and also by duration, but it was not an AIDS-specific table.

I referred to the antiselection by AIDS awareness and blood testing limits. Table 9 shows our blood testing limits for that period. Equitable started blood testing with the ELISA and Western Blot test in 1986. Over the next several years, we steadily and continually reduced our blood testing limits downward, and since 1989, we have been testing for face amounts of \$50,000 and above in what we deem high-risk states and jurisdictions and for face amounts of \$100,000 or more elsewhere. Our high-risk designation actually very closely mirrors the U.S. incidence AIDS as well as some of the information that Gregg described.

**TABLE 9
BLOOD TESTING LIMITS**

Effective	Ages	Limit
Prior to 3/86		Tested for cause only
3/86–4/87	15–30 31 +	\$1,500,000 1,000,000
5/87–12/87		250,000
1/88–5/89	15–55 56 +	100,001 250,001
6/89–Present		50,000 High-risk States \$ 100,000 Other

What has been the trend of Equitable's individual life AIDS experience over the last several years? Chart 15 compares Equitable's individual life AIDS claims as a percentage of its total claims, with similar percentages that were reported for the industry in the joint ACLI/HIAA AIDS report. You can see in the chart that the AIDS claims mortality experience for the industry in individual life has been relatively flat, averaging slightly in excess of 2% over the last five years. Note that the industry number for 1994 is only an estimate, since the figures will not be available until the summer. [Note: Since the panel discussion, the 1994 ACLI/HIAA survey results have been released and show percentages for individual life of 2.3%, individual health of 1.5%, group life of 4.4%, and group health of 1.0%; all were within one-tenth of a percent of the estimates given at the panel.]

CHART 15
INDIVIDUAL LIFE AIDS CLAIMS
PERCENTAGE OF AIDS VERSUS TOTAL CLAIMS



Equitable's individual life percentages have also been relatively flat, in the 1.6–1.8% range, for years 1990–93, which is close to but consistently below the industry averages throughout that period. In 1994, we experienced a substantial 1.1% increase in our AIDS claims percentages. We looked back and examined our 1994 AIDS claims experience, and found that the source of the variance was just a handful of very large policies with face amounts of \$1 million or more. This included a \$2 million AIDS claim for a type of individual policy that Equitable heavily marketed in the mid-1980s, to groups of high-income, high-net-worth individuals, such as partners in law and accounting firms, and investment management professionals. For that special kind of policy, Equitable did group-style underwriting and no testing. Now, even though we had the \$2 million claim in 1994, I can tell you that our overall mortality experience on this block of business has been actually very favorable. In addition to this, we had a claim in 1994 for over \$1 million on a policy that was issued in 1989, where a blood test was taken, and the results of the test were negative. Although this 1994 experience does concern us, we remain optimistic that our future years' experience will be more like the 1990–93 trends. And indeed, our 1995 first quarter experience has been very favorable—in fact, the actual AIDS claims as a percentage of total claims for that period are actually less than 1%. The actual AIDS claims for the first quarter of 1995 were back down to 1991 levels. We feel this 1994 experience is more like a one-year aberration.

In 1994, we completed a study comparing our cumulative AIDS claims experience of the prior ten years, and compared it with the cumulative death claims that we expected to pay, based on the 1989 table that we had constructed, that I previously described, where we applied those death rates against estimates of face amounts in force for each of the prior ten years. Before we did an actual-to-expected comparison, we realized that we had to adjust

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our actual claims for the general underreporting of AIDS claims that John referred to. In fact, prior estimates that we had seen of CDC underreporting were as low as 84% or 85%. I think that John mentioned recent estimates are more like 90%. In addition, we have virtually no information about New York City AIDS claims. We took both of those, as well as other general underreporting, into account. We adjusted our actual AIDS claims upward by 50% before we compared them to the expected claims that we got out of our table.

Table 10 indicates, for all years of issue and for all untested policies, our cumulative adjusted actual claims were remarkably close to the cumulative expected claims that we anticipated based on the 1989 table we had constructed in-house, at 111%.

TABLE 10
1994—TEN-YEAR AIDS CLAIMS STUDY
UNTESTED—ALL YEARS OF ISSUE

Actual Claims	\$56.8 million
Adjusted Actual Claims	84.5 million
Expected—1989 Table	75.8 million
Adjusted A/E%	111%

However, when we looked at separate years of issue periods, we realized that in those different years of issue, we had made substantially different assumptions of the incidence of HIV infection, antiselection, and other assumptions, and we saw a wide variation in actual-to-expected ratios (see Table 11). When we looked more closely at the claims from these different periods, we saw some interesting results.

TABLE 11
1994—TEN-YEAR AIDS CLAIMS STUDY

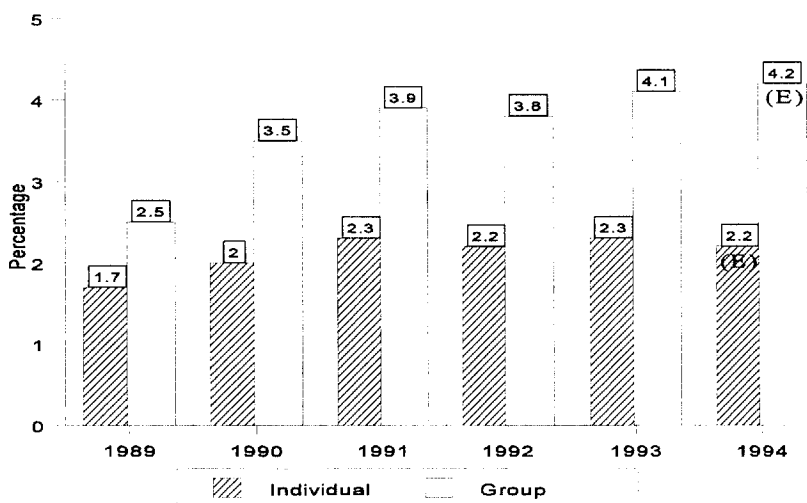
Issue Period	Ratio
All Years of Issue (untested)	111%
Prior to 1985	405
1985–May 1989	73
June 1989–1994	129

For the untested group, for issues prior to 1985, and particularly before 1980, our 1989 in-house AIDS table anticipated very little antiselection because of low AIDS awareness, and we assumed that members of the high-risk groups would purchase life insurance less frequently than the general population, and when they did, they would purchase at lower amounts. Here, we saw an adverse actual-to-expected ratio of 405%. Again, our expected was based on a reverse antiselection. We expected very little purchase of life insurance by the high-risk population. In addition to this, we were very surprised that we had so many death claims at ages above 55 for relatively low face amounts and advanced durations. We felt that we had ignored significant sources of AIDS claims by excluding older ages, possibly due to ignoring blood transfusions as a source of infection during this issue-year period. In revising our table in 1994, we revised our high-risk assumptions upward, and extended them to include older ages.

For the next untested issue period—issues in 1985 to May 1989—the results indicate that our actual-to-expected ratio was favorable. The expected is based on our 1989 table, and our expectations for those issue-year periods. When we constructed the 1989 table, we had assumed, because of our high blood testing limits that I referred to before, and because of widespread awareness of AIDS, that we would have had substantial antiselection during this period; we thought people would be coming and buying under our high blood testing limits. We overstated the extent of the antiselection, and we have pulled back on our antiselection assumption for this period, in revising our table for 1994.

For the final untested issue-year group—issues since June 1989 to 1994 issues—again, we had underestimated, in our 1989 table, our AIDS claims, with an actual-to-expected percentage of 129%. We found in this issue-year group that group conversions were a significant source of our AIDS claims, representing one-third of the large claims. Now, Equitable sold its group operations a number of years ago; however, we still had a substantial number of individual policies being issued as a result of group conversions until July 1994, as a result of transition rules associated with the sale of the group business. Mike Cowell has already referred to this. As the claims industry data from the joint ACLI/HIAA AIDS report indicates (Chart 16), group life AIDS experience has been consistently 1.5–2% higher than individual life. And one would expect, for individual policies issued from group conversions, that this would be significantly higher. Since this is a problem that Equitable no longer faces, because we're out of the group business, I spoke with a colleague at a company with both large individual and group operations. Her company has seen similar AIDS experience for its group conversion policies; the individual area at that company had suggested a significant increase in group-conversion charges, but their group people, not surprisingly, resisted. She told me that they've resolved the impasse. Their group operations will now have responsibility for their group conversion business and for reporting within its line the financial results associated with it.

CHART 16
INDIVIDUAL LIFE AND GROUP LIFE AIDS CLAIMS
PERCENTAGE OF AIDS VERSUS TOTAL CLAIMS



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We also looked at females, because female AIDS claims have been increasing as a percentage of death claims for AIDS. This is true for Equitable. We felt, as part of our 1994 revisions to our internal 1989 AIDS table, we needed to have additional AIDS mortality assumptions for women used in our pricing and dividend work.

The 1994 AIDS table incorporated these findings: it lowered AIDS mortality assumptions for new-product pricing, which is almost entirely tested, at least on a paid volume basis. We generally increased AIDS mortality assumptions for older, in-force policies, and we created a separate, female table for AIDS.

Now, what impact do these AIDS mortality assumptions have on individual life, new-business pricing results? Using our older 1989 AIDS table, our AIDS mortality assumptions lowered new business product internal rates of return (IRR) on a prototypical variable universal life policy that was tested by 60 basis points for males. There was no change for females because we had no assumption for AIDS for females in our 1989 table. With our 1994 revisions, the decrease in product internal rate of return has been halved to 30 basis points, and for females, the 1984 table lowers IRRs by ten basis points. We see a similar result when we apply our AIDS mortality assumptions to whole life, prototypical whole life, and level-term policies. The results for level-term policies on males are identical to what they are for a variable universal life policy; once again, for males, the 1994 assumption on tested business would halve the result of the 1989 assumption.

I want to make a couple of final points on pricing and underwriting issues. We talked about blood testing, and Table 9 showed what the range of blood testing limits have been within the Equitable. The effects of these limits have been very positive on Equitable, and for other companies' experience, because of the blood and urine testing. It's not only useful for AIDS, but it's also useful for nicotine and cocaine testing and identifying liver and kidney disorders.

In addition, our company has been using a modified blood profile for tested amounts where—at lower tested face amounts, and at a lower cost—we still pick up the HIV test. We also do the urine test for nicotine, but we do not provide for a full blood profile. Using the modified blood profile, however, we do miss some liver and kidney disease disorders.

Gregg has already referred to the new saliva-based HIV test and confidential home testing. It seems that changes in testing are going to have a substantial impact on AIDS and other future mortality experience for insurance.

Pricing of guaranteed-issue policies (I referred to the \$2 million claim we had), regularly underwritten policies with options to purchase additional insurance, and cost-of-living adjustment (COLA) benefits obviously point to the need for mortality assumptions that reflect higher expected mortality in general—assumptions more like those used for the group type experience, including higher mortality for AIDS.

I want to thank some of the people who were very instrumental within Equitable in development of the 1989–94 revisions to the AIDS table and in the preparation of this presentation: Tom Meehan, Leta Ungar, and John Natoli, our chief underwriter.

MR. COWELL: We've obviously covered a lot of territory and are going to open the discussion up to your questions. We didn't mention Canada. The good news is that AIDS has not been nearly as serious a problem in Canada as it has in the U.S. But if there are any specific questions, I'm sure we can address them.

FROM THE FLOOR: I didn't understand the numbers that we saw on the incidence of claims by face amount compared to the average claim.

MR. SADLER: Our average HIV positive incidence was about \$120,000 last year. Most companies' testing thresholds right now are probably in the \$75,000–100,000 range. The data that I have, in terms of the total number of tests being performed, are overwhelmingly more than \$100,000 to begin with. In other words, the average size policy that we test is over \$200,000. Even though the positive hit rates look very large at the small-size policies, the number of tests done is much less than the number done for the larger policies.

MR. COWELL: Would you like to add to that, Mike?

MR. REILLY: I just want to point out that the \$127,000 is obviously a function of the testing. I think the data that I've seen from the ACLI/HIAA reports indicate that the average AIDS claim, which obviously is primarily untested, or at least, up to a certain point, is more in the \$25,000 range for individual life insurance. I'm doing this from memory. I think that at the Equitable, where we sell at higher face amounts, our average AIDS claim has been more around \$45,000.

MR. COWELL: Yes, I think that's a good point. It's the difference between total AIDS claims and business that's tested. The average AIDS claim in 1993 for ordinary life, as reported to the ACLI, was \$25,400. There are obviously many small, older policies in there.

MR. SADLER: I would love to know, what the HIV-positive rate is on untested business. I know it's something we can't determine.

MR. COWELL: We can get some good guesses from the national data that John displayed. It's a combination of the difference between testing rates and average size of claim, and the data that Gregg showed doesn't reflect untested. Mike's data concentrated largely on large cases. I think it's fair to say that the Equitable's average policy size for all policies is generally much higher than the industry average?

MR. REILLY: Well, I'm sure that's true. I mentioned that we test down to \$50,000. That's fairly close to our minimum size. We do have one whole-life-type policy where we sell down to \$25,000.

FROM THE FLOOR: I have a long question. I'd like Gregg and Mike Reilly to answer it. Gregg, you were showing those HIV hit rates by amount. Some of those at the lower amounts are going to come from situations where the company orders a test below the normal testing limit because of something on the application, or some other evidence that suggests that there's a high probability that this person is HIV positive. I'm wondering if

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the Equitable has had an opportunity to look at their AIDS claims by amount, and how would that compare to Gregg's HIV hit rates by amount?

MR. REILLY: I don't think you can make a direct comparison, because the overwhelming majority of the AIDS claims has been on untested business.

FROM THE FLOOR: I understand that, but the reason I'm asking my question is the fact that it's untested is not particularly relevant, and so I'd like you to answer it anyway, if you have the data.

MR. REILLY: Could you repeat your question again?

FROM THE FLOOR: Didn't you see the same pattern when looking at just untested business? If you're looking at just the untested, do you see a much higher AIDS mortality rate for the very small policies, after adjusting.

MR. REILLY: We never measured that, so I don't have the statistics. We were very surprised at the amount and the incidence of AIDS claims that we had at low face amounts. When we were looking at things in the late 1980s, we were so concerned about having \$1 million blood testing limit, and people applying for insurance below those amounts, and then bringing blood limits down to \$250,000. But when we went back in 1994, we noticed a tremendous number of AIDS claims for very low amounts. But we never quantified any statistics by face amount to demonstrate that.

MR. SADLER: Let me answer that two ways. Certainly, there is some for-cause testing that would cause the smaller face amounts to have a higher positive rate. However, I have no way of determining how much that would affect the numbers. After talking to underwriters around the country, I found that different companies approach it different ways. If you're an underwriter in today's world that sees, on an application, several sexually transmitted disease, or the types of things that would cause you to order a blood test, you probably don't want to know. You want to decline the applicant for the information you have on the applicant. The last thing I'd want, if I was an underwriter, at that point, is an HIV test.

This is an AIDS session, so I didn't show slides on cocaine and nicotine use; there's obviously a different order of magnitude in terms of the number or percentage of positive results we'd get. But by amount of insurance, you could overlay it on the HIV positive, and the trend or the pattern is almost identical. HIV, cocaine, and nicotine are factors that wouldn't be affected as much by the for-cause kind of a pattern. In answer to your question, any way I've sliced the pie, I see this very distinct pattern of dramatically different positive rates by amount of insurance, company, state, and age.

MR. COWELL: Yes. I think that's a very good point to note, Gregg. There is certainly little uniformity in reporting. The ACLI data that Mike Reilly alluded to, and that we presented in some of the graphs, are based on several hundred companies; it depends on how good the reporting is. There are still a number of companies that report no AIDS claims. And maybe this is understandable for individual business, but it's very difficult to understand, for example, on group life; in 1993, 233 companies reported to the ACLI, and

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76 of those 233 reported zero AIDS claims. A number of us in the group life business would love to know their secret. How do you write group life business in the U.S. and get zero AIDS?

MR. SADLER: You believe that number?

MR. COWELL: I don't know what they're doing. I'd love to know their marketing secret. The 4% was the average, including the zeros.

MR. SADLER: Do you believe those companies truly had zero?

MR. COWELL: I would just like to know their marketing secret, Gregg. You know, I'm open to all kind of suggestions. I'd like to know how they did it.

MR. LARRY WARREN: I have two quick questions. The first is for Gregg. I'd like to know how close you think the FDA is to approving the Western Blot type of confirmatory test. And the second question is for Mike Reilly. I'd like to know when Equitable expanded its AIDS model and made it more conservative. It then slowed its ratio of actual to expected. When that took place, why, when you then determined the effect on pricing of AIDS, did the actual reduction in profit actually shrink. It seems like it's the opposite of what you'd expect.

MR. SADLER: I can't speak for the FDA, and I won't attempt to. I can tell you that the actual submission to the FDA has not been made yet, so the FDA can't approve what isn't before it. That submission is planned for some time in June, and then it's anybody's guess. I would think it would be a minimum of six months. It could be a long time. I can also tell you the test works. We've been using the test in Canada for three or four years, and it works. But that doesn't mean we can use it in the U.S.

MR. REILLY: Most of the experience that we were presenting on the ten-year study, where we looked at the actual-to-expected ratios, was on untested business. Within the dividend scale work for those different years of issue, we generally increased our antiselection and AIDS mortality assumptions, which is untested. As I indicated, about 95% or more of our new business is tested. In 1994, we lowered our ultimate HIV infection rate assumption. As a result of that, the 1994 revisions halved, effectively, the impact of AIDS on our new-business pricing.

FROM THE FLOOR: Most of your data has been on the life insurance aspect of AIDS. With regards to health business, I was curious about what percentage of claims, if any, was shown for AIDS. There did seem to be much more for the opportunistic diseases.

MR. COWELL: When you say health, do you mean medical coverage?

FROM THE FLOOR: Yes.

MR. REILLY: I may be misreading it. Doesn't the ACLI/HIAA report individual health business? I guess it's combined with a few things. I'm not sure I've seen it broken out, but

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within those statistics, which is a good starting point, the actual incidence of AIDS claims associated with total individual health claims has been averaging 1.3–1.5% range?

MR. COWELL: That 1.3–1.5% does include individual disability. For group, it's a little higher. On group disability, the numbers are very close to group life. I cannot tell you about medical insurance.

MR. REILLY: I've never worked in individual health, but I did discuss this a little bit with some of our Equitable people. Equitable is basically deemphasizing its individual health business. My understanding is our experience in individual health has been higher than the industry average, probably because we are deemphasizing new business; therefore we have a declining population that is affected by a selection process. We've seen higher experience than the industry averages.

MR. COWELL: I think that's a good point, Mike. Many of the traditional medical business is migrating away from insurance companies toward the Blues and other organizations, many of which don't do any underwriting, or do a kind of underwriting that would not catch HIV infection. They might not even be reporting AIDS claims when they occur. I think softness of data on health insurance versus life insurance is probably a concern. Does that help, some?

FROM THE FLOOR: Yes.

MS. MARJORIE S. CARLSON: Yes, I'd like to get back to the mortality of small claims. When is there prevalence of AIDS by income level.

DR. KARON: Our surveillance system is unable to collect any information on socio-economic status.

MR. COWELL: When Walt Hoskins and I started studying this question back in 1986, and analyzed the then-available ACLI data, we were seeing AIDS incidence measured in terms of death claims that was not distinguishably different at the very large policy amounts than it was at the very small policy amounts. This led us to believe that among the then-prevailing high-risk group—male homosexuals—the disease was not distinguishing socio-economically. It was as prevalent at the high-income level as at lower incomes. That's a very weak statistic. That may not be true when you get into the IV drug user community. The AIDS virus doesn't know whether it's in Africa or the U.S. or whether it's infecting a male or a female or a high-income or a low-income individual; it just goes in and does its job. In the insurance industry, we don't know what the ethnicity of the person is, but the CDC does because the federal government is able to classify much differently than private institutions can.

