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RISK CLASSIFICATION -- CURRENT STATUS

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- o Sex discrimination
 - Pending federal legislation
 - Montana law
 - Other
- o Impairments
 - California AIDS victims
 - Blindness
 - Others
- o Social insurance issues

MR. EDWARD C. JARRETT: Most people, including myself, do not think of risk classification as one of the real glamour areas in the life insurance industry, but it's an area we all must be concerned about. True risk classification allows us to have more confidence in our mortality assumption used in pricing, valuation and other areas. We are going to discuss sex discrimination, blindness and AIDS.

MR. JAMES M. MERWALD, JR.: I am going to cover the current status of the risk classification issues concerning sex discrimination and blindness.

I'd like to start off by giving the current status of sex discrimination issues. On the Federal level there has been little activity. There are still two bills lying around: 1) The Economic Equity Act of 1985, H.R. 2472, and

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2) Representative Dingell's Bill, H.R. 1973. There are no hearings scheduled on these bills and no real activity expected. On the state level there has been quite a bit more activity.

First of all, Montana enacted legislation that requires unisex rates on all insurance products. Companies have complied with the Montana legislation in various ways. Some companies have completely pulled out of the state, and others have cut back their product lines to one or two products. The health market is generating more concern over the impact of the unisex rating as opposed to the life products.

The insurance industry has a problem with a lack of credibility. The industry has threatened that, if this type of legislation is passed, companies will pull out of the state or reduce product lines. This has been true in Montana, but there has not been a lot of publicity attached to this and other actions that the insurers have taken in response to the Montana legislation. There is hope that a study on the impact of unisex legislation on the Montana Insurance Market being conducted by the ACLI, HIAA and AIA will draw more attention to the response by the industry to unisex legislation. Hopefully, this will add some credibility to the industry's case when we have hearings in other states on unisex legislation. The Montana Legislature did not meet in 1986, so there has not been activity this year in trying to get the legislation repealed. 1985 legislation intended to repeal the unisex legislation lost by two votes.

Thirteen states and the District of Columbia have had some action in their legislatures on unisex bills. Although none of these jurisdictions are expected to pass unisex legislation, the District of Columbia and Massachusetts are the two jurisdictions considered the most at risk to pass unisex legislation.

In the District of Columbia, there are two bills that are carryovers from last year: one is an amendment to the unfair trade practice, and the other is a pure unisex bill. There was a committee hearing three months ago on the amendment to the unfair trade practices. At that time the Committee Chairman stated he felt that the unisex issue should be dealt with by its own legislation as opposed to an amendment.

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In Massachusetts there are five bills pending, most of which are carryovers from last year. There is a possibility that there will be hearings on one or more of these bills later in June. In addition, Mary Jane Gibson has created some publicity by stating she wants to take some of these to the floor of the Legislature. One of these bills includes wrapping the unisex legislation around the ERA amendment.

Probably the most noteworthy activity in the unisex area at a state level this year has affected the property/casualty industry in the state of Pennsylvania. The Pennsylvania Insurance Commissioner had issued a ruling stating that, in the absence of clarifying legislation, the equal rights amendment requires unisex rates. This year the legislature passed clarifying legislation stating the ERA does not require unisex rates. The Governor vetoed the legislation, but the legislature overthrew his veto. Pennsylvania had required unisex rates for automobile insurance. This is considered to be a major victory for the industry in the unisex area since it clarified that the ERA does not require unisex rates.

Another noteworthy item in the unisex area has been the National Organization of Women's suits against Mutual of Omaha in Washington, D.C. and against Metropolitan in the state of New York. The suit in D.C. was dismissed by the trial court, ruling there was no cause for the action. NOW has appealed to the Court of Appeals and briefs have been filed on this case. All arguments are expected to begin in six months. Mutual of Omaha's brief was labeled as outstanding by an ACLI representative. ACLI also filed briefs concerning the national impact of this type of legislation.

The New York lawsuit against Metropolitan is similar to the D.C. suit. Metropolitan filed a motion asking for a dismissal of the case similar to the motion filed by Mutual of Omaha in D.C. One attorney stated he feels the D.C. statute presented NOW with a stronger case than the New York statute. Hopefully, this suit will be dismissed.

One other related matter in the sex discrimination/risk classification area has seen some activity recently -- a 10 to 12 year old suit before Maryland Human Rights Commission against The Equitable. This suit states that use of

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occupation classes on disability insurance had a disparate impact on women and blacks, resulting in discrimination against women and blacks because they were always classified in the lower occupational classes.

Historically both the Maryland Human Rights Commission and the Insurance Commission have shared jurisdiction in this area. And, in fact, a Human Rights Commission hearing officer recently ruled against The Equitable. In response to the renewed actions in this area, the industry has been successful in getting legislation passed and signed into law giving exclusive jurisdiction to the insurance commissioner (except for matters regarding race, creed, color or national origin). Passage of this legislation means that The Equitable case will have to start over in the Insurance Commission where it is hoped that the use of occupational classes in the underwriting process will be upheld.

In the area of blindness discrimination, there has been activity at both the state and federal levels. The activity at the state level centers around the December 1984 NAIC model regulation prohibiting discrimination on the basis of blindness or partial blindness. This model regulation removed the actuarial exception contained in previous blindness related regulations. The NAIC model regulation does contain three drafting notes:

- o The insurer can rate for all other impairments including the underlying cause of the blindness, if one exists.
- o The insurer cannot reject coverage because of a loss of sight disability definition -- some insurers were rejecting the blind for waiver of premium coverage, for example, if their contract contained a loss of sight disability definition. The insurers feared they would have to start paying claims immediately if they issued the coverage. The third note is designed to deal with problems that could arise from the second drafting note.
- o The insurer can include clarifying phrases in their policy forms to exclude pre-existing blindness or partial blindness from disability coverage.

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These drafting notes may or may not be included in the actual regulations passed by the states. If they are not included, one can only hope that the regulation will be enforced in a manner consistent with the drafting notes. Twenty-two states have passed some version of the December, 1984 model regulation. Three other states are close to enactment.

At the Federal level, the Fair Insurance Coverage Act, H.R. 2741, was reported out of the Subcommittee on Commerce, Transportation and Tourism on May 15, 1986. This is the second consecutive year the subcommittee reported this legislation. The legislation has 184 cosponsors and prohibits discrimination in insurance on the basis of blindness or partial blindness. The prohibition parallels the prohibition in the NAIC model regulation.

The main concern with passage of this Federal legislation is that it could set a dangerous precedent infringing on the established practice of state regulation of insurance. The subcommittee action was unexpectedly sudden, and there's quite a bit of feeling that the markup of the bill by the Full Energy and Commerce Committee is eminent.

In addition to the potential infringement of the Federal Government in insurance regulation, the industry is concerned with several sections of the bill. These include the sections denying state regulators adequate time to pursue remedies under existing state law before proceedings are removed to the Federal courts as well as a section allowing for punitive damage awards. Also, the legislation does not address the items covered by the three drafting notes included with NAIC model regulation.

The ACLI continues to push its members and the NAIC to encourage passage of the model regulation. The ACLI feels that if the NAIC revised model regulation is passed by all 50 states, that an argument will exist for rendering the Federal legislation unnecessary. We can only hope that the states are successful and that the federal government will not get involved.

MR. GARY F. MCHOLLAND: A colleague, Les Miller, and I completed a study on AIDS patients in California last November. A version was released in March of 1986 by the California Department of Health. We studied demography,

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medical costs and mortality. The main source of the data we had was an AIDS registry. In California, physicians are required to report any suspected case of AIDS to the department or their county health officer who works for the department. The AIDS registry doesn't contain names, it contains name code, date of birth, county of residence and onset dates for AIDS and associated opportunistic diseases. Medical cost information is obtained from the Medi-Cal paid claims system. For mortality, we use the vital statistics death registry which has access to all the death certificates in the state.

California has about one-fourth of all the reported cases of AIDS in the U.S. Basically, AIDS is defined by the satisfaction of three criteria. The first is the presence of antibodies to the HTLV-III virus in the blood stream. The second criteria is a deficiency of helper T-Cells in the blood stream. These are a type of white blood cell. The third criteria is the presence of certain opportunistic diseases or cancers. Our study concerned AIDS -- not AIDS related complex or ARC. ARC is defined by the first two criteria, but not the third. A person with ARC has the antibodies of the HTLV-III virus and deficiencies of the helper T-Cells, but not the serious malignancies or opportunistic diseases that are characteristic of AIDS. ARC symptoms are night sweats, fatigue, fever, diarrhea, and it's important to keep in mind that it is believed that a majority of AIDS patients started with ARC symptoms. They basically had ARC, and it went on to become AIDS. For persons who have ARC, it is estimated that somewhere between 5% and 25% are going to develop AIDS. I don't know of any scientific study that has been done to verify these percentages.

As far as demography, it's found that San Francisco County and Los Angeles County have had about 40% of the California AIDS cases. The ethnic breakdown of these cases in California is quite a bit different than the the nationwide breakdown. I've seen in periodicals that AIDS is defined as a disease with a high representation of minorities. However, in California, the opposite is the case. The ethnic rate in California is 83% white and 8% black, 8% hispanic and 1% other. Nationally, it's 60% white, 25% black, 14% hispanic and 1% other. In California AIDS cases, whites are overrepresented, and hispanics are underrepresented. The portion of blacks with AIDS is about the same proportion of

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our population. The ethnic group that is very unrepresented in both the state and national figures is the Asian-Pacific.

The AIDS registry also codes the risk group that the person is identified with. The CDC has defined four risk groups for AIDS: homosexual males, bisexual males, intravenous drug users and hemophiliacs. In California, homosexual and bisexual males make up 93% of the total, and nationwide that percent is somewhere between 70 and 75%. Intravenous drug users are only 2%. Nationwide intravenous drug users account for 15-20%. The age/sex rate breakdown in California shows that fewer than 2% of the reported cases were female, a figure which has not been changing over time. The age distribution is heavily weighted towards early 30's with 92% of the cases between the ages of 23 and 52.

For the mortality study, we used cases where there was a coded onset date. Since we did the study, it's been changed to a diagnosis date which theoretically would be a little after the onset date. We have over 1,500 persons with coded onset dates and were able to match them with the vital statistics death registry for the mortality study. We found that mortality for AIDS from onset varies from about 3-6% per month. That compares to a mortality rate of about 1 in 1,000 per year for somewhere in that age group. Kaposi's Sarcoma (KS) and pneumocystis carinii pneumonia (PCP) are the most common diseases associated with AIDS. The average first month mortality rate for PCP is about 27%. Some of the other opportunistic diseases also have quite high monthly mortality rates. These results are shown in Exhibit 1.

We also looked at mortality by area, and although we did see differences, they were not statistically significant. This also held true for age and sex except for infants with PCP. Seven infants who were included in the study showed onset dates of PCP. Six of these died within one month and the seventh died the following month. Even though this is a small sample, it does pass tests of statistical significance.

In identifying AIDS, there is a reporting problem as well as problems associated with the definition of AIDS that may prevent claims from appearing on the AIDS Registry. Insurance companies or other governmental agencies looking for AIDS related deaths should look for specific international classifications

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EXHIBIT 1

MORTALITY OF CALIFORNIA AIDS VICTIMS

Months Since Onset	Average Monthly Mortality Rates						
	1	2-3	4-6	7-9	10-12	13-18	19-24
Acquired Immune Deficiency	.048	.031	.036	.046	.052	.063	.045
Kaposi's Sarcoma	.060	.050	.043	.060	.056	.047	.034
Pneumocystis Carinii Pneumonia	.272	.040	.061	.101	.142	.137	.098
KS and PCP	.229	.090	.129	.134	.175	.175	.175
Toxoplasmosis	.250	.182	.182	.182	.182	.182	.182
Mycobacteria	.333	.152	.135	.074	.074	.074	.074
Candida Esophagitis	.249	.101	.063	.119	.134	.124	.124
Cryptosporidiosis	.154	.095	.095	.097	.097	.097	.097
Cytomegalovirus	.291	.082	.088	.088	.087	.087	.087
Cryptococcosis	.264	.083	.083	.119	.067	.067	.067
Progressive Multifocal Leukemia	.400	.300	.300	.300	.300	.300	.300
AIDS - SF	.044	.030	.033	.050	.055	.068	.047
AIDS - LA	.055	.030	.034	.040	.047	.060	.046
AIDS - Other	.042	.038	.050	.050	.061	.059	.050

Months Since Onset	Number of Deaths						
	1	2-3	4-6	7-9	10-12	13-18	19-24
Acquired Immune Deficiency	74	85	127	129	116	182	69
Kaposi's Sarcoma	47	66	67	68	46	48	18
Pneumocystis Carinii Pneumonia	287	51	88	94	78	60	11
KS and PCP	33	18	26	16	15	9	0
Toxoplasmosis	11	11	7	7	0	1	0
Mycobacteria	30	15	13	8	1	1	0
Candida Esophagitis	44	23	16	20	13	13	1
Cryptosporidiosis	12	8	13	8	2	4	0
Cytomegalovirus	46	16	23	8	7	15	2
Cryptococcosis	24	7	13	10	5	3	2
Progressive Multifocal Leukemia	5	3	1	0	0	0	0
AIDS - SF	28	35	51	61	52	84	31
AIDS - LA	37	35	51	48	45	75	31
AIDS - Other	9	15	25	20	19	23	7

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of diseases or ICD codes for the cause of death. The code 078.5 is indicative of cytomegalo virus; 117.5 is cryptococcosis; 136.3 is PCP; 173.9 is other malignant neoplasms of the skin, unspecified, which is how KS is usually coded; 279.1 and 279.3 are disorders involving the immune system. Prior to AIDS, it was very rare that these causes occurred in the group of males aged 15-59. If any of you desire to search out death claims for AIDS other than looking for a given cause of death such as AIDS, we recommend looking at these causes which covered 80% of the AIDS related deaths. Other causes were coded, but we didn't find any that were specific to AIDS and not common with non-AIDS cases. From our mortality figures, we estimated an expectation of life from onset, and we came up with an expectation life of 18 months for AIDS once the patient developed one of the more serious opportunistic diseases. Exhibit 2 is a table of life expectancies for California AIDS victims.

EXHIBIT 2
Life Expectation of California AIDS Victims

	Months from Onset
Acquired Immune Deficiency	18
Kaposi's Sarcoma	18
Pneumocystis Carinii Pneumonia	8
KS and PCP	6
Toxoplasmosis	4
Mycobacteria	7
Candida Esophagitis	7
Cryptosporidiosis	9
Cytomegalovirus	8
Cryptococcosis	9
Progressive Multifocal Leukemia	2
AIDS - SF	18
AIDS - LA	18
AIDS - Other	18

For analyzing the medical information, we use Medi-Cal claims, so we can only look at the medical cost information for those AIDS patients covered by the Medi-Cal program. We were able to identify over 400 individuals with AIDS who were in the Medi-Cal program to analyze the costs and morbidity. We found that on a statewide basis, the average per person per month cost was \$3,300 dollars. Medi-Cal pays less than the total billed amount which was \$5,100 per person per month. Using a life expectancy of 18 months, this translates to a total of \$59,000 per case for Medi-Cal and \$91,000 per case on non-Medi-Cal basis.

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Medical costs also varied by geographic location. We analyzed costs in three areas: San Francisco, Los Angeles and everywhere else. For these three areas, admissions to the hospital for AIDS patients averaged once every three months. Note that hospital admissions can also vary by area. The average length of stay also varies by location. The average length of stay was 12 days in San Francisco, and in Los Angeles it was 18 days. The CDC reported that in New York, it's over 30 days. We found that 91% of the costs are hospital inpatient costs. That also varied by area. San Francisco had a lower inpatient cost percent of 89%, and Los Angeles was 94%. San Francisco has implemented some cost savings programs that the other counties haven't such as hospice care.

By reviewing the Medi-Cal claims, we also were able to look at AIDS related diagnosis that appear on the medical claims that were rare prior to AIDS. Code 136.3, PCP is a very good one to select if you ever need to look through a large medical data base to identify AIDS related claims. Code 173.9, KS and any code that begins with 279, which report disease of the immune system. 98% of the AIDS patients showed at least one claim with one of these three codes, and they're rare outside of AIDS. Another very common ICD code we found for AIDS patients is 486, unspecified pneumonia. However, this one isn't as useful for identifying AIDS related claims because a lot of non-AIDS patients have claims with that code. We suspect the 486 when coded for an AIDS patient may be in a lot of cases misdiagnosed. There's no ICD code for AIDS or AIDS related complex or infection or the HTLV-III virus. That's why we look to these other key ICD codes. The international classification of diseases changes every 10 years and the latest version was released before the AIDS epidemic, so there isn't going to be an official AIDS code added until 1990. In California, the Department of Health Services has required providers to use special codes. The department is basically intending to cover AIDS and AIDS related conditions by December of 1985, producing 279.17 as ARC and 279.18 as AIDS. As of April, 1986 we have over 4700 reported and confirmed cases.

Ever since the AIDS epidemic was recognized, people have been talking about expansion and growth. Exhibit 3 is a chart of AIDS related deaths in California by quarter and shows that growth has been linear. You can see how well a line can fit through it. r^2 comes out to be about .98. Reported cases have been increasing by about a 190 a month for the r^2 greater than .999. I

AIDS RELATED DEATHS IN CALIFORNIA M 15-59 ONLY

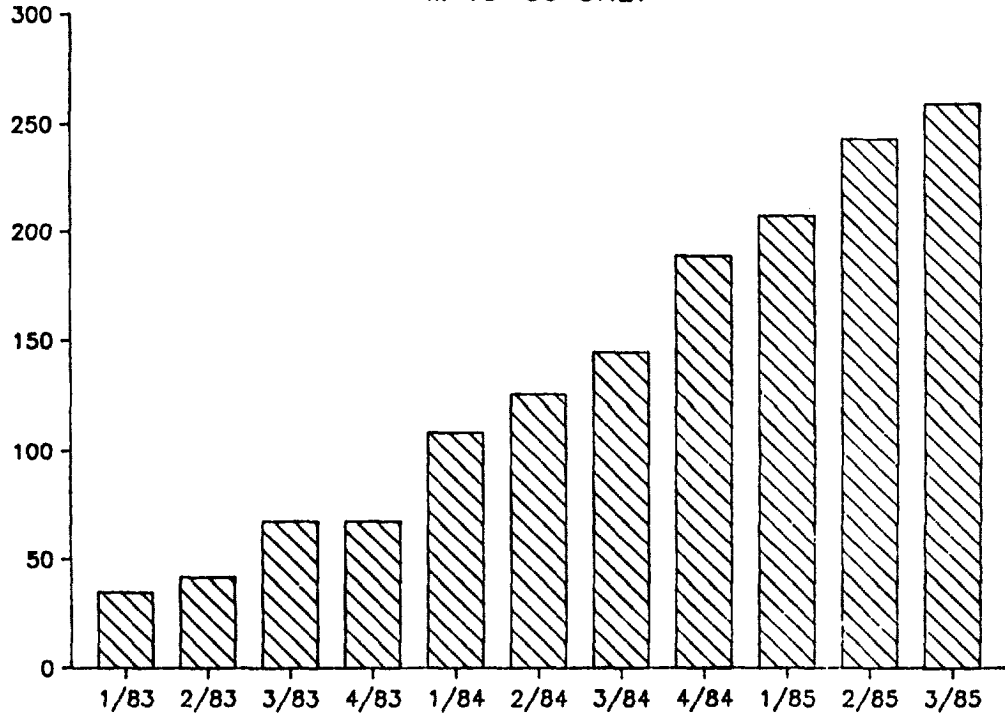


EXHIBIT 3

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think what has happened is people have looked at the growth and saw that, at this point, we have twice as many as we did nine months ago, so it is doubling every nine months. But that is not true, it may have doubled over that period, but that doubling pattern is not continuing. There was an article in the *Wall Street Journal* on national figures that also states that growth is linear, not exponential.

There are certain reporting problems that we became aware of as we did this study. We estimate that the published accounts in California understate the number of cases by 17% to 25% for a number of possible reasons. One reason is that, currently, the department has only one individual reviewing the cases as they come in and adding them to the list of the published accounts. The accounts are going to be limited to how much we can do each month. The department recently added a second staff person, and I wouldn't be surprised to see a sharp jump in the reported cases. We also found that we came up with more cases by looking at the death certificates than we did by looking at the deaths that were reported to the department and counted by the AIDS register. Part of this was human error. We also found that information processing programs were poorly written, error checking wasn't done and the department just didn't get to the client accounts. Another problem has to do with the definition of AIDS by the CDC. The CDC has very strict definitions, maybe because it doesn't want to identify someone as having AIDS unless absolutely certain. The staff in the AIDS section gave us a couple of examples as to when someone has AIDS as far as the CDC is concerned. For example, if someone were having hormone therapy which suppresses the immune system, the CDC rules specify that this person is not to be counted as an AIDS case because the person could develop disease due to the suppressed immune system through hormone therapy and not due to a virus. Another case appears where the physician for whatever reasons doesn't verify some of the conditions by a lab test. If a patient comes in with advanced stages of AIDS and dies soon, and the physician didn't have a chance to perform the tests for the antibodies or confirm one of the opportunistic diseases then that person does not meet the strict CDC criteria for AIDS. I think it is important for insurers to keep this in mind. The strictness of definition should be considered whenever you look at the impact of AIDS on death claims.

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Another problem which adds to the understatement of accounts is that some of the cases are not reported until after the person dies. The estimate of 17% to 25% does not include intentional physician non-reporting. We have no way of telling to what extent that is occurring. We are told that it is occurring.

If a physician was treating an AIDS patient and did not want to report that AIDS patient, a physician could code PCP as unspecified pneumonia, and there is no way for us to pick that up. Another factor contributing to the undercount is the lag time in reporting. Something interesting we found involves marital status. We found that of the reported cases, 6% were married, but if we look at the unreported cases, around 35% were married. We don't know why this occurred. It could have to do with physicians not reporting the married cases until after death. It could also have to do with the review of the cases within the department. Department staff reviews suspected cases of AIDS, and the staff does consider whether that person fits in the high risk group. Marital status is considered. The study is available to the public. Write me if you would like a copy.

MR. DAVID W. SIMBRO: Most of us have seen either the recent insurance magazine articles, statements from insurance trade organizations, or recently the statement from the American Academy of Actuaries on the subject of AIDS and its potential effect for life insurance companies. Is there reason for us, as actuaries, to be concerned about this disease? One way to determine this is to look at actual claims paid so far. At Northwestern Mutual Life we have had 40 identified AIDS deaths for \$3 million, with most of these occurring in 1985. This is compared to \$300 million in total death benefits paid in 1985. As one must remember though, the number of AIDS deaths per year is increasing, so the impact on death benefits paid will be more prominent in the future. In addition, NML and other insurers are not identifying all AIDS deaths. In New York City, there is no cause of death code on the death certificates, and in some cases (throughout the country) the cause of death may have been AIDS, but was listed as something else.

Of more concern to us as actuaries should be the expected claims in the future. Estimates have been made that at least 10% of those currently infected will die in the next five years. This means (roughly) that at least 2% of those infected now will die every year during the next five years. This "mortality" rate

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of 2% for the infected group is much higher than companies' top substandard class, since those who die from AIDS are concentrated in the age 18-54 category. A statement was made by a member of the ACLI that the infected group creates approximately 20 times the standard risk.

At NML, we developed a model office to try and predict our potential death benefits paid for AIDS. In developing the model, a number of items were estimated. We estimated the number of infected people right now, the growth rate in the number of infected people, the percent of those who are infected who are likely to purchase insurance, a "mortality" rate, and the total population of potentially infected people likely to purchase insurance. We estimated that over the next five years, our death claims due to AIDS will be in the neighborhood of \$100 million total. This assumes the following (besides assumptions made about the items above):

1. That there would be no antiselection by the infected population.
2. There is no effective screening method for infected people.

The \$100 million represents a large sum of money. As I mentioned earlier, we paid \$300 million in death benefits in 1985, but a much smaller amount was paid to males age 18 to 54, which is where most of the AIDS deaths would occur.

In developing the model, a number of the items estimated are quite variable. First, the growth rate has been growing at a declining percentage; in fact, many people have felt that the number of AIDS deaths is growing linearly year to year. The second assumption that could be questioned is the "mortality" rate used. As I mentioned earlier, 2% per year over the next five years may be appropriate, but some have estimated that over the next five years upwards of 20% of those currently infected may die, or roughly 4% per year. Finally, I assumed that there are 1 million people infected right now. This number represents the midpoint of the various assumptions that have been made recently as far as the current number of people infected in the United States.

To determine the effect of AIDS upon your company, you may wish to run a model under various scenarios to develop a range for your potential liability.

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Now that we have covered some of the reasons as to why actuaries should be concerned about AIDS, what are some possible methods for handling this increase in risk? A key point here is the difference between current insureds and new applicants. All insurers will pay death claims to insured lives regardless of the cause of death, unless death occurs in the contestable period, and there has been some material misrepresentation.

As for the handling of new applicants, there are a couple of risk selection techniques available. Basic underwriting principles entail grouping individuals with similar expectations of loss. If an insured is antibody-positive or has actually developed AIDS, he or she has different risk characteristics than standard insureds. This does not imply though, that discrimination by sexual preference should be used. We as an industry should continue to apply underwriting standards that are within the limits of the law and universally accepted as standard practice. In addition, we should continue to make sure that information obtained about individuals who are infected remains private, and that the security of information in the Medical Information Bureau is kept intact.

For new applicants who already have AIDS (a small percentage of the total infected group), medical and paramedical exams and medical questions on the application will identify most of these individuals. One key problem here is getting state approval for medical questions about AIDS on the application.

Risk selection techniques are a little more difficult to apply for individuals who are asymptomatic antibody-positive. A potential method is the use of age and amount blood testing. Elisa 1, Elisa 2, and the Western Blot Blood Test are considered very effective when used in combination in identifying those who are infected with the HTLV-III virus. This should be done for both males and females since you can't discriminate in underwriting based upon sex. To determine amount limits, cost/benefit relationships for performance of the above test should be conducted. The cost would include not only the actual cost of performing the test, but the negative impact upon sales and the cost of notifying individuals of positive results. The benefits come from the present value of additional mortality due to AIDS. These benefits may vary by the following:

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1. By state, since the incidence of the disease varies dramatically by state.
2. By amount limit, since the average policy size varies given different amount limits.
3. By the issue age, since the average policy size varies depending upon the issue age.

There are a number of concerns and issues with performing the age and amount blood tests for the presence of the HTLV-III virus.

First, there are extensive privacy and notification requirements for positive results. Second, recent reports from a blood testing service show that the number of positive tests from high risk states are less than expected. What may cause this?

1. Potential insureds who feel they may be infected are applying in lower risk states where the requirements are less.
2. Infected applicants are applying for amounts less than the age and amount testing limit.
3. When blood testing is required, applicants may decline due to prior knowledge of being infected.

The third concern is that an argument has been made that antibodies to the virus don't predict that an individual will develop AIDS, so the test should not be used. While the first part of the argument is true, insurance works on a class principle. You can't predict the losses for an individual, but you can predict higher losses for an infected group. By using the same logic as above, blood pressure tests and smoking should not be used in classification. In fact, a person who is infected with the HTLV-III virus creates a much higher risk than the person who smokes or who has high blood pressure.

The final concern to performing age and amount tests are the restrictions imposed by state laws. California and Wisconsin prohibit the use of Elisa 1,

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Elisa 2 and Western Blot Blood testing. In addition, New York, Illinois, Maine, Massachusetts, and Washington have proposed laws prohibiting use of or questions about a positive antibody test, and the District of Columbia City Council passed a law prohibiting the use of any antibody test. If we are not allowed to classify risks when they are 20 times the standard rate, how soon before things like sex, smoking, and high blood pressure with a much smaller differential in the expected losses are not allowed?

Another important method in the risk selection process is to use more careful underwriting. This requires educating underwriters about the disease and its characteristics. More attention should be paid to physical symptoms such as weight loss, fevers, and lymph nodes. In addition a history of sexually-transmitted diseases may be a cause for pursuing additional information.

There are various approaches that may be used besides risk selection techniques. First, there is the idea of an exclusion clause. As a group, those who are antibody-positive for AIDS are not insurable risks. This makes the exclusion clause ideal. No additional tests, information, or more underwriting performance is necessary. In addition, there would be no possible invasion of privacy and no identification of positive results is required. However, this is not permitted in at least 35 states, so if you do business in these states, this is not a realistic idea.

Another approach besides risk selection is treatment on a state-by-state basis. A company could charge a flat extra premium per \$1,000 per year to all applicants of a given state to cover anticipated AIDS claims from that state. The advantages of this are the following:

1. It is a relatively simple method for allocating the increased cost.
2. This may reduce the antiselection in protectionist states.
3. An insurer could vary the charge by state to reflect the wide variation in expected AIDS deaths by state.

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4. Other insurers would follow suit or lose heavily on business in protectionist states.
5. It could be used to cover the losses for applications below the age and amount testing limit.
6. This would lead to increased public awareness of the costs of protectionist legislation.
7. This wouldn't delay the application process as much as age and amount blood testing.

There are also a number of disadvantages to this:

1. It would require administrative adjustment for insureds since they are not currently set up to handle premium extras that vary on a state-by-state basis.
2. Insurance companies would be uncompetitive versus others which don't charge flat extras.
3. You would not be grouping individuals with similar expectations of loss, so that there is the potential for the assessment spiral dilemma.

Another method that can be used on a state-by-state basis is to withdraw from protectionist states. If the competitiveness or solvency of a company is jeopardized by doing business in one or two states, a company may be forced to withdraw from the state and not have any new sales within that state. The advantages of this are the following:

1. You would avoid the antiselection in the states.
2. You would be able to continue as an enterprise.

The disadvantages of this include the following:

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1. A loss of sales.
2. There would be a reduction in the economies of scale.
3. This would present a serious hardship for the field force.
4. This would present difficulties in being readmitted at a future date if laws on testing are eased.

One other method besides risk selection techniques (the other methods being an exclusion clause and treatment on a state-by-state basis) is the use of an extra mortality reserve. If the aggregate mortality is greater than the valuation table used, this would be necessary for solvency. The key reason against establishing such a reserve is that an insurer may be able to handle this through the dividend scale.

As I have pointed out, there are reasons for insurance companies to be concerned about AIDS. In addition, there may be a number of methods for handling this increase in risk. As actuaries, this issue should be of concern to us and should be studied by us to properly and equitably account for the increase in risk presented by AIDS.

MR. MICHAEL L. KELLEN: I am confused by some of the numbers that I saw. Mr. McHolland's mortality rates were much higher than the 2% per year death rate from Mr. Simbro. I assume the difference is because not everybody who is infected gets AIDS, but that is an incredible difference. Is that consistent with your knowledge of the proportion of people who get AIDS?

MR. MCHOLLAND: The mortality figures in Exhibit 1 show mortality in the range of 3% to 6% per month. I think what Dave was talking about is based on the number of people infected with the virus. That doesn't mean they have AIDS, but a certain number infected with the virus will go on to develop AIDS and then be subject to the high mortality.

MR. SIMBRO: That is exactly what I was pointing out. I was talking about just the infected population in general and from that, somewhere in the

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neighborhood of 2% in a period of a year will go on to develop AIDS and die.

MR. JARRETT: So at Northwestern Mutual, someone with ARC is included in your group that is infected.

MR. SIMBRO: Yes. Our analysis was based on initially looking at the infected population in the country and then applying death rates to that group instead of trying to estimate the number of AIDS deaths in the country and projecting that figure year by year. It seemed more straightforward at the time to get some kind of handle on the number of infected people, project the growth in the number of infected people year by year and then apply some type of mortality rate to that group.

MR. KELLEN: Mr. McHolland, you show a limited relationship in the increase in the number of deaths by quarter for a 2 or 3 year period of time. What about the growth in the ARC infected population. If that is not growing linearly, then something peculiar is going on. Does anybody know anything about the infected population growth?

MR. MCHOLLAND: I don't know of anyone in the country who has quantitative data on ARC or even infection from the AIDS virus. We have implemented the new codes in the Medi-Cal program to help analyze this in the future. We have also come up with codes for infection from AIDS virus, not necessarily ARC, and we are hoping after some time that we will be able to track individuals and see how many of those diagnosed with ARC go on to develop AIDS. At this point I don't think anyone knows for sure.

MR. SIMBRO: There have been quite a few estimates as to what may be the number of infected people in the country right now. It has varied quite a bit, centering somewhere around one million people. Estimates have been as low 500,000 and some have felt there may be as many as two million people infected in the country.

MR. JARRETT: There is a test for being exposed to the AIDS virus. What is the difference between having the AIDS virus and being exposed to the AIDS virus?

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MR. MCHOLLAND: The tests usually try to see if antibodies are present in the bloodstream to the virus, which means the body has been invaded.

I have a question for Jim. You mentioned in Montana, where there are unisex rates, that insurance companies may have the option of just raising the female rates to the male rates. I was wondering if you know of any insurance company that has done that, and, if so, how have feminist organizations reacted?

MR. MERWALD: I don't know of any specific company doing this. I have heard it discussed as a possible solution. I have also heard of agents who say that their portfolio is now limited to one or two products. From a practical standpoint, many companies today have already limited their product portfolio to two or three products. A term product and universal life, or interest sensitive life being the only products currently selling. As far as the feminist organizations reacting, I am sure it won't be positive but at least everybody is getting charged the same rate.

MR. JARRETT: Dave, you mentioned that you have constructed a model of Northwestern Mutual's block of business. What is the growth in the percentage of claims due to AIDS projected from your model?

MR. SIMBRO: We looked at some recent analysis done by someone else at NML which showed that, over the last year, the number of AIDS deaths had increased about 80%. This was down from the previous year's growth rate of 100%. This is similar to what Gary had shown, that there is basically a linear relationship or a decline in percentage.

MR. JARRETT: In terms of the total of claim dollars, what portion will be paid to AIDS related deaths in the future?

MR. SIMBRO: For the category for people where the AIDS deaths are most likely to occur, the model showed that about 40% of all our death benefits would be due to AIDS by 1990.

