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YOU SHOULD LIVE SO LONG!

by Arthur Pedoe

It is stated that more than one thousand teams in the U. S. alone are doing research work concerning the span of human life and human vigour at the higher ages. It is a problem for actuaries to keep advised of the results of this work.

The *Gerontologist* is one learned periodical covering this field and recently three articles have appeared covering research by the Center for the Study of Aging and Human Development at Duke University, N. C., under Erdman B. Palmore, Ph.D., Associate Professor of Medical Sociology. (Vol. 8, No. 4; Vol. 9, Nos. 2 and 4). The initial article deals with the effects of aging on activities (physical and mental) and attitudes (satisfactions). Some striking conclusions are drawn from these three investigations, all of which will interest actuaries and some of which, in particular, actuaries will dispute.

Dr. Palmore suggests that life insurance companies could substantially improve the accuracy of their estimates of longevity of their applicants by using tests of "intelligence" and "work satisfaction" or a similar rating of social adjustment, which his researches indicate are important factors in predicting longevity. Of the 35 references given in his three papers not one refers to an actuarial investigation; yet actuaries and their medical associates have done considerable work over the last 70 years in evaluating the factors which appear to determine mortality. Of course, Dr. Palmore is mainly concerned with older lives, from ages 60 to 90, whereas actuarial investigations are mainly concerned with younger ages.

The Duke University researches indicate that there is no overall reduction in activities as people get older. Disabili-

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COMMITTEES

As the members of the Society know, the Committee on Professional Development under the Chairmanship of Paul A. Campbell submitted a comprehensive and detailed report to the Board of Governors. One of the recommendations was that the Society "inform all members of committee functions and opportunities and actively solicit participation."

The Board concurred in this recommendation and a series of articles on the operations of various committees will appear in *The Actuary*. The first of these is on the Committee on Investments. This has been prepared by Robert H. Hoskins who as Treasurer during 1968-71 was also *ex officio* chairman of that Committee.

The successful operation and growth of the Society depends to a large extent on the Committee structure. This series gives the members a chance to learn more about how the work of the Society is handled. Any member who believes that he can contribute to the work of any Committee is invited to communicate with the Chairman.

Robert J. Myers
President

Committee on Investments

by Robert H. Hoskins

As stated in the *Year Book*, "This Committee evaluates the investment policy of the Society and recommends changes to the Board of Governors. It also interprets investment policy and advises the Treasurer in the management of the Society's investments."

Investment Policy

When the Society of Actuaries was formed to succeed the Actuarial Society of America and the American Institute

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PROSPECTIVE MEDICINE

Lewis C. Robbins, M.D., M.P.H. and Jack H. Hall, A.B., M.D., *How To Practice Prospective Medicine*, Methodist Hospital of Indiana, Indianapolis 1970, $7.50.

*by Paul S. Entmacher, M.D.**

Drs. Robbins and Hall have taken an interesting approach to the appraisal of health and those factors that have an adverse effect on an individual's long-term prognosis.

There are many similarities between life insurance underwriting and health hazard appraisal and this point is made repeatedly by the authors. Life insurance statistics have been used whenever possible. The overall objective of health hazard appraisal is different, however, since it is an attempt to demonstrate to an individual in a numerical fashion his state of health and how it may be adversely affected by certain risk factors. It also tries to show how his state of health and presumably his life expectancy can be improved if those risk factors are modified or removed.

Briefly, the authors have presented tables that show the probability of dying from specific causes within a ten-year period. The data, based on the 1960 U.S. mortality experience and the population as defined in the 1960 census, are presented in five-year age groups by sex and race. Only the 10 to 15 leading causes of death are considered and there is a large "other causes" category. Thus the number of deaths per 100,000 population by cause for each age is tabulated, and these are then collated into tables that project for a ten-year period the chances of dying from a specific cause of death.

For example, a white male in the age

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*Dr. Entmacher is Medical Director of the Metropolitan Life Insurance Company.

Letters

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Commenting on Comments

Sir:

I feel the urge to comment on a few of the items in the February issue.

The editorial mentions the Henry Jackson paper in Volume 33 of the *Transactions* of the Actuarial Society of America. Perhaps it is merely a reflection of my age, but I would nominate Volume 33 as the all-time outstanding issue of any actuarial professional journal. It contains Phillips' paper on the 150% & 165% Disability Tables, Marshall's paper on Interpretation of Mortality Statistics, Howell's paper on Family History, Bowerman's on Non-Deduction, Laird's on Double Indemnity, Cammack's on Group Experience, and Linton's on Panics and Cash Values. How did so much excellent material happen to come all in one volume?

Daniel Lyons writes about Section 213 and the effects of inflation. What about a trend which is not necessarily inflationary, whereby labor has changed its price relative to non-labor product components? For example, the price of coal might remain constant but miners be paid more, because, with machines, and despite the cost of the machines, they produce more. If one accepts the premise that the price of human effort has gone up, should expense margins in life insurance increase (assuming that we are not changing the calibre of the salesmen)? Won't larger sales come not only from inflation but also from prospects having a larger proportion of disposable income?

Mr. Jenkins' letter reminds me of an investment problem, namely, forward commitments. In a period of rising interest rates, an investing institution which has been investing at 3% commits itself well in advance when 3½% loans appear. When these are picked up, the institution has no cash left over for the then current 4% offerings, so it commits itself to buy them in the future. When the peak comes at, say 8%, the institution refrains from a forward commitment because 7½% offerings are not up to its expectations. When the time arrives that the 7½% offerings might have been picked up, the rate is down to 7%, which is so unattractive that forward commitments again are withheld. Should there be an actuarial rule that it is hands-off when forward commitments are at all attractive, and commit to the hilt when they seem dismal? I wonder if a study of this phenomenon has been made and, in addition, what effect it has on interest rates themselves.

Ralph E. Edwards

Actuarial Meetings

May 15, Chicago Actuarial Club
May 17, Atlanta Actuarial Club
May 17, Baltimore Actuaries Club
May 17, Seattle Actuarial Club
May 17, Portland (Ore.) Actuarial Club
May 18, Nebraska Actuaries Club
May 22-23, Casualty Actuarial Society, Delavan, Wisc.
May 23, Twin Cities Actuaries Club
May 31, Fraternal Actuarial Association, Chicago
June 8-9, Actuaries' Club of Southwest
June 8, Baltimore Actuaries Club
June 21, Seattle Actuarial Club

Committee on Investments

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of Actuaries in 1949, it acquired their assets of nearly $174,000, of which approximately $100,000 was in investments. As of May 31, 1971, the asset value of the Society's investments was $207,031 on an amortized cost basis. The breakdown of this amount by type of investment is as follows:

United States Treasury Bonds	$149,563
Federal Agency Bonds	38,016
Canadian Bonds	17,452
Corporate Bonds	2,000
	$207,031

At the present time, the Society's investment policy consists of two major parts: long term investment policy and short term investment policy.

The Society's long term investment policy has evolved slowly and now permits investment in (a) Canadian and United States Government Bonds and Notes, including bonds and debentures issued by agencies of these governments; (b) corporate bonds which have been given AA or better rating by at least two reputable agencies, and (c) equities, up to 25% of invested assets.

To date, the Society has not taken advantage of the authorization to invest in equities, and the corporate bond holdings were acquired in the transfer from the Actuarial Society of America.

An attempt is made to stagger maturity dates of long term investments, primarily to minimize the reinvestment problem for any one year. Account is taken, however, of interest rate trends and predictions and the difference in yields for different terms of investments.

The Society's short term investment policy was first established in 1963 to enable the Society to invest its excess cash on a temporary basis. The original policy of investing in United States Treasury Bills was expanded in 1970 to permit investment in commercial paper; so far, however, the Society has not made this type of short term investment.

Because of the staggering of maturity dates of the long term investments, only one fell due during the past three years, on Oct. 1, 1969. On this occasion, along with other holders of maturing Treasury Bonds, we were offered a choice of three new issues: notes maturing on May 15, 1971, on May 15, 1973 and on Aug. 15, 1976. The Investment Committee considered these alternatives, with their varying periods, coupons, prices and yields, and recommended that the Society reinvest its proceeds in the issue maturing in 1976.

The next maturity date is June 12, 1972.

Prior to 1970, the short term investments were made only in 90 or 180 day Treasury Bills and only when funds were available for the full period from issue date to maturity date. As a result of a recommendation made after an extensive study of the Society's short term investment policy by one of the members of the Committee on Investments (another recommendation led to the adoption of commercial paper as a permitted investment), the Society has made investments for periods shorter than the full period.

The Committee on Investments consists of five members. The Treasurer of the Society serves as chairman of the committee and is its only ex-officio member. The other four members are appointed by the President.

Included among the committee members in recent years have been members who are employed by an investment firm, or by an insurance company as treasurer, and former Treasurers of the Society. □