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Mortality Experience and Underwriting

A. Would it be desirable for the Society to undertake mortality investigations of special classes of business such as guaranteed issue, guaranteed purchase options elected, nonmedical above $15,000, etc? What data are available?
B. How does mortality under term insurance compare with that under permanent insurance? Should and can any difference be minimized by underwriting methods? Do the results differ as between short-term and long-term policies?
C. To what extent should large amounts of accidental death benefits be a matter of underwriting concern? What are the pros and cons of issuing triple indemnity benefits as an adjunct of life insurance policies?

Opening the discussion of section A, MR. JOHN L. STEARNS asked that the Committee on Mortality under Ordinary Insurances and Annuities give some thought to studying nonmedical mortality experience by size of policy, and to compiling mortality experience under (i) policies underwritten on a guaranteed issue basis and (ii) policies arising from elections under a guaranteed purchase option. Emphasizing the need for intercompany studies of nonmedical mortality experience by size of policy, he pointed out that currently there is marked trend towards a nonmedical limit of $25,000 and that in the case of a $25,000 policy issued at ages 25 to 29 an expense saving of $12.50 per policy covers only 4% extra mortality.

Mr. Stearns said that the mortality data available for special classes of business often is so fragmentary that even approximate results would be of value. In order to facilitate the development of up-to-date information, he suggested that it might be possible to develop a different method of compiling mortality studies for these special classes. For example, the interested companies might pool the amount and age distribution of the business issued in a particular class. From these data the expected deaths during the early policy years could be derived by applying appropriate mortality and persistency rates, and compared with the actual claims as they are reported.

Mr. Stearns also summarized the mortality experience of the New England Mutual for policies underwritten on a guaranteed issue basis. The ratio of actual claims to tabular claims according to the 1950–54 Select Table is about 240% in the first policy year, 185% in the second policy year and 170% in the third policy year. This experience is based on 408 death claims for $2,452,000 of insurance.

MR. WILLIAM J. NOVEMBER questioned the desirability of having the Society undertake intercompany studies of new special classes where the underwriting conditions vary a great deal from company to company and where many companies do not write those classes.

He pointed out that since there are substantial differences in the practices and rules followed by companies in the writing of such business as guaranteed issue policies, the combined experience of a number of companies would be difficult to interpret. The fact that the basis for the expected deaths in such an intercompany study would be derived from another set of data that might well have been contributed by a different group of companies adds to the difficulties involved.

Mr. November went on to say that recently there has been pressure to reduce the cost of intercompany studies because of the rather sizable expenses that have been incurred in the past few years. Since expenses of intercompany studies necessarily have to be assessed on the basis of a broad formula under which all companies are swept in, he believed that some companies might have a legitimate objection to financing the costs of studies in which they are not particularly interested.

In Mr. November's opinion studies by individual companies would be more meaningful than intercompany studies in the case of many of these special classes, and the publication of the results of such studies should be encouraged.

MR. ERNEST J. MOORHEAD favored centralizing mortality studies of these special classes in the Society of Actuaries. With respect to the objection that such an approach would involve combining heterogeneous data, he indicated his belief that the companies involved would have no objection to being identified. Even if the companies are not identified, he believed that it would be practical to list the results on a company by company basis, along with some indication of the underwriting or administrative practices which might be affecting these results.

MR. ANDREW C. WEBSTER made a plea for more contributions of individual company experience for the *Transactions*. He further stated that he was surprised at the figures given by Mr. Stearns and wondered about the profitability of such business. The question of nonmedical limits which had been raised in the discussion was to him perhaps more a matter of field force cooperation than the translation of savings in expense into equivalent mortality ratios. He suggested that the nonmedical experience could also be a function of the age of the applicant and that the low mortality at the younger ages might continue on properly selected business.

He drew attention to the high term insurance mortality at the younger ages which indicated that speculation could be as important at age 25 as at age 55.

MR. JAMES G. BRUCE inquired how a small or medium size company is to determine the true cost of a benefit such as the guaranteed purchase option if the larger companies do not publish their experience. Accordingly he suggested that the Society compile the experience under this option.

MR. ALTON P. MORTON stated that since guaranteed issue business is issued under rules which vary considerably from company to company, he did not believe that mortality results obtained by an intercompany pooling of experience through the Society's Committee on Mortality would produce useful results. He also encouraged the publication in the *Transactions* of short papers summarizing the results of individual company studies of such business.

As for guaranteed purchase options, Mr. Morton stated that the form of these options, as issued by the various companies, is more standardized and that the pooling of mortality results on an intercompany basis might be worth while. He thought that the mortality results between companies would vary to some extent, depending on variations in initial underwriting practices and on the extent of the effort made by the company to encourage policyholders to exercise the options. Mr. Morton expected that the less the effort made to encourage the exercise of these options the higher the resultant mortality under the options actually exercised would be.

Mr. Morton also discussed the problems associated with studying the mortality results of policies arising from the conversion options contained in term insurance policies and from the conversion options available to children covered under family policies. He cautioned that in a study of the mortality results under any of these options, it would be most important to study and classify the contributing companies according to their contract provisions and administrative practices in order to decide on the combinability of the data submitted.

Mr. Morton indicated that because recent increases in nonmedical limits have been decided without benefit of nonmedical mortality studies subdivided by amount, the emerging mortality on larger amounts of insurance issued on a nonmedical basis has recently become a subject of keen practical interest. He suggested that individual companies plan to keep mortality records in such a form as would permit nonmedical mortality studies by amount. If, at some future date, enough volume is available on an individual company or intercompany basis, such advance planning would make it practical to carry out a study of nonmedical mortality by size.

Opening the discussion of section B, MR. NOVEMBER reported that up until the last few years the Equitable's mortality studies showed a higher level of mortality for term insurance than for permanent policies. This was true in spite of the special underwriting safeguards imposed, including the addition of a numerical debit by reason of the plan itself.

In recent years the levels of mortality of term and permanent insurance have tended to come together, until now there does not seem to be much of a difference. As an example, he pointed to the results of a study of the term experience between 1950 and 1955 policy anniversaries which produced a mortality ratio of 101% relative to the contemporaneous experience on all standard issues. Mr. November stated that he was somewhat surprised at this result, especially in view of the rather high termination rates on term insurance. He pointed to the substantial growth of term insurance volume as a possible reason for the improved relationship of term to permanent insurance mortality. The wider distribution of term insurance must result in a smaller proportion of instances where antiselection is the motivating reason for the purchase of term plans.

Mr. November pointed out that while the over-all term mortality appears to be at satisfactory levels currently, larger term policies have been producing relatively high mortality ratios. He referred to the report of the most recent intercompany study of the mortality on policies for large amounts, which showed an over-all mortality ratio for term plans of 122% as compared with 89% for permanent plans. This relationship, which pertains to the experience between 1953 and 1958 policy anniversaries, was also found in earlier studies. The experience on large amount term policies has been particularly poor at the younger issue ages. Mr. November suggested this characteristic of the large amount studies might be due to the efforts of agents to get term insurance replaced by permanent policies, since to the extent that such replacements are made in other companies, where new evidence of insurability is required, the experience on the remaining term policies will suffer because the better lives have dropped out. In view of the large amount experience and the possibilities of antiselection, particularly in the case of applications for large amounts of term insurance, Mr. November concluded that special underwriting of term insurance is still advisable.

MR. EDWARD A. LEW stated that the Metropolitan has been issuing renewable and convertible term policies for over 50 years. Until 1942 such policies were issued to superstandard risks only, that is, to risks rated not more than plus 10 on account of occupation, build, physical conditions, etc. Since 1942 these policies have been issued to risks in selected occupations but up to the regular limits for standard insurance on account of build, physical condition, etc., and more recently also to risks in the same selected occupations rated substandard for build, physical condition, etc.

The Metropolitan's mortality experience on renewable and convertible term insurance during the past five years has shown a characteristic pattern. At issue ages under 40, the mortality on these policies over the first fifteen policy years was substantially the same as on permanent plans; it was distinctly lower during the first five policy years but increased with duration more sharply than on permanent plans, so that in the eleventh to fifteenth policy years it was significantly higher. At issue ages 40 and over, the mortality on term insurance is appreciably higher than on permanent plans, the mortality differentials increasing with duration. Mr. Lew indicated that the Metropolitan's earlier experience on renewable and convertible term insurance showed similar patterns, but with even more marked increases in mortality by duration, reflecting the increasing weight of antiselection exercised upon consecutive renewal dates of the term insurance.

Since 1942 the Metropolitan has not tried to minimize the mortality differential between term and permanent insurance through underwriting, although it is Mr. Lew's opinion that this can be done. The restriction of renewable and convertible term insurance to selected occupations has been retained primarily to ensure that term insurance will be sold only (1) to individuals who understand the limitations and disadvantages of term insurance and (2) in circumstances where term insurance is not inappropriate.

Mr. Lew stated that their experience on family income benefits has been quite satisfactory, while that on mortgage term insurance has been favorable at issue ages under 40, but has shown some evidence of antiselection at issue ages 40 and over.

MR. MORTON presented some mortality results for the Prudential's five year renewable and convertible term plan, which is issued for a minimum amount of $20,000. The 1959 experience, which was based on claims under only 19 policies, showed a mortality ratio of 135% relative to the 1946–1949 Select Basic Table, which result is a little more than 150% of the contemporaneous mortality of all plans at this amount size. Since the Prudential's five year renewable and convertible term plan was introduced only a few years ago, these mortality results do not reflect any antiselection arising from the exercise of the option for renewal.

Mr. Morton also referred to the results of the recent intercompany study of the mortality experience under policies for large amounts and concluded that the higher mortality under term plans represented, in part, successful antiselection at issue. At ages 30 to 39, for instance, the mortality ratio for term plans was 170% for durations 1 and 2 as compared with 139% for all durations. As further evidence of antiselection at issue on term business, Mr. Morton indicated that the Prudential's figures showed a mortality ratio of 174% on term plans at issue ages 40 and over for durations 1 and 2. While this ratio was based on claims amounting to a little over $500,000 and involved only seven deaths, a review of the claims themselves also suggested some successful antiselection.

A special feature of the intercompany large amount study was the important degree of extra mortality on term plans at the longer durations. Since in this study policies were kept in the term classification even if they were later converted to permanent insurance, Mr. Morton suggested the probability that more careful selection is exercised by the policyholder in converting term policies issued for larger amounts than on more moderate sized term policies.

Mr. Morton concluded that there is clearly some increased possibility of extra mortality whenever term insurance is applied for and that the larger the amount applied for the more likely that some degree of antiselection is present. Careful underwriting, including special attention to financial, moral, and recreational hazards, is required to counteract this tendency to initial antiselection. The same underwriting care also will serve to lessen the antiselection at conversion.

MR. HILLARY J. FISHER stated that the term business of the Occidental is made up approximately as follows: renewable term, 30%; nonrenewable level term, 10%; and decreasing term, 60%. Almost all of the business included in the renewable term division is written in a five year renewable and convertible to 65 plan. The nonrenewable term division is split about evenly between short term plans, such as five and ten year term, and long term plans, such as term to 65 or 70. The decreasing term division is made up of income protection, family income, and mortgage protection.

Mr. Fisher summarized the mortality experience obtained by the Occidental under their term insurance issues as follows:

(1) For renewable term business, the mortality experience, relative to both intercompany experience and the company's experience under permanent plans was quite satisfactory during the first five policy years, but on the high side during the later policy years.

(2) For nonrenewable level term business, the mortality experience during the early years was somewhat high, relative to the experience under permanent plans and renewable term plans, indicating some antiselection on this business.

(3) Under decreasing term insurance, the available experience, which was limited to the first five policy years, was very similar to that under nonrenewable level term.

(4) The mortality experience under nonmedical renewable term issues was quite unsatisfactory, the mortality ratios during the first 10 policy years being about 60% higher than for the corresponding medically underwritten business. This result was based on only 32 claims, however.

Mr. Fisher stated that applications for renewable term insurance, which involve impairments that tend to worsen with time, should be underwritten with greater caution, particularly where the amount involved is large. Such impairments include circulatory and related disorders, overweight, and chronic ailments. Nervous disorders, especially in younger persons, should be given special attention.

Mr. Fisher referred to the rather high accident and homicide mortality ratios observed with respect to term plans in the recent intercompany study of the mortality experience under policies for large amounts. He stated that this result indicated that the buyers of large amounts of term were often aware of some extra hazard in their lives, and urged that more careful attention be given to such factors as driving, aviation, racing, habits, morals, finances, occupation, and nervous temperament.

Mr. Fisher also pointed out that in his company the five year renewable and convertible term insurance has often been used to cover short term, temporary, insurance needs. Examples of such needs are outstanding indebtedness which probably will be paid off in a year or two, or temporary coverage while a business transaction, or perhaps a trust, is being wound up. This approach has great appeal from the standpoint of both the agent and the applicant, since the applicant knows he can maintain the policy in force if later he finds he still needs the insurance. Mr. Fisher stated that the use of this plan for such purposes results in many early lapses and encourages antiselection at the time the specific insurance need ends. As a result, they examine closely the purpose of the insurance. If it appears to be purely temporary, the company may refuse to issue the five year renewable term plan and instead will offer a nonconvertible, nonrenewable plan, an annual renewable term plan, or may even issue only a permanent plan.

MR. CHARLES A. ORMSBY opened the discussion of section C by stating his view that large amounts of accidental death benefits should be viewed with considerable concern by the underwriter, the extent of the concern depending largely upon the margins built into the gross premiums for this benefit.

He indicated that his somewhat apprehensive underwriting attitude toward large amounts of accidental death benefits stems from a combination of recent changes in practices and pricing, including the following:

(1) The trend toward larger issue, retention, and participation limits.
(2) The broadening of accidental death coverage through liberalizations of the insuring clause; also, noteworthy rate reductions over the past few years with the prospect of further reductions in the near future.
(3) The strengthening over the years of the conviction that the industry has been making unconscionable profits on this benefit.
(4) The developing practice of offering accidental death coverage up to two, three, or even four times the face amount of the policy.
(5) A growing tendency to permit, as a matter of regular practice, standard double indemnity to be issued with a policy where the applicant qualifies for standard life insurance.
(6) The offering by more and more companies of a triple indemnity feature providing for additional indemnity in the event of accidental death on a common carrier as a part of their accidental death rider. This type of provision increases the opportunities for antiselection and increases financial incentive for a legal contest in certain questionable or borderline cases.
(7) The willingness of the Group-writing companies under certain circumstances to add accidental death and dismemberment benefits and even triple indemnity benefits to existing policies.
(8) The growing loss in the industry of underwriting control in the renewal years due to the various options now available to the insuring public, such as options to convert (with benefits, if present) and options to renew (with benefits, if present).
(9) The possibility of antiselection by amounts. In this connection Mr. Ormsby stated that the recent intercompany study of the experience under the double indemnity benefit may not have shown the full measure of the antiselection by amounts which is to be expected because these results were based on a period with relatively favorable economic conditions and a period in which the mortality under policies for large amounts was quite favorable.
(10) The scarcity of experience data on rated accidental death benefits.
(11) The trend toward the inclusion of accidental death benefits in policies issued for business purposes. These policies usually involve substantial amounts and frequently lack sufficient justification for the accidental death coverage.
(12) The higher nonmedical limits under which we are currently operating could well result in a less favorable experience for the accidental death benefit issued with life insurance.
(13) The danger that large amounts of this coverage may mislead policy-

holders by distorting their views as to what constitutes an adequate amount of life insurance.

Mr. Ormsby stated, however, that if there is coordination between the actuary and the underwriter in setting rate levels and underwriting standards, the underwriter's concern about large amounts of accidental death benefits will be considerably lessened.

Since the available evidence points to rising claim rates as the size of the benefit goes up, MR. NOVEMBER believed that large amounts of accidental death benefits should be a matter of underwriting concern. The higher claim rates on the larger amounts may be symptomatic of antiselection both by individuals and on a class basis. These higher claim rates may also be a reflection of the probability that an inducement to claims may be inherent in the very existence of the larger amounts. This may come about not only because of the more frequent legal contests to collect the larger amount if accidental death can be established, but also because of the greater incentive for dressing up suicides to look like accidents.

Mr. November raised a question as to whether the insurance industry would not be exposing itself to public criticism if large amounts of accidental death benefit coverage should keep cropping up as a possible reason for such occurrences as bomb explosions on airplanes. He also questioned the justification, in terms of basic insurance principles, of the triple indemnity benefit.

MR. MORTON stated that in the case of a basic policy which provides a level amount of protection the Prudential allows the regular accidental death benefit clause in an amount up to twice the face amount, subject to a company limit of $150,000. They have no underwriting qualms with the results so far, but he pointed out that these more liberal practices have been in effect for only about a year.

Mr. Morton indicated, however, that he had been particularly impressed by a few dramatic cases of individuals who applied for very large amounts of accidental death benefit. In one or two instances the amount of basic insurance was hardly justified by the financial picture of the insured as developed by inspection sources. The applicant's desire to have not only more insurance than normal rules justify, but also accidental death benefit on all of it, seemed to be very suggestive. He felt that companies which issue under these circumstances will be sorry some day.

MR. WALTER A. MERRIAM stated that while, in his opinion, the underwriting of large amounts of accidental death benefits need not be a matter for undue concern, there was evidence that mortality rates under this benefit increase by size of case. Therefore he considered it necessary to underwrite carefully cases which involve large amounts of accidental death benefits.

At the beginning of this year the Metropolitan brought out a triple indemnity benefit. Along with this change the aggregate amount limit for accidental death benefits available at the younger ages was reduced slightly. The new limits, taking into account the amount in force in all companies, are \$100,000 for issue ages 5 through 24 and \$150,000 for ages 25 and over. While these over-all limits provide some safeguard at the younger ages where accident rates are high, Mr. Merriam believed that the chief safeguard against adverse experience on large amounts of the accidental death benefit lies in the judgment of the underwriter.

Mr. Merriam also pointed out that there are many areas where more information would be useful in underwriting the accidental death benefit. As an example he cited the case of automobile accidents. Some people are much more likely to have such accidents than others and studies are now under way to determine the underlying factors involved. Mr. Merriam was hopeful that before long additional information would be available to sharpen underwriting techniques in this area.

In connection with the accidental death benefit, MR. WEBSTER suggested the use of an underwriting rule that the total insurance including the benefit should not be outside the financial underwriting range of the applicant's income. He mentioned that his own Company had for some time been allowing the triple indemnity benefit and that in their original calculations they had priced this extra benefit in event of accidental death in a common carrier at 10¢ per \$1,000.