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EXPERIENCE ANALYSIS, RESERVES AND POLICY FORMS

A. What analyses of morbidity experience are essential or desirable? To what extent are intercompany investigations practical?

B. What methods have been found practical for analyzing claim payments and relating them to appropriate units of exposure? In what situations may analysis be made by the method of loss ratios?

C. What reserves are required by statute and what are the acceptable bases for these? Should reserves in addition to the unearned premiums be maintained on policies which are not guaranteed renewable? What criteria are proper for the establishment of adequate surplus funds and contingency reserves?

D. What problems have recently been encountered in the drafting of policy forms to conform to the laws and regulations of the various states? What trends are apparent in the form and style of policy forms?

MR. M. D. MILLER, introducing section A, stated that it would be natural for a life insurance actuary to approach the analysis of health and accident experience with the expectation that such analysis would be essentially similar to the study of life insurance or mortality experience. Upon further investigation, however, one finds that the matter is by no means so simple. The observation, measurement and analysis of morbidity are much more complicated processes and at the same time more expensive. These factors have tended to retard the study of morbidity and the development of related actuarial science not only in insurance but also in population statistics.

Morbidity is a much more vague and variable concept fundamentally. Its definition depends upon the frame of reference and the purposes for which analysis is being made. For example, to the public health officer, morbidity may exist when a person merely feels the symptoms of illness or disease. For the health and accident underwriter, on the other hand, sickness is usually interpreted in terms of policy benefit provisions; he thinks in accordance with such things as inability to work for remuneration or profit, or confining illness.

Whatever the agreed-upon criterion of disability in a given instance, its incidence is affected by the disposition of the individuals to report morbidity or fail to do so in accordance with their desires. Thus sickness rates are apt to be higher when the fishing is good. Because of such subjective influences, there is an inherent lack of precision in the measurement of morbidity.

Even after a definition in terms of policy benefits has been decided upon for the purposes of statistical analysis—a task which itself is complicated

by the vast multitude of benefit definitions, policy limitations and exclusions—the experience results will vary tremendously depending upon individual company underwriting practices and claim settlement procedures. By comparison, in life insurance there is essential uniformity as to the contingency insured against, claims procedures, and, perhaps to a somewhat lesser degree, selection processes.

For morbidity more variables require study. Furthermore, their relative importance is not the same as for mortality.

The primary mortality variable, age, is also important for health and accident, but not to the same extent. The variation according to sex, on the other hand, is greater in the case of morbidity than in the case of mortality. Occupation, too, assumes more importance for health and accident insurance, which however is affected little by policy duration.

Income and geographical location, negligible factors for life insurance, become of considerable interest in connection with health and accident insurance as does the analysis of experience by agency and agent. The economic cycle has a tremendous effect upon health and accident insurance, while mortality seems to be affected principally by long-term trends.

Problems of record keeping are more serious under health and accident insurance. Most of the records necessary for mortality analysis are a relatively economical by-product of essential life insurance valuation operations. Such may not always be the case for health and accident insurance, where the problem is further complicated by the much greater claim frequency and the fact that claims usually involve multiple payments. More and more companies, however, are tending to make fuller use of their accounting records for statistical purposes and to supplement them where necessary by independent experience records.

The question of homogeneity is a serious stumbling block in the way of intercompany studies. However, because of greater loss frequency, a comparatively small volume of experience developed by an individual company can often give significant experience indications. Subdivisions of individual company loss ratios by such things as occupation, agency and location are valuable aids to company operations.

All in all, Mr. Miller said, health and accident experience analysis is a difficult job. Much remains to be done in the development of improved mechanical techniques to facilitate such analysis, perhaps with the increased use of electronic computing machinery, and in the development of basic actuarial methods. Closely related to experience analysis is the problem of dividend participation under health and accident policies, which up to now has received only the most cursory consideration. It is clear that a real challenge confronts the life insurance actuary who may become associated with health and accident operations.

MR. A. W. LARSEN, introducing section B, stated that there are in more or less general use four methods by which morbidity experience may be measured or determined:

1. Experience tables represented by r_x, the rate of becoming disabled, and ${}_np_x^i$, the rate of continuing disabled.
2. Tables expressing the number of weeks of sickness or days of hospital confinement among a given number of lives.
3. Amount of claims incurred per exposure unit.
4. Amount of claims incurred as a percentage of premiums paid or earned.

To what extent are each of these methods used, and what are the procedures by which the experience may be derived?

The first is well known to the life insurance actuary, as it is the basis for rates and reserves in connection with disability benefits added to life insurance policies.

The second, the sickness method, is adapted to weekly or monthly indemnity benefits for limited periods as provided by health and accident policies or to hospital expense benefits payable on a per diem basis. Under this method, the experience is ordinarily broken down by age, so that premium rates varying with age may be obtained. Also, disabilities may be tabulated by duration, one purpose of which would be to establish claim reserve liability. While morbidity is as much a function of age under cancelable contracts as it is under noncancelable contracts, this method is not ordinarily used for cancelable policies, as such policies, for practical reasons, are commonly sold at a flat premium rate regardless of age.

The third method, which expresses losses as an amount per unit of benefit exposed, is well suited to every type of benefit under cancelable policies, whether they be weekly indemnity benefits, daily hospital benefits, supplementary hospital allowances, surgical expense coverages, or accidental death and dismemberment benefits. While the experience under this method may also be broken down by age, it is more often tabulated in the aggregate. This method requires little more by way of record keeping than that which is normally needed to prepare reports to state insurance departments on experience by policy form. The claim card may be expanded to show a breakdown of claims by type of benefit. Exposures may be obtained from the in-force policy card file by multiplying the average number of policies in force during the year under each form by the respective policy benefits included in the form. In this way, the unit cost of each benefit may be readily determined. Both the exposure and claim cards should, of course, show occupation classification to permit results to be obtained separately for any desired occupational group.

The fourth method, that of loss ratios, is the one most commonly employed. Like the third, it relates losses to exposures, but in this case, ex-

posures are represented by the amount of premiums paid or earned. This method also is well suited to every type of health and accident benefit.

"In what situations may analyses be made by the loss-ratio method?" Loss ratios serve two purposes: (1) they permit comparison of morbidity experience under various categories, and (2) they enable us to determine unit costs for policies and for individual policy benefits.

As an example of the first of these, losses and gross premiums may be broken down by states, agents, territories, occupations, age groups, durations, or in many other ways, permitting comparisons of morbidity experience under each of those categories. Analyses for purposes of comparison need not be restricted to single policy forms. Forms may be combined for the purpose, provided the data are reasonably homogeneous. If, on the other hand, the data lack homogeneity, as for example, if the policy forms predominantly sold by one agency, or in one state, differ from those sold in another, or if the distribution of occupation classifications differ, the reliability of the resulting loss ratios as an index of comparison will be impaired. Also, between companies, loss ratios are entirely inadequate as a measure of comparative morbidity experience, not only for reasons similar to the foregoing, but because of the variation in gross premium rate structures.

Mr. Larsen said that as an example of the second of the two purposes mentioned, namely, the use of loss ratios for the purpose of determining unit costs of benefits, we may, for any selected policy form with identical benefits, break down losses alone by type of benefit without a corresponding breakdown of premiums. The ratio of each type of loss to the total policy gross premiums becomes a measure of the unit cost for that benefit.

In introducing section C, Mr. Larsen stated that we have, in the case of both cancelable and noncancelable contracts, active life reserves as well as disabled life or loss reserves.

Active life reserves under cancelable policies are usually limited to the unearned premium reserve and this reserve is required by statute for both cancelable and noncancelable contracts in approximately thirty states. Under noncancelable policies, it is the practice of companies to set up, in addition to the unearned premium reserve, an active life reserve if the policy is one providing weekly indemnity benefits. This reserve is a tabular reserve varying with age at issue and policy duration and is based on the Conference Modification of Class 3 experience. This basis is statutory in a number of states, in some others an insurance department requirement.

Losses under weekly indemnity benefits payable for life or for a long indemnity period are valued as disabled life annuities, computed on the

table stated, except that, during the first 27 months of disability, the procedure known as the three and one half times rule is used.[1] This basis is statutory for noncancelable policies in a few states, but is a generally accepted basis in all states for both cancelable and noncancelable policies.

Losses under weekly indemnity benefits of short maximum duration are usually valued by using average factors which may vary only with duration of the claim.

Reserves for outstanding claims on other than weekly and monthly indemnity policies are frequently computed by multiplying the number of such claims by the average amount of claim derived from the company's own past experience.

The annual statement blank provides, in Schedule O, a test of the adequacy of aggregate claim reserves, based on current year's operations, for claims existing at the beginning of the year.

As to the need for setting up on cancelable policies an additional active life reserve over and above the unearned premiums, Mr. Larsen did not believe that should be necessary, for if the premium is adequate, the unearned premiums should ordinarily be more than sufficient by at least the amount of commission already paid on them. Exception must be made if the policy continues in force with respect to certain benefits, such as hospitalization for pregnancy, after nonpayment of premium. Such situations call for some additional reserve. Also since loss ratios are subject to wide fluctuations due to epidemics, economic conditions, unemployment, etc., it would be advantageous for a company to maintain reserves on a voluntary basis against those contingencies.

MR. J. E. TAYLOR, introducing section D, stated that for the person unfamiliar with health and accident insurance the expressions Standard Provisions, Official Guide, Minimum Benefits, and Uniform Policy Provisions Law have little significance; for those whose duties include drafting of health and accident policy forms such terms bespeak some of the limitations to be observed and the problems encountered in policy drafting.

The 1911 Standard Provisions legislation was an outgrowth of an investigation of claim practices of a limited number of companies. The original purpose was to correct improper claim practices, but the provisions ultimately enacted in law were somewhat broader in scope. Because it was necessary that the provisions be included verbatim, and in the order in which they appeared in the statute, they did not lend themselves to the

[1] The "three and one half times rule" as stated in Section 219 of the New York Insurance Law, provides for claims of less than 27 months duration a reserve equal to the prospective payments for three and one half times the elapsed period of disability, with a minimum reserve equal to seven weeks' payments.

evolutionary development required to serve the insuring public adequately. As a consequence some forms of policies are cluttered with meaningless wording which is a source of confusion to both company representatives and policyholders, and a breeding ground for ambiguities. Only in 1951 did such provisions give ground with the enactment of the new Uniform Policy Provisions Law in a number of states.

The Official Guide is a unique pamphlet on policy filing procedure which was prepared by the National Association of Insurance Commissioners in 1943 (subsequently amended in 1946 and 1947) with the cooperation of company representatives, and was later promulgated by the insurance commissioners of many states for use in preparing health and accident policies for filing and approval. The stated purpose of the Guide is to set a pattern which will result in more uniform practices with respect to nonstatutory basic requirements, thereby expediting the policy approval work of supervising insurance departments. Unfortunately, some supervisory officials have extended its applicability beyond its intended purpose to the end that it has become an official regulation with practically the force of law. Some departments have been known to require use of wording suggested in the Guide, even though such wording is obviously intended as an example which may be used, rather than as required wording.

Since 1947 the policy approval laws of a number of states have included wording that policies may be disapproved "if the benefits provided therein are unreasonable in relation to the premium charged," such language being a portion of the Commissioners All Industry Regulatory Bill drafted to provide the state regulation believed necessary in the light of the *S.E.U.A.* decision and Public Law 15. Such legislation has presented the insurance commissioner with a particularly difficult problem since no criteria of reasonableness exist which can be applied to the complex patterns of health and accident benefits. A statement of the anticipated loss ratio must be included with the filing of policy forms in a number of states. Thus far there has been little difficulty as a consequence of such filings. It is hoped that there is full appreciation on the part of supervisory officials of the limitations to the use of loss ratios as a measure of the value of policy benefits.

In 1948 a subcommittee of the Accident and Health Committee of the National Association of Insurance Commissioners held hearings concerning a proposal for establishing "minimum benefits" for health and accident policies. At one stage the subcommittee considered a proposal for a uniform disability policy, with minimum amounts specified for various benefits. As a consequence of this "minimum benefits" proposal, legisla-

tion was enacted in California in the form of a policy approval statute which is unparalleled in the extent of broad discretionary powers given the commissioner and the specific limitations imposed upon some types of benefit provisions.

The Uniform Individual Accident and Sickness Policy Provisions Law was adopted in seventeen states and Hawaii in 1951 and has been enacted in one other state this year. In addition there are a number of states whose statutes permit "in substance" wording of the old form of standard provisions or which have no such requirements, and in such states it is possible to issue a policy designed to conform with the Uniform Policy Provisions Law. This legislation is a substantial improvement over the 1911 Standard Provisions Law in that it recognizes the inapplicability of certain types of provisions to certain forms of coverage and, hence, permits omission of such; also it drops the rigid requirement of the old law that the provisions be "in the words and in the order of the number of" the statutory provisions. The new law requires certain additional provisions not heretofore required, *viz.*, a grace period provision and an incontestable provision.

Mr. Taylor said that the Uniform Law may be expected to affect the form and style of policies in several respects. No undue prominence may be given to any portion of the text, which must be printed in a uniform light-faced type not less than 10-point in size; in comparison, the Official Guide requires bold-face type for limiting expressions and larger type than normal for some of such expressions, depending upon location. There is no requirement under the new law for the inclusion of a "Brief Description" of the policy. The Uniform Provisions themselves need not carry any special caption such as "Standard Provisions" previously used, but each of the individual provisions carries its own caption. The order of the provisions may be varied as required by the context of the policy; however, several states have brought forth regulations indicating that any variation in the order of the Uniform Provisions as set forth in the statute must be explained adequately by the submitting company.

Perhaps the most significant recent trend in form and style is the adoption by a growing number of companies of the schedule-type policy. It is understandable that a company doing business through so-called "general insurance" agents, who are used to the schedule-type policy for certain forms of casualty insurance, should use such a policy for its health and accident insurance as well. It would be of interest, he said, to learn the reasons for such use by those companies marketing health and accident insurance through a life insurance agency organization.

MR. S. F. CONROD stated with reference to section B that the meth-

ods used by a company for statistical analyses will largely be determined by its accounting procedure. If premiums are allocated in their accounts to the various benefits and riders—such as accident indemnity, sickness indemnity, hospital expense—the loss-ratio method under which claim payments are related to premiums has its practical uses. Otherwise, the statistics should be taken off in such a manner that the claim payments or the periods of disability or hospital confinement can be related to the appropriate units of exposure.

For a company whose principal line of business is noncancelable disability insurance, he thought that it is particularly important that any statistics taken off be in a form suitable for ratemaking purposes. In the Loyal Protective, use is made of the regular premium payment and claim tabulating cards for this purpose. The premium cards are used to obtain the premiums paid and exposures by policy form and for the desired subdivisions within each policy form. The number of policies is shown separately for each mode of premium payment so that the number of exposure years may be obtained.

Mr. Conrod explained that the claim cards show an analysis of each claim payment by type of benefit and also show the number of days of total disability, partial disability, hospital confinement or nurses' care. One section of the card, which is reproduced from the corresponding in-force premium card, gives such identifying information as policy form, riders, date of issue, age at issue, class, and amount of benefits, from which it is possible to relate the claim data to the appropriate premiums and exposures.

This procedure, he said, made it possible to obtain for each policy form by class and attained age group, the loss ratio, the number of days per life-year of total disability, partial disability, hospital confinement or nurses' care, and the cost of surgical expense benefits. Also, the cost of accidental death benefits and dismemberment benefits per $1,000 is obtainable. The cost of miscellaneous hospital expenses may also be determined in relation to the cost of the hospital room and board benefit.

Mr. Conrod explained that through the use of summary sheets, the experience on benefits which are uniform for all policies or groups of policies may be combined. In the same manner loss ratios by class, elimination period, and age at issue may be combined for all forms. All data are compiled on the basis of premiums received and losses paid, the intention being to carry the experience forward on a cumulative basis and to approximate the adjustments necessary to put the cumulative figures on an incurred basis.

MR. E. H. MINOR observed that a practical limitation on extensive analysis of morbidity experience is the necessity of keeping expenses at a minimum. He also called attention to the paper by Mr. Horace Bassford in the 1940 *Transactions of the International Congress* which analyzes the health and accident experience of the Metropolitan Life Insurance Company for a 17 year period.

MR. R. P. WALKER stated that a study of the cash loss ratios on individual hospital business in some of the companies writing the largest volume of this business revealed rapidly mounting ratios. He thought that part of this rapid increase was due to the effect of inflation, but that a greater part was due to the fact that many of the companies have been writing this business for only a short period of time.

He added that he had made a study of experience with the maternity benefits included in individual policies and had reached the conclusion that the maternity benefit is not an insurable one on an individual basis.

MR. S. F. CONROD said he would confine his remarks on section C to noncancelable disability claims of less than one year's duration where reserves based on the individual company's experience are used. He explained that claims falling into this category are divided into two groups, those on which a claim payment has been made and those which are reported or in process of settlement. On the former an average factor per claim, varying only according to the month incurred, is applied. For the second group a single factor is used for all claims. At the end of each year the factors used for the previous year are tested against the payments made during the current year plus the reserve set up on claims still outstanding.

MR. PAUL THOMSON believed that accident and sickness policies providing for renewal at the company's option but at the same premium rate charged at issue require some form of level premium reserve for the same reasons as in other kinds of level premium insurance covering an increasing risk. Since the company's right to refuse renewal is actually exercised on only a very small percentage of its policyholders, the situation is not far different from that of guaranteed renewable policies for which an additional reserve is required by statute.

He thought, however, that for policies which are not guaranteed renewable, consideration should be given to the fact that the required gross unearned premium reserve will often be redundant, especially for a company paying a modern commission scale. At the later policy durations the net level premium reserve will usually exceed the gross unearned premium and the company may then wish to consider whether to set up an addi-

tional reserve equal to the excess or to provide for this liability through the contingency reserve. An argument in favor of holding additional earmarked reserves similar to those required for noncancelable insurance is that loss ratios, calculated as in Schedule H, would tend to be more realistic. A practical course, which he understood to be followed by at least one company, is to calculate a level gross premium reserve on a five or ten year preliminary term basis.

He also mentioned the practical problem of adapting the rather limited data available to this purpose, mentioning that data being gathered by the Bureau of Accident and Health Underwriters will be available at a later date. Meanwhile, he thought that a company might possibly find that an over-all percentage of the reserves according to the Conference Modification of the Class 3 disability tables could be used.

MR. G. F. MCNAMARA stated with reference to section D that, because of the varying requirements from state to state, it was necessary for a company entering the field to draft two sets of policy forms, one conforming to the old 1911 Standard Provisions Law and the other to the new Uniform Individual Accident and Sickness Policy Provisions Law. The Mutual Life uses the forms based on the new law so far as possible because of the more liberal provisions, the greater clarity, the flexibility possible in the arrangement and wording, and because it is expected that the new law will eventually be followed in all states.

He mentioned that the new law does not require that the exact wording and order of the provisions be used as set forth in the law, but that official approval is expedited if variations are kept to a minimum and are pointed out and explained. In addition to the two sets of policies, special forms are required in California and in Canada.

He stated that his company had decided to use the schedule-type policy since the work of the agent, the home office and branch office staffs, and the insurance department officials is simplified as a result of the reduction in the number of forms otherwise required, with no disadvantage to the public.

Mr. McNamara also commented on the disposition of the Blanks Committee of the National Association of Insurance Commissioners to require that in reporting the loss experience by policy forms under schedule-type policies each combination of coverages be separately reported.