ABSTRACT OF THE DISCUSSION OF PAPERS READ AT THE PREVIOUS MEETING

THE PERMANENT TOTAL DISABILITY PROVISION IN LIFE INSURANCE POLICIES—EDWARD B. MORRIS

VOL. XV, PAGE 9

WRITTEN DISCUSSION

MR. JOHN M. LAIRD:

In presenting this paper in November, 1928, Mr. Morris rendered a timely service to the Society and the life insurance business. His work was distinctly helpful to the committee of company actuaries appointed by the Superintendent of New York and the committee of insurance department actuaries appointed by the National Convention of Insurance Commissioners. These two committees are now recommending Standard Provisions which agree closely with those given by Mr. Morris.

Mr. Morris suggested that permanent total disability should "cover any total disability lasting ninety days, income benefits to commence at the end of ninety days, no payments during the first ninety days period." The two committees have recommended that the first monthly payment be made at the end of four months and that no payment be made for any total disability lasting less than four months or for the first three months of a longer period of disability.

It is rather unfortunate that the word "uniformity" has been associated with these standard provisions. There is some advantage in uniformity but the chief purpose is to define the scope of permanent total disability as an incident to life insurance. It is felt by many insurance commissioners and company officials that the disability benefit has gone too far and that it would be better, at least for the present, to limit the scope. The adoption of the standard provisions will not require uniformity. The most liberal clause then permitted grants waiver of premium and $10 per $1,000 for any total disability which has lasted four months. Any company is, however, entirely free to grant a less liberal benefit —for instance, waiver of premium and $5 per $1,000 for any total disability lasting more than six months or even twelve months. On the other hand, it is expected that most companies will adopt the most liberal form of clause permitted. In that case, the companies will gradually accumulate a general experience on homogeneous data.

The question then arises—if the companies have a uniform clause, should there also be a uniform premium charge or should there at least be a minimum gross premium prescribed by law?

Under life insurance, Pennsylvania has for several years had a minimum gross premium for all business issued by a Pennsylvania company and for the Pennsylvania business of any outside company. This minimum has been the net premium by the American Experience Table with 3½% interest. In recent years, however, the mortality at the young ages improved and the interest earnings were so high that several stock companies felt justified in quoting premiums at the young ages somewhat lower than the minimum prescribed. The effect of the law was simply that residents of Pennsylvania had to pay more for their insurance than their neighbors in other states. To take care of this situation, the law has recently been changed so that hereafter the minimum gross premium in Pennsylvania is the net premium by the American Experience Table with 4% interest. For Pennsylvania companies, the new law applies only to their Pennsylvania business.

If a state prescribes a minimum gross premium it necessarily uses some rule of thumb method. If the legal minimum is set at a low figure, it is of no value. On the other hand, if it is set at a high figure, some companies will at certain plans and ages be forced to charge more than their own experience justifies. Fortunately, no other state has prescribed a minimum gross premium for life insurance. It would be most unfortunate if forty-eight different states each prescribed a different minimum.

The same reasons apply to disability premiums. It is therefore recommended that each company be allowed to compute its own gross premiums according to its own best judgment as to what its experience will be. This is particularly necessary in disability as the gross premium required depends not only on the nature of the benefit but also on the standards of selecting risks and on the methods of settling claims. Certainly at this time, when our knowledge of disability premiums is so limited, it would be most unwise for any state to prescribe a minimum gross premium, as it is always difficult to change a law from time to time to take care of new conditions.

So far as reserves are concerned, the situation is entirely different.

Each state should adopt a stringent basis of valuation. Even with our present limited knowledge, it is reasonable to assume that the reserves on active lives for permanent total disability according to the most liberal clause permitted under the new standard provisions should be at least 150% of the reserves by Hunter's Disability Tables. Steps have been taken to have eight or nine of the largest companies in the country combine their experience on disability in order to determine the best basis of reserves for active lives and for disabled lives. It is entirely possible that the combined efforts of these companies may also prove helpful in determining what gross premiums should be charged for the benefit.

The paper by Mr. Morris is an excellent foundation for the standard provisions and for further reports on reserves, net premiums and even gross premiums.

COMPENSATION RESERVES—E. ALFRED DAVIES

VOL. XV., PAGE 28

WRITTEN DISCUSSION

MR. PAUL DORWEILER:

The members of this Society, particularly the members of the Special Committee on Compensation and Liability Loss Reserves, are indebted to Mr. E. Alfred Davies for his paper on Compensation Reserves giving a concise report of his investigation. For, to a greater extent than will be generally realized from a casual reading of this paper, it has been necessary to set up special procedures involving many details in order to obtain the compilations needed.

Ratio of Paid to Incurred Losses by Policy Years

The Special Committee on Loss Reserves in its deliberation gave general consideration to a method of developing by policy years the ratios of paid losses to ultimate incurred losses. It was recognized that such a method had definite merits. Firstly, it uses data which are readily obtained as they constitute a part of the preliminary data necessary for the preparation of the present Schedule P. Secondly, it uses data from payments which are made in accordance with definite state laws and should yield a set of ratios as nearly stable as could be expected from any source.

The Committee also recognized that this policy year method had certain outstanding weaknesses. Firstly, it does not produce reliable ratios of paid to incurred as at the end of twelve months after the beginning of the policy year. For, at the present time, carriers generally do not have a ready means of tracing the ultimate incurred cost of accidents occurring during the first twelve months of the policy year. Secondly, it does not adequately reflect any change within the year in the distribution of the carrier's volume of business.

Ratio of Paid to Incurred by Month of Accident

Mr. Davies by his method of developing ratios of monthly payments by month of accident is able to follow through the ultimate incurred losses for any combination of months. This procedure permits the determination of reliable ratios as at the end of any month, provided of course the volume of data used is adequate. The separation of the experience of a policy year into divisions according to month of accidents also tends to reflect any change in the distribution of the volume of business within the year.

In overcoming the main weaknesses in the policy year method Mr. Davies, through the method of tracing payments by month of accidents, has introduced a system which, while not difficult to understand, yet in its actual operations requires very much detail. For aside from the additional coding of payments for month of accident these payments must be sorted currently and filed and recorded in twenty-four divisions (seventy-two divisions if losses are separated into three natures of injury), for each completed policy year. This process is to continue until the number of divisions are decreased because all cases for a given month of accident have been closed. While this is not impossible it may well be questioned whether the function served by this check on reserves is worth the extra effort. The additional coding, sorting, compiling and checking involved are so considerable as to make this procedure seem prohibitive to some of those who must assume the direct responsibility for a Statistical Department's producing accurate results under an already heavily loaded schedule. For it must be remembered that the present system is not entirely amiss, as is indicated by the consistency in the loss ratio of a given policy year when viewed as at different periods of development.

Volume of Experience

The volume of experience available enters as an important factor into the question of separating losses by nature of injury or by geographical districts and also into the desirability of using the method at all for a specific carrier. The loss in stability due to separation of experience by month of accident is overcome through the introduction of the 12-months-running periods, at the cost of but a slight increase in detail.

Best's Insurance Reports—1928—lists slightly over 100 carriers of Compensation Insurance. An approximate grouping of the carriers with respect to the annual compensation premium income is shown in the following.

25% have over $3,000,000 annual premium
25% have from $600,000 to $3,000,000 annual premium
25% have from $250,000 to $600,000 annual premium
25% have less than $250,000 annual premium

The carrier whose data are represented in the investigation belongs to the upper half of the highest group. It would not be expected that this method when applied to the carriers in the other groups would indicate results of the same degree of stability.

Losses by Nature of Injury

In the investigation Mr. Davies has divided the losses by nature of injury into fatal, all other indemnity, and medical. This separation reflects any change in the distribution of business producing a change in the distribution of losses by nature of injury. It also permits a check of the reserves by each nature of injury thus possibly revealing deviations which may not be noticeable when considered as a whole.

The carrier's distribution of losses by nature of injury depends primarily on the industries and the state laws involved. In round numbers the following divisions may be considered representative of a typical carrier.

Nature of Injury	*Percent of Losses*
Medical	30%
Fatal	20
Other Indemnity	50

Unless the volume of the carrier is very large there is serious question whether the results obtained compensate for the extra work added by these divisions and the consequent loss of stability due to the smaller volume of experience in each division.

Exhibits and Charts

In the exhibits only the blank forms used in the compilation are generally shown. It would be an aid in forming an opinion as to the relation of stability and volume of experience to have the actual data for one of the natures of injury. In Charts I and II no vertical scales are indicated. While this helps the reader by directing his attention to the relationship of the two drafts which is the object of the chart, it also leaves him at a loss to estimate directly the amount of any deviations that may occur, as e. g. in 1927 and 1929, Chart I.

Carefully planned investigations like this one often reveal interesting results as a sort of by-product. Mr. Davies has called attention to the seasonal variations in paid losses per accident shown in Chart IV. The regularity of these annual fluctuations throughout the period points to a causal relation. Is this due to different distributions of industry during the summer and winter seasons?

Before passing judgment as to the general usefulness of this method of checking loss reserves it should be considered in its relation to carriers of various size groups. It would be appreciated if other carriers trying out this method would follow Mr. Davies' suggestion and submit their results to the Society's Committee on Compensation Reserves.

AUTHOR'S REVIEW OF DISCUSSION

MR. E. ALFRED DAVIES:

The gracious discussion by Mr. Dorweiler leaves little to be said, since he writes, not in criticism but as a valuable supplementary paper to the original article, and one is indebted to Mr. Dorweiler for his suggestions.

In the matter of expense it will be recognized that, if there is any method which will give even a partial proof of the total reserve as at any given point, then such a method would in and of itself justify a reasonable expenditure. There is so much at stake that a small or even, if necessary, somewhat larger additional expense would be money well spent. It is found by my own Company that the additional work on the extra cutting and tabulating required for carrying on the described method of checking the reserve is about one person per year, plus the use of the tabulating machines for a short time. This includes getting the data by states and by the three kinds of loss—death, medical, and all other. It might be mentioned that the routine procedure calls for certain of the data anyway, while reviews of the company estimate reserves require still further detail to facilitate the reviews by six months periods or even oftener.

In our current studies we are combining the indemnity and death payments and have gone back over the prior records to make the adjustment. This will reduce the number of records without affecting the results. In the accompanying Chart A we are showing three lines, i. e., accidents reported by twelve-months-ending periods as of each calendar quarter, contrasted with indemnity and death payments combined for the four-months-periods, twelve months ending; and with medical losses similarly compiled. It will be noted that this chart is carried to a later point than our former charts and yet despite the substantial rise in accidents the four-months-payments curve continues to be in close accord. The medical, as will be seen, has increased considerably faster than has indemnity. This is probably a familiar phenomenon and indicates the need for a breakdown between the two kinds of payments.

The second Chart B reviews Chart I of the earlier paper and shows that the spread in 1927 and 1928 referred to by Mr. Dorweiler has been eliminated as a result of reserve reviews and will point, we believe, to the fact that this relationship of the four months paid to the incurred continues as a fairly reliable measure by which to check reserves.

As to the omission of percentages on Chart I, our Exhibit 5 of the original paper shows the relationship between the incurred and four month payments at December 31 and June 30.

It is admitted that the size of the carrier would have quite a bearing as to the value of this method. Just at what point in size of company the value would become less we are not prepared to say; this probably would develop if the various companies could find opportunity to submit their data to the Compensation Reserve Committee. It might be said, however, in passing, that the smaller companies would perhaps find it possible to separate the more severe cases, which of course are much fewer in number, and treat them separately, handling the rest of their business along the lines of the suggested method.

We have been adhering in our own use of the method to the proof of the calendar year reserves in total without attempting to split it into policy years. Mr. Dorweiler indicates correctly the detail which would be involved if it were attempted to carry this method into policy year by accident month. However, there would be a possibility, if it were thought advisable, to apply the same cost per accident to all policy years' accidents occurring in any given month rather than attempting to locate the specific policy year accidents. We are not handling our own records in this way and at the moment have not planned so to do.

In conclusion, Mr. Dorweiler calls attention to the by-products. That is true and the seasonal variation of which he speaks is an interesting example. We ourselves have not determined the cause of this seasonal variation. Hypotheses may be formulated—one is that which Mr. Dorweiler himself suggests, i. e., the different distributions of industry during the summer and winter months; a second possibility is the influence of air and light and general good weather on the fact of the patient's recovery. While hardly likely, yet consideration might be given to the possibility that vacations and absences on the part of the carrier's personnel, and consequent delays in payments, would have a bearing. Here, again, one would like to see other carriers' charts to ascertain if they too find this seasonal fluctuation.

CHART A

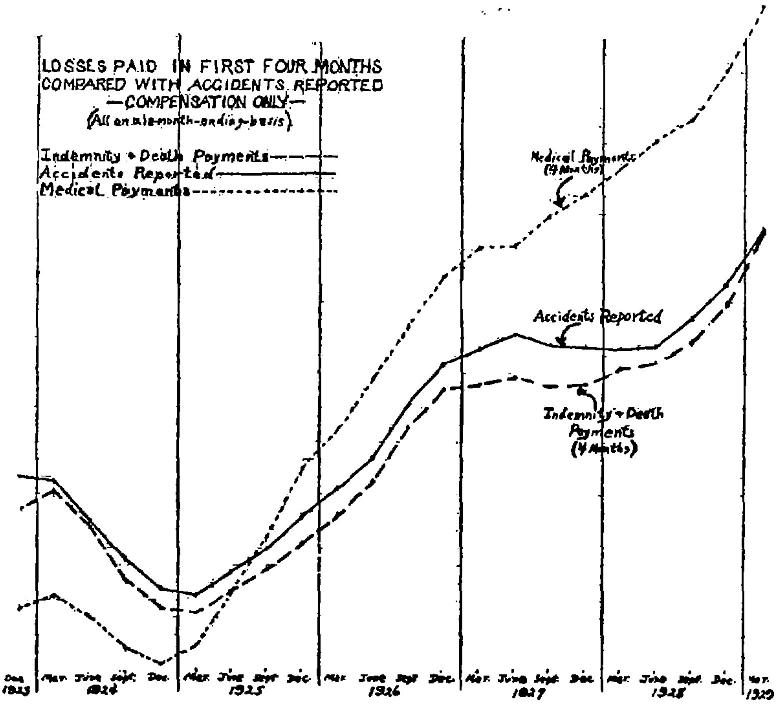
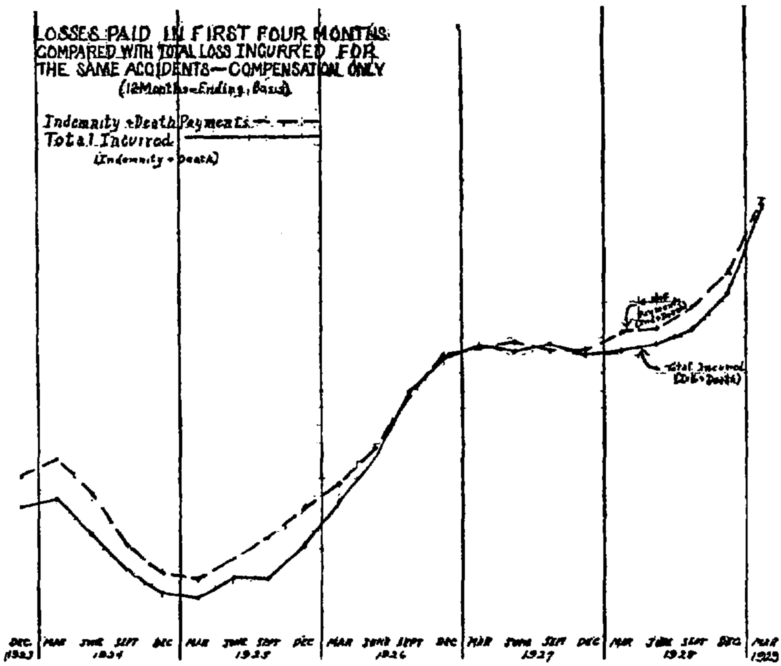

LOSSES PAID IN FIRST FOUR MONTHS
COMPARED WITH ACCIDENTS REPORTED
—COMPENSATION ONLY—
Indemnity + Death Payments
Accidents Reported
Medical Payments
Accidents Reported
Indemnity + Death Payments (4 Months)
1925
1926
1928

CHART B


LOSSES PAID IN FIRST FOUR MONTHS
COMPARED WITH TOTAL LOSS INCURRED FOR
THE SAME ACCIDENTS—COMPENSATION ONLY
Indemnity + Death Payments
Total Incurred
(Indemnity + Death)
DEC. 1923
MAR JUNE SEPT DEC 1924
MAR JUNE SEPT DEC 1925
MAR JUNE SEPT DEC 1926
MAR JUNE SEPT DEC 1927
MAR JUNE SEPT DEC 1928
MAR 1929