

## INSURANCE AND THE INFLUENZA EPIDEMIC

### American Companies Experience Enormous Losses During Last Three Months of 1918

Some interesting observations have been made on the influenza epidemic by Mr. Arthur Hunter, chief actuary of the New York Life Insurance Company. They are incorporated in a recently issued pamphlet from which the following has been extracted:—

"In analyzing the experience in 1918 of life insurance companies during the influenza and pneumonic epidemic the proper measure will not be obtained by considering the death losses paid in 1918, because there is an unusual number of cases on which the companies were not able to obtain completed proofs of death at the end of that year. Consideration should therefore be given to the death losses which have been incurred during 1918. In the New York Life the death losses from all causes paid in 1918 were about \$35,000,000, whereas the death losses incurred were \$40,300,000. At the end of 1917 there were death losses of \$5,800,000 on which no proofs had been received or on which proofs had not been completed, while at the end of 1918 the corresponding amount was \$11,200,000 of which \$7,400,000 was losses on which no proofs had been received.

"During the first nine months of 1918 the mortality was unusually favorable although it included losses due to warfare, the ratio of actual losses incurred to expected deaths being 61%. The expected losses are calculated on the basis of the reserve tables used, the great majority of the business of which is on the American Experience Table. During the last three months of the year 1918 the ratio of actual losses incurred to the expected was 188%, the average for the entire year being 95%, which is the highest in the recorded history of the Company. The average for the last five years (including war losses during three and a half years) was 72%. The lowest ratio on the basis of incurred losses was 91%, and the highest 115% of the American Mortality Table.

#### Method to Approximate Losses

"As there were hundreds of cases at the 31st of last December on which the cause of death was not then known, the total death losses in 1918 from the epidemic cannot be stated. There has been a tendency to ascribe too many deaths to the epidemic with the result that an exaggerated account of these losses would be obtained by listing all those which were said to be due to influenza or to epidemic pneumonia. In order to obtain an approximation to the losses actually due to the epidemic the following method has been used:

"It was assumed that during the last three months of the year the ratio of actual to expected losses might be higher than for the first nine months. A ratio of 65% for the former was assumed against 61% for the latter and the excess for the last quarter of 1918, less war losses, was considered to be due to the epidemic. On this basis the claims from the epidemic were \$10,000,000, which was less than the total claims reported to us in which influenza and epidemic pneumonia were given as the causes. This does not, however, show the net loss of the company. Under normal conditions the reserve on death losses in the New York Life is \$400 per thousand, but on the epidemic losses it is only \$120 per thousand. The net cost on \$10,000,000 of face value is therefore \$8,800,000, whereas under normal conditions the net loss corresponding to \$10,000,000 of claims would have been \$6,000,000. This is due to the young average age of the insured and the short duration of the policies. In 1917 the average age at death was 51 and the average duration of the policy 14 years, whereas in the epidemic cases the average age is 34 and the average duration 5½ years. It will therefore be seen that a company which has a large amount of new business in proportion to its old business would suffer more severely from the epidemic than a company with a small amount of new business in proportion to its old business. To avoid misunderstanding, it may be well to mention that the average age at death

varies in different companies, depending largely on the average age of all their insured lives.

"The effect of the epidemic is very noticeable in the case of deaths occurring within the first policy year after the insurance was granted. In 1918 such incurred death losses were three times as great as in 1917, and for the last three months of 1918 were three times as much as for the first nine months. The losses incurred in the first policy year from influenza and all forms of pneumonia were twice as great in 1918 as the deaths from all causes in the first policy year in 1917. During the seven years from 1911 to 1917 inclusive, the ratio of actual first year losses to expected losses, by the American Mortality Table, averaged 40%, while for the year 1918 the corresponding figure was 98%. In effect this was a seven-fold higher mortality relatively in the last quarter for all ages and a ten-fold for ages 20 to 35 than in the preceding three-quarters of the year.

#### Proportion of Deaths

"In some cases the greater proportion of the deaths is charged to influenza while in others the greater percentage is charged to pneumonia. For example, in San Francisco six deaths are ascribed to influenza to one from pneumonia, while the reverse is true in Indianapolis where one is ascribed to influenza to six from pneumonia. For the forty-six principal cities three deaths are said to be due to influenza against two to pneumonia. For the six months ending December 27th the Surgeon-General announced that there were 21,376 deaths in the camps in America from pneumonia and 1,131 from influenza. The former must be due principally to the epidemic, as the usual form of pneumonia causes relatively few deaths among young men. (The deaths from all causes other than pneumonia and influenza were less than seven per cent. of the total deaths in the six months.) This is a markedly different relationship of deaths from influenza to those from pneumonia than that found in the cities, the medical officers at the camps having charged against pneumonia nineteen times as many deaths as against influenza.

"A comparison among various insurance companies of the deaths from influenza with those from pneumonia would not serve a useful purpose, because of the different methods of tabulating the causes of death. In one company, for example, all cases of pneumonia following influenza are tabulated as influenza, while epidemic pneumonia is included among pneumonia cases if the attending physician does not differentiate between the two types of pneumonia or state that influenza preceded it. In another company the cases of epidemic pneumonia have been included with pneumonia. The deaths from influenza in the former company exceed those from pneumonia of all kinds, whereas the reverse is true in the latter.

#### Effect of Total Abstinence

"It is stated that abstainers have suffered more from influenza than non-abstainers. A study of the death rates in the 'wet' and in the 'dry' cities does not justify that statement nor do the more accurate studies of the death rates in life insurance companies. Dr. Brandreth Symonds, Chief Medical Director of the Mutual Life Insurance Company, of New York, has recently stated that total abstainers have had a lower mortality from influenza than the other policy-holders, but that total abstinence does not seem to have been any material help in preventing a vital termination to influenza at any age. As he also decides that a daily use of alcohol not to excess did not increase the death rate from influenza, we may assume that he did not find any marked difference between abstainers and non-abstainers. Mr. Henry Moir, President of the Actuarial Society of America, has also stated that "the statistics do not give any definite indication that the use of alcohol in moderation is either beneficial or objectionable so far as influenza is concerned."

It is estimated by the premier that \$1,000,000 would be placed in the estimates as New Brunswick's share of the Dominion government's distribution of \$25,000,000 in loans to the provinces at 5 per cent. for the working out of the better housing problem.