

Morbidity Statistics

- A. What solutions are being found for development of morbidity statistics to meet the needs of individual companies? What changes, if any, in the Society's role as a collection agency for morbidity experience can be made to expedite such development?
- B. What uses of "Health Statistics" developed from the 1957-58 U.S. National Health Survey have been made, or are contemplated, for
- a) comparisons with company morbidity experience?
 - b) establishment or checking of premium rates for benefits for which insurance experience is not readily available?
 - c) reserves?
 - d) consideration of policy with respect to changes or extension of insurance benefits, markets, etc.?
- C. What limitations should be observed in the use of data from this survey?

MR. J. HENRY SMITH explained the circumstances that caused the Society of Actuaries and the Health Insurance Association of America to form the Joint Steering Committee on Morbidity Statistics under Individual Accident and Sickness Insurance. The duties of the Joint Committee are to determine needs for experience data under individual accident and sickness insurance, to establish priorities for studies of experience and to determine whether recommended studies should be undertaken by the Society or the HIAA.

The Joint Steering Committee believes pressing needs exist for studies of experience data on four types of benefits: (1) disability benefits, (2) hospital-surgical-medical benefits, (3) major medical benefits, and (4) hospital-surgical-medical benefits for those at the older ages.

The Society of Actuaries' Committee on Experience under Individual Accident and Sickness Insurance has already made considerable progress in collection of data on disability benefits and the Joint Committee recommended that it continue to develop this area. The Joint Committee also recommended that the Society begin a continuing study of hospital-surgical-medical benefits, an area in which sufficient and homogeneous data appear to be available. Experience data for major medical benefits are not homogeneous enough nor mature enough for study at this time, but it was recommended that the Society of Actuaries lay plans for a study of major medical benefits as soon as feasible.

The HIAA was asked to attempt the collection of experience data on hospital-surgical-medical benefits at the older ages. Such a collection was undertaken by the Actuarial and Statistical Committee of the HIAA, but it appears that the data collected were not sufficiently authoritative or compatible to permit publication of any tables.

With respect to other benefits, the Joint Committee felt that individuals in companies should be encouraged to present papers or summaries of experience data on individual accident and sickness insurance that were available to them and that might be of interest.

MR. JOHN H. MILLER, in commenting on the Society's role as a collection agency for morbidity experience, began by noting that the Conference Modification of Class III Morbidity Table was developed largely from the experience of three insurers to meet the need for a valuation standard for disability benefits under which benefit payments were subject to a maximum limit for each continuous disability. As was true with the National Fraternal Congress Table of Mortality, some margins were thought to be present in the Conference Table, as a valuation basis, because no nonforfeiture benefits were contemplated and because a net premium valuation has some inherent margins when expenses decline with policy duration. However, the Committee that prepared the Conference Table emphasized the caveat that this table was not intended as a basis for gross premiums.

When the Society's Committee on Experience under Individual Accident and Sickness Insurance was formed, it found little seasoned experience available. A number of the participants were companies that had recently entered the Accident and Sickness field and, among the companies with long experience in the field, two of the principal contributors had recently liberalized the provisions of their leading policies so that they had little mature experience under benefits currently offered.

Truly homogeneous data may be found only among risks of the same year of issue, the same sex, the same occupational hazard, the same elimination period and perhaps even the same indemnity time limit and amount of monthly indemnity. Such refinements would require a large family of tables and mean such a fragmentation of the available experience data as to give little credibility within any one grouping.

Mr. Miller noted that the elimination period is an important variable in determining morbidity experience. While one might assume that the number of people disabled on the 31st day of continuous disablement would be the same whether benefit payments commenced on the first, eighth, fifteenth or thirty-first day of disablement, such is not the case. Each elimination period produces its own level of disability with little tendency towards convergence at later durations of disability. While the reasons for this phenomenon have not been determined, there may be an element of momentum provided by a tendency to malingering once a claim is commenced and, further, some self-selection may direct the better risks to

policies with longer elimination periods. The same variation appears under group weekly indemnity experience.

The pattern of select experience found in disability insurance is quite different from that exhibited by mortality under individual life insurance policies. At ages 40 and under, the benefits of selection are almost negligible and the antiselection of the insured apparently offsets, in large measure, the efforts of the underwriter. At ages 50 to 65, the effects of selection appear as a substantial increase in morbidity by policy duration, continuing for at least 20 years after issue and perhaps much longer. Those insured in their 50's and 60's do not exhibit the high level of morbidity that those who were insured in their 20's or 30's reach when they attain these higher ages.

MR. JOHN S. THOMPSON, JR., reported on the work of the Society of Actuaries' Committee on Experience under Individual Accident and Sickness Insurance. The initial studies have covered the experience under total disability benefits for loss-of-time policies. The principal objectives of these studies are to test the appropriateness of the Conference Modification of Class III as a valuation table for loss-of-time benefits and, if necessary, to develop a new table. The studies will also provide information of use in ratemaking and in underwriting practices generally, such as the variations in the cost of coverage by sex, occupation class, age and other important variables.

The Committee chose to study total disability benefits, rather than medical care benefits, primarily because the need for a modern valuation table is greatest in the case of loss-of-time coverages. The modern valuation standards of Task Force IV are available for basic hospital-surgical coverages. Furthermore, basic hospital-surgical coverages are a fairly recent development, compared to disability insurance, and major medical insurance is in the experimental stage. Consequently, it is not surprising to find wide variations in coverages, benefits, underwriting practices and renewal guarantees in the medical expense field; these variations in insurance practices among companies naturally make it difficult to compile homogeneous data on medical care benefits.

Interest in the Committee's study of total disability benefits has been growing and 18 companies contributed data on 87,000 claims to the study of 1957 experience. A total of 182,000 claims is included in the data that have been collected for the experience of 1955 to 1957, inclusive. While this may appear to be a significantly large number of groups, only a relatively small part represents a mature experience; also, the data must be classified in a very large number of groups for homogeneous results so that the volume in many groups becomes rather small.

MR. JACK A. SINGER noted that individual companies require certain morbidity statistics in order to prepare their annual statements, to determine premium rates and to develop dividend formulas. The Prudential Insurance Company of America has a statistical system based upon a valuation statistical card and a claims statistical card. From the system, they have been able to obtain by age and sex, net annual claim costs, claim frequencies, the average duration of claim, the average amount of claim and other significant information. These cards also form the basis of their contribution to intercompany studies.

MR. WILL R. MULLENS discussed the needs of smaller and medium sized companies for morbidity statistics. In the past, these companies have used the loss ratio method of constructing premium rates for renewable term contracts but, now that guaranteed renewable coverages are being written, have need for intercompany morbidity statistics as a basis for premiums and reserves. These companies also need to develop their own morbidity experience, particularly under coverages with high claim frequencies where results will be significant. Intercompany morbidity tables can also be useful as a standard for investigating variations in the experience of one's own company. Mr. Mullens felt a reasonably satisfactory basis for gross premiums might be a morbidity table constructed using the insurer's own experience as to the benefit cost of initial duration of disability and intercompany experience for extended durations.

The Business Men's Assurance Company recently studied its 1958 experience under certain individual hospital policies and found the annual claim cost of providing a daily room benefit to be the following percentages of benefit costs under the New York 1957 Hospital Tables:

Age	Male	Female
15-39	97%	99%
40-44	79	130
45-49	109	115
50-54	114	71
55-59	100	110
60-65	73	85
66-80	86	85
All Ages	95%	98%

As a result of this study, the Company has decided to base premium calculations upon a table based upon the New York 1957 tables with certain loadings for contingencies.

Mr. Mullens, in discussing section B, mentioned that such sources as the Health Statistics Bulletins of the National Health Survey could pro-

vide valuable data to actuaries in establishing morbidity for coverages infrequently offered and as a basis of comparison with company experience. He felt, however, that his experience in using data on the average length of hospital stay indicated that population data should be used with extreme care as a guide to insurance company experience. He felt that it would be helpful if the *Transactions* could contain more comprehensive reviews of statistical studies of accident and sickness from sources outside the insurance business.

MR. MORTIMER SPIEGELMAN, discussing section C, described the Health Household-Interview Survey of the National Health Survey. This Survey is a highly stratified multistage probability sample of the civilian population under which 700 households are sampled at random each week, so that over a year data are obtained from 36,000 households including about 115,000 persons. Interviewers and their supervisors are carefully trained and the procedure of enumeration is under continuous scrutiny. Nevertheless the results of the Survey have the following limitations, particularly as to their utility for insurance purposes:

1. The Survey excludes persons institutionalized and members of the Armed Forces.
2. Results are not issued separately for those with and without health insurance, but such data are presently being collected. There appear to be errors in the replies to questions which ask if the person interviewed has health insurance. The HIAA has been consulted as to possible checks on such responses.
3. Concepts of morbidity, disability and impairment used by the Survey differ from those of accident and health insurers. In the Survey, disability is a "general term used to describe any temporary or long-term reduction of a person's activity as a result of an acute or chronic condition." A chronic condition is defined by a check list of certain conditions and impairments and also includes any condition first noticed at least three months before the interview.
4. Errors of response occur if the question requires recollection or if the respondent is answering for someone else in the household, which is the case for about 40% of the persons age 18 and over included in the Survey. Responses are not checked against records of physicians or hospitals. The amount of hospitalization reported by the Survey is probably understated because the experience of persons deceased at the time of interview is excluded, as are responses from single-member households where the member is hospitalized at the time of the Survey.
5. Although interviewers and their supervisors are carefully trained, their interpretation of instructions for the conduct of the Survey may vary and affect results correspondingly.
6. Because of extensive subdivision of the data, some results reported in fine detail may be subject to large sampling variations.

7. Age classifications used in the report are usually broad, with a residual for ages 65 and over. This residual for ages 65 and over makes it difficult to study the characteristics of the aged, although this difficulty may be overcome when a large enough sample is accumulated to warrant a subdivision of the data for ages 65 and over.

As to the advantages of the National Health Survey, Mr. Spiegelman stated that it produces data for both the sick and the well, so that it is possible to observe interrelationship between the many factors of health and the more important social and economic characteristics of the population. The Health Insurance Institute is using the reports of the Survey in its publicity. The staff of the Survey welcomes suggestions and will send its reports to those requesting them. The reports of the National Health Survey are digested in the *Transactions* under "Book Reviews and Notices."

MR. ROBERT J. MYERS reviewed developments that led to the establishment of a continuous survey of the health of the population by the Public Health Service and noted that such surveys have a number of limitations which tend to understate the amount of sickness among the population. The surveys relate only to noninstitutional population, do not include data on any person who died during the survey period, and are limited by errors of response. Frequently persons being interviewed have a poor memory or give the answer they think is wanted by the interviewer, hoping that such an answer may achieve the ultimate ends of the respondent. Such a respondent might feel that the right kind of reply might help bring about some kind of program of government benefits.

Mr. Myers believed that it would be rather difficult to use the data developed by the National Health Survey for comparisons with company morbidity experience data.