TRANSACTIONS OF SOCIETY OF ACTUARIES
1961 VOL. 13 PT. 2

Morbidity Statistics

A. What significant conclusions can be drawn from the report of 1955–57 Experience under Individual Accident and Sickness policies? What variations appear by contributing organizations? What information about recent disability experience is revealed by individual company studies?
B. What progress is being made in the study of intercompany morbidity under hospital-surgical contracts? What other studies should be considered?
C. What experience has been assembled as to morbidity under hospital-surgical contracts issued as "conversions" of expiring group coverage, particularly at ages 60 and above?

MR. WILLIAM L. BARBER: The Union Mutual's experience at the younger ages is considerably better than the Conference Table and somewhat better than the 1955–1957 experience. At the higher ages it is approximately the same as these experiences. We have not experienced any considerable amount of adverse selection in the early policy years under accident insurance, but we have had a small amount of adverse selection in sickness coverage.

Of our 1958 and 1959 issues, 73% had no elimination period for accident, 38% had a 7-day elimination period for sickness, and 36% had a 30-day elimination period for sickness. Our experience with the longer elimination periods has been extremely favorable. Our experience in 1959 on business with a 90-day elimination period showed that, out of 1,797 sickness policies, we had only four claims for a total of $7,097. Similarly, out of 1,310 accident policies, we had one claim for $133.00.

The 1955–1957 study excludes benefits continuing beyond 12 months and elimination periods greater than 90 days, and we need additional information covering benefit periods of five or ten years with elimination periods longer than 90 days.

The high frequency of accident claims in our experience is shown by the figures in the accompanying table.

Year	Type	Number of Claims	Percentage of Total	Incurred Amount of Claims	Percentage of Total
1959..........	Acc. Sick.	538 696	44% 56%	$ 98,197 $220,652	31% 69%
1958..........	Acc. Sick.	516 702	42% 58%	$ 86,119 $224,851	28% 72%
1957..........	Acc. Sick.	439 624	41% 59%	$ 73,182 $196,462	27% 73%

MR. JOHN S. THOMPSON, JR.: Three conclusions that might be made on the basis of the published data are: first, actual morbidity rates under individual loss-of-time policies have been at favorably low levels; second, there is now a need for a new standard valuation table for disability insurance; finally, while we have some measure of the relative cost of noncancelable and commercial insurance, the actual relationship of these two forms of insurance is still in considerable doubt.

We do not have a really suitable standard of comparison for determining whether morbidity rates in any investigation are low or high. Taking data compiled by the Bureau of A&H Underwriters on accident experience for the period 1931–1940, we find that the net costs of accident coverage in the 1955–1957 study are only about 10% below corresponding costs in the Bureau data. This is somewhat surprising since most data indicate tremendous improvements in accident rates over the past 20 or 30 years. However, the Bureau data were contributed primarily by Eastern companies specializing in commercial insurance, whereas the Society's data include a fairly substantial volume of noncancelable policies and the data of several companies that entered the field within the past 10 or 15 years.

The conclusion that the Society's study shows favorably low morbidity rates is based largely on the comparison of actual rates with rates according to the Conference Table. In this comparison we find that the Conference Table contains considerably more margin than had originally been anticipated, but the margins vary widely among the various areas of the experience. For first-day coverage the Conference Table represents actual experience reasonably well, but for policies with waiting periods of seven days or more the margins in the Conference Table appear to be somewhat excessive. This is not surprising, however, since the Conference Table is an aggregate table representing experience under all combinations of elimination period and benefit period, and it has been fairly well established that introduction of the waiting period has the effect of reducing the amount of disability at most durations of disability during the first year.

This leads to the second conclusion that a new valuation table should be constructed. This would provide a modern table for valuation, and also an improved standard for study of the intercompany data. This standard for study of intercompany data should be the basic experience tables that would be developed in the course of preparing the final valuation table. Before a new table can be constructed, certain basic questions must be resolved. First, should we construct a separate table for each elimination period or follow the practical approach used for the Conference Table? Second, should we recognize variations in morbidity by occupation class and sex? This may make the table unduly complex. Finally, should we separate the disability table into its accident and sickness components? Most policies provide different benefits for accident disability and sickness disability.

The experience of three companies which have been writing noncancelable business for many years has been taken out separately. These figures indicate that the cost of noncancelable insurance is 10% to 20% higher than corresponding costs under commercial business. These results must, however, be used with caution. We are comparing two groups of policies that are alike as to sex, occupational class and benefit, but we cannot conclude that the renewal provision is the only major distinction between them. Differences in marketing methods, underwriting procedures, agents' compensation, and other factors affecting insurance operations, all have their effect on experience.

One of the principal objectives in taking out the experience of noncancelable companies separately was to measure the variation in morbidity rates by duration. It was felt that under noncancelable insurance the selection at issue, coupled with selection by policyholders on renewal, would result in increasing costs with increasing duration. The Committee's results did not bear this out. In the case of accident coverage, there is a very definite indication of adverse selection. However, since the data represent the experience during a period of three calendar years, the classification by duration really represents the experience in the business issued in three separate periods, and therefore the resulting variations by duration could be a "spurious" selection due to changes in underwriting procedures or other changes. We can only conclude that more experience must be studied before we shall have a really valid comparison of commercial and noncancelable insurance.

MR. ROBERT B. SHAPLAND: Mutual of Omaha has recently completed a study of its guaranteed renewable loss-of-time experience. This study covered nearly the same volume as the 1955–1957 intercompany study. We supplemented our claim duration experience by a study of claim continuance under commercial contracts providing lifetime benefits, for those claims which received five months or more benefits, and therefore our study of claim termination rates at the longer durations included more than 10 times as many claims as the 1955–1957 intercompany study and four times as many claims as Classes 1, 2 and 3 combined.

Our claim frequency experience has shown continual improvement over the years 1955 through 1959 and frequencies for the first two policy years are greater than those in the next two or three policy years. We do not find any definite trend in our average claim duration by either issue year or policy duration.

Our experience showed that first-day policies, after adjusting for elimination periods, showed higher claim frequencies but shorter average claim durations than policies with elimination periods. The intercompany study showed that policies with elimination periods had definitely lower costs than shown by the experience on the first-day policies, but our experience was inconclusive on this point.

Our claim frequencies based on amount of monthly indemnity averaged about 5% greater than frequencies based on number of policies. This differential was greater at the younger ages and lower at the older ages. A comparison of female claim costs with male claim costs was also made. For preferred risks, the ratio ranged from 145% for age group 20–29 to 110% for age group 60–69. For standard risks, the ratio averaged about 135%, with a very slight decrease by age. The higher female costs were caused by both higher claim frequencies and longer average claims.

In comparing our experience with the Conference Modification of Class 3, our standard male first-day frequencies were very close to the Conference Table, but our claim annuities for both preferred and standard male risks were generally below the Conference Table.

COMPARISON OF MUTUAL OF OMAHA'S LOSS-OF-TIME EXPERIENCE WITH 1955–57 INTERCOMPANY EXPERIENCE
TOTAL DISABILITY,* 1ST DAY COVERAGE, ONE YEAR BENEFIT PERIOD

Attained Age	Frequency		Average Duration (Months)		Annual Claim Cost ($10/Mo.)	
	Inter-company	Mutual	Inter-company	Mutual	Inter-company	Mutual
Preferred Male						
20–29	.290	.260	.559	.457	$1.62	$1.19
30–39	.317	.270	.613	.608	1.95	1.64
40–49	.293	.286	.820	.787	2.40	2.25
50–59	.295	.291	1.186	1.031	3.50	3.00
60–69	.325	.294	1.529	1.391	4.97	4.09
Standard Male						
20–29	.381	.317	.565	.631	2.15	2.00
30–39	.338	.330	.686	.770	2.32	2.54
40–49	.307	.333	.866	.973	2.66	3.24
50–59	.288	.336	1.366	1.220	3.94	4.10
60–69	.302	.353	2.095	1.572	6.33	5.55

* Mutual of Omaha's experience adjusted to one year total disability benefit by arbitrarily extending limited nonconfining sickness benefit to one year.

A comparison of our first-day claim costs with the 1955–1957 intercompany study one year claim costs shows that our preferred male costs were below intercompany costs while our standard male costs were slightly higher than intercompany costs.

It should be mentioned that our experience was based on policies which provide limited nonconfining sickness benefits, but we attempted to adjust our experience to a total disability basis when making comparisons with the Conference Table and the intercompany study.

Some facts about our recent loss-of-time lapse experience may also be of interest. First, there was no significant differential in lapse rates by sex; second, lapse rates for standard risks were much higher than for preferred risks; third, lapse rates decreased significantly with an increase in issue age.

MR. JAMES J. OLSEN: The 1955–1957 experience lacks many of the essentials necessary for rate making purposes. The experience is split into only two occupational classes, whereas most companies use four or five. The claim experience is limited to the first year of the benefit period only, and experience for later years will, therefore, have to be obtained elsewhere. The amount of experience shown on policies with an elimination period longer than seven days is much too small to be used as a basis for premium rates.

The data are heavily concentrated in the early policy years, and the very favorable experience has been derived during a period of economic stability. Thus, the actual experience was probably much better than could be assumed for the purpose of calculating premium rates.

In spite of the above, the data shown in the study can be useful. The relationship between the experience of the two occupational classes can be used as a guide to the premium structure where four or five occupational classes are used. The slope of the cost by age is also of value. The Conference Modification of the Class 3 Disability Table appears to have some margins that could be appropriately modified for occupational classes, and possibly the slope by age might be changed and thereby be made suitable as a basis for constructing premiums. For disability costs at the longer durations, the Conference Table could be modified by using the data shown in the study on ordinary disability benefits which is reported in the Society's 1952 Report of Mortality and Morbidity Experience.

On section B, the Committee on Experience under Individual Accident and Sickness Insurance of the Society of Actuaries has formulative plans to collect statistics on an annual basis for an intercompany study of hospital, surgical, and major medical benefits under individual health insurance policies. The study will be broken down into eight major parts, each of which will be further divided by age, sex, policy duration, etc. The eight parts are:

1. Frequency of hospitalization
2. Average claim per $1.00 of daily hospital benefit
3. Average claim for each maximum amount of miscellaneous hospital expense benefit
4. Frequency of surgery
5. Average amount of claim per $100 maximum surgical schedule—standard schedule
6. Rate of deductibility on policies with a deductible
7. Maternity claim rate
8. Claim rate and average claim on major medical insurance.

The first study will cover claims which were incurred in 1960. Payments made to the end of 1961 on these claims will be included.

MR. JOHN W. HUNTLEY: It might be well to consider the feasibility of an intercompany study of experience on accident medical reimbursement coverage. The last study of this type was conducted by the Bureau of Accident and Health Underwriters for policy years 1948–51.

At The Travelers, we have recently analyzed our experience under this benefit for policy years 1956 through 1958. The study included 730,000 life years of exposure, and over 67,000 claims. In addition, we examined 7,000 claims closed during the first six months of 1961, most of which were incurred during policy year 1960. We found that the annual claim frequencies have not varied appreciably from year to year. For classes A to D combined (Bureau of Accident & Health Underwriters occupational classifications), male frequencies have been close to 9% per year, females close to 9½%. The average claim amounts, on the other hand, have shown a marked upward trend. For example, the average amount of claims for males, classes A to D combined, with a $500 limit, was $62.99 for policy year 1956 and $79.78 for policy year 1960. Corresponding figures for males with a $1,000 limit were $91.35 and $118.94. Experience on females has been similar. During the four-year period average amounts under $500 limit policies increased from $79.02 to $100.67, and under $1,000 limits from $111.92 to $149.45.

The current rates for the majority of our in-force business were set in the early 1930's, and are substantially inadequate under present conditions. We are revising these rates early next year by projecting the above experience to a level which we hope will be adequate for the next two or three years.

MR. BEN J. HELPHAND: I would like to sound a word of caution in using the results of the intercompany study. The morbidity rates are very light and if used for premium calculations will produce results which are considerably below the current premium level of the industry. However, premiums based on the intercompany study are likely to prove to be unsound.

We have been going through a period of high employment and continual inflation, both contributing to our low loss ratios on loss-of-time coverage. However, I am convinced that one of the most important contributors to our low morbidity rates is the inadequacy of coverage carried by insureds, particularly those at the older ages. Most of the older risks have policies which were purchased many years ago, with amounts of indemnity which are highly inadequate for today's living costs. When insureds have inadequate coverage they can't afford to be off work unless they are truly disabled. If we have a leveling out of living costs and insureds at the older ages find that they can live comfortably on their disability income, the moral hazard and malingering problems may change the picture completely. Under such circumstances, we may find that the active life reserves which we are accumulating are highly inadequate at the older ages.

MR. RICHARD H. HOFFMAN: My discussion on section C centers around the development of premium rate tables required for the implementation of certain provisions of the Russo Act, an Act which became a part of New York law last year.[1] It provides that any employee insured under a group policy covered by the Act who has been insured for at least two years and has attained age 60 has the right, upon termination, to convert his group insurance to an individual policy for a premium computed at a rate not to exceed 120% of a net level premium approved by the Superintendent. Such net premiums cannot be changed for five years following issue.

To obtain information as to the cost of this plan of insurance, the Superintendent, in May 1960, requested insurers licensed to sell accident and health insurance in New York to submit to the Department all available experience from the years 1958 and 1959 under hospital and surgical expense coverage for persons 60 and over. In July the Superintendent appointed an Actuarial Advisory Committee to assist the Department in its preparation of the morbidity tables and net premiums from the data submitted.

In developing the tables, data were obtained from experience under

[1] MR. OLSEN also commented on the Russo Act.

conversion policies, group insurance, individual policies, both individually underwritten and issued under the mass underwriting technique, and Blue Cross contracts. The Committee was guided primarily by the experience reported for conversions, but the other experience was helpful in establishing a variation in cost by age and by plan of benefits. Conversion experience was found to vary considerably from company to company, probably resulting from different practices. The experience appeared to be affected by whether the company promoted conversions at retirement or encouraged continuance of coverage under the group policy. Other factors were distribution of business geographically, size of group, kind of industry of the company insured, and the proportion of union-trustee versus employer-employee groups. The amount of experience contributed differed substantially by company, one company having contributed 60% of the total. As a result a simple averaging of the experience was deemed not to be appropriate, and a level of claim costs was chosen that was thought to be adequate to cover the majority of companies.

Because the experience was several years old, and because the Russo Act requires that premiums be guaranteed for at least five years, trends in the cost of medical care also became an important factor. After careful study, a figure of 3% per year increase in benefits was settled upon. The increase in the cost of services was deemed to be larger, but the inside limits placed on benefits under the type of plan provided by the Russo Act reduces the inflationary effect somewhat. Some feeling has been expressed that a 3% trend factor will not be sufficient.

To date, no indication has been given by the Insurance Department as to what maximum premiums would be promulgated for policies issued during 1962 and following.

In July of this year the Department requested data on policies converted from group hospital and surgical insurance. Morbidity experience was requested for ages over 60 for the calendar year 1960, and for ages under 60 for the years 1958, 1959 and 1960. In addition, persistency data were also requested. Experience for any calendar year may be omitted by a company where the total exposure is based on less than 1,000 policies.

Anticipating this and future calls for conversion experience, the Health Insurance Association developed a model statistical program that could be used for accumulating experience under converted policies.

MR. NORTON W. CHELLGREN: The Aetna recently completed a study of its 1960 incurred claims for group medical expense conversion policies. The mean in-force for that year was about 7,500 policies.

For 31 day, 10× miscellaneous fee hospital expense plans, which comprised roughly half of our mean in-force in 1960, there was considerable evidence of antiselection on the part of conversion applicants. The following summary of 1960 annual claim incidence rates indicates this.

Attained Age	1960 Issues	Issues Prior to 1960
Children	.151	.079
Adults under 60	.192	.111
Adults 60 or over	.242	.192

The above figures for adults include all adult persons covered by these policies, including dependents. The figures show considerably less antiselection on the part of persons 60 or over than on the part of persons under 60.

For the same 31 day, 10× miscellaneous fee plans there was no substantial difference between average number of days of hospital confinement per claim arising in 1960 for policies in their first calendar year as compared to others. The following table illustrates this fact.

Attained Age	1960 Issues	Issues Prior to 1960
Children	5.2 days	5.4 days
Adults under 60	7.8 days	7.8 days
Adults 60 or over	11.2 days	12.0 days

These results demonstrate that the first year antiselection indicated by the claim incidence rates is exercised by applicants who anticipate short-term hospital confinement as well as applicants with long-term hospital confinements pending.

The Aetna has only been writing conversion policies since 1956 and so the number of persons over age 70 included is relatively small as compared with what it would be for a mature senior citizen population. Therefore, our results for persons 60 and over, as compared with persons under 60, do not yield as great a difference as might be expected.

An analysis of experience under approximately 4,000 conversion policies providing surgical benefits did not reveal any significant amount of antiselection on the part of adult conversion applicants, but, for children, 1960 claim costs for policies issued in 1960 were 112% of those for policies of prior year issue. Since we require all eligible children to be covered under our conversion policies if any children are to be covered, our figure of 112% represents a low estimate of what first year antiselection would be on a per child basis.

An analysis of first year lapse rates for policies issued during 1960 showed clearly that a greater proportion of persons 60 or over are purchasing conversion policies for permanent coverage than are persons under age 60. In the following table is a comparison of these first year lapse rates according to frequency of premium payment.

Issue Age	Annual	Semiannual	Quarterly
Under 60...	.16	.26	.56
60 or over..	.12	.18	.15