

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1967 REPORTS**

**REPORTS OF THE COMMITTEE ON EXPERIENCE  
UNDER INDIVIDUAL HEALTH INSURANCE**

**I. EXPERIENCE UNDER INDIVIDUAL  
LOSS-OF-TIME POLICIES, 1964-65**

**T**HIS report presents a two-part analysis of morbidity experience under individual loss-of-time policies. The first part covers experience in the first year of the benefit period, and the second part covers experience in the second year of the benefit period.

**A. EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD**

This section of the report presents an analysis of morbidity experience under individual loss-of-time policies during calendar years 1964-65 and a comparison of this experience with results for the period 1960-63. The study is limited to experience in the first year of the benefit period. Policies with benefit periods of less than one year are excluded from the study. The reporting system used for the 1964-65 experience is generally the same as that used for the earlier experience. This system is described in detail in the *1959 Reports* (pp. 126-28).

The presentation of data follows the format used in prior reports. Accident and sickness disability experience are presented in separate tables (Tables 3 and 4). Total disability experience is also shown in a separate table (Table 5).

The tables contain experience for males in Occupation Groups I and II and for females in Occupation Group I; for convenience, these three groups are referred to hereafter in the report as "Male I," "Male II," and "Female I." The amount of data on females in Occupation Group II was not large enough to warrant a study of this group.

In the Bureau of Accident and Health Underwriters' classification system, Occupation Group I consists of Classes A-D\* and Occupation Group II consists of Classes D-H. (See *1959 Reports*, pp. 130-31, for a complete description.) Occupation Group I covers occupations that generally involve little exposure to an accident hazard. Occupation Group II consists of those occupations that involve a greater degree of exposure to accident hazards or duties where sickness or injury generally results in a longer period of disability than Group I occupations. Many of these occupations are performed outdoors and involve a longer average period of disability because of the difficulty of returning to work in inclement

weather. Persons whose work requires perfect, or nearly perfect, physical condition would also be in Group II, since such persons may be disabled by a relatively minor injury.

The tables include (1) annual claim rates, (2) average claim durations in months, and (3) annual claim costs. The annual claim rates and annual claim costs for total disability are simply a sum of the separate accident and sickness annual claim rates and annual claim costs and, consequently, reflect experience on many different combinations of accident and sick-

TABLE 1  
CONTRIBUTING COMPANIES AND NUMBER OF CLAIMS

COMPANY	YEAR OF EXPERIENCE		1964-65 COMBINED
	1964	1965	
Prudential.....	11,945	12,314	24,259
Monarch.....	12,258	11,698	23,956
Metropolitan.....	21,999		21,999
Pacific Mutual.....	5,423	5,400	10,823
Business Men's Assurance...	4,784	4,960	9,744
Mutual of New York.....	3,639	3,870	7,509
Loyal Protective.....	3,574	3,675	7,249
New York Life.....	2,569	2,798	5,367
John Hancock.....	2,009	2,432	4,441
Lincoln National.....	1,738	1,851	3,589
Union Mutual.....	1,685	1,806	3,491
Connecticut General.....	933	1,053	1,986
Continental Assurance.....	886	887	1,773
Guardian.....	856		856
Standard of Oregon.....	258	286	544
Provident Mutual.....	248	247	495
Total.....	74,804	53,277	128,081

ness benefits. Annual claim rates (or frequencies) have been calculated by dividing the amounts of monthly indemnity on approved claims by the corresponding exposures. Annual claim costs have been calculated by dividing the aggregate benefits incurred on claims by the corresponding exposures. Durations of claims in months have been calculated by dividing the annual claim costs by the annual claim rates.

#### 1. VOLUME OF DATA

For the calendar-year period 1964-65, the Committee has compiled an aggregate exposure of 2,400,000 policy years under which 128,000 claims were incurred. The companies that contributed to the study are shown in Table 1, together with the volume of each company's data for each of

the calendar years studied, measured by the number of claims reported on the exposure summary cards.

Table 2 shows the distribution of the number of claims reported on the exposure summary cards by type of coverage, sex, occupation group, and elimination period. Number of claims has been used as the basis for measuring the volume of data, since it is a good measure of the reliability of the statistical results. The analysis of the experience has been confined to those occupation groups and elimination periods where there

TABLE 2  
NUMBER OF CLAIMS BY TYPE OF COVERAGE, SEX, OCCUPATION GROUP,  
AND ELIMINATION PERIOD  
1964-65 EXPERIENCE COMBINED

ELIM. PERIOD (DAYS)	ACCIDENT				SICKNESS			
	Male		Female		Male		Female	
	Occ. Group I	Occ. Group II	Occ. Group I	Occ. Group II	Occ. Group I	Occ. Group II	Occ. Group I	Occ. Group II
0.....	15,848*	23,956*	1,105*	192	9,474*	2,928*	1,214*	96
3.....	326*	810*	279*	33	1,686*	2,128*	1,329*	163
7.....	1,977*	4,421*	564*	77	15,853*	24,309*	3,649*	576
14.....	983*	1,448*	117*	16	3,661*	2,427*	548*	61
21.....	0	0	0	0	6	0	0	0
30.....	597	434	57	8	2,791*	1,036*	307*	17
60.....	31	15	8	0	139	9	22	0
90.....	36	19	2	1	207	69	15	1
Total....	19,798	31,103	2,132	327	33,817	32,906	7,084	914

\* Subsequent tables and discussions are based only on data indicated.

is a significant amount of data. They are indicated by an asterisk in Table 2. It should be noted that, in certain of the cells studied, virtually all the experience has been contributed by only one or two companies. The coverages for which a reasonable amount of data was contributed by all companies are the 0-day accident and 7- and 30-day sickness coverages. When the results for different elimination periods are compared, this characteristic of the study should be kept in mind.

## 2. DISABILITY EXPERIENCE

Tables 3, 4, and 5, respectively, give a summary of the accident, sickness, and total disability experience compiled in this report. Each table shows the three elements of disability—annual claim rate, duration of

TABLE 3—ACCIDENT DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65 LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I			RATIOS TO MALE OCC. GROUP I					
										Male Occ. Group II			Female Occ. Group I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*
0-Day Elimination Period															
20-29	.057	1 02	.058	.123	.98	.121	0.35	1 03	.039	216%	96%	209%	61%	101%	62%
30-39	.050	1 08	.051	.101	1 14	.115	.039	.97	.038	202	106	213	78	90	70
40-49	.044	1 14	.049	.085	1 28	.109	.045	1 58	.062	193	112	222	102	121	127
50-59	.040	1 18	.047	.075	1 31	.098	.043	1 60	.069	188	111	209	108	136	147
60-69	.037	1 35	.050	.062	1 63	.101	.057	1 53	.087	168	121	202	151	113	174
3-Day Elimination Period															
20-29	(.048)†	(1 08)†	(.052)†	.068	.75	.051	‡	‡	‡	142%	69%	98%			
30-39	.038	1 84	.070	.084	.96	.081	(.056)†	(1 29)†	(.072)†	211	52	116	147%	70%	103%
40-49	.025	1 16	.029	.067	1 52	.102	.036	1 42	.051	268	131	352	144	122	176
50-59	.032	1 25	.040	.080	1 25	.100	.042	1 52	.064	250	100	250	131	122	160
60-69	.036	1 58	.057	.058	1 40	.081	.041	1 63	.067	161	89	142	114	163	118
7-Day Elimination Period															
20-29	.017	1 12	.019	.042	1 33	.056	.018	1 50	.027	247%	119%	295%	106%	131%	142%
30-39	.029	1 41	.041	.049	1 39	.068	.024	1 96	.047	169	99	166	83	139	115
40-49	.030	1 33	.040	.049	1 61	.079	.026	1 92	.050	163	121	198	87	144	125
50-59	.035	1 31	.046	.050	1 90	.095	.039	1 64	.064	143	145	207	111	125	139
60-69	.024	1 92	.046	.035	1 66	.058	‡	‡	‡	146	86	126			
14-Day Elimination Period															
20-29	.014	1 57	.022	.042	1 69	.071	‡	‡	‡	300%	108%	323%			
30-39	.014	1 57	.022	.037	1 84	.068	(.011)†	(4 55)†	(.050)†	264	117	309	79%	290%	227%
40-49	.016	1 31	.021	.037	1 92	.071	.023	2 35	.054	231	147	338	144	179	257
50-59	.018	1 67	.030	.042	2 24	.094	.026	2 31	.060	233	134	313	144	138	200
60-69	.020	3 10	.062	.031	2 35	.073	‡	‡	‡	155	76	118			

\* Per \$1 of monthly income benefit.

† Rates in parentheses based on 10-24 claims, inclusive.

‡ Less than 10 claims.

TABLE 4  
SICKNESS DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65  
LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I			RATIOS TO MALE OCC. GROUP I					
										Male Occ. Group II			Female Occ. Group I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*
0-Day Elimination Period															
20-29 .....	.110	.64	.070	.181	.48	.087	.362	.41	.149	165%	75%	124%	329%	64%	213%
30-39 .....	.144	.78	.113	.164	.71	.117	.253	.85	.216	114	91	104	176	109	191
40-49 .....	.143	1.07	.153	.158	1.08	.170	.252	1.40	.352	110	101	111	176	131	230
50-59 .....	.172	1.47	.253	.184	1.70	.313	.223	1.23	.275	107	116	124	130	84	109
60-69 .....	.155	1.97	.305	.187	2.10	.392	.267	1.49	.397	121	107	129	172	76	130
3-Day Elimination Period															
20-29 .....	.092	1.09	.100	.082	.68	.056	(.176)†	(.74)†	(.130)†	89%	62%	56%	191%	68%	130%
30-39 .....	.106	.90	.095	.112	.97	.109	.193	.96	.186	106	108	115	182	107	196
40-49 .....	.109	1.31	.143	.115	1.30	.149	.204	1.36	.278	106	99	104	187	104	194
50-59 .....	.141	1.48	.209	.145	1.88	.273	.186	1.63	.304	103	127	131	132	110	145
60-69 .....	.178	2.23	.397	.171	2.33	.398	.185	1.73	.320	96	104	100	104	78	81

\* Per \$1 of monthly income benefit.

† Rates in parentheses based on 10-24 claims, inclusive.

TABLE 4—Continued

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I			RATIOS TO MALE OCC. GROUP I					
										Male Occ. Group II			Female Occ. Group I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*
7-Day Elimination Period															
20-29.....	.045	1.07	.048	.050	1.12	.056	.082	1.12	.092	111%	105%	117%	182%	105%	192%
30-39.....	.058	1.31	.076	.067	1.39	.093	.114	1.68	.191	116	106	122	197	128	251
40-49.....	.073	1.62	.118	.084	1.79	.150	.127	1.80	.229	115	110	127	174	111	194
50-59.....	.105	2.02	.212	.116	2.22	.257	.124	1.79	.222	110	110	121	118	89	105
60-69.....	.126	2.55	.321	.146	2.98	.435	.119	2.20	.262	116	117	136	94	86	82
14-Day Elimination Period															
20-29.....	.026	1.38	.036	.031	1.52	.047	.041	1.10	.045	119%	110%	131%	158%	80%	125%
30-39.....	.029	1.38	.040	.044	1.68	.074	.084	1.77	.149	152	122	185	290	128	373
40-49.....	.042	1.71	.072	.056	2.07	.116	.079	2.33	.181	133	121	161	188	136	256
50-59.....	.069	2.32	.160	.082	2.62	.215	.084	1.90	.160	119	113	134	122	82	160
60-69.....	.105	3.05	.320	.123	4.04	.497	.067	2.21	.148	117	132	155	64	72	46
30-Day Elimination Period															
20-29.....	.004	2.00	.008	.009	2.89	.026	(.010)†	(2.10)†	(.021)†	225%	145%	325%	250%	105%	263%
30-39.....	.010	2.00	.020	.015	2.33	.035	.019	2.11	.040	150	117	175	190	106	200
40-49.....	.017	2.35	.040	.027	2.81	.076	.038	2.37	.090	159	120	190	224	101	225
50-59.....	.032	2.69	.086	.048	3.10	.149	.039	2.18	.085	150	115	173	122	81	99
60-69.....	.063	3.33	.210	.095	3.75	.356	‡	‡	‡	151	113	170	.....	.....	.....

\* Per \$1 of monthly income benefit.

† Rates in parentheses based on 10-24 claims, inclusive.

‡ Less than 10 claims.

claim in months, and annual claim cost—by the four variables studied—sex, occupation group, elimination period, and attained age.

#### *Accident Disability (Table 3)*

Table 3 shows accident disability data for four elimination periods. Comments, however, are restricted to data for a 0-day elimination period because other data are rather limited or largely contributed by one company.

The significant points of interest brought out by this table are as follows:

**MALE I AND MALE II.**—Annual claim rates decrease with age, whereas claim durations increase. The combined effect of these decreasing rates and increasing durations produces annual claim costs which decrease about 20 per cent from ages 20–29 to ages 50–59. Annual claim costs increase slightly from ages 50–59 to ages 60–69.

Ratios of Male II to Male I annual claim rates decrease with age, from 216 per cent at ages 20–29 to 168 per cent at ages 60–69. Male II annual claim costs increase from 209 per cent of Male I annual claim costs at ages 20–29 to 222 per cent at ages 40–49 and then decrease to 202 per cent at ages 60–69.

**FEMALE I.**—Except for a dip at ages 50–59, annual claim rates increase with age. Claim durations fluctuate somewhat but seem to indicate an underlying pattern which increases with age. Annual claim costs increase with age, with especially sharp increases between ages 30–39 and 40–49 and also between ages 50–59 and 60–69.

Female I annual claim rates and annual claim costs are less than those for Male I at ages under 40. At ages 40 and over, Female I annual claim costs are significantly higher than Male I annual claim costs.

#### *Sickness Disability (Table 4)*

Table 4 shows sickness disability data for five elimination periods. Comments, however, are based primarily on data for the 7-day elimination period because other data are rather limited or largely contributed by one company.

**MALE I AND MALE II.**—Annual claim rates and annual claim costs increase with age. For the 7-day elimination period, ratios of Male II to Male I annual claim rates are fairly constant by age, and ratios of Male II to Male I annual claim costs generally increase by age.

**FEMALE I.**—Ratios of Female I to Male I annual claim rates generally decrease with age. Claim duration ratios are rather erratic but generally decrease with age except from ages 20–29 to 30–39. At ages under 50, Female I annual claim costs are generally twice as high as corresponding Male I annual claim costs.

*Total Disability (Table 5)*

Total disability annual claim rates and annual claim costs as derived in this study are the sum of the annual claim rates and annual claim costs for accident disability and sickness disability. Since sickness disability annual claim rates and annual claim costs are generally much higher than corresponding rates and costs for accident disability, total disability annual claim rates and annual claim costs tend to follow the pattern of those for sickness disability. A graphic comparison of Male I, Male II, and Female I total disability annual claim costs is shown in Charts I and II.

*Ratios of Accident Disability to Total Disability (Table 6)*

The accident and sickness components of the total disability annual claim rates and annual claim costs are based on data which were con-

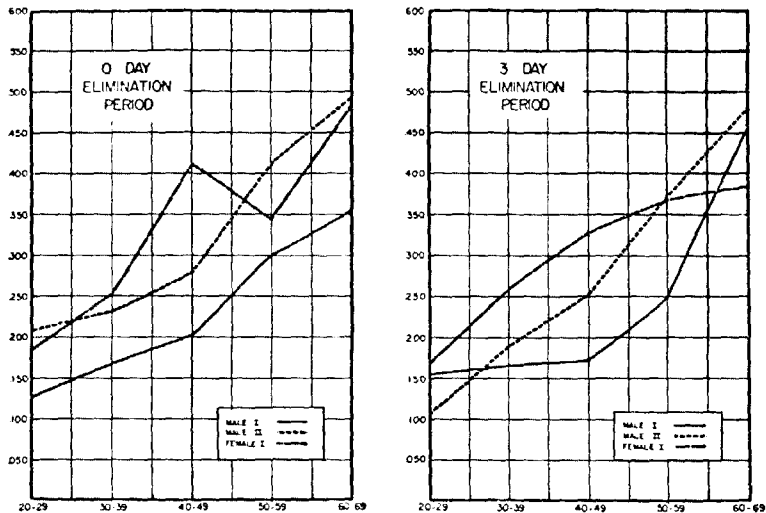
TABLE 5  
TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65  
LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*
0-Day Elimination Period									
20-29.....	.167	.77	.128	.304	.68	.208	.397	.47	.185
30-39.....	.194	.86	.167	.265	.88	.232	.292	.87	.254
40-49.....	.187	1.08	.202	.243	1.15	.279	.297	1.39	.414
50-59.....	.212	1.42	.300	.259	1.59	.411	.266	1.29	.344
60-69.....	.192	1.85	.355	.249	1.98	.493	.324	1.49	.484
3-Day Elimination Period									
20-29.....	.140	1.09	.152	.150	.71	.107	.199	.84	.168
30-39.....	.144	1.15	.165	.196	.97	.190	.249	1.04	.258
40-49.....	.134	1.28	.172	.182	1.38	.251	.240	1.37	.329
50-59.....	.173	1.44	.249	.225	1.66	.373	.228	1.61	.368
60-69.....	.214	2.12	.454	.229	2.09	.479	.226	1.71	.387
7-Day Elimination Period									
20-29.....	.062	1.08	.067	.092	1.22	.112	.100	1.19	.119
30-39.....	.087	1.34	.117	.116	1.39	.161	.138	1.72	.238
40-49.....	.103	1.53	.158	.133	1.72	.229	.153	1.82	.279
50-59.....	.140	1.84	.258	.166	2.12	.352	.163	1.75	.286
60-69.....	.150	2.45	.367	.181	2.72	.493	.146	2.51	.366
14-Day Elimination Period									
20-29.....	.040	1.45	.058	.073	1.62	.118	.053	1.04	.055
30-39.....	.043	1.44	.062	.081	1.75	.142	.095	2.09	.199
40-49.....	.058	1.60	.093	.093	2.01	.187	.102	2.33	.238
50-59.....	.087	2.18	.190	.124	2.49	.309	.110	2.00	.220
60-69.....	.125	3.06	.382	.154	3.70	.570	.085	2.18	.185

\* Per \$1 of monthly income benefit.

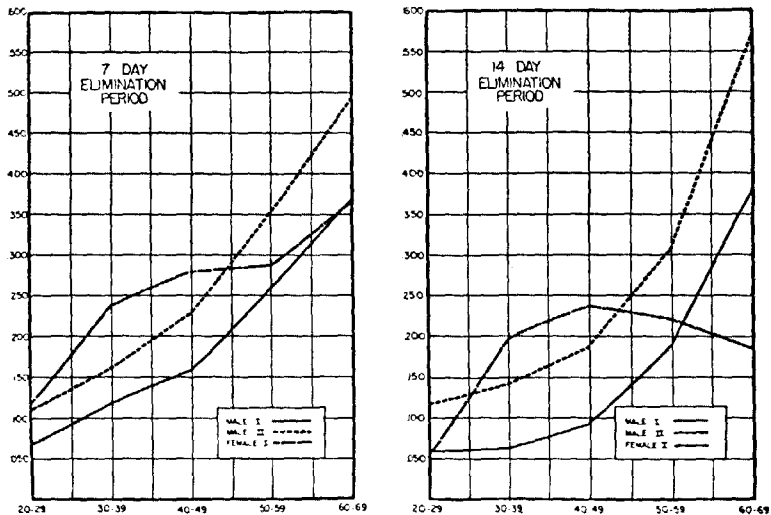


**CHART I**  
**TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65**  
**ANNUAL CLAIM COSTS\***  
**LIMITED TO FIRST YEAR OF BENEFIT PERIOD**



\* Per \$1 of monthly income benefit.

**CHART II**  
**TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65**  
**ANNUAL CLAIM COSTS\***  
**LIMITED TO FIRST YEAR OF BENEFIT PERIOD**



\* Per \$1 of monthly income benefit.

tributed by different groups of companies and which came from a wide variety of accident and sickness benefit combinations. This could have a significant effect on the ratios and should be kept in mind in their interpretation. Table 6 is shown, however, so that some idea may be obtained of the relationship of accident disability to total disability rates. Only ratios based on data for 0-day and 7-day elimination periods are shown because of the even greater limitations of data for the other elimination periods.

MALE I.—Ratios of accident disability to total disability experience decrease by age. For the 7-day elimination period, ratios of accident disability claim

TABLE 6  
RATIOS OF ACCIDENT DISABILITY TO TOTAL DISABILITY  
LOSS-OF-TIME EXPERIENCE  
IN FIRST YEAR OF BENEFIT PERIOD  
1964-65

ATTAINED AGE	0-DAY ELIMINATION PERIOD			7-DAY ELIMINATION PERIOD		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost
Male I						
20-29.....	34.1%	132%	45.3%	27.4%	104%	28.4%
30-39.....	25.8	126	32.3	33.3	105	35.0
40-49.....	23.5	106	24.3	29.1	87	25.3
50-59.....	18.9	83	15.7	25.0	71	17.8
60-69.....	19.3	73	14.1	16.0	78	12.5
Male II						
20-29.....	40.5%	144%	58.2%	45.7%	109%	50.0%
30-39.....	38.1	130	49.6	42.2	100	42.2
40-49.....	35.0	111	39.1	36.8	94	34.5
50-59.....	29.0	82	23.8	30.1	90	27.0
60-69.....	24.9	82	20.5	19.3	61	11.8
Female I						
20-29.....	8.8%	219%	19.5%	18.0%	126%	22.7%
30-39.....	13.4	111	15.0	17.4	114	19.7
40-49.....	15.2	99	15.0	17.0	105	17.9
50-59.....	16.2	124	20.1	23.9	94	22.4
60-69.....	17.6	103	18.0			

rates, claim durations, and claim costs to those for total disability are close to the corresponding ratios of the 1960-63 study (*1965 Reports*, p. 73). For the 0-day elimination period, however, ratios of accident disability to total disability experience are significantly higher than corresponding ratios for 1960-63 at ages under 60.

**MALE II.**—Ratios of Male II accident disability to total disability experience also decrease by age and generally exceed corresponding Male I ratios. Ratios for the 7-day elimination period are close to the corresponding ratios of the 1960-63 study, whereas the 0-day elimination period ratios are significantly higher than the corresponding 1960-63 ratios.

**FEMALE I.**—Ratios of accident disability annual claim rates and annual claim costs to those for total disability show no consistent variation by age. Annual claim rate and annual claim cost ratios for the 0-day elimination period are generally lower than corresponding ratios for 1960-63, whereas similar ratios for the 7-day elimination period are generally higher than corresponding 1960-63 ratios.

### 3. ANNUAL CLAIM COSTS BY DURATION SINCE DISABLEMENT

Table 7 shows annual claim costs, by duration measured from the date of disablement, for 0-day accident and 7-day sickness coverages. Corresponding tabular values from the 1964 Commissioners Disability Table, discounted at  $2\frac{1}{2}$  per cent interest, are also shown for durations beyond the seventh day of disablement. The tabular values which are shown for accident disability for the first seven days of disablement were developed to be consistent with values in the 1964 Commissioners Disability Table for the eighth and subsequent days of disablement.

In the comparison of crude annual claim costs with corresponding values from the 1964 Commissioners Table, a special situation exists at ages 60-69. Tabular values according to the Commissioners Table have been taken at the central age of each age group, so the tabular value shown for age group 60-69 is the one that applies at age 65. However, the average age for this group is probably closer to age 63; consequently, the comparable Commissioners' values should be somewhat lower than the values shown in Table 7.

It is also important to note that the Commissioners Table was intended to be a minimum reserve standard for policies providing loss-of-time benefits for disability due to accident or sickness. It was developed to provide net valuation premiums rather than the type of net premiums which would be considered desirable in preparing gross premium rates.

Male I 0-day accident annual claim costs for days 1-7, 8-14, 15-21, and 22-30 are very similar to, and generally slightly less than, corresponding costs from the Commissioners Table. At ages below 40, Male I annual

TABLE 7  
 DISABILITY LOSS-OF-TIME EXPERIENCE, 1964-65  
 ANNUAL CLAIM COSTS\* BY DURATION MEASURED  
 FROM DATE OF DISABLEMENT

ATTAINED AGE	DURATION SINCE DISABLEMENT (DAYS)															TOTAL		
	1-7			8-14			15-21			22-30			31-365†			Male I	Male II	1964 Comm. (2½ Per Cent)
	Male I	Male II	1964 Comm. (2½ Per Cent)‡	Male I	Male II	1964 Comm. (2½ Per Cent)	Male I	Male II	1964 Comm. (2½ Per Cent)	Male I	Male II	1964 Comm. (2½ Per Cent)	Male I	Male II	1964 Comm. (2½ Per Cent)			
<i>Accident Disability 0-Day Elimination Period</i>																		
20-29 .....	.013	.026	.015	.009	.018	.010	.006	.013	.007	.005	.012	.007	.025	.052	.023	.058	.121	.062
30-39 .....	.011	.022	.013	.008	.016	.009	.006	.012	.007	.005	.011	.006	.024	.054	.024	.054	.115	.059
40-49 .....	.009	.019	.011	.007	.015	.009	.005	.011	.007	.005	.010	.006	.023	.054	.030	.049	.109	.063
50-59 .....	.009	.017	.009	.007	.013	.007	.005	.010	.006	.005	.010	.006	.021	.048	.038	.047	.098	.066
60-69 .....	.008	.014	.008	.007	.012	.007	.005	.010	.006	.005	.010	.006	.025	.055	.062	.050	.101	.089
<i>Sickness Disability 7-Day Elimination Period</i>																		
20-29 .....				.010	.011	.011	.008	.009	.008	.007	.008	.007	.023	.028	.025	.048	.056	.051
30-39 .....				.013	.015	.016	.010	.012	.011	.010	.012	.010	.043	.054	.040	.076	.093	.077
40-49 .....				.016	.019	.021	.014	.016	.016	.014	.017	.016	.074	.098	.074	.118	.150	.127
50-59 .....				.024	.026	.030	.021	.023	.024	.022	.024	.024	.145	.184	.157	.212	.257	.235
60-69 .....				.029	.031	.040	.026	.028	.034	.028	.032	.037	.238	.344	.375	.321	.435	.486

\* Per \$1 of monthly income benefit.

† Days 31-372 for 7-day sickness coverage.

‡ These values were developed to be consistent with values in the 1964 Commis-  
 sioners Disability Table for the eighth and subsequent days of disablement.

claim costs for days 31–365 are also similar to those in the Commissioners Table; at higher ages, Commissioners' costs are considerably higher than Male I costs. Male II 0-day accident costs are much higher than corresponding Commissioners' costs.

Except at days 31–365, Male I and Male II accident annual claim costs and corresponding 1964 Commissioners' costs decrease with advancing age. At days 31–365, Male I annual claim costs decrease at ages below 60, Male II annual claim costs are relatively level, and 1964 Commissioners' annual claim costs increase with advancing age.

Male I 7-day sickness annual claim costs are generally less than corresponding Commissioners' costs. Male II 7-day sickness annual claim costs are close to corresponding Commissioners' costs for days 8–14, 15–21, and 22–30. At days 31–372, Male II annual claim costs generally exceed corresponding Commissioners' costs.

#### 4. COMPARISONS WITH 1960–63 EXPERIENCE

Tables 8, 9, and 10, respectively, compare 1964–65 accident, sickness, and total disability experience with experience during the period 1960–63. Table 11 compares experience during the periods 1962–63 and 1964–65 to experience during the period 1960–61 for 0-day accident and 7-day sickness coverages.

##### *Accident Disability (Table 8)*

In general, 1964–65 male annual claim rates for accident disability are higher than corresponding 1960–63 annual claim rates at ages below 40 and are lower at ages 40 and over. For the 0-day accident coverage, Male I annual claim costs are higher than corresponding 1960–63 annual claim costs, and Male II annual claim costs are higher than corresponding 1960–63 costs at ages below 50. For other elimination periods, the pattern of male annual claim costs is mixed.

Female annual claim rates for the 0-day accident coverage during 1964–65 are lower than corresponding annual claim rates for 1960–63. Female claim durations show an increase since 1960–63, and annual claim costs are generally higher, except at ages 50 and over for the 0-day and 3-day elimination periods.

##### *Sickness Disability (Table 9)*

Since 1960–63, male annual claim rates for sickness disability have generally decreased and claim durations have increased. At most ages, male annual claim costs for 0-day, 3-day, and 7-day elimination periods have decreased and have increased for the 14-day and 30-day elimination

periods. Female annual claim costs, on the other hand, have generally increased at the shorter elimination periods (except at the higher ages) and have decreased at the longer elimination periods.

*Total Disability (Table 10)*

Male total disability annual claim rates have generally decreased since 1960-63, whereas male total disability annual claim costs show a mixed pattern.

Female total disability annual claim rates have increased at ages under 50 and have decreased at higher ages. Changes in female annual claim costs follow the pattern of the changes in annual claim rates.

TABLE 8  
ACCIDENT DISABILITY LOSS-OF-TIME EXPERIENCE  
RATIOS OF 1964-65 EXPERIENCE TO 1960-63 EXPERIENCE  
LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost
0-Day Elimination Period									
20-29.....	106%	115%	121%	115%	105%	121%	90%	126%	113%
30-39.....	109	121	132	109	111	120	98	94	93
40-49.....	100	120	117	99	110	109	100	127	127
50-59.....	98	116	112	96	102	97	75	125	95
60-69.....	90	111	100	85	109	93	88	112	98
3-Day Elimination Period									
20-29.....	(192%)*	(73%)*	(141%)*	133%	69%	93%	†	†	†
30-39.....	106	236	250	162	100	162	(311%)*	(155%)*	(480%)*
40-49.....	83	113	94	105	135	142	150	95	142
50-59.....	86	108	93	93	96	89	88	110	97
60-69.....	84	83	70	65	101	65	69	109	76
7-Day Elimination Period									
20-29.....	106%	94%	100%	91%	114%	104%	150%	120%	180%
30-39.....	94	122	114	100	97	97	120	140	168
40-49.....	91	100	91	102	110	113	93	117	109
50-59.....	97	92	90	102	128	130	100	105	105
60-69.....	83	121	100	61	97	59	†	†	†
14-Day Elimination Period									
20-29.....	175%	90%	157%	140%	98%	137%	†	†	†
30-39.....	117	90	105	103	99	101	(92%)*	(228%)*	(208%)*
40-49.....	107	103	111	95	79	75	135	100	135
50-59.....	100	116	115	117	114	132	137	88	120
60-69.....	125	138	172	69	114	78	†	†	†

\* Rates in parentheses based on 10-24 claims, inclusive.

† Less than 10 claims.

*Trends in Experience (Table 11)*

Table 11 shows ratios of 1962-63 and 1964-65 experience to experience in calendar years 1960-61 for males with 0-day accident and 7-day sickness coverages.

Male 0-day accident annual claim rates generally show an increasing

TABLE 9  
SICKNESS DISABILITY LOSS-OF-TIME EXPERIENCE  
RATIOS OF 1964-65 EXPERIENCE TO 1960-63 EXPERIENCE  
LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost
0-Day Elimination Period									
20-29.....	131%	107%	81%	113%	91%	102%	181%	85%	155%
30-39.....	91	107	97	84	109	93	120	105	127
40-49.....	83	108	90	79	111	88	114	124	141
50-59.....	87	104	90	80	121	97	95	107	103
60-69.....	99	108	107	84	97	82	79	88	70
3-Day Elimination Period									
20-29.....	107%	140%	149%	103%	76%	79%	(131%)*	(82%)*	(108%)*
30-39.....	96	105	100	111	92	103	118	99	117
40-49.....	94	107	101	95	102	97	121	106	128
50-59.....	78	92	72	86	109	94	79	112	88
60-69.....	77	109	84	91	109	99	70	99	69
7-Day Elimination Period									
20-29.....	122%	102%	123%	96%	97%	93%	114%	101%	115%
30-39.....	97	107	104	96	106	101	105	99	104
40-49.....	90	102	91	92	109	101	97	113	110
50-59.....	91	102	93	93	106	98	83	110	91
60-69.....	100	102	102	92	102	95	74	102	76
14-Day Elimination Period									
20-29.....	124%	107%	133%	111%	106%	118%	75%	72%	54%
30-39.....	97	97	93	113	95	107	122	89	108
40-49.....	98	94	92	97	104	100	88	117	103
50-59.....	97	109	106	104	109	113	108	92	99
60-69.....	111	117	130	115	101	116	77	72	56
30-Day Elimination Period									
20-29.....	80%	111%	89%	100%	185%	186%	(43%)*	(103%)*	(45%)*
30-39.....	111	100	111	88	120	106	66	104	68
40-49.....	106	92	98	100	119	119	97	96	94
50-59.....	94	100	95	102	102	104	105	76	80
60-69.....	107	100	107	138	99	136	†	†	†

\* Rates in parentheses based on 10-24 claims, inclusive.

† Less than 10 claims.

trend at ages below 40. At higher ages, the trend of claim rates is downward. Male 0-day accident annual claim costs have increased in both periods, except at ages 60 and over, with the greater percentage increase occurring at the younger ages.

Male I 7-day sickness annual claim rates show a decreasing trend at most ages. Male II 7-day sickness annual claim rates rose in 1962-63 and then decreased in 1964-65. Male 7-day sickness annual claim costs generally rose in 1962-63 and then decreased somewhat in 1964-65 but are still generally higher than the 1960-61 experience.

TABLE 10  
TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE  
RATIOS OF 1964-65 EXPERIENCE TO 1960-63 EXPERIENCE  
LIMITED TO FIRST YEAR OF BENEFIT PERIOD

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			FEMALE OCC. GROUP I		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost
0-Day Elimination Period									
20-29 .....	84%	113%	96%	114%	99%	112%	166%	87%	145%
30-39 .....	95	112	106	92	114	105	117	104	120
40-49 .....	87	110	95	85	113	95	111	124	138
50-59 .....	89	105	93	84	116	97	91	110	101
60-69 .....	97	109	106	84	99	84	81	91	74
3-Day Elimination Period									
20-29 .....	126%	116%	146%	115%	74%	85%	143%	90%	130%
30-39 .....	99	137	134	128	95	122	137	108	148
40-49 .....	92	108	100	98	113	111	124	105	130
50-59 .....	79	94	74	89	105	93	80	112	90
60-69 .....	78	105	82	83	110	91	70	101	70
7-Day Elimination Period									
20-29 .....	117%	99%	116%	94%	105%	98%	119%	105%	125%
30-39 .....	96	112	107	97	102	99	107	105	112
40-49 .....	90	101	91	96	109	105	96	114	110
50-59 .....	93	99	92	95	110	105	86	108	93
60-69 .....	97	106	102	84	105	88	76	131	99
14-Day Elimination Period									
20-29 .....	138%	103%	141%	126%	102%	128%	85%	60%	51%
30-39 .....	102	95	97	108	97	104	117	105	123
40-49 .....	100	96	96	96	92	89	95	114	109
50-59 .....	98	110	107	108	110	118	113	92	104
60-69 .....	113	120	135	101	108	110	88	64	56



## B. EXPERIENCE IN SECOND YEAR OF BENEFIT PERIOD

Thirteen companies contributed to this part of the study. The study traces claims incurred during calendar years 1963 and 1964 through the second year of the benefit period. Experience on policies having maximum benefit periods of less than two years is omitted. The contributions were

TABLE 11  
MALE 0-DAY ACCIDENT AND 7-DAY SICKNESS EXPERIENCE  
IN FIRST YEAR OF BENEFIT PERIOD  
RATIOS OF 1962-63 AND 1964-65 EXPERIENCE  
TO 1960-61 EXPERIENCE

ATTAINED AGE	MALE OCC. GROUP I				MALE OCC. GROUP II			
	Annual Claim Rate		Annual Claim Cost		Annual Claim Rate		Annual Claim Cost	
	1962-63	1964-65	1962-63	1964-65	1962-63	1964-65	1962-63	1964-65
	0-Day Accident							
20-29.....	121%	119%	138%	149%	111%	122%	112%	129%
30-39.....	109	114	119	146	111	116	122	134
40-49.....	98	98	102	117	101	100	112	117
50-59.....	100	98	105	115	107	100	109	102
60-69.....	98	90	98	98	96	83	84	83
	7-Day Sickness							
20-29.....	65%	94%	69%	100%	119%	106%	103%	95%
30-39.....	94	92	110	110	109	100	113	108
40-49.....	96	88	112	98	103	94	108	105
50-59.....	103	93	108	97	97	91	97	97
60-69.....	99	99	101	103	101	93	112	101

limited to experience under 0-day accident policies and 7-day sickness policies. Since the data for females were too sparse to be significant, this study is confined to male experience only, for which there were 700 claims incurred.

In this study nearly 60 per cent of the experience was contributed by one company, while over 80 per cent of the experience studied was contributed by four companies. Because of the sparsity of data, second-year

annual claim rates and annual claim costs developed from these data may prove to be unreliable.

Table 12 shows second-year Male I and Male II experience for 0-day accident and 7-day sickness coverages. Corresponding annual claim costs from the 1964 Commissioners Disability Table, discounted at 2½ per cent interest, are also shown. As mentioned previously, the Commissioners Table was developed to provide valuation net premiums, not net premiums which would be considered desirable in preparing gross premiums.

TABLE 12  
DISABILITY LOSS-OF-TIME EXPERIENCE IN  
SECOND YEAR OF BENEFIT PERIOD  
FOR CLAIMS INCURRED DURING 1963-64

ATTAINED AGE	MALE OCC. GROUP I			MALE OCC. GROUP II			1964 COM- MISSIONERS ANNUAL CLAIM COST (2) PER CENT)*
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	
0-Day Accident							
20-29 . . .	.0007	5.7	.0040	.0009	6.3	.0057	.0033
30-39 . . .	.0004	7.0	.0028	.0009	8.1	.0073	.0039
40-49 . . .	.0003	8.7	.0026	.0010	6.8	.0068	.0066
50-59 . . .	.0002	8.5	.0017	.0010	8.3	.0083	.0136
60-64 . . .	.0003	6.7	.0020	.0010	10.0	.0100	.0245
7-Day Sickness							
20-29 . . .	.0004	7.0	.0028	.0008	8.4	.0067	.0035
30-39 . . .	.0008	9.3	.0074	.0009	7.6	.0068	.0063
40-49 . . .	.0023	8.1	.0187	.0017	7.6	.0130	.0163
50-59 . . .	.0043	9.5	.0407	.0034	8.8	.0298	.0552
60-64 . . .	.0094	11.3	.1063	.0086	9.8	.0847	.1342

\* Per \$1 of monthly income benefit.

Nevertheless, it does provide a useful basis of comparison with second-year costs.

Male I 0-day accident annual claim rates and annual claim costs for the second year of the benefit period decrease by age at ages below 60. Male II 0-day accident annual claim rates are level by age, but annual claim costs increase with advancing age. Male I and Male II 0-day acci-

dent claim durations are generally shorter than those in the 1962 second-year experience.

Male I and Male II 7-day sickness annual claim rates and annual claim costs for the second year of the benefit period increase rather steeply by age. Male II annual claim costs are lower than Male I annual claim costs at ages 40 and over. Claim durations for the 7-day sickness coverage are generally shorter than those in the 1962 second-year experience.

The 1964 Commissioners' annual claim costs for the second year of the benefit period are lower than the average of Male I and Male II costs at ages under 40 and are considerably higher than the average costs at ages 40 and over.