

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1979 REPORTS**

**II. EXPERIENCE UNDER INDIVIDUAL
LOSS-OF-TIME POLICIES, 1976-77**

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**INTRODUCTION TO EXPERIENCE UNDER INDIVIDUAL
LOSS-OF-TIME POLICIES, 1976-77**

The first part of this study covers experience in the first year of the benefit period. Results of data submitted by twelve companies are pre-

sented for males in Occupation Groups I and II and for females in Occupation Group I. Annual claim rates, average claim durations, and annual claim costs are shown for accident disability, sickness disability, and total accident and sickness disability. A further part of the first-year study examines the trends in the claim rates, durations, and costs for 0-day accident, 7-day sickness, and the combination of these two during the experience periods 1970-71, 1972-73, 1974-75, 1976-77, and 1970-77.

The second part of the study involves experience in the second year of the benefit period. The study is confined to male claims under policies with 0-day accident and 7-day sickness elimination periods. Claim rates, durations, and costs are shown for 0-day accident, 7-day sickness, and the combination of these two.

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 1976-77 and a comparison of this experience with results for the periods 1970-71, 1972-73, and 1974-75. 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 this study is generally the same as that used for the previous studies. This system is described in detail in the *1959 Reports* (pp. 126-28). Previous studies appear in the *Reports* of odd-numbered years commencing in 1959.

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 text of this report as "Male I," "Male II," and "Female I." The amount of data on females in Occupation Group II is insufficient to warrant a study of this group.

Occupation Group I consists of occupations that involve little exposure to an accident hazard and do not require heavy physical activity. In addition to those occupations involving white-collar and professional workers, Group I also includes occupations of persons engaged in trades and service work whose duties are light and nonhazardous, persons superintending manufacturing and construction operations, and so forth.

Occupation Group II consists of occupations that involve a greater degree of exposure to accident hazards or in which the physical requirements of the job are reflected in longer periods of disability due either to sickness or to injury than in the Group I occupations. These generally include construction workers, drivers of heavy vehicles, mechanics, those engaged in skilled and semiskilled jobs in manufacturing industries, and

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

Policies issued to females usually included a reduction in indemnity for insureds not gainfully employed at the time of disability. The claim data submitted reflect the smaller amounts payable under the reduction provision, but to an unknown extent.

The presentation of data generally follows the format used in prior reports. The tables include (1) annual claim rates, (2) average claim durations in months, and (3) annual claim costs. Experience is shown separately for accident and sickness. Total disability experience is represented as the sum of the separate accident and sickness experience. The combined annual claim rates and annual claim costs for total disability consequently reflect experience on many different combinations of accident and sickness benefits.

Annual claim rates (or frequencies) have been calculated by dividing the amounts of monthly indemnity on claims by the corresponding exposures. The exposures are based on the amounts of monthly indemnity. Annual claim costs, per \$1 of monthly income benefit, have been calculated by dividing the aggregate benefits incurred on claims by the corresponding exposures. Durations of claims in months, measured from the end of the elimination period, have been calculated by dividing the annual claim costs by the annual claim rates.

1. VOLUME OF DATA

For the calendar-year period 1976-77, the study is based on about 104,000 claims. 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.

Table 2 shows the distribution of the number of claims reported 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 is a significant amount of data. They are indicated by an asterisk in Table 2.

The coverages for which a reasonable amount of data was contributed by all companies are the 0- and 7-day accident and the 0-, 7-, 14-, and 30-day sickness coverages. In interpreting results obtained from any experience study with a small amount of data, caution should be exercised, and in comparing current trends with those of the previous studies,

TABLE 1
CONTRIBUTING COMPANIES AND NUMBER OF CLAIMS
FIRST YEAR OF BENEFIT PERIOD

COMPANY	YEAR OF EXPERIENCE		1976-77 COMBINED
	1976	1977	
Prudential.....	16,199	15,143	31,342
Monarch.....	7,979	7,241	15,220
Metropolitan.....	7,838	7,111	14,949
New York Life.....	6,638	6,328	12,966
Mutual of New York.....	3,589	3,475	7,064
John Hancock.....	2,973	2,660	5,633
Business Mens Assurance.....	2,506	2,197	4,703
Provident Life & Accident.....	2,057	2,133	4,190
Woodmen.....	1,457	1,343	2,800
Guardian Life.....	1,098	1,065	2,163
Continental Assurance.....	951	806	1,757
Provident Mutual.....	453	462	915
Total.....	53,738	49,964	103,702

TABLE 2
NUMBER OF CLAIMS BY TYPE OF COVERAGE,
SEX, OCCUPATION GROUP, AND
ELIMINATION PERIOD
1976-77 EXPERIENCE COMBINED
FIRST YEAR OF BENEFIT PERIOD

ELIMINATION 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.....	5,232*	10,268*	479*	111	828*	511*	146*	22
3.....	42	132	32	3	329	385	148	12
7.....	2,058*	5,120*	608*	185	11,201*	18,561*	3,135*	767
14.....	2,196*	5,799*	606*	199	5,288*	6,946*	2,135*	676
21.....	0	0	0	0	2	0	0	0
30.....	2,018*	3,522*	333*	98	6,248*	4,387*	1,357*	244
60.....	36	19	9	0	168	19	15	0
90.....	111	91	15	1	602	195	53	0
Total.....	11,693	24,951	2,082	597	24,666	31,004	6,989	1,721

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

it must be kept in mind that the proportion of the total experience for each company is different in the current and previous studies. In addition, the same companies did not contribute to all the studies.

2. DISABILITY EXPERIENCE

Tables 3, 4, and 5, respectively, give summaries of the accident, sickness, and total disability experience compiled in this section. Each table shows the three elements of disability—annual claim rate, duration of claim in months, and annual claim cost—by the four variables studied—sex, occupation group, elimination period, and attained age. In order to give some idea of the credibility of the experience, the number of claims is shown.

Accident Disability (Table 3)

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

The significant points of interest brought out by this table follow:

Male I and Male II.—Claim rates generally decrease with age, while claim durations increase, with the combined effect that claim costs decrease with age. Male II claim costs are about twice those of Male I cases, with exceptions in the under 30 and 60–69 age groups.

Sickness Disability (Table 4)

Table 4 shows sickness disability data for four elimination periods.

Total Disability (Table 5)

Total disability annual claim rates and annual claim costs as derived in this study are the sums of the annual claim rates and annual claim costs for accident disability and sickness disability. The method used in the calculation of claim duration is the same as described earlier. 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 Chart I.

TABLE 3

ACCIDENT DISABILITY LOSS-OF-TIME EXPERIENCE, 1976-77, 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					
	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	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
0-Day Elimination Period																		
Under 30	593	.048	1.69	.081	1,003	.115	1.63	.188	88	.035	2.37	.083	240%	96%	232%	73%	140%	102%
30-39	870	.052	2.02	.105	2,464	.102	1.98	.202	70	.039	2.08	.081	196%	98%	192%	75%	103%	77%
40-49	1,133	.038	1.92	.073	2,732	.064	2.20	.141	83	.035	2.51	.088	168	115	193	92	131	121
50-59	1,599	.028	1.96	.055	2,938	.051	2.33	.119	147	.036	2.53	.091	182	119	216	129	129	165
60-69	1,037	.029	2.31	.067	1,131	.042	2.50	.105	91	.054	2.61	.141	145	108	157	186	113	210
7-Day Elimination Period																		
Under 30	323	.041	2.51	.103	699	.065	1.91	.124	66	.026	2.04	.053	159%	76%	120%	63%	81%	51%
30-39	572	.042	2.12	.089	1,498	.065	2.20	.143	134	.029	2.21	.064	155%	104	161	69	104	72
40-49	485	.033	2.48	.082	1,310	.053	2.51	.133	169	.028	2.54	.071	161	101	162	85	102	87
50-59	528	.024	2.67	.064	1,311	.044	2.45	.108	217	.030	3.13	.094	183	92	169	125	117	147
60-69	150	.025	2.08	.052	302	.039	3.00	.117	22	.026	2.58	.067	156	144	225	104	124	129
14-Day Elimination Period																		
Under 30	487	.026	2.31	.060	1,509	.050	2.36	.118	146	.021	2.57	.054	192%	102%	197%	81%	111%	90%
30-39	695	.024	2.71	.065	2,137	.053	2.92	.155	213	.025	3.40	.085	221	108	238	104	125	131
40-49	487	.018	2.67	.048	1,293	.046	3.07	.141	117	.023	4.13	.095	256	115	294	128	155	198
50-59	397	.015	2.53	.038	724	.036	2.75	.099	100	.020	2.90	.058	240	109	261	133	115	153
60-69	130	.017	3.29	.056	136	.030	3.50	.105	30	.034	2.65	.090	176	106	188	200	81	161
30-Day Elimination Period																		
Under 30	391	.007	2.29	.016	961	.026	2.65	.069	77	.007	3.29	.023	371%	116%	431%	100%	144%	144%
30-39	587	.005	3.20	.016	1,275	.025	3.52	.088	89	.007	3.57	.025	500	110	550	140	112	156
40-49	562	.006	3.00	.018	827	.024	3.21	.077	76	.007	3.14	.022	400	107	428	117	105	122
50-59	363	.006	3.17	.019	375	.018	3.44	.062	79	.012	4.00	.048	300	109	326	200	126	253
60-69	115	.007	3.00	.021	84	.017	3.76	.064	12	.010	1.80	.018	243	125	305	143	60	86

TABLE 4

SICKNESS DISABILITY LOSS-OF-TIME EXPERIENCE, 1976-77, LIMITED TO FIRST YEAR OF BENEFIT PERIOD

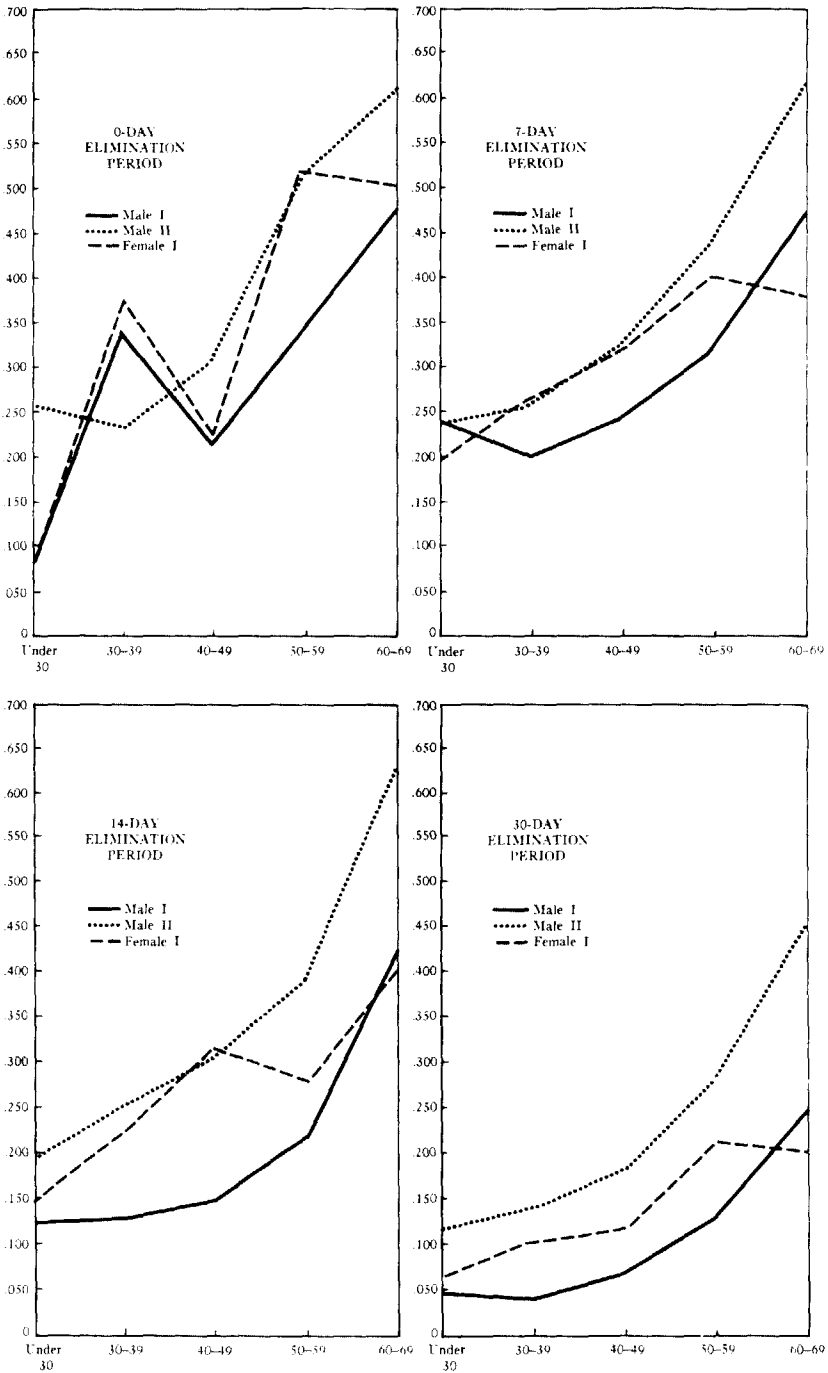
ATTAINED AGE	MALE OCC. GROUP I				MALE OCC. GROUP II				FEMALE OCC. GROUP I				RATIOS TO MALE OCC. GROUP I					
	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	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
0-Day Elimination Period																		
Under 30	7	.124	1.92	.238	1	.087	.79	.069	3	.161	1.83	.295	65%	20%	13%	130%	95%	124%
30-39	76	.141	1.02	.144	104	.129	1.29	.167	23	.192	.70	.134	91	126	116	136	69	93
40-49	541	.136	2.13	.290	245	.154	2.56	.394	71	.197	2.17	.428	113	120	136	145	102	148
50-59	204	.148	2.75	.407	144	.148	3.42	.506	49	.197	1.85	.364	100	124	124	133	67	89
7-Day Elimination Period																		
Under 30	824	.056	2.34	.131	1,030	.056	1.95	.109	291	.072	1.96	.141	100%	83%	83%	129%	84%	108%
30-39	1,341	.052	2.08	.108	2,634	.059	1.93	.114	671	.099	1.96	.194	113	93	106	196	94	180
40-49	2,192	.062	2.53	.157	4,364	.073	2.64	.193	863	.110	2.31	.254	118	104	123	177	91	162
50-59	4,449	.083	3.00	.249	7,309	.097	3.32	.322	1,117	.111	2.71	.301	117	111	129	134	90	121
60-69	2,395	.119	3.53	.420	3,224	.120	4.08	.490	193	.120	2.60	.312	101	116	117	101	74	74
14-Day Elimination Period																		
Under 30	557	.025	2.56	.064	1,099	.035	2.20	.077	382	.046	2.09	.096	140%	86%	120%	184%	82%	150%
30-39	925	.028	2.25	.063	1,856	.043	2.33	.100	629	.069	2.01	.139	154	104	159	246	89	221
40-49	1,220	.038	2.66	.101	1,754	.056	2.98	.167	593	.088	2.47	.217	147	112	165	232	93	215
50-59	1,757	.058	3.12	.181	1,688	.076	3.88	.295	448	.076	2.95	.224	131	124	163	131	95	124
60-69	829	.092	4.05	.373	549	.109	4.79	.522	83	.082	3.84	.315	118	118	140	89	95	84
30-Day Elimination Period																		
Under 30	567	.008	3.63	.029	698	.017	2.76	.047	251	.020	2.15	.043	213%	76%	162%	250%	59%	148%
30-39	973	.008	3.00	.024	1,011	.019	2.79	.053	362	.026	3.00	.078	238	93	221	325	100	325
40-49	1,635	.015	3.47	.052	1,122	.030	3.47	.104	353	.034	2.76	.094	200	100	200	227	80	181
50-59	2,105	.029	3.93	.114	1,168	.050	4.44	.222	320	.038	4.26	.162	172	113	195	131	108	142
60-69	968	.051	4.47	.228	388	.073	5.37	.392	71	.044	4.25	.187	143	120	172	86	95	82

TABLE 5

TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE, 1976-77, 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					
	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost	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
0-Day Elimination Period																		
Under 30	593	.048	1 69	.081	1,004	.202	1 27	257	88	.035	2 37	.083	421%	75%	317%	73%	140%	102%
30-39	877	.176	1 95	.343	2,481	.182	1 28	233	73	.200	1 88	.376	103	66	68	114	96	110
40-49	1,209	.179	1 21	.217	2,836	.193	1 60	308	106	.227	98	222	108	132	142	127	81	102
50-59	2,140	.164	2 10	.345	3,183	.205	2 50	513	218	.233	2 23	519	125	119	149	142	106	150
60-69	1,241	.177	2 68	.474	1,275	.190	3 22	611	140	.251	2 01	.505	107	120	129	142	75	107
7-Day Elimination Period																		
Under 30	1,147	.097	2 41	.234	1,729	.121	1 93	233	357	.098	1 98	.194	125%	80%	100%	101%	82%	83%
30-39	1,913	.094	2 10	.197	4,132	.124	2 07	257	805	.128	2 02	258	132	99	130	136	96	131
40-49	2,677	.095	2 52	.239	5,674	.126	2 59	326	1,032	.158	2 36	325	133	103	136	145	94	136
50-59	4,977	.107	2 93	.313	8,620	.141	3 05	430	1,334	.141	2 80	395	132	104	137	132	96	126
60-69	2,545	.144	3 28	.472	3,526	.159	3 82	607	215	.146	2 60	379	110	116	129	101	79	80
14-Day Elimination Period																		
Under 30	1,044	.051	2 43	.124	2,608	.085	2 29	195	528	.067	2 24	.150	167%	94%	157%	131%	92%	121%
30-39	1,620	.052	2 46	.128	3,993	.096	2 66	255	842	.094	2 38	224	185	108	199	181	97	175
40-49	1,707	.056	2 66	.149	3,047	.102	3 02	308	710	.111	2 81	312	182	114	207	198	106	209
50-59	2,154	.073	3 00	.219	2,412	.112	3 52	394	548	.096	2 94	282	153	117	180	132	98	129
60-69	959	.109	3 94	.429	685	.139	4 51	627	113	.116	3 49	405	128	114	146	106	89	94
30-Day Elimination Period																		
Under 30	958	.015	3 00	.045	1,659	.043	2 70	116	328	.027	2 44	.066	287%	90%	258%	180%	81%	147%
30-39	1,560	.013	3 08	.040	2,286	.044	3 20	141	451	.033	3 12	.103	338	104	353	254	101	238
40-49	2,197	.021	3 33	.070	1,949	.054	3 35	181	429	.041	2 83	.116	257	101	259	195	85	166
50-59	2,468	.035	3 80	.133	1,543	.068	4 18	284	399	.050	4 20	.210	194	110	214	143	111	158
60-69	1,083	.058	4 29	.249	472	.090	5 07	456	83	.054	3 80	.205	155	118	183	93	89	82

CHART I
TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE
1976-77 ANNUAL CLAIM COSTS*
 (Limited to First Year of Benefit Period)



* Per \$1 of monthly income benefit.

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 that were contributed in different proportions by the various companies and 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- and 7-day elimination

TABLE 6
RATIOS OF ACCIDENT DISABILITY TO TOTAL DISABILITY
LOSS-OF-TIME EXPERIENCE
IN FIRST YEAR OF BENEFIT PERIOD
1976-77

ATTAINED AGE	0-DAY ELIMINATION PERIOD			7 DAY ELIMINATION PERIOD		
	Annual Claim Rate	Claim Duration (Months)	Annual Claim Costs	Annual Claim Rate	Claim Duration (Months)	Annual Claim Costs
Male I						
Under 30.....	100%	100%	100%	42%	104%	44%
30-39.....	30	104	31	45	101	45
40-49.....	21	159	34	35	98	34
50-59.....	17	93	16	22	91	20
60-69.....	16	86	14	17	63	11
Male II						
Under 30.....	57%	128%	73%	54%	99%	53%
30-39.....	56	155	87	52	106	56
40-49.....	33	138	46	42	97	41
50-59.....	25	93	23	31	80	25
60-69.....	22	78	17	25	79	19
Female I						
Under 30.....	100%	100%	100%	27%	103%	27%
30-39.....	20	111	22	23	109	25
40-49.....	15	256	40	20	108	22
50-59.....	15	113	18	21	112	24
60-69.....	22	130	28	18	99	18

periods are shown because of the even greater limitations of data for the other elimination periods.

Male I, Male II, and Female I.—Ratios of accident disability to total disability annual claim rates, claim durations, and annual claim costs generally decrease by attained age for both the 0-day and 7-day elimination periods. The principal exceptions to this pattern are the Female I ratios of accident to total disability claim durations, which are mostly level or slightly increasing by attained age.

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 are also shown for durations beyond the seventh day of disablement. The tabular values that 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 that the tabular value shown for age group 60–69 is the one that applies at age 65. However, because many disability policies terminate at age 65, 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. For the “Total” column in Table 7 the Commissioners Table value at age 63 for 0-day accident is 0.081, for 7-day sickness it is 0.418, and for accident and sickness it is 0.499.

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, which do not vary by occupational class or sex, rather than the type of net premiums that would be considered desirable in preparing gross premium rates.

4. TRENDS IN EXPERIENCE

Tables 8, 9, and 10 show accident experience with a 0-day elimination period and sickness experience with a 7-day elimination period, and the total of these two for the four calendar-year periods 1970–71, 1972–73, 1974–75, and 1976–77, as well as the unweighted average of these four periods, which reflects the experience for 1970–77.

TABLE 7
DISABILITY LOSS-OF-TIME EXPERIENCE, 1976-77
ANNUAL CLAIM COSTS* BY DURATION MEASURED
FROM DATE OF DISABLEMENT

ATTAINED AGE	DURATION SINCE DISABLEMENT (DAYS)																	
	1-7			8-14			15-21			22-30			31-365†			Total		
	Male I	Male II	1964 Comm.‡	Male I	Male II	1964 Comm.	Male I	Male II	1964 Comm.	Male I	Male II	1964 Comm.	Male I	Male II	1964 Comm.	Male I	Male II	1964 Comm.
Accident Disability 0-Day Elimination Period																		
Under 30	.011	.026	.015	.010	.021	.010	.008	.016	.007	.009	.017	.006	.043	.108	.023	.081	.188	.061
30-39	.012	.023	.013	.010	.020	.009	.009	.016	.007	.009	.017	.006	.065	.126	.024	.105	.202	.059
40-49	.009	.015	.011	.008	.013	.009	.006	.011	.007	.007	.012	.006	.043	.090	.030	.073	.141	.063
50-59	.006	.012	.009	.005	.010	.007	.005	.009	.006	.005	.010	.006	.034	.078	.039	.055	.119	.067
60-69	.006	.010	.008	.006	.009	.007	.005	.007	.006	.005	.008	.006	.045	.071	.062	.067	.105	.089
Sickness Disability 7-Day Elimination Period																		
Under 30	.000	.000	.000	.013	.013	.011	.012	.011	.008	.013	.011	.007	.093	.074	.025	.131	.109	.051
30-39	.000	.000	.000	.012	.013	.016	.010	.012	.011	.011	.012	.010	.075	.077	.040	.108	.114	.077
40-49	.000	.000	.000	.014	.017	.021	.013	.015	.016	.014	.017	.016	.116	.144	.075	.157	.193	.128
50-59	.000	.000	.000	.019	.022	.030	.017	.020	.024	.020	.023	.024	.193	.257	.158	.249	.322	.236
60-69	.000	.000	.000	.027	.027	.040	.025	.026	.034	.030	.030	.037	.338	.407	.375	.420	.490	.486
Total of 0-Day Accident and 7-Day Sickness																		
Under 30	.011	.026	.015	.023	.034	.021	.020	.027	.015	.022	.028	.013	.136	.182	.048	.212	.297	.112
30-39	.012	.023	.013	.022	.033	.025	.019	.028	.018	.020	.029	.016	.140	.203	.064	.213	.316	.136
40-49	.009	.015	.011	.022	.030	.030	.019	.026	.023	.021	.029	.022	.159	.234	.105	.230	.334	.191
50-59	.006	.012	.009	.024	.032	.037	.022	.029	.030	.025	.033	.030	.227	.335	.197	.304	.441	.303
60-69	.006	.010	.008	.033	.036	.047	.030	.033	.040	.035	.038	.043	.383	.478	.437	.487	.595	.575

* 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 Commissioners Disability Table for the eighth and subsequent days of disablement. Values shown for "under 30" are those for attained ages 20-29.

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TABLE 8

ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAYS FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1970-71, 1972-73, 1974-75, 1976-77, AND 1970-77
 ANNUAL CLAIM RATE

ATTAINED AGE	MALE OCC. GROUP I					MALE OCC. GROUP II					FEMALE OCC. GROUP I				
	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77
0-Day Accident															
Under 30..	.057	.050	.053	.048	.052	.127	.139	.115	.115	.124	.035	.023	.027	.035	.030
30-39.....	.052	.048	.047	.052	.050	.103	.098	.093	.102	.099	.033	.029	.028	.039	.032
40-49.....	.038	.035	.035	.038	.037	.078	.072	.068	.064	.071	.038	.025	.027	.035	.031
50-59.....	.036	.031	.029	.028	.031	.064	.056	.051	.051	.056	.045	.034	.032	.036	.037
60-69.....	.030	.028	.026	.029	.028	.056	.050	.044	.042	.048	.045	.034	.033	.054	.042
7-Day Sickness															
Under 30..	.049	.043	.054	.056	.051	.062	.057	.072	.056	.062	.085	.081	.108	.072	.087
30-39.....	.051	.050	.057	.052	.053	.065	.063	.073	.059	.065	.113	.092	.114	.099	.105
40-49.....	.066	.062	.063	.062	.063	.082	.082	.090	.073	.082	.124	.124	.132	.110	.123
50-59.....	.096	.092	.093	.083	.091	.106	.109	.119	.097	.108	.118	.118	.131	.111	.120
60-69.....	.119	.123	.126	.119	.122	.131	.135	.150	.120	.134	.097	.116	.143	.120	.119
Total of 0-Day Accident and 7-Day Sickness															
Under 30..	.106	.093	.107	.104	.103	.189	.196	.187	.171	.186	.120	.104	.135	.107	.117
30-39.....	.103	.098	.104	.104	.102	.168	.161	.166	.161	.164	.146	.121	.142	.138	.137
40-49.....	.104	.097	.098	.100	.100	.160	.154	.158	.137	.152	.162	.149	.159	.145	.154
50-59.....	.132	.123	.122	.111	.122	.170	.165	.170	.148	.163	.163	.152	.163	.147	.156
60-69.....	.149	.151	.152	.148	.150	.187	.185	.194	.162	.182	.142	.150	.176	.174	.161

TABLE 9

ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAYS FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1970-71, 1972-73, 1974-75, 1976-77, AND 1970-77
 CLAIM DURATION IN MONTHS

ATTAINED AGE	MALE OCC. GROUP I					MALE OCC. GROUP II					FEMALE OCC. GROUP I				
	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77
0-Day Accident															
Under 30...	1.21	1.36	1.58	1.69	1.46	1.23	1.32	1.41	1.63	1.40	1.23	1.17	1.52	2.37	1.57
30-39.....	1.37	1.46	1.72	2.02	1.64	1.50	1.52	1.71	1.98	1.68	1.61	1.48	1.64	2.08	1.70
40-49.....	1.42	1.57	1.66	1.92	1.64	1.60	1.71	1.99	2.20	1.88	1.68	1.56	1.78	2.51	1.88
50-59.....	1.47	1.68	1.90	1.96	1.75	1.69	1.80	2.22	2.33	2.01	1.51	1.62	1.97	2.53	1.91
60-69.....	1.70	1.82	1.92	2.31	1.94	1.86	2.08	2.27	2.50	2.18	1.76	1.68	2.15	2.61	2.05
7-Day Sickness															
Under 30...	1.24	1.37	1.57	2.34	1.63	1.32	1.39	1.49	1.95	1.54	1.05	1.14	1.35	1.96	1.38
30-39.....	1.41	1.54	1.84	2.08	1.72	1.55	1.59	1.86	1.93	1.73	1.61	1.55	1.50	1.96	1.66
40-49.....	1.97	2.11	2.37	2.53	2.25	2.06	2.23	2.40	2.64	2.33	1.82	1.91	1.84	2.31	1.97
50-59.....	2.38	2.57	2.84	3.00	2.70	2.64	2.83	3.12	3.32	2.98	2.09	1.94	2.14	2.71	2.22
60-69.....	2.88	3.14	3.30	3.53	3.21	3.38	3.59	3.71	4.08	3.69	2.56	2.11	1.98	2.60	2.31
Total of 0-Day Accident and 7 Day Sickness															
Under 30...	1.23	1.37	1.58	2.04	1.56	1.26	1.34	1.44	1.74	1.45	1.10	1.14	1.39	2.09	1.43
30-39.....	1.39	1.50	1.79	2.05	1.68	1.52	1.55	1.78	1.96	1.70	1.61	1.54	1.53	1.99	1.67
40-49.....	1.77	1.92	2.11	2.30	2.03	1.84	1.99	2.22	2.44	2.12	1.79	1.85	1.83	2.36	1.96
50-59.....	2.13	2.34	2.61	2.74	2.46	2.28	2.48	2.85	2.98	2.65	1.93	1.87	2.10	2.67	2.14
60-69.....	2.64	2.89	3.07	3.29	2.97	2.93	3.18	3.39	3.67	3.29	2.30	2.01	2.01	2.60	2.23

TABLE 10

ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAYS FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1970-71, 1972-73, 1974-75, 1976-77, AND 1970-77
 ANNUAL CLAIM COST FOR \$1 OF MONTHLY INCOME BENEFIT

ATTAINED AGE	MALE OCC. GROUP I					MALE OCC. GROUP II					FEMALE OCC. GROUP I				
	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77	1970-71	1972-73	1974-75	1976-77	1970-77
0-Day Accident															
Under 30...	.069	.068	.084	.081	.076	.156	.183	.162	.188	.172	.043	.027	.041	.083	.049
30-39.....	.071	.070	.081	.105	.082	.155	.149	.159	.202	.166	.053	.043	.046	.081	.056
40-49.....	.054	.055	.058	.073	.060	.125	.123	.135	.141	.131	.064	.039	.048	.088	.060
50-59.....	.053	.052	.055	.055	.054	.108	.101	.113	.119	.110	.068	.055	.063	.091	.069
60-69.....	.051	.051	.050	.067	.055	.104	.104	.100	.105	.103	.079	.057	.071	.141	.087
7-Day Sickness															
Under 30...	.061	.059	.085	.131	.084	.082	.079	.107	.109	.094	.089	.092	.146	.141	.117
30-39.....	.072	.077	.105	.108	.091	.101	.100	.136	.114	.113	.182	.143	.171	.194	.173
40-49.....	.130	.131	.149	.157	.142	.169	.183	.216	.193	.190	.226	.237	.243	.254	.240
50-59.....	.228	.236	.264	.249	.244	.280	.308	.371	.322	.320	.247	.229	.280	.301	.264
60-69.....	.343	.386	.416	.420	.391	.443	.484	.557	.490	.494	.248	.245	.283	.312	.272
Total of 0-Day Accident and 7-Day Sickness															
Under 30...	.130	.127	.169	.212	.160	.238	.262	.269	.297	.267	.132	.119	.187	.224	.166
30-39.....	.143	.147	.186	.213	.172	.256	.249	.295	.316	.279	.235	.186	.217	.275	.228
40-49.....	.184	.186	.207	.230	.202	.294	.306	.351	.334	.321	.290	.276	.291	.342	.300
50-59.....	.281	.288	.319	.304	.298	.388	.409	.484	.441	.431	.315	.284	.343	.392	.334
60-69.....	.394	.437	.466	.487	.446	.547	.588	.657	.595	.597	.327	.302	.354	.453	.359

B. EXPERIENCE IN SECOND YEAR OF BENEFIT PERIOD

Nine companies contributed to this part of the study. The study is based on the experience during the second year of the benefit period with respect to claims incurred during 1975 and 1976. Previous studies of the experience during the second year of the benefit period appear in the *Reports* of odd-numbered years commencing in 1967. Experience on policies having maximum benefit periods of less than two years is omitted. Annual claim rates have been calculated by dividing the amounts of monthly indemnity on claims that continued for twelve months from the end of the elimination period by the corresponding exposures. Annual claim costs have been calculated by dividing the aggregate benefits incurred on claims during the second year of the benefit period by the corresponding exposures.

Durations of claims in months, with respect to the second year of the benefit period, have been calculated by dividing the annual claim costs by the annual claim rates. Contributions to the accident portion of the study were limited to experience under policies with a 0-day accident elimination period, and contributions to the sickness portion were limited to experience under policies with a 7-day sickness elimination period. This study is confined to male experience, for which there were 2,007 claims incurred. There were only 68 female claims in Occupation Group I under which benefits were paid in the second year of the benefit period, and this number was insufficient to provide any significant data. Using Male I results as the expected, the ratio of actual to expected claim costs for these females on an overall basis was 151 percent.

In this study, 47 percent of the experience was contributed by one company, while 76 percent of the experience studied was contributed by three companies.

Table 11 shows second-year Male I and Male II experience for 0-day accident, 7-day sickness, and the combined 0-day accident and 7-day sickness coverages. Corresponding annual claim costs for the 1964 Commissioners Disability Table are also shown. The Commissioners Disability Table provides a useful basis of comparison with second-year costs, even though it was developed to provide valuation net premiums and not to provide net premiums that might be considered appropriate in developing gross premiums.

For the combined 0-day accident and 7-day sickness experience, the annual claim costs at ages under 50 for both Male Occupation Groups I and II were substantially higher than those based on the 1964 Commissioners Disability Table. The Male Occupation Group II annual

claim costs were substantially higher than those for Male Occupation Group I at ages 40 and over.

Table 12 shows second-year experience for claims incurred in 1967-76 and for claims incurred in 1975-76. Male I and Male II annual claim costs for claims incurred in 1975-76 are considerably higher than for those incurred during the period 1967-76.

TABLE 11
DISABILITY LOSS-OF-TIME EXPERIENCE IN
SECOND YEAR OF BENEFIT PERIOD
FOR CLAIMS INCURRED DURING 1975-76

ATTAINED AGE	MALE OCC. GROUP I				MALE OCC. GROUP II				1964 COMM. ANNUAL CLAIM COST*
	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	No. Claims	Annual Claim Rate	Claim Duration (Months)	Annual Claim Cost*	
0-Day Accident									
20-29....	7	.00175	11.8	.0208	14	.00281	8.6	.0243	.0034
30-39....	23	.00182	9.4	.0171	62	.00301	11.2	.0338	.0040
40-49....	35	.00164	9.0	.0148	81	.00257	8.7	.0223	.0069
50-59....	48	.00132	8.8	.0115	132	.00326	8.5	.0277	.0141
60-64....	48	.00180	11.3	.0202	67	.00542	8.8	.0478	.0255
7-Day Sickness									
20-29....	14	.00190	10.1	.0192	20	.00154	8.9	.0136	.0036
30-39....	46	.00203	10.0	.0204	89	.00215	6.9	.0148	.0066
40-49....	82	.00316	9.3	.0294	212	.00474	10.8	.0514	.0169
50-59....	228	.00837	9.3	.0781	451	.01327	10.5	.1341	.0573
60-64....	136	.01645	9.4	.1552	212	.02299	9.5	.2180	.1393
Total of 0-Day Accident and 7-Day Sickness									
20-29....	21	.00365	10.9	.0399	34	.00435	8.7	.0379	.0070
30-39....	69	.00386	9.7	.0376	151	.00515	9.4	.0486	.0106
40-49....	117	.00480	9.2	.0441	293	.00731	10.1	.0737	.0238
50-59....	276	.00969	9.3	.0897	583	.01653	10.1	.1668	.0714
60-64....	184	.01825	9.6	.1755	279	.02841	9.4	.2658	.1648

* Per \$1 of monthly income benefit.

TABLE 12 DISABILITY LOSS-OF-TIME EXPERIENCE IN SECOND YEAR OF BENEFIT PERIOD
FOR CLAIMS INCURRED DURING 1967-76 AND 1975-76

ATTAINED AGE	MALE OCC. GROUP I						MALE OCC. GROUP II					
	Annual Claim Rate		Claim Duration (Months)		Annual Claim Cost*		Annual Claim Rate		Claim Duration (Months)		Annual Claim Cost*	
	1967-76	1975-76	1967-76	1975-76	1967-76	1975-76	1967-76	1975-76	1967-76	1975-76	1967-76	1975-76
	0-Day Accident											
20-29.....	.00061	.00175	9.2	11.8	.0056	.0208	.00164	.00281	7.4	8.6	.0122	.0243
30-39.....	.00074	.00182	8.4	9.4	.0063	.0171	.00209	.00301	9.5	11.2	.0198	.0338
40-49.....	.00069	.00164	9.1	9.0	.0063	.0148	.00189	.00257	8.7	8.7	.0164	.0223
50-59.....	.00068	.00132	7.8	8.8	.0053	.0115	.00221	.00326	9.0	8.5	.0198	.0277
60-64.....	.00102	.00180	8.5	11.3	.0087	.0202	.00309	.00542	8.9	8.8	.0276	.0478
	7 Day Sickness											
20-29.....	.00101	.00190	8.6	10.1	.0087	.0192	.00104	.00154	8.6	8.9	.0089	.0136
30-39.....	.00121	.00203	8.7	10.0	.0105	.0204	.00163	.00215	7.8	6.9	.0127	.0148
40-49.....	.00272	.00316	9.3	9.3	.0252	.0294	.00386	.00474	9.7	10.8	.0376	.0514
50-59.....	.00647	.00837	9.9	9.3	.0640	.0781	.01055	.01327	9.9	10.5	.1046	.1391
60-64.....	.01478	.01645	9.8	9.4	.1443	.1552	.02074	.02299	9.8	9.5	.2027	.2180
	Total of 0-Day Accident and 7 Day Sickness											
20-29.....	.00162	.00365	8.8	10.9	.0143	.0399	.00267	.00435	7.9	8.7	.0211	.0379
30-39.....	.00196	.00386	8.6	9.7	.0168	.0376	.00372	.00515	8.7	9.4	.0325	.0486
40-49.....	.00341	.00480	9.2	9.2	.0315	.0441	.00574	.00731	9.4	10.1	.0540	.0737
50-59.....	.00715	.00969	9.7	9.3	.0693	.0897	.01277	.01653	9.8	10.1	.1245	.1668
60-64.....	.01581	.01825	9.7	9.6	.1530	.1755	.02383	.02841	9.7	9.4	.2303	.2658

* Per \$1 of monthly income benefit.