

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1971 REPORTS**

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

**EXPERIENCE UNDER INDIVIDUAL
LOSS-OF-TIME POLICIES, 1968-69**

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SUMMARY OF EXPERIENCE UNDER INDIVIDUAL
LOSS-OF-TIME POLICIES, 1968-69

The first part of the study covers experience in the first year of the benefit period. Results of data submitted by twelve companies are presented 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 sickness and accident disability. Annual claim costs by duration measured from date of disablement are also presented. 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 1962-63, 1964-65, 1966-67, 1968-69, and 1962-69. Over-all evaluation of the results of the current study of the 1968-69 experience does not reveal a significant variation from the previous study of the 1966-67 experience.

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 claim costs are shown for 0-day accident, 7-day sickness, and the combination of these two. Again, the results are quite similar to those of the previous study.

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 1968-69 and a comparison of this experience with results for the periods 1962-63, 1964-65, and 1966-67. 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 *1959, 1961, 1963, 1965, 1967, and 1969 Reports*.

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 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 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 would also be in Group II, since such persons may be disabled by a relatively minor injury.

Policies issued to females usually include a reduction in indemnity if the insured is not gainfully employed at the time of disability. The claim data submitted reflect the smaller amounts payable under the reduction provision. However, the effect of this provision is not known.

The presentation of data generally follows the format used in prior reports. Accident and sickness disability experience is shown separately. Total disability experience is also shown.

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 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 1968-69, the Committee has compiled an aggregate exposure of 2,050,000 policy years during which 101,000 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.

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,

TABLE 1
CONTRIBUTING COMPANIES AND NUMBER OF CLAIMS

COMPANY	YEAR OF EXPERIENCE		1968-69 COMBINED
	1968	1969	
Prudential.....	12,844	13,936	26,780
Metropolitan.....		11,825	11,825
Mutual of New York.....	4,949	4,493	9,442
Pacific Mutual.....	4,869	4,513	9,382
Business Men's Assurance.....	4,188	4,007	8,195
Mutual of Omaha.....	3,644	4,506	8,150
John Hancock.....	3,798	3,787	7,585
New York Life.....	3,426	3,951	7,377
Loyal Protective.....	2,687	3,355	6,042
Lincoln National.....	1,857	1,835	3,692
Continental Assurance.....	973	898	1,871
Provident Mutual.....	279	303	582
Total.....	43,514	57,409	100,923

TABLE 2
NUMBER OF CLAIMS BY TYPE OF COVERAGE,
SEX, OCCUPATION GROUP,
AND ELIMINATION PERIOD
1968-69 EXPERIENCE COMBINED

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.....	9,581*	20,563*	859*	334	5,229*	1,980*	744*	53
3.....	163	399	121	15	853	1,449	780	65
7.....	1,339*	3,548*	490*	188	11,745*	23,561*	3,380*	1,225
14.....	509*	969*	62*	36	1,970*	1,724*	339*	78
21.....	0	0	0	0	10	0	0	0
30.....	605*	829*	52*	11	2,640*	1,565*	397*	48
60.....	3	9	0	1	33	9	3	0
90.....	31	29	3	0	201	77	12	4
Total	12,231	26,346	1,587	585	22,681	30,365	5,655	1,473

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

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. 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- and 7-day accident and the 0-, 7-, 14-, and 30-day sickness coverages. In interpreting results obtained from a small amount of data, caution should be exercised, and, in comparing current trends with those of the previous studies, it must be kept in mind that the proportion of the total experience for each company is different in the current and previous studies.

2. DISABILITY EXPERIENCE

Tables 3, 4, and 5 give, respectively, 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 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 company.

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

Male I and Male II.—Annual claim rates decrease with age, whereas claim durations increase by age. The combined effect of these decreasing claim rates and increasing durations produces annual claim costs which are 10–25 per cent higher below age 40 than above age 40.

Ratios of Male II to Male I annual claim rates decrease with age, from 209 per cent at ages 20–29 to 183 per cent at ages 50–59. Male II annual claim costs decrease from 255 per cent of Male I annual claim costs at ages 20–29 to 206 per cent at ages 50–59.

Sickness Disability (Table 4)

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

TABLE 3

ACCIDENT DISABILITY LOSS-OF-TIME EXPERIENCE, 1968-69, 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																		
20-29	708	.053	1.04	.055	3,060	.111	1.26	.140	91	.034	1.00	.034	209%	121%	255%	64%	96%	62%
30-39	1,786	.048	1.21	.058	5,728	.096	1.35	.130	87	.030	1.67	.050	200	112	224	63	138	86
40-49	2,394	.038	1.29	.049	6,021	.075	1.45	.109	251	.044	1.39	.061	197	112	222	116	108	124
50-59	2,727	.035	1.40	.049	4,465	.064	1.58	.101	286	.041	1.63	.067	183	113	206	117	116	137
60-69	1,966	.032	1.59	.051	1,289	.059	1.90	.112	144	.044	1.43	.063	184	119	220	138	90	124
7-Day Elimination Period																		
20-29	140	.027	1.41	.038	684	.070	1.73	.121	38	.017	1.53	.026	259%	123%	318%	63%	109%	68%
30-39	321	.027	1.70	.046	926	.053	1.83	.097	86	.027	1.44	.039	196	108	211	100	85	85
40-49	391	.026	1.65	.043	947	.045	1.80	.081	144	.024	1.71	.041	173	109	188	92	104	95
50-59	372	.026	1.31	.034	774	.039	1.77	.069	213	.034	1.82	.062	150	135	203	131	139	182
60-69	115	.023	2.26	.052	217	.041	1.78	.073	9	.029	1.66	.048	178	79	140	126	73	92
14-Day Elimination Period																		
20-29	66	.013	1.77	.023	165	.032	1.88	.060	14	.022	1.41	.031	246%	106%	261%	169%	80%	135%
30-39	149	.014	1.64	.023	311	.033	2.33	.077	13	.015	4.67	.070	236	142	335	107	285	304
40-49	147	.014	1.86	.026	270	.032	1.81	.058	18	.015	3.53	.053	229	97	233	107	190	204
50-59	116	.018	1.94	.035	178	.031	1.90	.059	17	.020	2.25	.045	172	98	169	111	116	129
60-69	31	.015	2.80	.042	45	.043	1.65	.071	0	.000	0.00	.000	287	59	169	0	0	0
30-Day Elimination Period																		
20-29	53	.004	1.50	.006	124	.015	2.07	.031	3	.002	3.00	.006	375%	138%	517%	50%	200%	100%
30-39	165	.004	2.00	.008	294	.017	2.65	.045	12	.005	2.40	.012	425%	133	563	125	120	150
40-49	237	.006	2.17	.013	257	.016	2.63	.042	20	.006	2.50	.015	267	121	323	100	115	115
50-59	125	.006	2.00	.012	133	.014	2.57	.036	16	.006	3.17	.019	233	129	300	100	159	158
60-69	25	.007	2.29	.016	21	.019	4.21	.080	1	.009	2.00	.018	271	184	500	129	87	113

* Per \$1 of monthly income benefit.

TABLE 4

SICKNESS DISABILITY LOSS-OF-TIME EXPERIENCE, 1968-69, 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																		
20-29	4	.151	0.81	.123	16	.220	0.38	.083	1	.118	1.00	.118	146%	47%	67%	78%	123%	96%
30-39	95	.106	0.68	.072	109	.139	0.91	.127	25	.232	0.89	.206	131	134	176	219	131	286
40-49	813	.115	1.07	.123	501	.155	1.22	.189	136	.218	1.29	.281	135	114	154	190	121	228
50-59	2,580	.142	1.65	.234	905	.169	1.83	.309	369	.223	1.21	.269	119	111	132	157	73	115
60-69	1,737	.153	2.10	.322	449	.185	2.38	.440	213	.185	1.52	.281	121	113	137	121	72	87
7-Day Elimination Period																		
20-29	725	.043	1.07	.046	2,041	.058	1.16	.067	347	.084	1.10	.092	135%	108%	146%	195%	103%	200%
30-39	2,080	.052	1.33	.069	4,575	.067	1.37	.092	580	.101	1.43	.144	129	103	133	194	108	209
40-49	3,225	.063	1.76	.111	6,540	.077	1.77	.136	1,204	.124	1.68	.208	122	101	123	197	95	187
50-59	4,084	.093	2.17	.202	7,828	.110	2.34	.257	1,149	.126	1.82	.229	118	108	127	135	84	113
60-69	1,631	.117	2.91	.340	2,577	.132	3.02	.399	100	.121	2.02	.245	113	104	117	103	69	72
14-Day Elimination Period																		
20-29	94	.017	1.59	.027	148	.024	1.54	.037	38	.043	1.07	.046	141%	97%	137%	253%	67%	170%
30-39	316	.023	1.48	.034	381	.034	1.68	.057	70	.059	1.68	.099	148	114	168	257	114	291
40-49	603	.040	2.18	.087	548	.052	2.38	.124	123	.072	2.22	.160	130	109	143	180	102	184
50-59	702	.065	2.71	.176	485	.068	2.74	.186	90	.076	1.97	.150	105	101	106	117	73	85
60-69	255	.087	3.22	.280	162	.112	2.96	.332	18	.109	1.65	.180	129	92	119	125	51	64
30-Day Elimination Period																		
20-29	83	.005	2.00	.010	127	.013	2.00	.026	29	.019	1.79	.034	260%	100%	260%	380%	90%	340%
30-39	488	.009	2.22	.020	353	.018	2.22	.040	77	.029	2.14	.062	200	100	200	322	96	310
40-49	827	.015	2.87	.043	512	.026	2.69	.070	175	.040	2.48	.099	173	94	163	267	86	230
50-59	885	.033	2.97	.098	450	.041	3.41	.140	105	.037	3.22	.119	124	115	143	112	108	121
60-69	357	.065	4.11	.267	123	.075	4.99	.374	11	.049	4.86	.238	115	121	140	75	118	89

* Per \$1 of monthly income benefit.

Male I and Male II.—Annual claim rates, claim durations, and annual claim costs increase with age. For the 7-day elimination period, ratios of Male II to Male I annual claim rates decrease with age, from 135 per cent at ages 20–29 to 113 per cent at ages 60–69. Male II annual claim costs generally decrease, from 146 per cent of Male I annual claim costs at ages 20–29 to 117 per cent at ages 60–69.

Female I.—Ratios of Female I to Male I annual claim rates are about 195 per cent for ages 20–49 and then decrease to 103 per cent at ages 60–69. At ages under 50, Female I annual claim costs are generally about twice those for Male I. At ages 50–59, Female I annual claim costs are 113 per cent of 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 sums 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 Chart I. Male II annual claim costs are higher than Male I annual claim costs for the four elimination periods at all ages. Female I annual claim costs are greater than Male II costs at ages 40–49 and less than Male I costs at ages 60–69. At other ages, Female I costs generally lie between Male I and Male II costs.

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 contributed in different proportions by the various 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 and Male II.—Ratios of accident disability to total disability experience generally decrease by age. For Male I and Male II the ratios by age of annual claim costs for the 0-day elimination period are similar to the ratios for the 7-day elimination period costs. The ratios of accident to total disability with

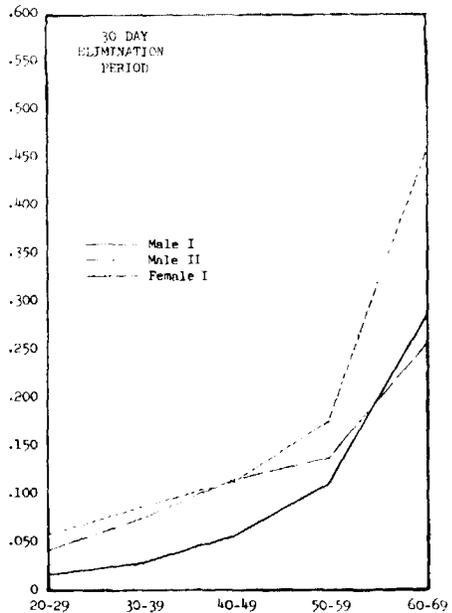
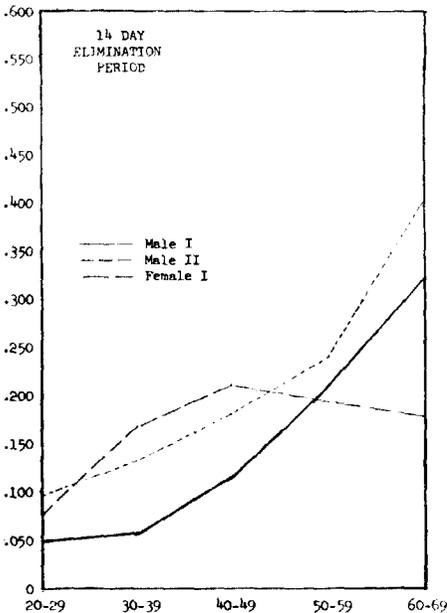
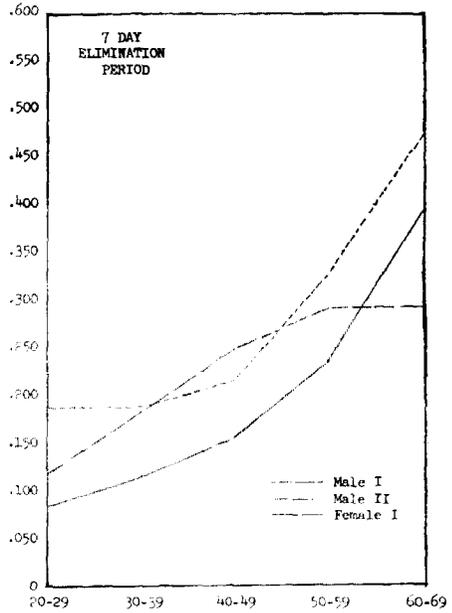
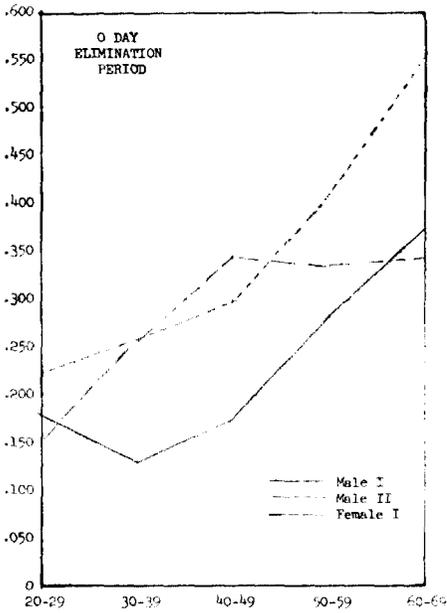
TABLE 5

TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE, 1968-69, 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																		
20-29	712	.204	0.87	.178	3,076	.331	0.67	.223	.92	.152	1.00	.152	162%	77%	125%	75%	115%	85%
30-39	1,881	.154	0.84	.130	5,837	.235	1.09	.257	112	.262	0.98	.256	153	130	198	170	117	197
40-49	3,207	.153	1.12	.172	6,522	.230	1.30	.298	387	.262	1.31	.342	150	116	173	171	117	199
50-59	5,307	.177	1.60	.283	5,370	.233	1.76	.410	655	.264	1.27	.336	132	110	145	149	79	119
60-69	3,703	.185	2.02	.373	1,738	.244	2.26	.552	357	.229	1.50	.344	132	112	148	124	74	92
7-Day Elimination Period																		
20-29	865	.070	1.20	.084	2,725	.128	1.47	.188	.385	.101	1.17	.118	183%	123%	224%	144%	98%	140%
30-39	2,401	.079	1.46	.115	5,501	.120	1.58	.189	.666	.128	1.43	.183	152	108	164	162	98	159
40-49	3,616	.089	1.73	.154	7,487	.122	1.78	.217	1,348	.148	1.68	.249	137	103	141	166	97	162
50-59	4,456	.119	1.98	.236	8,602	.149	2.19	.326	1,362	.160	1.82	.291	125	111	138	134	92	123
60-69	1,746	.140	2.80	.392	2,794	.173	2.73	.472	109	.150	1.95	.293	124	98	120	107	70	75
14-Day Elimination Period																		
20-29	160	.030	1.67	.050	313	.056	1.73	.097	52	.065	1.18	.077	187%	104%	194%	217%	71%	154%
30-39	465	.037	1.54	.057	692	.067	2.00	.134	83	.074	2.28	.169	181	130	235	200	148	296
40-49	750	.054	2.09	.113	818	.084	2.17	.182	141	.087	2.45	.213	156	104	161	161	117	188
50-59	818	.083	2.54	.211	563	.099	2.47	.245	107	.096	2.03	.195	119	97	116	116	80	92
60-69	286	.102	3.16	.322	207	.155	2.60	.403	18	.109	1.65	.180	152	82	125	107	52	56
30-Day Elimination Period																		
20-29	136	.009	1.78	.016	251	.028	2.04	.057	32	.021	1.90	.040	311%	115%	356%	233%	107%	250%
30-39	653	.013	2.15	.028	647	.035	2.43	.085	89	.034	2.18	.074	269	113	304	262	101	264
40-49	1,064	.021	2.67	.056	769	.042	2.67	.112	195	.046	2.48	.114	200	100	200	219	93	204
50-59	1,010	.039	2.82	.110	583	.055	3.20	.176	121	.043	3.21	.138	141	113	160	110	114	125
60-69	382	.072	3.93	.283	144	.094	4.83	.454	12	.058	4.41	.256	131	123	160	81	112	90

* Per \$1 of monthly income benefit.

CHART I
TOTAL DISABILITY LOSS-OF-TIME EXPERIENCE
1968-69 ANNUAL CLAIM COSTS*
(Limited to First Year of Benefit Period)



* Per \$1 of monthly income benefit.

respect to annual claim rates and annual claim costs for Male II are approximately one-third higher than those for Male I.

Female I.—The ratios of accident disability annual claim costs to total disability annual claim costs are about 20 per cent for all ages and both elimination periods.

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

TABLE 6
RATIOS OF ACCIDENT DISABILITY TO TOTAL DISABILITY
LOSS-OF-TIME EXPERIENCE
IN FIRST YEAR OF BENEFIT PERIOD
1968-69

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	26%	120%	31%	39%	118%	45%
30-39	31	144	45	34	116	40
40-49	25	115	28	29	95	28
50-59	20	88	17	22	66	14
60-69	17	79	14	16	81	13
Male II						
20-29	34%	188%	63%	55%	118%	64%
30-39	41	124	51	44	116	51
40-49	33	112	37	37	101	37
50-59	27	90	25	26	81	21
60-69	24	84	20	24	65	15
Female I						
20-29	22%	100%	22%	17%	131%	22%
30-39	11	170	20	21	101	21
40-49	17	106	18	16	102	16
50-59	16	128	20	21	100	21
60-69	19	95	18	19	85	16

TABLE 7
 DISABILITY LOSS-OF-TIME EXPERIENCE, 1968-69
 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																		
20-29	.012	.024	.015	.008	.018	.010	.006	.014	.007	.006	.013	.006	.023	.071	.023	.055	.140	.061
30-39	.011	.021	.013	.008	.017	.009	.006	.013	.007	.006	.013	.006	.027	.066	.024	.058	.130	.059
40-49	.009	.017	.011	.007	.014	.009	.006	.010	.007	.005	.011	.006	.022	.057	.030	.049	.109	.063
50-59	.008	.014	.009	.007	.012	.007	.005	.010	.006	.005	.010	.006	.024	.055	.039	.049	.101	.067
60-69	.007	.013	.008	.006	.012	.007	.005	.010	.006	.005	.010	.006	.028	.067	.062	.051	.112	.089
Sickness Disability 7-Day Elimination Period																		
20-29				.009	.013	.011	.007	.010	.008	.007	.010	.007	.023	.034	.025	.046	.067	.051
30-39				.012	.015	.016	.010	.012	.011	.009	.012	.010	.038	.053	.040	.069	.092	.077
40-49				.014	.017	.021	.012	.015	.016	.013	.015	.016	.072	.089	.075	.111	.136	.128
50-59				.021	.025	.030	.019	.022	.024	.020	.024	.024	.142	.186	.158	.202	.257	.236
60-69				.027	.031	.040	.024	.028	.034	.027	.031	.037	.262	.309	.375	.340	.399	.486
Total of 0-Day Accident and 7-Day Sickness																		
20-29	.012	.024	.015	.017	.031	.021	.013	.024	.015	.013	.023	.013	.046	.105	.048	.101	.207	.112
30-39	.011	.021	.013	.020	.032	.025	.016	.025	.018	.015	.025	.016	.065	.119	.064	.127	.222	.136
40-49	.009	.017	.011	.021	.031	.030	.018	.025	.023	.018	.026	.022	.094	.146	.105	.160	.245	.191
50-59	.008	.014	.009	.028	.037	.037	.024	.032	.030	.025	.034	.030	.166	.241	.197	.251	.358	.303
60-69	.007	.013	.008	.033	.043	.047	.029	.038	.040	.032	.041	.043	.290	.376	.437	.391	.511	.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.

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, 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 occupation class or sex, rather than the type of net premiums which would be considered desirable in preparing gross premium rates.

For almost all durations and ages, Male I 0-day accident annual claim costs are equal to or less than corresponding costs from the Commissioners Table. 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 are level or decrease with advancing age. At days 31-365, both Male I and Male II annual claim costs decrease slightly to about age 50 and then increase again, and the 1964 Commissioners annual claim costs increase with advancing age.

Male I 7-day sickness annual claim costs are generally less than corresponding Commissioners costs, especially at the older ages. 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 for ages below 60 exceed corresponding Commissioners costs.

The combined accident plus sickness disability experience generally shows that the Commissioners costs are between Male I and Male II costs, except at ages 60-69. The Commissioners costs should be used as

a standard of comparison against the unweighted average of Male I and Male II costs. Except for ages 60-69, the unweighted average costs are somewhat higher than the Commissioners costs.

4. TRENDS IN EXPERIENCE

Tables 8, 9, and 10 show the accident experience with a 0-day elimination period and the sickness experience with a 7-day elimination period, and the total of these two for the four calendar-year periods 1962-63, 1964-65, 1966-67, and 1968-69, as well as the unweighted average of these four periods which reflects the experience for 1962-69.

Annual Claim Rates (Table 8)

In general, the 1968-69 claim rates are lower than the rates for the period 1962-69.

Claim Durations in Months (Table 9)

The claim durations are generally higher in the current study than they are for the 1962-69 period.

Annual Claim Costs per \$1 of Monthly Income Benefit (Table 10)

Zero-day accident annual claim costs for the current experience are generally higher than corresponding costs for the entire period 1962-69, and 7-day sickness costs are generally lower than those for 1962-69.

B. EXPERIENCE IN SECOND YEAR OF BENEFIT PERIOD

Eleven 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 1967 and 1968. Previous studies of the experience during the second year of the benefit period appear in the *1967* and *1969 Reports*. Experience on policies having maximum benefit periods of less than two years is omitted. Annual claim rates were calculated by dividing the amounts of monthly indemnity on claims which continued for twelve months from the end of the elimination period by the corresponding exposures. Annual claim costs were 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, were 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

TABLE 8
 ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAY FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1962-63, 1964-65, 1966-67, 1968-69, AND 1962-69
 ANNUAL CLAIM RATE

ATTAINED AGE	MALE OCC. GROUP I					MALE OCC. GROUP II					FEMALE OCC. GROUP I				
	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69
0-Day Accident															
20-29.....	.058	.057	.051	.053	.055	.112	.123	.107	.111	.113	.039	.035	.041	.034	.037
30-39.....	.048	.050	.045	.048	.048	.097	.101	.097	.096	.098	.045	.039	.032	.030	.037
40-49.....	.044	.044	.038	.038	.041	.086	.085	.076	.075	.081	.045	.045	.038	.044	.043
50-59.....	.041	.040	.036	.035	.038	.080	.075	.066	.064	.071	.060	.043	.041	.041	.046
60-69.....	.040	.037	.033	.032	.036	.072	.062	.057	.059	.063	.073	.057	.037	.044	.053
7-Day Sickness															
20-29.....	.031	.045	.048	.043	.042	.056	.050	.058	.058	.056	.073	.082	.082	.084	.080
30-39.....	.059	.058	.053	.052	.056	.073	.067	.065	.067	.068	.110	.114	.102	.101	.107
40-49.....	.080	.073	.068	.063	.071	.092	.084	.083	.077	.084	.132	.127	.122	.124	.126
50-59.....	.116	.105	.099	.093	.103	.123	.116	.113	.110	.116	.150	.124	.125	.126	.131
60-69.....	.126	.126	.127	.117	.124	.158	.146	.141	.132	.144	.162	.119	.132	.121	.134
Total of 0-Day Accident and 7-Day Sickness															
20-29.....	.089	.102	.099	.096	.097	.168	.173	.165	.169	.169	.112	.117	.123	.118	.117
30-39.....	.107	.108	.098	.100	.104	.170	.168	.162	.163	.166	.155	.153	.134	.131	.144
40-49.....	.124	.117	.106	.101	.112	.178	.169	.159	.152	.165	.177	.172	.160	.168	.169
50-59.....	.157	.145	.135	.128	.141	.203	.191	.179	.174	.187	.210	.167	.166	.167	.177
60-69.....	.166	.163	.160	.149	.160	.230	.208	.198	.191	.207	.235	.176	.169	.165	.187

TABLE 9

ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAY FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1962-63, 1964-65, 1966-67, 1968-69, AND 1962-69
 CLAIM DURATION IN MONTHS

ATTAINED AGE	MALE Occ. GROUP I					MALE Occ. GROUP II					FEMALE Occ. GROUP I				
	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69
0-Day Accident*															
20-29.....	0.93	1.02	1.20	1.04	1.04	0.94	0.98	1.12	1.26	1.08	0.87	1.03	0.83	1.00	0.95
30-39.....	0.92	1.08	1.22	1.21	1.10	1.08	1.14	1.27	1.35	1.20	1.09	0.97	1.50	1.67	1.24
40-49.....	0.98	1.14	1.18	1.29	1.15	1.21	1.28	1.37	1.45	1.32	1.18	1.38	1.63	1.39	1.40
50-59.....	1.05	1.18	1.25	1.40	1.21	1.31	1.31	1.52	1.58	1.42	1.18	1.60	1.46	1.63	1.46
60-69.....	1.25	1.35	1.45	1.59	1.39	1.42	1.63	1.74	1.90	1.65	1.40	1.53	1.62	1.43	1.47
7-Day Sickness*															
20-29.....	1.06	1.07	0.98	1.07	1.05	1.09	1.12	1.19	1.16	1.13	1.04	1.12	1.17	1.10	1.11
30-39.....	1.29	1.31	1.26	1.33	1.29	1.33	1.39	1.40	1.37	1.37	2.03	1.68	1.73	1.43	1.72
40-49.....	1.68	1.62	1.66	1.76	1.68	1.68	1.79	1.82	1.77	1.76	1.64	1.80	1.85	1.68	1.75
50-59.....	2.03	2.02	2.07	2.17	2.08	2.10	2.22	2.34	2.34	2.23	1.69	1.79	1.89	1.82	1.79
60-69.....	2.50	2.55	2.70	2.91	2.66	3.04	2.98	3.10	3.02	3.04	2.39	2.20	2.11	2.02	2.19
Table of 0-Day Accident and 7-Day Sickness*															
20-29.....	0.98	1.04	1.09	1.05	1.04	0.99	1.02	1.15	1.22	1.09	0.98	1.09	1.06	1.07	1.06
30-39.....	1.12	1.20	1.24	1.27	1.20	1.19	1.24	1.32	1.36	1.27	1.75	1.50	1.67	1.48	1.60
40-49.....	1.43	1.43	1.49	1.58	1.48	1.46	1.53	1.60	1.61	1.55	1.53	1.69	1.80	1.60	1.66
50-59.....	1.77	1.79	1.85	1.96	1.84	1.79	1.86	2.03	2.06	1.93	1.55	1.74	1.78	1.77	1.71
60-69.....	2.20	2.28	2.44	2.62	2.38	2.53	2.58	2.71	2.68	2.62	2.08	1.98	2.00	1.87	1.98

* Table 10 divided by Table 8.

TABLE 10

ACCIDENT AND SICKNESS EXPERIENCE IN FIRST YEAR OF BENEFIT PERIOD
 ELIMINATION PERIOD OF 0 DAY FOR ACCIDENT AND 7 DAYS FOR SICKNESS
 EXPERIENCE DURING 1962-63, 1964-65, 1966-67, 1968-69, AND 1962-69
 ANNUAL CLAIM COSTS PER \$1 OF MONTHLY INCOME BENEFIT

ATTAINED AGE	MALE OCC. GROUP I					MALE OCC. GROUP II					FEMALE OCC. GROUP I				
	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69	1962-63	1964-65	1966-67	1968-69	1962-69
0-Day Accident															
20-29.....	.054	.058	.061	.055	.057	.105	.121	.120	.140	.122	.034	.036	.034	.034	.035
30-39.....	.044	.054	.055	.058	.053	.105	.115	.123	.130	.118	.049	.038	.048	.050	.046
40-49.....	.043	.049	.045	.049	.047	.104	.109	.104	.109	.107	.053	.062	.062	.061	.060
50-59.....	.043	.047	.045	.049	.046	.105	.098	.100	.101	.101	.071	.069	.060	.067	.067
60-69.....	.050	.050	.048	.051	.050	.102	.101	.099	.112	.104	.102	.087	.060	.063	.078
7-Day Sickness															
20-29.....	.033	.048	.047	.046	.044	.061	.056	.069	.067	.063	.076	.092	.096	.092	.089
30-39.....	.076	.076	.067	.069	.072	.097	.093	.091	.092	.093	.223	.191	.176	.144	.184
40-49.....	.134	.118	.113	.111	.119	.155	.150	.151	.136	.148	.217	.229	.226	.208	.220
50-59.....	.235	.212	.205	.202	.214	.258	.257	.264	.257	.259	.254	.222	.236	.229	.235
60-69.....	.315	.321	.343	.340	.330	.480	.435	.437	.399	.438	.387	.262	.278	.245	.293
Total of 0-Day Accident and 7-Day Sickness															
20-29.....	.087	.106	.108	.101	.101	.166	.177	.189	.207	.185	.110	.128	.130	.126	.124
30-39.....	.120	.130	.122	.127	.125	.202	.208	.214	.222	.211	.272	.229	.224	.194	.230
40-49.....	.177	.167	.158	.160	.166	.259	.259	.255	.245	.255	.270	.291	.288	.269	.280
50-59.....	.278	.259	.250	.251	.260	.363	.355	.364	.358	.360	.325	.291	.296	.296	.302
60-69.....	.365	.371	.391	.391	.380	.582	.536	.536	.511	.542	.489	.349	.338	.308	.371

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 1,015 claims incurred. There were only 31 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 over-all basis was 130 per cent.

In this study 50 per cent of the experience was contributed by one company, while 78 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 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 which might be considered appropriate in developing gross premiums.

The annual claim costs for Male I 0-day accident decreases by age to ages 50-59 and then increases. Male II 0-day accident annual claim rates and annual claim costs are somewhat level up to age 59. Male II annual claim costs generally range from two to three times the Male I annual claim costs.

Male I and Male II 7-day sickness annual claim rates and annual claim costs for the second year of the benefit period increase by age, with a sharp increase after age 39. Male II annual claim costs are about 150 per cent of the Male I annual claim costs.

For the combined 0-day accident and 7-day sickness coverage, the annual claim rates and annual claim costs increase by age. The slope by age of the experience is similar to the sickness experience. The Male I costs are lower and the Male II costs are higher than the Commissioners claim costs for all age groups.

Table 12 shows the combined experience of the previous study for claims incurred during 1965 and 1966, and the current study for claims incurred during 1967 and 1968. Using the annual claim costs in Table 12

TABLE 11
 DISABILITY LOSS-OF-TIME EXPERIENCE IN
 SECOND YEAR OF BENEFIT PERIOD
 FOR CLAIMS INCURRED DURING 1967-68

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	.00056	7.1	.0040	26	.00103	7.4	.0076	.0034
30-39	12	.00037	8.9	.0033	51	.00106	9.0	.0095	.0040
40-49	18	.00029	10.0	.0029	66	.00096	8.3	.0080	.0069
50-59	39	.00052	5.2	.0027	65	.00119	8.3	.0099	.0141
60-64	30	.00085	7.3	.0062	25	.00129	10.2	.0131	.0255
7-Day Sickness									
20-29	1	.00010	12.0	.0012	15	.00072	8.8	.0063	.0036
30-39	14	.00050	9.2	.0046	33	.00087	7.8	.0068	.0066
40-49	56	.00176	8.9	.0157	107	.00240	9.8	.0234	.0169
50-59	99	.00437	10.3	.0448	201	.00669	9.7	.0652	.0573
60-64	47	.00943	10.3	.0968	103	.01643	9.8	.1605	.1393
Total of 0-Day Accident and 7-Day Sickness									
20-29	8	.00066	7.9	.0052	41	.00175	7.9	.0139	.0070
30-39	26	.00087	9.1	.0079	84	.00193	8.4	.0163	.0106
40-49	74	.00205	9.1	.0186	173	.00336	9.3	.0314	.0238
50-59	138	.00489	9.7	.0475	266	.00788	9.5	.0751	.0714
60-64	77	.01028	10.0	.1030	128	.01772	9.8	.1736	.1648

* Per \$1 of monthly income benefit.

TABLE 12
 DISABILITY LOSS-OF-TIME EXPERIENCE IN
 SECOND YEAR OF BENEFIT PERIOD
 FOR CLAIMS INCURRED DURING 1965-68

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	16	.00078	9.9	.0077	60	.00095	7.3	.0069	.0034
30-39	42	.00063	9.8	.0062	118	.00110	8.7	.0096	.0040
40-49	40	.00033	9.1	.0030	152	.00105	8.9	.0093	.0069
50-59	46	.00038	5.5	.0021	128	.00120	8.3	.0099	.0141
60-64	36	.00062	7.4	.0046	52	.00153	9.9	.0152	.0255
7-Day Sickness									
20-29	4	.00027	8.1	.0022	27	.00072	9.2	.0066	.0036
30-39	31	.00050	9.6	.0048	63	.00086	8.6	.0074	.0066
40-49	97	.00150	8.9	.0134	207	.00250	9.5	.0237	.0169
50-59	168	.00401	10.2	.0408	328	.00662	9.9	.0653	.0573
60-64	78	.00815	10.4	.0851	140	.01449	9.6	.1392	.1393
Total of 0-Day Accident and 7-Day Sickness									
20-29	20	.00105	9.4	.0099	87	.00167	8.1	.0135	.0070
30-39	73	.00113	9.7	.0110	181	.00196	8.7	.0170	.0106
40-49	137	.00183	9.0	.0164	359	.00355	9.3	.0330	.0238
50-59	214	.00439	9.8	.0429	456	.00782	9.6	.0752	.0714
60-64	114	.00877	10.2	.0897	192	.01602	9.6	.1544	.1648

* Per \$1 of monthly income benefit.

as the expected, the ratio of actual to expected was 99 per cent for the 1965-66 experience and 101 per cent for the 1967-68 experience. Although the over-all experience for the two studies was almost the same, there was a considerable variation in the experience for similar cells of the two studies.