

## TRANSACTIONS OF SOCIETY OF ACTUARIES 1975 REPORTS

### II. GROUP WEEKLY INDEMNITY INSURANCE

**T**HIS is the twenty-eighth annual report on the continuing study of the morbidity experience of Group Weekly Indemnity insurance. In compiling this report, the Committee has included the available experience of employer/employee groups and has excluded the experience of trusteeships and association cases insuring employees of the member employers and the experience of union cases, whether or not insurance depends upon continued employment. The experience of plans written under State Cash Sickness Laws and the experience of insured groups outside the United States have been excluded.

#### RATIO OF ACTUAL TO TABULAR CLAIMS

Throughout this report experience is presented in the form of ratios of actual to tabular claims, based on the 1947-49 weekly indemnity tabulars, as reported in the *1962 Reports*. Caution must be used in interpreting the data contained in this report because, among other reasons, the 1947-49 tabulars may not accurately reflect current claim patterns. The maternity tabulars do not reflect the substantial decline in birth rates in recent years, with the result that the actual-to-tabular ratios for maternity benefits are now down near the 40 per cent level, while the actual-to-tabular ratios for nonmaternity benefits are generally near 100 per cent or even higher; this wide difference is concealed and may create distortions when the experience for maternity and that for nonmaternity are combined. The tabulars also fail to reflect certain factors, such as age distribution, industry classification, or size of case, which may have a relevant effect on the experience results.

#### CONTRIBUTING COMPANIES

The Committee wishes to express its gratitude to the companies that generously contributed data to this study. The report contains experience for the years 1970, 1971, 1972, 1973, and 1974. Six companies contributed data for all five years. Two additional companies contributed data for the first four years. The results generally reflect the composite effect of variations in company practice in administration and claim procedures, as well as variations in experience among groups. It should be noted, however, that the contribution of one company has up until now represented a major portion of the total experience. That company was unable to contribute 1974 experience, with the result that there is some difficulty in comparing the results of this year's study with those of prior years.

Because we use three-year totals of experience, the contribution of that company to the total results shown in this year's report is still much greater than that of any other company.

The majority of the companies contribute exposures and claims based upon policy years ending in the calendar year designated. If the renewal dates for all cases included in the study were distributed uniformly over the year, then the central point of the exposure for each policy year would be approximately January 1 of that year. However, this assumption may not be very precise because of a concentration of policy renewals in January and July.

The following companies contributed experience for the study, although not all of them contributed 1974 data:

Aetna Life Insurance Company  
 Connecticut General Life Insurance Company  
 Continental Assurance Company  
 Equitable Life Assurance Society  
 Metropolitan Life Insurance Company  
 Occidental Life Insurance Company of California  
 Prudential Insurance Company of America  
 The Travelers Insurance Company

#### ANALYSIS OF EXPERIENCE

Table 1 shows the experience for the period 1972-74 for each of eight plans (four different elimination periods; two different maximum benefit periods), all of which provide a six-week maternity benefit. All size groups are included. The corresponding experience of nonjumbo groups only (units with less than 1,000 insured employees) is displayed in Table 2 for each of four plan combinations. For those nonjumbo units for which the data were available, Table 2 separates the combined experience into its nonmaternity and maternity segments. Also included in Table 2 for each of the four plan combinations is the nonjumbo experience for the period 1972-74 of plans that do not provide a maternity benefit. Table 3 is a five-year trend analysis of the Table 2 experience for each year 1970-74 inclusive. Since 1974 data do not include the contributions of two companies included in 1971-73, Table 3A reflects the experience for only those companies that contributed during 1974 and shows it for the years 1972-74. Table 4 is an analysis of experience by size of experience unit. Results are shown separately for plans with and without maternity benefits. Table 5 analyzes the nonjumbo experience of plans with no maternity benefit by the female per cent composition of the experience units. Table 6 is an analysis of claim ratios by industry.

Table 1 shows results very slightly better than the results of a year ago. Actual-to-tabular ratios for twenty-six-week plans continue to run higher than those for thirteen-week plans. The ratios shown in Tables 2 and 3 confirm this relationship for plans with maternity benefits, but the ratios for thirteen-week plans are actually higher in 1972-74 than the ratios for twenty-six-week plans. Compared with those in the 1971-73 study, ratios for thirteen-week plans stayed about the same, while ratios for twenty-six-week plans improved slightly.

TABLE 1  
GROUP WEEKLY INDEMNITY EXPERIENCE  
PLANS WITH SIX WEEKS' MATERNITY BENEFIT  
ALL SIZE GROUPS  
COMBINED 1972-74 POLICY YEARS' EXPERIENCE, BY PLAN

Plan	No. Experience Units	Weekly Indemnity Exposed (000)	Actual Claims Including Maternity (000)	Ratio of Actual to 1947-49 Weekly Indemnity Tabular
1-4-13.....	413	3,067	2,062	93%
4-4-13.....	195	934	375	66
1-8-13.....	1,720	11,815	8,356	107
8-8-13.....	309	2,406	1,664	113
Total, 13-week plans	2,637	18,222	12,457	103%
1-4-26.....	217	3,295	3,458	138%
4-4-26.....	30	592	499	109
1-8-26.....	1,432	20,550	19,647	128
8-8-26.....	167	8,125	4,966	80
Total, 26-week plans	1,846	32,562	28,570	116%
Total, all plans...	4,483	50,784	41,027	112%

Tables 2 and 3 show that the ratios for plans with no maternity benefit are lower than the ratios for the nonmaternity segment of plans with maternity benefits. Table 3 demonstrates that this result, which may be attributable to plan or exposure characteristics not reflected in the tabulars, has existed for several years.

An analysis of Table 2 over the past several years shows a gradual shift from maternity to nonmaternity plans in the exposure. This may be related to the gradual overall improvement shown in Table 1 over the past several years.

Because Table 3 showed some rather substantial changes from 1973

TABLE 2 GROUP WEEKLY INDEMNITY EXPERIENCE  
 GROUPS WITH LESS THAN 1,000 EMPLOYEES EXPOSED  
 1972-74 POLICY YEARS' EXPERIENCE, BY PLAN

PLAN	NONMATERNITY AND MATERNITY COMBINED EXPERIENCE*				NONMATERNITY AND MATERNITY SEPARATE EXPERIENCE*						
	No. Experience Units	Weekly Indemnity Exposed (000)	Actual Claims (000)	Ratio of Actual to 1947-49 Weekly Indemnity Tabular	No. Experience Units	Weekly Indemnity Exposed (000)	Actual Claims		Ratio of Actual to 1947-49 Weekly Indemnity Tabular		
							Non- maternity (000)	Maternity (000)	Non- maternity	Maternity	Combined
Plans with 6 Weeks' Maternity Benefit											
13-week:											
4th-day sickness	601	3,066	1,892	89%	381	2,133	1,433	39	104%	29%	97%
8th-day sickness	1,995	12,054	8,351	107%	1,197	7,768	5,141	296	114%	39%	103%
Total	2,596	15,120	10,243	103%	1,578	9,901	6,574	335	111%	38%	102%
26-week:											
4th-day sickness	238	2,911	2,699	123%	182	1,853	1,709	24	117%	25%	111%
8th-day sickness	1,546	17,889	15,412	116%	917	9,863	9,233	296	132%	42%	124%
Total	1,784	20,800	18,111	117%	1,099	11,716	10,942	320	129%	40%	122%
Plans with No Maternity Benefit											
13-week:											
4th-day sickness					318	1,933	1,344		109%		
8th-day sickness					4,625	22,842	13,427		103%		
Total					4,943	24,775	14,771		103%		
26-week:											
4th-day sickness					340	3,474	2,799		100%		
8th-day sickness					5,734	33,576	24,174		99%		
Total					6,074	37,050	26,973		99%		

\* The separate experience exposure is less than the combined experience exposure because separate experience is not available for all groups.

TABLE 3—GROUP WEEKLY INDEMNITY EXPERIENCE  
 GROUPS WITH LESS THAN 1,000 EMPLOYEES EXPOSED  
 1970-74 POLICY YEARS' EXPERIENCE, BY PLAN

PLAN	RATIOS OF ACTUAL TO 1947-49 TABULAR FOR POLICY YEAR ENDING IN:				
	1970	1971	1972	1973	1974
Plans with 6 Weeks' Maternity Benefit					
Nonmaternity and maternity combined experience:					
13-week:					
4th-day sickness.....	94%	92%	93%	89%	70%
8th-day sickness.....	112	108	103	104	99
Total.....	108%	105%	101%	101%	94%
26-week:					
4th-day sickness.....	118%	124%	110%	110%	127%
8th-day sickness.....	118	122	120	107	120
Total.....	118%	122%	118%	108%	122%
Nonmaternity and maternity separate experience*:					
Nonmaternity:					
13-week:					
4th-day sickness.....	106%	99%	103%	104%	99%
8th-day sickness.....	121	113	113	115	117
Total.....	117%	110%	111%	112%	113%
26-week:					
4th-day sickness.....	120%	134%	120%	115%	102%
8th-day sickness.....	127	133	133	129	150
Total.....	125%	133%	131%	126%	143%
Maternity (all plans).....	51%	51%	40%	37%	42%
Combined:					
13-week:					
4th-day sickness.....	100%	96%	97%	97%	95%
8th-day sickness.....	112	106	102	104	109
Total.....	109%	103%	101%	102%	106%
26-week:					
4th-day sickness.....	115%	128%	114%	109%	99%
8th-day sickness.....	120	126	125	121	138
Total.....	119%	126%	123%	119%	133%
Plans with No Maternity Benefit					
13-week:					
4th-day sickness.....	107%	102%	97%	105%	119%
8th-day sickness.....	105	102	99	100	106
Total.....	106%	102%	99%	100%	107%
26-week:					
4th-day sickness.....	91%	94%	87%	105%	118%
8th-day sickness.....	94	105	104	98	101
Total.....	94%	103%	102%	99%	103

\* The nonmaternity and maternity separate experience is also included in the nonmaternity and maternity combined experience.

TABLE 3A  
 GROUP WEEKLY INDEMNITY EXPERIENCE  
 GROUPS WITH LESS THAN 1,000 EMPLOYEES EXPOSED  
 1972-74 POLICY YEARS' EXPERIENCE, BY PLAN

PLAN	RATIOS OF ACTUAL TO 1947-49 TABULAR FOR POLICY YEAR ENDING IN:		
	1972	1973	1974
Plans with 6 Weeks' Maternity Benefit			
Nonmaternity and maternity combined experience:			
13-week:			
4th-day sickness.....	77% 102	64% 104	70% 99
8th-day sickness.....			
Total.....	97%	98%	94%
26-week:			
4th-day sickness.....	95% 112	92% 92	127% 120
8th-day sickness.....			
Total.....	110%	92%	122%
Nonmaternity and maternity separate experience*:			
Nonmaternity:			
13-week:			
4th-day sickness.....	88% 107	83% 109	99% 117
8th-day sickness.....			
Total.....	104%	104%	113%
26-week:			
4th-day sickness.....	103% 136	68% 98	102% 150
8th-day sickness.....			
Total.....	130%	89%	143%
Maternity (all plans).....	27%	22%	42%
Combined:			
13-week:			
4th-day sickness.....	81% 93	76% 98	95% 109
8th-day sickness.....			
Total.....	91%	95%	106%
26-week:			
4th-day sickness.....	98% 129	64% 92	99% 138
8th-day sickness.....			
Total.....	124%	83%	133%
Plans with No Maternity Benefit			
13-week:			
4th-day sickness.....	96% 102	107% 100	119% 106
8th-day sickness.....			
Total.....	101%	101%	107%
26-week:			
4th-day sickness.....	91% 89	109% 97	118% 101
8th-day sickness.....			
Total.....	89%	98%	103%

\* The nonmaternity and maternity separate experience is also included in the nonmaternity and maternity combined experience.

experience to 1974 experience, we constructed Table 3A to see whether these changes represented a trend or whether they could be explained by the change in the exposure distribution caused by the inability of our largest contributor to provide 1974 experience. This analysis was not particularly conclusive. In certain cells, especially the thirteen-week non-maternity and maternity combined, the Table 3A experience is fairly stable from year to year. Table 3A shows a great deal of variation from year to year in most of the other plan cells. This is difficult to explain,

TABLE 4  
GROUP WEEKLY INDEMNITY EXPERIENCE  
ALL SIZE GROUPS  
COMBINED 1972-74 POLICY YEARS' EXPERIENCE,  
BY SIZE OF EXPERIENCE UNIT

Size	No. Experience Units	Weekly Indemnity Exposed (000)	Actual Claims Including Maternity (000)	Ratio of Actual to 1947-49 Weekly Indemnity Tabular
Plans with 6 Weeks' Maternity Benefit				
< 50 lives.....	1,334	1,950	1,230	93% <sub>c</sub>
50-99.....	1,147	4,100	2,775	99
100-249.....	1,151	9,784	7,760	112
250-499.....	507	11,275	8,830	110
500-999.....	241	8,811	7,759	119
Total <1,000.....	4,380	35,920	28,354	111% <sub>c</sub>
1,000 or more.....	103	14,864	12,673	115% <sub>c</sub>
Grand total.....	4,483	50,784	41,027	112% <sub>c</sub>
Plans with No Maternity Benefit				
< 50 lives.....	4,950	8,664	5,105	90% <sub>c</sub>
50-99.....	2,877	11,414	6,760	81
100-249.....	2,217	18,815	13,035	107
250-499.....	715	12,971	9,523	113
500-999.....	258	9,961	7,321	105
Total <1,000.....	11,017	61,825	41,744	100% <sub>c</sub>
1,000 or more.....	163	22,856	16,173	97% <sub>c</sub>
Grand total.....	11,180	84,681	57,917	99% <sub>c</sub>

but the widest variations occur in cells with very small exposure. A great deal of caution should be used in attempting to draw conclusions about 1973-74 trends in weekly indemnity experience because the effect of the changing exposure base is not clear.

Table 4 appears virtually the same as in the 1971-73 study and continues to show that ratios tend to increase as the size of the group increases, except that jumbo experience for plans with no maternity benefits is slightly better than nonjumbo experience.

Table 5 shows that, for nonjumbo groups with no maternity benefit, with all benefit periods combined, and with more than 10 per cent female, there is a tendency for the ratios to increase as the female percentage increases. The table also shows a relatively higher ratio for groups with less than 11 per cent female. It is worth noting, however, that 40 per cent of the exposures fall in the "less than 11 per cent female" category. It is possible that this represents a coding inaccuracy. If groups of unknown per cent female distribution have in error been coded as "less than 11 per cent female" when, in fact, a higher classification is applicable, the actual-to-tabular ratio for these cases would be high if normal experience prevailed. The actual claims would reflect the higher cost associated with

TABLE 5  
GROUP WEEKLY INDEMNITY EXPERIENCE  
GROUPS WITH LESS THAN 1,000 EMPLOYEES EXPOSED  
1972-74 POLICY YEARS' EXPERIENCE, BY FEMALE PER CENT  
PLANS WITH NO MATERNITY BENEFIT, ALL BENEFIT PERIODS COMBINED

Female Per Cent	No. Experience Units	Weekly Indemnity Exposed (000)	Actual Claims (000)	Ratio of Actual to 1947-49 Weekly Indemnity Tabular
<11%	4,625	24,648	16,301	102%
11-21%	1,967	10,368	5,900	90
21-31%	1,147	7,126	4,440	94
31-41%	899	5,724	3,874	100
41-51%	679	3,900	2,813	101
51-61%	499	3,158	2,393	105
61-71%	416	2,530	2,223	116
71-81%	330	1,886	1,606	108
81-91%	321	1,877	1,698	113
91-100%	134	608	496	122
Total	11,017	61,825	41,744	100%



**TABLE 6**  
**COMBINED 1970, 1971, 1972, 1973, AND 1974 POLICY YEARS' EXPERIENCE**  
**INDUSTRY ANALYSIS**

IN- DUSTRY CODE	INDUSTRY DESCRIPTION	UNITED STATES GROUP WEEKLY INDEMNITY INSURANCE					
		Experience Units of All Size Groups All Plans, Combined Nonmaternity and Maternity Experience					Experience Units with Less than 1,000 Lives Exposed
		Number of Experience Units	Actual Weekly Indemnity Exposed for Industry (000)	Ratio of Exposure for Ind. to Total Exposure	Ratio of Actual to Tabular Claims	Ratio of Ind. A/T to Aggregate A/T	Ratio of Ind. A/T to Aggregate A/T*
Total	All industries	30,346	242,725	100.0%	107%	100%	100%
	<i>Agriculture, forestry, and fisheries:</i>						
01	Agricultural production	87	206	0.1%	90%	84%	86%
07	Agricultural services, hunting, trapping	87	308	0.1	69	64	66
08	Forestry	11	207	0.1	(430)	(402)	(410)
09	Fisheries	5	20		(156)	(146)	(149)
	<i>Mining:</i>						
10	Metal mining	87	1,284	0.5	149	139	97
11	Anthracite mining	310	2,182	0.9	130	122	84
12	Bituminous coal and lignite mining	137	610	0.3	85	79	81
13	Crude petroleum and natural gas	152	654	0.3	79	74	66
14	Mining and quarrying of nonmetallic minerals, except fuels	219	1,384	0.6	104	97	99
	<i>Contract construction:</i>						
15	Building construction—general contractors	209	1,536	0.6	165	154	70
16	Construction other than building construction—general contractors	275	1,296	0.5	70	65	74
17	Construction—special trade contractors	534	2,385	1.0	90	84	86
	<i>Manufacturing:</i>						
19	Ordinance and accessories	33	692	0.3	121	113	113
20	Food and kindred products	1,403	10,309	4.2	97	91	96
21	Tobacco manufactures	96	1,072	0.4	93	87	121
22	Textile mill products	713	5,941	2.4	117	109	110
23	Apparel and other finished products made from fabrics and similar materials	453	2,350	1.0	107	100	104
24	Lumber and wood products, except furniture	597	3,679	1.5	99	93	88
25	Furniture and fixtures	543	3,348	1.4	102	95	97
26	Paper and allied products	1,120	11,923	4.9	137	128	116
27	Printing, publishing, and allied industries	1,001	8,230	3.4	95	89	90
28	Chemicals and allied products	660	12,429	5.1	86	80	94
29	Petroleum refining and related industries	131	725	0.3	87	81	88
30	Rubber and miscellaneous plastics products	523	3,998	1.7	131	122	124
31	Leather and leather products	286	2,153	0.9	120	112	111
32	Stone, clay, glass, and concrete products	824	5,506	2.3	143	134	116
33	Primary metal industries	1,143	11,425	4.7	143	134	129
34	Fabricated metal products, except ordinance, machinery, and transportation equipment	2,423	19,008	7.8	122	114	119
35	Machinery, except electrical	2,690	26,746	11.0	116	108	104
36	Electrical machinery, equipment, and supplies	1,359	22,429	9.2	117	109	101
37	Transportation equipment	829	10,163	4.2	130	122	121
38	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	414	4,043	1.7	96	90	99
39	Miscellaneous manufacturing industries	544	3,851	1.6	114	107	103
	<i>Transportation, communication, electric, gas, and sanitary services:</i>						
40	Railroad transportation	21	120	0.1	(110)	(103)	(105)
41	Local and suburban transit and interurban passenger transportation	245	1,814	0.8	107	100	110
42	Motor freight transportation and warehousing	461	2,342	1.0	69	64	74
44	Water transportation	79	413	0.2	106	99	95

\* The aggregate A/T for smaller size groups is 105 per cent. Ratios for industries with less than 50 experience units and less than 0.3 per cent of total exposure are shown in parentheses.

TABLE 6 -Continued

INDUSTRY CODE	INDUSTRY DESCRIPTION	UNITED STATES GROUP WEEKLY INDEMNITY INSURANCE					
		Experience Units of All Size Groups All Plans, Combined Nonmaternity and Maternity Experience					Experience Units with Less than 1,000 Lives Exposed
		Number of Experi- ence Units	Actual Weekly Indemnity Exposed for Industry (000)	Ratio of Exposure for Ind. to Total Exposure	Ratio of Actual to Tabular Claims	Ratio of Ind. A/T to Aggre- gate A/T	
	<i>Transportation, communication, electric, gas, and sanitary services-- Continued</i>						
45	Transportation by air	63	371	0.2%	57%	53%	54%
46	Pipeline transportation	5	16			(23)	(24)
47	Transportation services	71	384	0.2	100	93	95
48	Communication	131	758	0.5	63	59	60
49	Electric, gas, and sanitary services	185	1,483	0.6	97	91	93
	<i>Wholesale and retail trade</i>						
50	Wholesale trade	2,419	10,774	3.4	70	65	68
52	Building materials, hardware, and farm equipment (deals)	255	783	0.3	72	61	69
53	Retail trade-- general merchandise	564	2,993	1.1	71	66	85
54	Food stores	402	1,854	0.8	101	94	86
73	Automotive dealers and gasoline service stations	1,170	3,406	1.3	81	76	73
86	Apparel and accessory stores	207	1,623	0.7	77	72	83
87	Furniture, home furnishings, and equipment stores	230	966	0.7	88	82	81
88	Eating and drinking places	278	934	0.4	110	103	104
89	Miscellaneous retail stores	332	1,283	0.5	85	79	84
	<i>Finance, insurance, and real estate</i>						
60	Banking	156	390	0.2	50	47	48
61	Credit agencies other than banks	120	460	0.2	82	77	78
62	Security and commodity brokers, dealers, exchanges, and services	38	190	0.1	(65)	(61)	(62)
63	Insurance carriers	108	1,028	0.4	103	96	91
64	Insurance agents, brokers, and service	32	204	0.1	(61)	(57)	(58)
65	Real estate	158	553	0.2	91	85	87
66	Combinations of real estate, insurance, loans, and law offices	9	10		(52)	(49)	(50)
67	Holding and other investment companies	48	323	0.1	(100)	(93)	(95)
	<i>Services</i>						
70	Hotels, rooming houses, camps, and other lodging places	159	1,299	0.5	93	87	90
72	Personal services	288	563	0.2	85	79	81
73	Miscellaneous business services	438	1,788	0.7	70	65	64
75	Automobile repair, automobile services, and garages	108	574	0.2	106	99	101
76	Miscellaneous repair services	105	420	0.2	147	137	117
78	Motion pictures	23	511	0.2	(73)	(68)	71
79	Amusement and recreation services, except motion pictures	94	326	0.1	93	87	89
80	Medical and other health services	331	4,267	1.8	82	77	96
81	Legal services	42	186	0.1	(75)	(70)	(71)
82	Educational services	161	1,241	0.5	79	74	83
84	Museums, art galleries, botanical and zoological gardens	11	65		(112)	(105)	(107)
86	Nonprofit membership organizations	192	1,429	0.6	82	77	81
88	Private households	3	8		(82)	(77)	(78)
89	Miscellaneous services	217	1,056	0.4	68	64	65
	<i>Government</i>						
91	Federal government	69	388	0.2	92	86	88
92	State government	41	881	0.4	60	56	78
93	Local government	497	2,468	1.0	92	86	83
94	International government	18	54		(96)	(90)	(91)
Total	All industries listed above	30,262	242,234	99.8%	107%	100%	100%
	All other industries	84	494	0.2%	104%	97%	86%

\* The aggregate A/T for smaller size groups is 105 per cent. Ratios for industries with less than 50 experience units and less than 0.3 per cent of total exposure are shown in parentheses.

female risks, and the tabular would erroneously reflect the more favorable experience expected for male risks.

This year we have compiled a study of actual-to-tabular claim ratios by industry based on the years 1970-74. This is published only once every five years. The industry experience analysis in Table 6 is shown by ratio of actual to tabular for all size groups and by industry actual-to-tabular ratios compared with aggregate actual-to-tabular ratios for nonjumbo experience units. Among industries represented by either at least fifty experience units or 0.3 per cent of the total exposure, the range of variation of experience ratios by industry for all size groups extends from a low of 50 per cent for banking to a high of 165 per cent for building construction—general contractors. For nonjumbo units, banking was again the lowest, with a ratio that was 48 per cent of the average, while primary metal industries ranked highest at 129 per cent.

Generally, among industries with either fifty experience units or 0.3 per cent of the total exposure, the ratios did not vary substantially from those found in the experience period 1965-69. There were a few exceptions. In the all-size-group study, bituminous coal and lignite mining and local and suburban transit and interurban passenger transportation showed large decreases since the last study. Building construction—general contractors, stone, clay, glass and concrete products, credit agencies other than banks, automobile repair, automobile services, and garages and miscellaneous repair services all showed higher ratios.

Nonjumbo experience did not appear to be as volatile, and, among industries that had 1 per cent or more of the total exposures, there were no variations of great magnitude.

Care should be exercised in the use of the analysis by industry, because the industry actual-to-tabular ratios do not take account of possible variations by plan or by age and sex.

