

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1954 REPORTS**

**REPORT OF THE COMMITTEE ON ACCIDENT  
AND SICKNESS EXPERIENCE IN PLANS  
INSURED ON THE GROUP BASIS**

**GROUP WEEKLY INDEMNITY AND GROUP HOSPITAL  
AND SURGICAL EXPENSE INSURANCE**

**T**HIS is the seventh report in a series of annual studies of the morbidity experience of Group Weekly Indemnity insurance and Group Employee and Dependent Hospital and Surgical Expense insurance and covers the same plans studied by the Committee in its 1953 report. Descriptions of these plans appear in previous years' reports.

For six out of the eight contributing companies, the crude annual claim costs shown in this report have been derived from the experience of the policy years ending in the calendar years indicated in the table headings. For the remaining two companies, the experience of the policy years ending during the 12 month period prior to July 1 of the indicated calendar year has been used for that purpose.

In compiling this report, the Committee has included the available experience of employer-employee groups regardless of size. The experience of insured groups outside of the continental United States, as well as that of trusteeship and association cases insuring employees of the member employers and of union cases, whether or not insurance depends on continued employment, has been excluded. The data for Group Weekly Indemnity insurance, contained in Tables 1, 2, and 8, exclude the experience of plans written under State Cash Sickness laws. As in prior reports, the term "experience unit" is defined as a policy year's experience of an insured group.

Tables 1, 3*a*, and 3*b* of this report for Weekly Indemnity insurance and Employee Hospital Expense insurance present the crude annual claim costs of all groups in those industrial classifications which the contributing companies individually rate standard for premium purposes. These tables are headed "Nonrated Industries." Table 4 for Employee Surgical Expense insurance, Tables 5*a* and 5*b* for Dependent Hospital Expense insurance, and Table 6 for Dependent Surgical Expense insurance contain the crude claim costs of all groups, regardless of industrial classification. These tables are headed "All Industries."

In reviewing the results of Tables 4 and 6, it should be remembered that the annual claim costs for the \$150 Schedule are based on the experi-

TABLE 1  
 COMBINED 1949-53 POLICY YEARS' EXPERIENCE  
 GROUP WEEKLY INDEMNITY INSURANCE  
 WITH 6 WEEKS MATERNITY BENEFIT  
 NONRATED INDUSTRIES

FEMALE PERCENT	NUMBER OF EXPERIENCE UNITS	WEEKLY INDEMNITY EXPOSED	CLAIMS	ANNUAL CLAIM COST*	NUMBER OF EXPERIENCE UNITS	WEEKLY INDEMNITY EXPOSED	CLAIMS	ANNUAL CLAIM COST*
13-WEEK PLANS								
1st Day Accident and 4th Day Sickness				4th Day Accident and 4th Day Sickness				
<11%	5,874	17,318,260	10,263,696	\$ .59	854	4,502,710	2,589,957	\$ .58
11- 21	2,241	7,674,850	4,991,661	.65	381	4,027,350	2,707,145	.67
21- 31	1,030	5,403,860	4,091,684	.76	176	571,990	395,084	.69
31- 41	414	2,247,370	1,851,944	.82	105	499,730	440,422	.88
41- 51	254	1,089,980	858,309	.79	47	162,470	111,715	.69
51- 61	188	334,370	318,705	.95	39	104,990	89,784	.86
61- 71	132	377,190	377,677	1.00	38	124,150	103,982	.84
71- 81	58	246,880	230,915	.94	25	100,940	95,697	.95
81- 91	53	103,810	96,079	.93	7	12,790	12,424	.97
91-100	16	8,820	7,520	.85	5	12,220	6,670	.55
Total	10,260	34,805,390	23,088,190		1,677	10,119,340	6,552,880	
13-WEEK PLANS								
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	14,116	53,942,250	26,424,546	\$ .49	2,830	22,057,700	10,896,670	\$ .49
11- 21	6,365	26,250,170	14,561,988	.55	1,485	14,764,500	8,274,386	.56
21- 31	3,324	15,719,730	9,842,768	.63	835	15,452,460	10,503,408	.68
31- 41	2,133	10,241,930	7,647,243	.75	672	6,532,950	4,230,420	.65
41- 51	1,454	6,343,560	4,940,464	.78	499	3,546,810	2,853,211	.80
51- 61	1,065	4,468,600	3,734,552	.84	322	1,785,600	1,470,102	.82
61- 71	727	2,451,800	2,116,246	.86	288	1,267,840	1,037,924	.82
71- 81	486	1,342,160	1,205,019	.90	205	811,350	684,440	.84
81- 91	300	737,600	738,113	1.00	146	694,450	629,601	.91
91-100	69	167,400	134,891	.81	38	70,410	99,199	1.41
Total	30,039	121,665,200	71,345,830		7,320	66,984,070	40,679,361	
26-WEEK PLANS								
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	1,646	22,038,600	15,360,551	\$ .70	616	10,736,860	6,951,705	\$ .65
11- 21	563	7,671,880	5,241,015	.68	270	3,795,430	2,476,261	.65
21- 31	233	3,146,190	2,560,088	.81	145	4,676,150	3,413,703	.73
31- 41	128	2,181,220	2,032,131	.93	67	403,160	330,153	.82
41- 51	90	603,060	669,443	1.11	53	701,580	665,042	.95
51- 61	52	351,010	341,900	.97	23	70,450	63,557	.90
61- 71	20	82,930	103,236	1.24	16	96,870	112,572	1.16
71- 81	6	98,380	136,251	1.38	1	950	880	.93
81- 91	1	1,050	1,878	1.79	2	1,670	881	.53
91-100	2	1,140	1,641	1.44	0	0	0	
Total	2,741	36,175,460	26,448,134		1,193	20,483,120	14,014,754	

\* Per \$1.00 of Exposure.

ence of 1949-1953, while those for the \$200 Schedule are based on the experience of 1951-1953. The figures for the \$150 Schedule and for the \$200 Schedule given in Table 7 show how misleading it would be to compare directly the claim costs for the two Surgical Schedules given in Tables 4 and 6. A more valid comparison can be obtained from Table 8, described below. Similar caution should be used in comparing the 1949-1953 annual claim costs shown in Tables 3*a* and 5*a* with the 1952-1953 annual claim costs shown in Tables 3*b* and 5*b*, respectively.

TABLE 2  
GROUP WEEKLY INDEMNITY INSURANCE  
NONRATED INDUSTRIES  
SECULAR TREND  
STANDARDIZED MORBIDITY RATIOS

Policy Year Experience	1-4-13 and 4-4-13 Plans	1-8-13 and 8-8-13 Plans	1-8-26 and 8-8-26 Plans	All Plans
1947.....	111%	105%	110%	107%
1948.....	102	101	107	102
1949.....	100	100	100	100
1950.....	97	97	99	98
1951.....	98	97	94	97
1952.....	104	103	101	103
1953.....	108	106	99	105

### *Trend of Experience*

In order to analyze the secular trend underlying the experience under plans shown in Tables 1, 3*a*, 4, 5*a*, and 6, standardized morbidity ratios were obtained for policy years 1951-1953 for the \$200 Surgical Schedule and for policy years 1947-1953 for all other plans. These ratios are presented in Tables 2 and 7.

The standardized morbidity ratio used this year is similar to, but not precisely the same as the ratio of actual claims to average claims shown in previous years' reports. This standardized ratio removes the effect of changes in the relative distribution of experience by plan and by female bracket (in the case of employee plans), while retaining the effect of the underlying claim costs.

For an employee plan of insurance, the crude claim cost for each female percentage grouping for any one year was applied to the corresponding accumulated 1948-1952 exposure and the resulting calculated claims for all female percentage groupings were compared to the total actual claims of the accumulated 1948-1952 experience. For a dependent plan of insur-

TABLE 3a  
 COMBINED 1949-53 POLICY YEARS' EXPERIENCE †  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 NONRATED INDUSTRIES

FEMALE PERCENT	FIXED BENEFIT PLANS												REIMBURSEMENT PLAN			
	31 Day, 14+5X, 5X				31 Day, 14+10X, 10X				70 Day, 14+5X, 5X				31 Day, 10X, 10X			
	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*
<11%	5,230	4,508,512	4,153,993	\$ 92	4,976	6,282,829	7,530,086	\$1 20	923	1,167,125	1,258,677	\$1 08	2,630	2,304,815	2,649,467	\$1 15
11-21	3,039	3,388,979	3,304,519	98	2,643	3,472,334	4,299,042	1 24	654	984,353	1,114,035	1 13	1,275	1,310,988	1,564,305	1 19
21-31	1,996	2,465,659	2,631,258	1 07	1,414	2,085,064	2,749,111	1 32	394	615,570	706,450	1 15	785	984,067	1,193,449	1 21
31-41	1,468	2,460,467	2,834,713	1 15	967	1,409,449	2,000,304	1 42	239	264,478	330,781	1 25	492	517,425	702,853	1 36
41-51	1,125	1,127,907	1,316,758	1 17	656	867,520	1,390,055	1 60	191	140,688	320,363	1 33	370	329,464	472,833	1 44
51-61	815	965,804	1,216,488	1 26	442	535,495	912,092	1 70	151	171,136	227,612	1 33	320	301,053	469,414	1 56
61-71	593	520,051	654,411	1 26	294	471,064	874,104	1 86	104	84,830	134,103	1 58	250	193,533	308,071	1 59
71-81	529	494,854	686,169	1 39	231	310,182	572,587	1 85	72	88,049	125,043	1 42	136	159,597	274,929	1 72
81-91	350	268,625	371,710	1 38	96	135,566	257,924	1 90	58	64,679	102,628	1 59	104	82,138	157,895	1 92
91-100	123	115,899	181,660	1 57	28	20,269	51,495	2 54	16	6,737	8,898	1 32	31	30,689	70,419	2 29
Total	15,268	16,316,757	17,351,679		11,747	15,589,772	20,636,800		2,893	3,687,645	4,328,590		6,393	6,213,769	7,863,635	

† See text for caution about comparison with Table 3b.

\* Per \$1.00 of Exposure.

TABLE 3b  
 COMBINED 1952-53 POLICY YEARS' EXPERIENCE†  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 NONRATED INDUSTRIES

FEMALE PERCENT	FIXED BENEFIT PLANS								REIMBURSEMENT PLANS							
	31 Day, 14+20X, 20X				70 Day, 14+10X, 10X				31 Day, 10X, 20X				31 Day, 14+10X, 10X			
	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*
<11% ...	191	262,601	386,119	\$1.47	550	955,838	1,390,802	\$1.46	419	448,020	653,533	\$1.46	343	347,048	452,947	\$1.31
11- 21 ...	109	346,363	627,225	1.81	348	679,314	1,016,686	1.50	201	295,352	457,130	1.55	171	377,561	536,215	1.42
21- 31 ...	69	108,421	199,303	1.84	162	182,410	292,251	1.60	100	147,648	225,932	1.53	63	200,275	265,114	1.32
31- 41 ...	31	95,403	188,252	1.97	125	273,273	438,672	1.61	68	69,484	101,909	1.47	53	268,836	344,193	1.28
41- 51 ...	24	55,817	105,845	1.90	75	77,770	132,342	1.70	40	49,298	85,145	1.73	40	58,288	86,810	1.49
51- 61 ...	24	34,553	76,836	2.22	56	57,382	106,613	1.86	29	35,942	81,770	2.28	44	74,905	128,954	1.72
61- 71 ...	9	4,394	11,489	2.61	47	64,725	128,131	1.98	22	13,398	28,701	2.14	27	69,972	111,358	1.59
71- 81 ...	3	2,501	7,059	2.82	28	14,718	37,337	2.54	11	12,553	23,271	1.85	9	57,007	109,394	1.92
81- 91 ...	1	599	1,580	2.64	12	9,342	21,029	2.25	5	12,084	29,907	2.47	6	2,433	6,121	2.52
91-100 ...	0	0	0	.....	1	330	554	1.68	1	298	516	1.73	2	5,622	11,726	2.09
Total	461	910,652	1,603,708	.....	1,404	2,315,102	3,564,417	.....	896	1,084,077	1,687,814	.....	758	1,461,947	2,052,832	.....

† See text for caution about comparison with Table 3a.

\* Per \$1.00 of Exposure.

ance, the crude claim cost for any one year was applied to the accumulated 1948-1952 exposure of the plan and the resulting calculated claims were compared to the corresponding actual claims of the accumulated 1948-1952 experience. For the \$200 Surgical Schedule, accumulated experience for policy years 1951-1953 was used. The analysis has been shown for all exposure size groupings for individual plans or combinations of plans, as well as for all plans combined under each coverage.

TABLE 4  
EMPLOYEE GROUP SURGICAL EXPENSE INSURANCE  
WITH OBSTETRICAL BENEFITS  
ALL INDUSTRIES

FEMALE PERCENT	COMBINED 1949-53 POLICY YEARS' EXPERIENCE†				COMBINED 1951-53 POLICY YEARS' EXPERIENCE†			
	\$150 SCHEDULE				\$200 SCHEDULE			
	Num- ber of Expe- rience Units	Maximum Indemnity Exposed per \$150 Basic Unit	Claims	An- nual Claim Cost*	Num- ber of Expe- rience Units	Maximum Indemnity Exposed per \$200 Basic Unit	Claims	An- nual Claim Cost*
< 11%	17,748	4,149,941	12,414,699	\$2.99	5,198	1,436,640	5,939,600	\$4.13
11- 21	9,888	2,766,801	9,673,124	3.50	2,554	772,698	3,682,557	4.77
21- 31	5,918	2,194,031	8,711,433	3.97	1,264	423,831	2,166,772	5.11
31- 41	4,157	1,326,457	5,671,699	4.28	763	206,963	1,168,668	5.65
41- 51	2,931	883,441	4,266,367	4.83	569	167,216	1,058,572	6.33
51- 61	2,204	610,196	3,046,699	4.99	441	134,552	895,644	6.66
61- 71	1,560	317,945	1,699,888	5.35	303	72,060	535,926	7.44
71- 81	1,108	277,340	1,647,348	5.94	164	47,223	311,286	6.59
81- 91	734	176,218	1,112,644	6.31	76	12,795	99,370	7.77
91- 100	223	31,027	223,093	7.19	13	1,244	8,628	6.94
Total	46,471	12,733,397	48,466,994		11,345	3,275,222	15,867,023	

† See text for caution about comparison of annual claim costs of the two schedules.

\* Per Basic Unit Exposed.

The analysis contained in Table 2 shows that the Group Weekly Indemnity experience for 1953 under 13-week plans continues the trend away from the more favorable experience of 1951. Under the 26-week plans, while the trend is not so apparent, the experience remains considerably less favorable than the 1951 low.

Table 7 for Group Hospital and Surgical Expense insurance shows (except for Dependents Surgical Expense insurance) a continuation of the general trend toward higher claim costs, which has been noted in previous

TABLE 5a  
 COMBINED 1949-53 POLICY YEARS' EXPERIENCE†  
 DEPENDENTS GROUP HOSPITAL EXPENSE INSURANCE  
 ALL INDUSTRIES

Plan Identification	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*
Reimbursement Plans with No Maternity Benefit				
31 Day, 5×	955	675,041	1,303,453	\$1.93
31 Day, 10×	1,571	2,189,451	5,351,010	2.44
70 Day, 5×	201	126,880	259,195	2.04
Reimbursement Plans with 10× Daily Benefit for Maternity				
31 Day, 5×				
No Maternity } Waiting Period }	259	258,062	738,099	2.86
31 Day, 5× } 9 Months Maternity } Waiting Period }	6,851	3,838,213	9,832,203	2.56
31 Day, 10× } 9 Months Maternity } Waiting Period }	12,559	9,931,161	30,642,129	3.09
70 Day, 5× } 9 Months Maternity } Waiting Period }	432	316,430	870,012	2.75
70 Day, 10× } 9 Months Maternity } Waiting Period }	1,452	1,960,382	6,876,922	3.51
Fixed Benefit Plan with 10× Daily Benefit for Maternity				
31 Day, 5× } 9 Months Maternity } Waiting Period }	395	983,507	2,606,667	2.65

† See text for caution about comparison with Table 5b.

\* Per \$1.00 of Exposure.

TABLE 5b  
 COMBINED 1952-53 POLICY YEARS' EXPERIENCE†  
 DEPENDENTS GROUP HOSPITAL EXPENSE INSURANCE  
 ALL INDUSTRIES

Plan Identification	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*
Reimbursement Plans with 10× Daily Benefit for Maternity				
31 Day, 20× } 9 Months Maternity } Waiting Period }	1,674	1,707,306	6,456,128	\$3.78
70 Day, 20× } 9 Months Maternity } Waiting Period }	566	1,345,620	5,316,546	3.95

† See text for caution about comparison with Table 5a.

\* Per \$1.00 of Exposure.

**TABLE 6**  
**DEPENDENTS GROUP SURGICAL EXPENSE INSURANCE**  
**ALL INDUSTRIES**

PLAN	COMBINED 1949-53 POLICY YEARS' EXPERIENCE†				COMBINED 1951-53 POLICY YEARS' EXPERIENCE†			
	\$150 SCHEDULE				\$200 SCHEDULE			
	Number of Experience Units	Maximum Indemnity Exposed per \$150 Basic Unit	Claims	Annual Claim Cost*	Number of Experience Units	Maximum Indemnity Exposed per \$200 Basic Unit	Claims	Annual Claim Cost*
No Obstetrical Benefits With Obstetrical Benefits	3,875	781,572	6,717,132	\$ 8.59	1,131	303,869	3,370,971	\$11.09
9 Months Waiting Period	17,212	3,006,857	37,380,041	12.43	7,479	1,566,975	22,553,619	14.39

† See text for caution about comparison of annual claim costs of the two schedules.

\* Per Basic Unit Exposed.

**TABLE 7**  
**GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE**  
**SECULAR TREND**  
**STANDARDIZED MORBIDITY RATIOS**

POLICY YEAR EXPERIENCE	EMPLOYEE HOSPITAL EXPENSE NONRATED INDUSTRIES			EMPLOYEE SURGICAL EXPENSE†		DEPENDENT HOSPITAL EXPENSE			DEPENDENT SURGICAL EXPENSE BOTH PLANS‡	
	All 5X Plans*	All 10X Plans*	All Plans*	\$150 Sched-ule	\$200 Sched-ule‡	All 5X Plans§	All 10X Plans§	All Plans§	\$150 Sched-ule	\$200 Sched-ule‡
1947	97%	84%	91%	89%	.....	93%	85%	88%	90%	.....
1948	98	89	94	94	.....	97	91	93	95	.....
1949	97	94	96	98	.....	99	95	96	97	.....
1950	99	99	99	99	.....	100	98	99	100	.....
1951	105	103	104	102	95%	101	102	101	103	102%
1952	109	109	109	108	99	104	104	104	103	98
1953	112	116	114	113	103	109	108	109	102	101

\* Published in Table 3a.

† Published in Table 4.

‡ Based on 3 years' experience.

§ Published in Table 5a.

¶ Published in Table 6.

TABLE 8  
ANALYSIS OF MALE AND FEMALE EXPERIENCE  
1953 POLICY YEAR EXPERIENCE  
NONRATED INDUSTRIES—ALL EXPOSURE SIZES

PLAN	EXPOSURE SIZE GROUPINGS			MALE PARAM- ETER	FEMALE PARAM- ETER	PARAM- ETER RATIO*
	0-7		0-9			
	Amount Exposed	Female Per- cent- age of Total Expo- sure	Female Per- cent- age of Total Expo- sure			
Group Weekly Indemnity Insurance						
1-4-13.....	<11% 14,255,510 Σ 25,429,150	15	16	.583	1.293	222%
4-4-13.....	<11% 2,960,770 Σ 5,792,800	17	15	.670	1.248	186
1-8-13.....	<11% 35,347,880 Σ 81,259,310	21	19	.473	1.198	253
8-8-13.....	<11% 12,091,660 Σ 33,409,170	24	21	.510	1.165	228
1-8-26.....	<11% 8,532,030 Σ 14,737,390	14	13	.649	1.320	203
8-8-26.....	<11% 2,879,120 Σ 5,331,870	15	14	.645	1.097	170
Employee Hospital Expense						
31 Day, 14+5×, 5×, Fixed Benefit.....	<11% 3,236,150 Σ 11,044,368	28	27	.984	1.680	171
31 Day, 14+10×, 10×, Fixed Benefit.....	<11% 3,904,950 Σ 10,281,558	23	21	1.226	2.412	197
70 Day, 14+5×, 5×, Fixed Benefit.....	<11% 723,004 Σ 2,511,258	26	23	1.115	1.798	161
31 Day, 10×, 10×, Reimbursement.....	<11% 1,845,584 Σ 4,970,266	24	23	1.155	2.046	177
Employee Surgical Expense						
\$150 Schedule.....	<11% 2,735,004 Σ 7,789,955	24	24	2.927	8.061	275
\$200 Schedule.....	<11% 861,528 Σ 1,985,820	20	19	3.783	9.936	263

\* Based on experience of up to 5 years.

reports. Under Dependents Surgical Expense insurance (\$150 Schedule), a trend is not so apparent for the last few years. Under the \$200 Surgical Schedule, both the employee and dependent plans indicate an upward trend.

#### *Male and Female Costs*

As in the 1953 report, male and female parameters have been derived for the employee plans, together with a parameter ratio (female parameter divided by male parameter), which are shown in Table 8. The male and female parameters were derived from the experience of exposure size groups 0-7 included in Tables 1, 3a, and 4 and were adjusted to reproduce the crude claim costs of all exposure size groups for the 1953 policy year; the parameter ratios are based on the experience of up to 5 years contained in those tables. Hospital Expense plans for which less than 5 full years' experience is available (those in Table 3b) have not been included in Table 8. Last year's report discussed the considerations underlying these parameters and described their calculation in detail.

#### *Dispersion of Claim Costs*

Last year's report contained an illustration of the dispersion of crude claim costs of groups included in that study. While no attempt was made to measure the fluctuations present in this report, nevertheless the data underlying this year's tables were subject to the same influences. Accordingly, it must be recognized that many groups have greater claim costs than the average shown in this report.

#### *Contributing Companies*

The following companies contributed experience for the investigation covered in this report:

Aetna Life Insurance Company  
Connecticut General Life Insurance Company  
Continental Assurance Company  
Equitable Life Assurance Society  
John Hancock Mutual Life Insurance Company  
Metropolitan Life Insurance Company  
Prudential Insurance Company of America  
The Travelers Insurance Company