

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1958 REPORTS**

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

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

**T**HIS is the eleventh annual report of the continuing study of the morbidity experience of Group Weekly Indemnity insurance and Group Employee and Dependent Hospital and Surgical Expense insurance.

In compiling these reports, the Committee includes the available experience of employer-employee groups regardless of size. The experience of insured groups outside of the continental United States, and of trusteeship and association cases insuring employees of the member employers, and of union cases, whether or not insurance depends on continued employment, is excluded. The data for Group Weekly Indemnity insurance exclude the experience of plans written under State Cash Sickness laws.

Data in the report for Weekly Indemnity insurance and Employee Hospital Expense insurance are based on the experience of groups in those industrial classifications which the contributing companies individually rate standard for premium purposes; tables covering these plans are headed "Nonrated Industries." Data for Surgical Expense insurance, Employee or Dependent, and for Dependent Hospital Expense insurance are based on the experience of groups regardless of industrial classification; tables covering these plans are headed "All Industries."

*Annual Claim Costs*

The basic results of the study are presented in the form of annual claim costs for each plan studied; in the case of employee plans, groups are kept separate by the percent of their total exposure on female lives. The experience for the three latest policy years, combined, is furnished. In each instance, the annual cost is derived by dividing claims incurred by exposure. These results are shown in Tables 1 and 3 through 6.

TABLE 1  
 COMBINED 1955-57 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% . . . . .	2,431	10,439,670	6,170,863	\$ .59	258	2,005,450	1,127,642	\$ .56
11-21 . . . . .	998	5,031,610	3,252,411	.65	129	1,958,250	1,029,389	.53
21-31 . . . . .	501	3,310,040	2,489,587	.75	22	61,080	36,906	.60
31-41 . . . . .	202	1,425,510	1,282,107	.90	42	217,870	164,925	.76
41-51 . . . . .	113	410,360	341,778	.83	8	15,470	11,062	.72
51-61 . . . . .	78	1,815,520	1,494,245	.82	24	230,060	232,261	1.01
61-71 . . . . .	52	166,540	139,425	.84	17	38,300	36,369	.95
71-81 . . . . .	17	39,280	33,466	.85	5	37,620	33,680	.90
81-91 . . . . .	21	38,950	43,875	1.13	4	1,450	1,327	.92
91-100 . . . . .	4	6,920	6,347	.92				
Total . . . . .	4,417	22,684,400	15,254,104	.....	509	4,565,550	2,673,561	.....
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11% . . . . .	6,388	31,186,310	14,890,378	\$ .48	799	5,642,030	2,976,201	\$ .53
11-21 . . . . .	3,180	13,033,060	6,660,928	.51	423	6,468,230	3,614,328	.56
21-31 . . . . .	1,836	8,206,670	4,778,497	.58	237	4,163,200	2,648,741	.64
31-41 . . . . .	1,041	6,157,520	4,493,682	.73	233	2,589,700	1,697,055	.66
41-51 . . . . .	751	3,562,950	2,914,030	.82	154	1,679,670	1,493,534	.89
51-61 . . . . .	506	2,495,440	2,048,752	.82	101	803,680	627,609	.78
61-71 . . . . .	374	1,696,230	1,392,558	.82	70	394,570	312,513	.79
71-81 . . . . .	255	945,270	825,118	.87	76	319,530	257,955	.81
81-91 . . . . .	132	390,060	390,481	1.00	55	293,390	315,381	1.07
91-100 . . . . .	26	116,010	86,707	.75	14	35,150	43,194	1.23
Total . . . . .	14,489	67,789,520	38,481,131	.....	2,162	22,389,150	13,986,511	.....
26 WEEK PLANS								
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11% . . . . .	1,923	24,315,490	17,159,788	\$ .71	256	8,693,740	5,622,838	\$ .65
11-21 . . . . .	701	12,504,450	9,413,312	.75	126	3,802,590	2,418,551	.64
21-31 . . . . .	389	6,926,650	6,037,297	.87	57	1,470,220	1,183,151	.80
31-41 . . . . .	182	1,760,090	1,655,258	.94	30	273,800	223,313	.82
41-51 . . . . .	127	1,507,280	1,529,500	1.01	25	630,350	581,660	.92
51-61 . . . . .	71	1,132,020	1,007,987	.89	13	79,700	91,147	1.14
61-71 . . . . .	58	336,400	348,953	1.04	4	81,720	101,864	1.25
71-81 . . . . .	15	118,720	136,203	1.15	2	1,280	1,135	.89
81-91 . . . . .	4	23,230	33,011	1.42	3	25,240	11,982	.47
91-100 . . . . .	2	16,460	17,768	1.08	0	0	0	.....
Total . . . . .	3,472	48,640,790	37,339,077	.....	516	15,058,640	10,235,641	.....

\* Per \$1.00 of exposure.

TABLE 2  
 GROUP WEEKLY INDEMNITY INSURANCE  
 NONRATED INDUSTRIES  
 SECULAR TREND  
 STANDARDIZED MORBIDITY RATIOS  
 Base: 1955-57 Policy Years' Experience

Policy Year Experience	1-1-13 and 4-4-13 Plans	1-8-13 and 8-8-13 Plans	1-8-26 and 8-8-26 Plans	All Plans
1947.....	113%	107%	105%	107%
1948.....	103	102	99	101
1949.....	102	102	94	98
1950.....	98	98	97	98
1951.....	98	99	92	96
1952.....	105	105	99	103
1953.....	109	108	98	104
1954.....	106	106	100	103
1955.....	99	98	97	98
1956.....	101	100	101	101
1957.....	103	103	99	101

**TABLE 3**  
**COMBINED 1955-57 POLICY YEARS' EXPERIENCE**  
**EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE**  
**NONRATED INDUSTRIES**

FEMALE PERCENT	NUMBER OF EXPERIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	ANNUAL CLAIM COST*	NUMBER OF EXPERIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	ANNUAL CLAIM COST*
<b>10× REIMBURSEMENT PLANS</b>								
31 Day, 10× Maternity Benefit				31 Day, 14+10× Maternity Benefit				
<11% . . . . .	1,553	1,862,310	2,501,770	\$1.34	361	541,580	712,758	\$1.32
11-21 . . . . .	856	1,004,016	1,409,465	1.40	202	245,130	319,055	1.30
21-31 . . . . .	540	832,977	1,219,553	1.46	111	261,174	363,212	1.39
31-41 . . . . .	347	846,791	1,344,119	1.59	70	162,133	207,281	1.28
41-51 . . . . .	257	313,977	568,135	1.81	48	93,345	154,943	1.66
51-61 . . . . .	192	439,593	797,231	1.81	63	76,472	138,313	1.81
61-71 . . . . .	186	236,571	436,034	1.84	34	49,873	85,987	1.72
71-81 . . . . .	118	235,311	472,017	2.01	16	20,271	41,199	2.03
81-91 . . . . .	88	143,071	324,623	2.27	2	3,656	8,801	2.41
91-100 . . . . .	11	12,691	23,966	1.89	5	3,795	7,114	1.87
Total . . . . .	4,148	5,927,308	9,096,913	.....	912	1,457,429	2,038,663	.....
70 Day, 10× Maternity Benefit								
<11% . . . . .	223	402,601	615,372	\$1.53				
11-21 . . . . .	122	126,219	189,027	1.50				
21-31 . . . . .	104	171,783	254,925	1.48				
31-41 . . . . .	40	35,153	52,442	1.49				
41-51 . . . . .	50	125,580	221,443	1.76				
51-61 . . . . .	35	61,619	110,866	1.80				
61-71 . . . . .	15	27,081	62,124	2.29				
71-81 . . . . .	4	1,948	3,878	1.99				
81-91 . . . . .	3	1,003	2,365	2.36				
91-100 . . . . .	0	0	0	.....				
Total . . . . .	596	952,987	1,512,442	.....				
<b>20× REIMBURSEMENT PLANS</b>								
31 Day, 10× Maternity Benefit				70 Day, 10× Maternity Benefit				
<11% . . . . .	1,118	1,134,981	1,710,724	\$1.51	542	855,095	1,495,606	\$1.75
11-21 . . . . .	610	848,891	1,422,785	1.68	325	575,427	987,495	1.72
21-31 . . . . .	326	430,698	705,394	1.64	212	215,473	400,166	1.86
31-41 . . . . .	209	439,129	716,153	1.63	119	120,847	232,098	1.92
41-51 . . . . .	163	173,568	344,253	1.98	62	166,320	298,214	1.79
51-61 . . . . .	100	183,637	397,966	2.17	73	113,446	227,151	2.00
61-71 . . . . .	64	97,418	183,796	1.89	59	70,181	146,893	2.09
71-81 . . . . .	39	60,992	133,372	2.19	11	29,996	58,274	1.94
81-91 . . . . .	19	12,364	34,610	2.80	10	44,177	86,758	1.96
91-100 . . . . .	6	5,333	10,421	1.95	1	815	1,899	2.33
Total . . . . .	2,654	3,387,011	5,659,474	.....	1,414	2,191,777	3,934,554	.....

\* Per \$1.00 of exposure.

TABLE 3—Continued

FEMALE PERCENT	NUMBER OF EXPERIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	ANNUAL CLAIM COST*	NUMBER OF EXPERIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	ANNUAL CLAIM COST*
10× FIXED BENEFIT PLANS								
31 Day, 14+10× Maternity Benefit				70 Day, 14+10× Maternity Benefit				
<11%.....	1,026	1,353,524	2,169,906	\$1.60	360	395,799	684,903	\$1.73
11-21.....	648	795,513	1,114,114	1.40	187	280,800	425,377	1.51
21-31.....	336	635,964	1,016,874	1.60	117	156,409	261,837	1.67
31-41.....	257	295,756	517,719	1.75	80	101,072	153,954	1.52
41-51.....	175	231,546	386,286	1.67	47	100,416	195,239	1.94
51-61.....	148	198,772	360,368	1.81	25	24,333	48,278	1.98
61-71.....	112	306,199	560,136	1.83	24	39,060	67,930	1.74
71-81.....	97	167,744	360,561	2.15	18	9,354	26,001	2.78
81-91.....	26	41,787	91,315	2.19	7	11,868	31,983	2.69
91-100.....	3	1,974	3,670	1.86	1	527	1,884	3.57
Total.....	2,828	4,028,779	6,580,949	.....	866	1,119,638	1,897,386	.....
20× FIXED BENEFIT PLANS								
31 Day, 14+20× Maternity Benefit				70 Day, 14+20× Maternity Benefit				
<11%.....	190	372,657	607,337	\$1.63	145	133,214	240,625	\$1.81
11-21.....	112	377,271	637,846	1.69	91	273,300	539,104	1.97
21-31.....	67	161,053	338,041	2.10	56	65,189	139,741	2.14
31-41.....	26	71,668	153,319	2.14	40	89,277	176,604	1.98
41-51.....	21	41,527	78,367	1.89	9	6,296	13,534	2.15
51-61.....	15	16,406	30,978	1.89	15	24,871	61,930	2.49
61-71.....	8	26,304	67,124	2.55	7	8,897	21,635	2.43
71-81.....	9	16,896	35,420	2.10	2	1,528	5,465	3.58
81-91.....	2	1,051	4,169	3.97	2	342	780	2.28
91-100.....	0	0	0	.....	0	0	0	.....
Total.....	450	1,084,833	1,952,601	.....	367	602,914	1,199,418	.....

\* Per \$1.00 of exposure.

**TABLE 4**  
**COMBINED 1955-57 POLICY YEARS' EXPERIENCE**  
**EMPLOYEE GROUP SURGICAL EXPENSE INSURANCE**  
**WITH OBSTETRICAL BENEFITS**  
**ALL INDUSTRIES**

FEMALE PERCENT	\$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*
<11% . . . . .	4,506	1,143,700	3,936,575	\$3.44	9,419	2,615,533	12,057,266	\$4.61
11-21 . . . . .	2,589	806,486	3,212,207	3.98	5,132	1,442,626	7,596,616	5.27
21-31 . . . . .	1,645	481,452	2,111,251	4.39	2,859	912,835	4,962,067	5.44
31-41 . . . . .	1,125	384,137	1,764,654	4.59	1,735	521,677	3,198,163	6.13
41-51 . . . . .	806	230,303	1,182,809	5.14	1,239	329,467	2,175,048	6.60
51-61 . . . . .	646	233,453	1,258,574	5.39	884	222,780	1,599,216	7.18
61-71 . . . . .	493	113,574	668,170	5.88	629	130,132	907,879	6.98
71-81 . . . . .	370	110,693	577,802	5.22	321	94,076	621,450	6.61
81-91 . . . . .	206	47,804	309,971	6.48	193	59,923	473,905	7.91
91-100 . . . . .	43	8,857	61,823	6.98	22	2,595	22,556	8.69
Total . . . . .	12,429	3,560,459	15,083,836	.....	22,433	6,331,644	33,614,166	.....

\* Per basic unit exposed.

**TABLE 5**  
**COMBINED 1955-57 POLICY YEARS' EXPERIENCE**  
**DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE**  
**ALL INDUSTRIES**

Plan Identification	Number of Experience Units	Daily Benefit Exposed	Claims	Annual Claim Cost*
Reimbursement Plan with No Maternity Benefit 31 Day, 10X . . . . .	523	544,790	1,554,119	\$2.85
Reimbursement Plans with 9 Months Maternity Waiting Period and 10X Daily Benefit for Maternity				
31 Day, 10X . . . . .	6,481	6,665,194	22,504,834	3.38
70 Day, 10X . . . . .	932	913,981	3,275,554	3.58
31 Day, 20X . . . . .	3,824	3,475,480	13,496,455	3.88
70 Day, 20X . . . . .	1,750	2,229,516	8,834,313	3.96

\* Per \$1.00 of exposure.

In the case of Weekly Indemnity insurance, the exposure unit is dollars of weekly benefit; in the case of Hospital Expense insurance, the unit is dollars of daily benefit. For Surgical Expense insurance, the exposure is in units of \$150 maximum benefit for plans based on the "Standard Schedule," or in units of \$200 maximum benefit for plans based on the "Select Schedule."

TABLE 6  
COMBINED 1955-57 POLICY YEARS' EXPERIENCE  
DEPENDENT GROUP SURGICAL EXPENSE INSURANCE  
ALL INDUSTRIES

PLAN	\$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	984	196,871	1,672,134	\$ 8.49	2,887	680,283	7,665,406	\$11.27
With Obstetrical Benefits 9 Months Waiting Period	6,861	1,540,695	19,972,955	12.96	19,203	3,450,234	51,020,607	14.79

\* Per basic unit exposed.

### *Trend of Experience*

In order to analyze the secular trend underlying the experience under the plans studied, standardized morbidity ratios are presented in Tables 2 and 7. The standardized morbidity ratio is based on the level of experience of the current report, in this case 1955-1957. Thus, the levels of the ratios shown this year differ from those of previous reports, because of the different basis, but the resulting trends are consistent.

The figures in Table 7 go back only to 1952, the first year for which experience was available under all the plans included in this table. Reports of previous years show figures for earlier years for those plans then studied.

*Male and Female Costs*

Male and female parameters have been derived for each employee plan, together with a parameter ratio (female parameter divided by male parameter), which are shown in Table 8. These parameters are the result of the composite experience of groups whose claim costs vary widely as a result of such influences as geographical location, industrial classifica-

TABLE 7  
GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE  
SECULAR TREND  
STANDARDIZED MORBIDITY RATIOS  
Base: 1955-57 Policy Years' Experience

POLICY YEAR EXPERIENCE	EMPLOYEE HOSPITAL EXPENSE NONRATED INDUSTRIES			EMPLOYEE SURGICAL EXPENSE		
	All 10× Plans	All 20× Plans	All Plans	\$150 Schedule	\$200 Schedule	Both Schedules
1952.....	89%	94%	90%	95%	91%	92%
1953.....	93	96	94	99	94	96
1954.....	97	96	97	99	97	98
1955.....	96	98	97	101	98	99
1956.....	102	101	102	99	100	100
1957.....	102	104	103	99	102	101

POLICY YEAR EXPERIENCE	DEPENDENT HOSPITAL EXPENSE			DEPENDENT SURGICAL EXPENSE		
	All 10× Plans	All 20× Plans	All Plans	\$150 Schedule	\$200 Schedule	Both Schedules
1952.....	93%	96%	94%	98%	95%	96%
1953.....	96	100	98	97	99	98
1954.....	97	97	97	99	98	98
1955.....	97	98	97	98	98	98
1956.....	99	99	99	105	99	101
1957.....	105	103	104	98	103	102

NOTE.—Includes plans with or without maternity or obstetrical benefits.

tion, age distribution, etc. The resulting lack of homogeneity produces possible variations and inconsistencies when male and female costs are derived or compared.

The 1953 report discussed the considerations underlying the parameters and described their calculation in detail.



TABLE 8  
ANALYSIS OF MALE AND FEMALE EXPERIENCE  
ALL EXPOSURE SIZES

PLAN	1955-57 POLICY YEARS' EXPERIENCE			1957 LEVEL OF CLAIM COSTS		PARAMETER RATIO
	Exposure Size Groupings			Male Parameter	Female Parameter	
	0-7		0-9			
	Amount Exposed	Female Percentage of Total Exposure	Female Percentage of Total Exposure	Male Parameter	Female Parameter	
<b>Group Weekly Indemnity Insurance</b>						
1-4-13	<11% 7,534,090 Σ 14,131,080	15%	18%	547	1,314	240%
4-4-13	<11% 1,170,290 Σ 2,266,800	19	15	543	983	181
1-8-13	<11% 19,191,610 Σ 45,958,250	21	20	446	1,114	250
8-8-13	<11% 3,576,920 Σ 10,645,900	26	23	545	1,099	202
1-8-26	<11% 11,742,430 Σ 19,987,440	15	15	677	1,275	188
8-8-26	<11% 1,512,220 Σ 3,191,940	18	13	625	1,342	215
<b>Employee Hospital Expense</b>						
31 Day, 10X, 10X, Reimbursement	<11% 1,494,071 Σ 4,384,100	26	27	1,403	2,172	155
31 Day, 14+10X, 10X, Reimbursement	<11% 318,192 Σ 845,032	24	23	1,129	2,026	179
70 Day, 10X, 10X, Reimbursement	<11% 227,472 Σ 672,911	24	22	1,406	2,373	169
31 Day, 10X, 20X, Reimbursement	<11% 1,036,909 Σ 2,712,499	22	22	1,496	2,399	160
70 Day, 10X, 20X, Reimbursement	<11% 605,420 Σ 1,514,059	20	22	1,708	2,409	141
31 Day, 14+10X, 10X, Fixed Benefit	<11% 839,161 Σ 2,638,214	26	26	1,482	2,009	136
70 Day, 14+10X, 10X, Fixed Benefit	<11% 265,274 Σ 833,914	22	27	1,693	2,248	133
31 Day, 14+20X, 20X, Fixed Benefit	<11% 237,713 Σ 573,654	20	19	1,686	2,789	165
70 Day, 14+20X, 20X, Fixed Benefit	<11% 133,214 Σ 401,908	20	20	1,725	3,206	186
<b>Employee Surgical Expense</b>						
\$150 Schedule	<11% 721,629 Σ 2,201,831	26	25	3,108	7,596	244
\$200 Schedule	<11% 1,595,735 Σ 3,879,083	20	20	4,401	9,637	219

*Contributing Companies*

Nine companies have contributed to the investigation covered in this report. The results are the composite experience under variations in company practice in underwriting, administration and claim procedures, as well as variations in experience among groups. It must be recognized that many groups might have significantly different claim costs from the averages shown in this report.

This study includes, and is representative of, only the experience of groups insured under the plans of benefits shown in the various tables. This is a decreasing proportion of the total business of the contributing companies; however, changes in the study are being planned so that more experience can be collected and included in future reports.

For six of the nine contributing companies, the exposures and claims shown in the report have been based on the experience of the three policy years ending in the calendar years 1955 through 1957. For the remaining three companies, the experience of the three policy years ending during the period July 1, 1954 through June 30, 1957 has been used.

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  
Occidental Life Insurance Company of California  
Prudential Insurance Company of America  
The Travelers Insurance Company