

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1957 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**

THIS is the tenth annual report on the continuing study of the morbidity experience of Group Weekly Indemnity insurance and Group Employee and Dependent Hospital and Surgical Expense insurance.

There has been no change in the plans covered, the procedures of the study nor the form of the report or tables since last year. All tables of exposures, claims and annual claim costs are based on the combined 1954-1956 policy years' experience.

In compiling the 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, and 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 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."

Trend of Experience

In order to analyze the secular trend underlying the experience under the plans studied, standardized morbidity ratios were obtained for those policy years for which data were available. These ratios are presented in Tables 2 and 7.

The standardized morbidity ratio is of the type used in the last three

TABLE 1
COMBINED 1954-56 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%	2,577	10,690,660	6,339,291	\$.59	304	2,491,890	1,345,402	\$.54
11- 21	1,083	5,392,730	3,620,077	.67	146	2,468,450	1,655,073	.67
21- 31	526	3,299,010	2,652,933	.80	33	94,970	59,817	.63
31- 41	216	1,271,250	1,009,234	.79	51	315,430	232,646	.74
41- 51	135	647,720	567,945	.88	14	38,810	30,738	.79
51- 61	87	1,842,410	1,477,956	.80	24	193,740	205,267	1.06
61- 71	51	204,300	170,149	.83	17	42,670	36,738	.86
71- 81	26	58,730	51,219	.87	7	48,500	43,526	.90
81- 91	20	133,080	78,912	.59	4	1,470	1,418	.96
91-100	5	2,330	909	.39	1	3,280	611	.19
Total	4,726	23,542,220	15,968,625	.....	601	5,699,210	3,611,236	.....
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	6,902	33,562,360	16,201,912	\$.48	1,026	7,245,400	3,530,314	\$.49
11- 21	3,447	15,302,750	8,243,703	.54	535	8,110,720	4,765,002	.59
21- 31	1,954	9,384,380	5,634,568	.60	303	9,150,130	6,013,954	.66
31- 41	1,115	6,670,860	5,000,863	.75	286	3,288,550	2,117,038	.64
41- 51	789	4,043,980	3,273,270	.81	193	2,022,440	1,756,378	.87
51- 61	563	3,124,790	2,622,102	.84	133	985,940	772,012	.78
61- 71	403	1,829,680	1,496,488	.82	97	554,740	436,799	.79
71- 81	267	905,820	742,885	.82	100	379,640	318,319	.84
81- 91	140	407,700	425,961	1.04	62	312,030	323,868	1.04
91-100	33	117,060	89,886	.77	21	45,660	59,777	1.31
Total	15,613	75,349,380	43,731,638	.....	2,756	32,095,250	20,093,461	.....
26-WEEK PLANS								
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	2,017	24,457,890	17,203,906	\$.70	274	7,660,080	4,908,582	\$.64
11- 21	736	12,832,510	9,478,754	.74	137	4,102,870	2,656,861	.65
21- 31	377	7,142,440	6,388,880	.89	62	2,421,140	1,846,377	.76
31- 41	182	2,114,770	2,057,621	.97	39	396,790	326,546	.82
41- 51	120	1,303,980	1,254,047	.96	33	1,035,520	1,124,694	1.09
51- 61	73	1,014,520	891,116	.88	17	134,180	145,599	1.09
61- 71	57	422,650	452,538	1.07	7	116,420	144,990	1.25
71- 81	19	164,830	230,786	1.40	3	7,950	3,801	.48
81- 91	2	5,200	11,054	2.13	4	34,100	17,190	.50
91-100	1	5,350	9,271	1.73	0	0	0	.....
Total	3,584	49,464,140	37,977,973	.....	576	15,909,050	11,174,640	.....

* Per \$1.00 of exposure.

TABLE 2
 GROUP WEEKLY INDEMNITY INSURANCE
 NONRATED INDUSTRIES
 SECULAR TREND
 STANDARDIZED MORBIDITY RATIOS
 Base: 1954-56 Policy Years' Experience

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%	104%	106%
1948	102	101	99	100
1949	100	100	93	98
1950	96	97	96	97
1951	97	97	91	95
1952	103	103	98	101
1953	108	107	98	104
1954	104	104	100	102
1955	98	97	97	97
1956	99	98	101	100

TABLE 3
 COMBINED 1954-56 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*
10X REIMBURSEMENT PLANS								
31 Day, 10X Maternity Benefit					31 Day, 14+10X Maternity Benefit			
<11%	1,765	2,004,590	2,643,882	\$1.32	430	623,541	811,207	\$1.30
11- 21	923	1,107,923	1,507,755	1.36	245	309,900	419,017	1.35
21- 31	617	920,779	1,303,546	1.42	102	201,245	262,531	1.30
31- 41	391	877,134	1,336,631	1.52	80	273,786	395,783	1.45
41- 51	285	327,095	571,599	1.75	65	85,669	146,495	1.71
51- 61	210	400,412	728,531	1.82	59	68,634	127,715	1.86
61- 71	222	312,320	581,718	1.86	36	65,401	108,156	1.65
71- 81	129	245,465	485,515	1.98	17	26,812	58,774	2.19
81- 91	91	143,585	308,867	2.15	4	7,684	18,254	2.38
91-100	15	16,443	35,359	2.15	5	3,905	7,930	2.03
Total	4,648	6,355,746	9,503,403	.....	1,043	1,666,577	2,355,862	.....
70 Day, 10X Maternity Benefit								
<11%	249	452,618	647,819	\$1.43				
11- 21	133	144,703	216,568	1.50				
21- 31	94	161,336	236,582	1.47				
31- 41	40	42,232	61,580	1.46				
41- 51	52	81,442	140,611	1.73				
51- 61	40	63,931	109,025	1.71				
61- 71	19	48,577	89,506	1.84				
71- 81	5	2,097	4,561	2.18				
81- 91	2	503	1,345	2.67				
91-100	1	517	881	1.70				
Total	635	997,956	1,508,478	.....			
20X REIMBURSEMENT PLANS								
31 Day, 10X Maternity Benefit					70 Day, 10X Maternity Benefit			
<11%	1,103	1,134,283	1,669,017	\$1.47	473	724,880	1,221,616	\$1.69
11- 21	546	912,210	1,481,402	1.62	267	741,447	1,323,184	1.78
21- 31	329	384,315	626,949	1.63	220	208,964	386,066	1.85
31- 41	194	392,470	627,248	1.60	78	77,325	136,287	1.76
41- 51	148	172,145	326,747	1.90	39	73,390	142,443	1.94
51- 61	101	172,056	364,992	2.12	63	140,020	280,186	2.00
61- 71	62	100,697	194,322	1.93	51	70,877	140,891	1.99
71- 81	29	44,287	92,384	2.09	10	32,954	55,082	1.67
81- 91	24	25,367	65,198	2.57	5	31,777	58,623	1.84
91-100	3	2,055	2,754	1.34	0	0	0	.....
Total	2,539	3,339,885	5,451,013	.....	1,206	2,101,634	3,744,378	.....

* 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*
10X FIXED BENEFIT PLANS								
31 Day, 14+10X Maternity Benefit				70 Day, 14+10X Maternity Benefit				
<11%.....	1,355	1,770,061	2,770,340	\$1.57	444	584,981	958,932	\$1.64
11- 21.....	847	1,366,426	1,924,346	1.41	257	356,831	542,135	1.52
21- 31.....	413	917,847	1,406,460	1.53	168	191,743	324,931	1.69
31- 41.....	331	416,327	717,754	1.72	92	150,690	230,930	1.53
41- 51.....	205	335,986	531,795	1.58	72	118,624	224,820	1.90
51- 61.....	174	224,249	410,527	1.83	37	48,619	86,707	1.78
61- 71.....	128	266,499	560,907	2.10	38	75,591	137,780	1.82
71- 81.....	108	170,323	354,465	2.08	19	14,569	31,378	2.15
81- 91.....	34	60,936	135,645	2.23	7	11,624	30,180	2.60
91-100.....	7	6,405	9,633	1.50	0	0	0	.....
Total.....	3,602	5,535,059	8,821,872	.....	1,134	1,553,272	2,567,793	.....
20X FIXED BENEFIT PLANS								
31 Day, 14+20X Maternity Benefit				70 Day, 14+20X Maternity Benefit				
<11%.....	214	395,175	627,143	\$1.59	176	267,470	454,692	\$1.70
11- 21.....	147	482,180	821,091	1.70	112	371,085	705,424	1.90
21- 31.....	83	185,402	369,001	1.99	64	102,527	219,539	2.14
31- 41.....	36	112,885	234,214	2.07	44	81,394	160,363	1.97
41- 51.....	28	67,770	145,446	2.15	12	7,405	17,393	2.35
51- 61.....	21	22,421	42,586	1.90	21	32,995	82,273	2.49
61- 71.....	12	27,019	59,294	2.19	10	11,071	24,332	2.20
71- 81.....	8	11,444	25,970	2.27	2	696	2,161	3.10
81- 91.....	3	1,154	3,224	2.79	2	708	1,210	1.71
91-100.....	0	0	0	.....	0	0	0	.....
Total.....	552	1,305,450	2,327,969	.....	443	875,351	1,667,387	.....

* Per \$1.00 of exposure.

TABLE 4
 COMBINED 1954-56 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% . . .	5,573	1,506,999	5,072,399	\$3.37	9,099	2,568,453	11,552,891	\$4.50
11- 21 . . .	3,301	966,489	3,829,254	3.96	4,966	1,488,754	7,893,054	5.30
21- 31 . . .	2,066	736,749	3,258,048	4.42	2,756	919,208	4,999,503	5.44
31- 41 . . .	1,405	535,148	2,563,056	4.79	1,636	489,452	2,900,476	5.93
41- 51 . . .	986	280,679	1,404,732	5.00	1,167	451,856	2,767,433	6.12
51- 61 . . .	797	247,533	1,313,186	5.31	817	212,117	1,466,165	6.91
61- 71 . . .	618	175,765	984,243	5.60	605	129,195	926,383	7.17
71- 81 . . .	430	114,219	582,786	5.10	286	87,894	578,649	6.58
81- 91 . . .	257	56,727	370,259	6.53	168	57,061	423,894	7.43
91-100 . . .	52	10,850	76,434	7.04	28	4,524	36,930	8.16
Total . . .	15,485	4,631,158	19,454,397	.....	21,528	6,408,514	33,545,378	.....

* Per basic unit exposed.

TABLE 5
 COMBINED 1954-56 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, 10×.....	692	757,571	2,088,541	\$2.76
Reimbursement Plans with 9 Months Maternity Waiting Period and 10× Daily Benefit for Maternity				
31 Day, 10×.....	7,441	7,502,752	24,577,494	3.28
70 Day, 10×.....	1,015	1,065,043	3,919,592	3.68
31 Day, 20×.....	3,787	3,641,040	13,836,899	3.80
70 Day, 20×.....	1,512	2,196,223	8,503,995	3.87

* Per \$1.00 of exposure.

years' reports. The ratios differ from those shown in previous reports because they are based on the 1954-56 level of experience; however, the trends shown in this year's and in previous years' reports are consistent.

The upward trend of Hospital and Surgical claim costs exhibited in Table 7 reflects the generally increasing costs of hospital and medical care.

Male and Female Costs

As in recent previous reports, 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. The

TABLE 6
COMBINED 1954-56 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.....	1,264	263,359	2,332,332	\$ 8.86	2,617	677,425	7,460,375	\$11.01
With Obstetrical Benefits 9 Months Waiting Period.	8,381	2,016,564	25,998,625	12.89	17,665	3,323,347	48,246,655	14.52

* Per basic unit exposed.

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

The parameters in Table 8 are the result of the composite experience of groups whose claim costs vary widely as a result of such influences as geographical location, industrial classification, age distribution, etc. The resulting lack of homogeneity also produces variations and inconsistencies when male and female costs are derived or compared.

Dispersion of Claim Costs

Previous reports have discussed the dispersion of crude claim costs of groups included in these studies. While no attempt was made to measure

TABLE 7
 GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE
 SECULAR TREND
 STANDARDIZED MORBIDITY RATIOS
 Base: 1954-56 Policy Years' Experience

POLICY YEAR EXPERIENCE	EMPLOYEE HOSPITAL EXPENSE NONRATED INDUSTRIES				EMPLOYEE SURGICAL EXPENSE		
	31, 10×, 10×, Reimb. and 31, 14+10×, 10×, F.B.	Other 10× Plans	All 20× Plans	All Plans	\$150 Schedule	\$200 Schedule	Both Schedules
1947.....	71%				78%		
1948.....	71				83		
1949.....	76				86		
1950.....	81				88		
1951.....	86				90	89%	89%
1952.....	89	93%	96%	92%	95	93	94
1953.....	94	98	99	96	100	96	97
1954.....	99	97	99	99	99	99	99
1955.....	98	99	100	99	101	100	100
1956.....	104	104	103	104	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
1947.....	78%			86%		
1948.....	84			90		
1949.....	87			93		
1950.....	90			95		
1951.....	94			99	102%	101%
1952.....	95	98%	97%	98	97	97
1953.....	98	102	100	97	101	99
1954.....	99	100	99	99	100	99
1955.....	99	100	99	98	100	99
1956.....	102	101	101	105	101	102

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

TABLE 8
ANALYSIS OF MALE AND FEMALE EXPERIENCE
ALL EXPOSURE SIZES

PLAN	1954-56 POLICY YEARS' EXPERIENCE				1956 LEVEL OF CLAIM COSTS		PARAMETER RATIO	
	Exposure Size Groupings							
	0-7			0-9		Male Parameter		Female Parameter
	Amount Exposed	Female Percentage of Total Exposure	Female Percentage of Total Exposure	Male Parameter	Female Parameter			
Group Weekly Indemnity Insurance	<11%	7,830,310						
1-4-13	Σ	14,786,290	15%	18%	.538	1.305	243%	
4-4-13	<11%	1,357,360						
	Σ	2,767,570	18	15	.547	.952	174	
1-8-13	<11%	20,425,000						
	Σ	48,873,920	21	20	.439	1.114	254	
8-8-13	<11%	4,374,560						
	Σ	13,352,370	25	23	.443	1.151	260	
1-8-26	<11%	11,779,760						
	Σ	20,182,550	15	15	.711	1.353	190	
8-8-26	<11%	1,708,740						
	Σ	3,657,230	20	16	.579	1.252	216	
Employee Hospital Expense	<11%	1,669,076						
31 Day, 10×, 10×, Reimbursement	Σ	4,783,023	26	27	1.348	2.137	159	
31 Day, 14+10×, 10×, Reimbursement	<11%	385,137						
	Σ	1,001,201	23	23	1.219	2.411	198	
70 Day, 10×, 10×, Reimbursement	<11%	263,458						
	Σ	701,220	24	21	1.314	2.513	191	
31 Day, 10×, 20×, Reimbursement	<11%	1,026,017						
	Σ	2,598,280	22	22	1.477	2.417	164	
70 Day, 10×, 20×, Reimbursement	<11%	523,637						
	Σ	1,304,287	20	21	1.622	2.326	143	
31 Day, 14+10×, 10×, Fixed Benefit	<11%	1,107,093						
	Σ	3,301,934	25	24	1.527	2.143	140	

TABLE 8—Continued

PLAN	1954-56 POLICY YEARS' EXPERIENCE				1956 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			
Employee Hospital Expense —Continued							
70 Day, 14+10×, 10×, Fixed Benefit.....	<11% Σ	358,680 1,074,014	22	22	1.664	1.888	113
31 Day, 14+20×, 20×, Fixed Benefit.....	<11% Σ	262,689 716,147	21	19	1.639	2.946	180
70 Day, 14+20×, 20×, Fixed Benefit.....	<11% Σ	171,982 509,007	20	18	1.665	3.161	190
Employee Surgical Expense							
\$150 Schedule.....	<11% Σ	866,829 2,669,104	26	24	3.067	7.555	246
\$200 Schedule.....	<11% Σ	1,513,864 3,773,344	21	20	4.267	9.504	223

the fluctuations present in the figures 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 might have significantly different claim costs from the averages shown in this report.

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.

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 1954 through 1956. For the remaining

three companies, the experience of the three policy years ending during the period July 1, 1953 through June 30, 1956 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