

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1956 REPORTS**

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

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

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

This year's report covers all plans included in the study last year. All tables of exposures, claims and annual claim costs are based on the combined 1953-1955 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, have 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.

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 Dependents, and for Dependents Hospital Expense insurance are based on the experience of groups regardless of industrial classification; tables covering these plans are headed "All Industries."

The term "experience unit" is defined as a policy year's experience of an insured group.

In describing Weekly Indemnity plans, the first and second terms are the days on which benefits begin in the case of disabilities due to accident or sickness, respectively; the third is the maximum number of weeks of benefit. For example, a 1-8-13 plan provides for payments to begin on the first day of disability due to accident and on the eighth day of disability due to sickness, with a maximum period, in either case, of 13 weeks. Under

TABLE 1
 COMBINED 1953-55 POLICY YEARS' EXPERIENCE
 GROUP WEEKLY INDEMNITY INSURANCE
 WITH 6 WEEKS MATERNITY BENEFIT
 NONRATED INDUSTRIES

FEMALE PERCENT	NUM- BER OF EXPE- RIENCE UNITS	WEEKLY INDEMNITY EXPOSED	CLAIMS	AN- NUAL CLAIM COST*	NUM- BER OF EXPE- RIENCE UNITS	WEEKLY INDEMNITY EXPOSED	CLAIMS	AN- NUAL CLAIM COST*
13-WEEK PLANS								
1st Day Accident and 4th Day Sickness				4th Day Accident and 4th Day Sickness				
<11%	2,818	10,981,780	6,630,189	\$.60	343	2,562,260	1,446,930	\$.56
11-21	1,163	5,516,500	3,704,509	.67	160	3,086,350	2,277,355	.74
21-31	551	3,339,590	2,693,600	.81	55	177,160	116,338	.66
31-41	236	1,481,830	1,255,786	.85	57	343,940	256,508	.75
41-51	157	801,860	697,439	.87	16	51,890	49,854	.96
51-61	87	1,193,310	937,664	.79	24	118,300	161,810	1.09
61-71	66	263,330	244,730	.93	19	52,640	45,675	.87
71-81	30	80,730	75,347	.93	8	49,270	45,830	.93
81-91	23	138,080	83,467	.60	5	1,710	1,618	.95
91-100	7	2,980	1,740	.58	2	6,290	1,354	.22
Total	5,138	23,799,990	16,324,471	.....	689	6,479,810	4,403,272	.....
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	7,663	36,168,920	17,592,126	\$.49	1,168	8,468,350	4,075,274	\$.48
11-21	3,739	16,582,130	9,309,386	.56	599	8,237,750	5,040,415	.61
21-31	2,094	10,003,100	6,144,271	.61	343	10,569,870	7,229,518	.68
31-41	1,192	7,180,210	5,548,668	.77	313	3,667,050	2,453,680	.67
41-51	876	4,685,130	3,848,644	.82	203	2,049,810	1,755,682	.86
51-61	628	3,340,910	2,822,968	.84	149	995,950	804,923	.81
61-71	426	1,668,620	1,464,779	.88	113	656,630	538,344	.82
71-81	298	891,130	811,081	.91	112	414,160	358,611	.87
81-91	153	424,550	416,468	.98	73	372,740	374,183	1.00
91-100	39	108,280	87,955	.81	25	54,710	66,346	1.21
Total	17,108	81,052,980	48,046,346	.....	3,098	35,487,020	22,696,976	.....
26-WEEK PLANS								
1st Day Accident and 8th Day Sickness				8th Day Accident and 8th Day Sickness				
<11%	2,017	24,797,110	17,015,692	\$.69	293	7,398,360	4,832,437	\$.65
11-21	728	10,962,150	7,689,631	.70	152	4,076,960	2,673,950	.66
21-31	350	6,053,620	5,439,275	.90	69	2,972,130	2,137,628	.72
31-41	183	3,318,320	3,168,606	.95	39	410,560	354,531	.86
41-51	114	1,227,790	1,218,073	.99	37	1,391,480	1,555,396	1.12
51-61	72	815,240	732,452	.90	16	125,610	125,888	1.00
61-71	51	382,790	435,937	1.14	9	114,760	147,008	1.28
71-81	18	215,400	303,141	1.41	2	7,310	2,898	.40
81-91	1	2,230	5,309	2.38	3	22,690	11,734	.52
91-100	1	5,350	9,271	1.73	0	0	0	.....
Total	3,535	47,780,000	36,017,387	.....	620	16,519,860	11,841,470	.....

* Per \$1.00 of exposure.

all plans studied, a total maximum period of 6 weeks applies to all disabilities due to any one pregnancy.

The first term of the description of an Employee Hospital Expense plan shows the maximum nonmaternity benefit duration, 31 days or 70 days. The second term covers the total maternity benefit for any one pregnancy: 10× indicates that benefits for all hospital charges including room and board are limited to 10 times the maximum daily benefit; 14 + 10× indicates a daily benefit up to a maximum of 14 days and in addition a maximum for all hospital charges other than room and board of 10 times the daily benefit. The third term shows the maximum for all nonmaternity hospital charges other than room and board: 20× indicates a maximum

TABLE 2
GROUP WEEKLY INDEMNITY INSURANCE
NONRATED INDUSTRIES
SECULAR TREND
STANDARDIZED MORBIDITY RATIOS
Base: 1953-55 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.....	107%	103%	105%	104%
1948.....	99	99	100	99
1949.....	97	98	94	96
1950.....	93	95	98	96
1951.....	94	95	92	94
1952.....	100	101	100	100
1953.....	105	104	99	103
1954.....	101	101	102	102
1955.....	95	94	99	96

of 20 times the daily benefit. Under Reimbursement plans, hospital charges are paid up to the maximum benefits provided; under Fixed Benefit plans the daily benefit is paid for each day of confinement without regard to the actual charges.

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.

Although some of the ratios for the latest years in Tables 2 and 7 show a leveling or even a decline in claim costs, preliminary results for the 1956 policy year indicate an upward trend in some areas. The level of claim costs shown for 1955 may not be indicative of current or future experience.

TABLE 3
 COMBINED 1953-55 POLICY YEARS' EXPERIENCE
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE
 NONRATED INDUSTRIES

FEMALE PERCENT	NUM- BER OF EXPE- RIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	AN- NUAL CLAIM COST*	NUM- BER OF EXPE- RIENCE UNITS	DAILY BENEFIT EXPOSED	CLAIMS	AN- NUAL CLAIM COST*
10X REIMBURSEMENT PLANS								
31 Day, 10X Maternity Benefit					31 Day, 14+10X Maternity Benefit			
<11%	1,898	2,089,488	2,690,594	\$1.29	506	682,261	869,083	\$1.27
11- 21	938	1,156,934	1,529,114	1.32	292	425,879	596,119	1.40
21- 31	635	907,448	1,267,105	1.40	113	257,936	337,136	1.31
31- 41	413	827,334	1,218,975	1.47	90	271,739	405,818	1.49
41- 51	310	329,123	537,241	1.63	70	77,857	134,074	1.72
51- 61	224	386,337	671,924	1.74	71	99,244	171,203	1.73
61- 71	228	280,631	502,131	1.79	40	84,906	138,498	1.63
71- 81	135	225,552	418,778	1.86	16	72,757	146,489	2.01
81- 91	87	128,341	254,035	1.98	7	8,971	21,333	2.38
91-100	17	19,884	45,281	2.28	4	5,522	11,259	2.04
Total	4,885	6,351,072	9,135,178	.....	1,209	1,987,072	2,831,012	.....
70 Day, 10X Maternity Benefit								
<11%	258	478,127	657,475	\$1.38				
11- 21	132	150,000	219,341	1.46				
21- 31	89	153,959	222,759	1.45				
31- 41	38	51,776	83,354	1.61				
41- 51	49	76,868	128,713	1.67				
51- 61	42	63,185	110,171	1.74				
61- 71	21	71,493	133,206	1.86				
71- 81	8	3,790	6,886	1.82				
81- 91	1	250	639	2.56				
91-100	1	517	881	1.70				
Total	639	1,049,965	1,563,425	.....			
20X REIMBURSEMENT PLANS								
31 Day, 10X Maternity Benefit					70 Day, 10X Maternity Benefit			
<11%	981	1,068,611	1,565,441	\$1.46	379	569,664	945,035	\$1.66
11- 21	458	795,477	1,261,142	1.59	223	646,647	1,192,806	1.84
21- 31	286	371,870	586,360	1.58	183	167,777	296,781	1.77
31- 41	167	281,571	438,366	1.56	48	61,911	109,965	1.78
41- 51	112	145,123	274,232	1.89	26	33,838	53,089	1.57
51- 61	85	151,194	318,209	2.10	52	121,893	238,490	1.96
61- 71	57	76,634	145,806	1.90	34	58,537	114,824	1.96
71- 81	25	40,196	78,408	1.95	9	31,629	50,715	1.60
81- 91	22	28,946	71,213	2.46	3	2,465	6,395	2.59
91-100	0	0	0	.....	0	0	0	.....
Total	2,193	2,959,622	4,739,177	.....	957	1,694,361	3,008,100	.....

* 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%	1,780	2,297,559	3,374,281	\$1.47	586	827,679	1,298,471	\$1.57
11- 21	1,077	1,938,524	2,726,483	1.41	366	528,365	758,971	1.44
21- 31	542	978,194	1,446,082	1.48	204	219,694	365,538	1.66
31- 41	420	556,225	913,548	1.64	134	272,482	423,805	1.56
41- 51	274	456,983	732,773	1.60	95	142,257	224,169	1.58
51- 61	206	243,185	443,152	1.82	57	77,892	145,707	1.87
61- 71	158	315,047	660,242	2.10	53	98,829	184,705	1.87
71- 81	120	198,100	414,822	2.09	26	18,792	43,184	2.30
81- 91	42	83,575	180,457	2.16	11	12,966	27,152	2.09
91-100	13	12,258	23,812	1.94	0	0	0	.....
Total	4,632	7,079,650	10,915,652	.....	1,532	2,198,956	3,471,702	.....
20× FIXED BENEFIT PLANS								
31 Day, 14+20× Maternity Benefit				70 Day, 14+20× Maternity Benefit				
<11%	255	431,352	679,404	\$1.58	215	458,102	790,353	\$1.73
11- 21	168	554,949	950,813	1.71	133	468,470	855,061	1.83
21- 31	93	167,964	326,769	1.95	71	123,425	268,605	2.18
31- 41	46	138,563	273,220	1.97	45	100,908	204,969	2.03
41- 51	35	91,466	192,893	2.11	19	12,774	31,500	2.47
51- 61	28	31,292	63,028	2.01	25	51,556	118,485	2.30
61- 71	14	24,498	54,692	2.23	15	16,060	37,010	2.30
71- 81	6	5,426	15,024	2.77	3	1,248	3,245	2.60
81- 91	2	1,082	3,070	2.84	2	1,081	2,051	1.90
91-100	0	0	0	.....	0	0	0	.....
Total	647	1,446,592	2,558,913	.....	528	1,233,624	2,311,279	.....

* Per \$1.00 of exposure.

The standardized morbidity ratio is of the type used in the last two years' reports. The ratio for any policy year's experience was calculated as follows: the crude claim cost for that year was applied (by female percentage groups, in the case of employee plans) to the accumulated 1953-1955 exposure and the resulting total of calculated claims was divided by the corresponding actual claims of the accumulated 1953-1955 experience. The ratios differ from those shown in previous reports because they are based on different exposures; however, the trends shown in this year's and in previous years' reports are consistent.

TABLE 4
COMBINED 1953-55 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% . . .	6,949	1,971,193	6,542,493	\$3.32	8,571	2,440,191	10,674,071	\$4.37
11- 21 . . .	4,053	1,199,787	4,761,279	3.97	4,681	1,460,045	7,635,815	5.23
21- 31 . . .	2,514	978,471	4,176,707	4.27	2,509	894,327	4,846,191	5.42
31- 41 . . .	1,729	648,250	3,116,208	4.81	1,478	454,498	2,668,580	5.87
41- 51 . . .	1,199	359,264	1,832,067	5.10	1,046	436,835	2,645,947	6.06
51- 61 . . .	979	301,227	1,596,101	5.30	763	217,224	1,493,324	6.87
61- 71 . . .	749	210,732	1,191,922	5.66	546	123,455	906,748	7.34
71- 81 . . .	505	119,139	711,658	5.97	280	100,995	656,301	6.50
81- 91 . . .	308	66,041	433,100	6.56	147	44,578	318,766	7.15
91-100 . . .	59	12,107	94,457	7.80	26	4,118	33,901	8.23
Total . . .	19,044	5,866,211	24,455,992	.....	20,047	6,176,266	31,879,644	.....

* Per basic unit exposed.

Male and Female Costs

As in recent previous reports, 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 parameters were derived from the 1953-1955 policy year experience of exposure size groups 0-7 included in Tables 1, 3, and 4 and were adjusted to reproduce the level of crude claim costs of all exposure size groups for the 1955 policy year. The 1953 report discussed the considerations underlying these parameters and described their calculation in detail.

TABLE 5
 COMBINED 1953-55 POLICY YEARS' EXPERIENCE
 DEPENDENTS 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.....	870	1,090,627	2,979,073	\$2.73
Reimbursement Plans with 9 Months Maternity Waiting Period and 10X Daily Benefit for Maternity				
31 Day, 10X.....	8,406	8,106,666	26,211,720	3.23
70 Day, 10X.....	1,036	1,236,615	4,614,849	3.73
31 Day, 20X.....	3,522	3,613,411	13,741,890	3.80
70 Day, 20X.....	1,403	2,437,895	9,523,835	3.80

* Per \$1.00 of exposure.

TABLE 6
 COMBINED 1953-55 POLICY YEARS' EXPERIENCE
 DEPENDENTS 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.....	1,629	349,491	3,114,224	\$ 8.91	2,299	648,722	7,276,120	\$11.22
With Obstetrical Benefits 9 Months Waiting Period..	9,943	2,396,615	30,235,909	12.62	15,803	3,175,099	45,871,699	14.45

* Per basic unit exposed.

TABLE 7
 GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE
 SECULAR TREND
 STANDARDIZED MORBIDITY RATES
 Base: 1953-55 Policy Years' Experience

POLICY YEAR EXPERIENCE	EMPLOYEE HOSPITAL EXPENSE NONRATED INDUSTRIES				EMPLOYEE SURGICAL EXPENSE		
	31, 10X, 10X, Reimb. and 31, 14-10X, 10X, F.B.	Other 10X Plans	All 20X Plans	All Plans	\$150 Schedule	\$200 Schedule	Both Schedules
1947	73%				79%		
1948	74				83		
1949	79				86		
1950	83				88		
1951	88				90	90%	90%
1952	92	96%	95%	93%	95	94	95
1953	97	100	100	98	99	98	99
1954	102	100	100	101	99	101	100
1955	101	100	100	100	102	101	101

POLICY YEAR EXPERIENCE	DEPENDENTS HOSPITAL EXPENSE			DEPENDENTS SURGICAL EXPENSE		
	All 10X Plans	All 20X Plans	All Plans	\$150 Schedule	\$200 Schedule	Both Schedules
1947	79%			88%		
1948	84			92		
1949	88			94		
1950	91			97		
1951	94			101	102%	101%
1952	96	98%	97%	100	97	98
1953	99	102	100	99	101	100
1954	100	99	100	101	100	100
1955	100	99	100	100	100	100

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

TABLE 8
ANALYSIS OF MALE AND FEMALE EXPERIENCE
ALL EXPOSURE SIZES

PLAN	1953-55 POLICY YEARS' EXPERIENCE				1955 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				
Group Weekly Indemnity Insurance							
1-4-13	<11% 8,126,780 Σ 15,193,780	15%	18%	.528	1.254	238%	
4-4-13	<11% 1,460,810 Σ 3,053,110	18	15	.552	.882	160	
1-8-13	<11% 21,820,420 Σ 51,679,030	21	20	.423	1.094	259	
8-8-13	<11% 4,942,150 Σ 14,809,250	25	23	.433	1.208	279	
1-8-26	<11% 11,787,550 Σ 20,188,030	15	15	.652	1.346	206	
8-8-26	<11% 1,776,760 Σ 3,732,570	19	17	.601	1.344	224	
Employee Hospital Expense							
31 Day, 10X, 10X, Reimbursement	<11% 1,748,764 Σ 4,885,789	25	26	1.257	1.975	157	
31 Day, 14+10X, 10X, Reimbursement	<11% 440,462 Σ 1,163,362	23	24	1.174	2.221	189	
70 Day, 10X, 10X, Reimbursement	<11% 272,259 Σ 692,587	24	22	1.302	2.602	200	
31 Day, 10X, 20X, Reimbursement	<11% 947,273 Σ 2,258,928	22	21	1.441	2.311	160	
70 Day, 10X, 20X, Reimbursement	<11% 402,868 Σ 1,034,375	19	20	1.626	2.171	134	
31 Day, 14+10X, 10X, Fixed Benefit	<11% 1,422,304 Σ 4,169,301	25	23	1.372	2.241	163	
70 Day, 14+10X, 10X, Fixed Benefit	<11% 526,548 Σ 1,497,836	23	22	1.453	1.786	123	
31 Day, 14+20X, 20X, Fixed Benefit	<11% 306,283 Σ 837,313	21	19	1.453	2.788	192	
70 Day, 14+20X, 20X, Fixed Benefit	<11% 240,649 Σ 615,152	19	17	1.636	3.349	205	
Employee Surgical Expense							
\$150 Schedule	<11% 1,117,331 Σ 3,293,645	25	24	3.054	7.986	261	
\$200 Schedule	<11% 1,418,968 Σ 3,542,683	21	20	4.085	9.620	235	

As brought out in that discussion, 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 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 out 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 1953 through 1955. For the remaining three companies, the experience of the three policy years ending during the period July 1, 1952 through June 30, 1955 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