

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1956 REPORTS**

II. GROUP MAJOR MEDICAL EXPENSE INSURANCE

THE Committee, recognizing the interest in, and importance of, Major Medical Expense insurance, has made a pilot study in an attempt to determine a satisfactory form for future studies of experience under this coverage. This study was primarily an analysis of those types of medical expenses which are eligible for reimbursement under employee and dependent Major Medical plans and the basic plans on which they are superimposed. Most of the experience was under Major Medical plans integrated with basic Hospital and Surgical coverages, with a small amount of data on comprehensive plans; because of the paucity

TABLE 9  
SPECIAL MAJOR MEDICAL STUDY  
CLAIMS WITH EXPENSES OF \$1,000 OR MORE

DISTRIBUTION OF EXPENSES BY NATURE OF EXPENSE AND TYPE OF CLAIMANT

	HOSPITAL		SUR- GICAL	PHYSI- CIAN	LAB- ORA- TORY AND X-RAY	PRI- VATE DUTY NURS- ING	DRUGS AND MED- ICINE	OTHER MED- ICAL	TOTAL EXPENSES	NUM- BER OF CLAIMS	AVER- AGE EX- PENSE
	Room and Board	Other									
Male Employee . . . . .	32%	18%	17%	14%	2%	11%	3%	3%	\$2,124,285	1,053	\$2,017
Female Employee . . . . .	32	20	17	16	1	9	2	3	599,083	315	1,902
Wife . . . . .	34	16	15	15	2	13	3	2	1,755,854	873	2,011
Husband . . . . .	39	16	14	19	1	6	3	2	69,148	32	2,161
Children . . . . .	38	15	13	18	1	10	2	3	368,645	170	2,169
All Claimants	33%	17%	16%	15%	2%	11%	3%	3%	\$4,917,015	2,443	\$2,013

of data, claims under all types of plan were grouped together for this report.

The study was confined to Major Medical Expense insurance claims on which the total of all eligible expenses (including those amounts paid under basic plans and those which went toward satisfying the deductible) underlying such claims reached \$1,000 or more. In general, the study covered the experience of 1954.

For a small portion of the data analyzed in Tables 9, 10 and 11, additional information was furnished concerning the distribution of claims by age and wage. Because of the limited amount of data available, the results cannot be considered reliable; however, the available information is shown for whatever general value it may have. Tables 12 and 13 show relative

frequencies only. In these tables, it was not possible to remove the effects of the interdependence of age and wage because of the form in which the data were collected. A simple analysis of average claim size by age and wage groups, as shown in Table 14, may be of some interest on this subject.

TABLE 10  
SPECIAL MAJOR MEDICAL STUDY  
CLAIMS WITH EXPENSES OF \$1,000 OR MORE  
DISTRIBUTION OF EXPENSES AND NUMBER  
OF CLAIMS BY SIZE

Expenses per Claim	Total Expenses	Number of Claims
\$ 1,000-\$ 1,500	\$1,437,953	1,187
1,500- 2,000	868,702	502
2,000- 2,500	566,642	256
2,500- 3,000	395,082	146
3,000- 3,500	300,743	93
3,500- 4,000	293,954	79
4,000- 4,500	215,933	51
4,500- 5,000	165,265	35
5,000- 5,500	83,845	16
5,500- 6,000	143,358	25
6,000- 6,500	49,961	8
6,500- 7,000	74,879	11
7,000- 7,500	57,021	8
7,500- 8,000	38,531	5
8,000- 8,500	24,721	3
8,500- 9,000	17,706	2
9,000- 9,500	18,421	2
9,500- 10,000	19,847	2
10,000 and over	144,451	12
Total	\$4,917,015	2,443

It should be noted that since only claims where medical expenses totaled at least \$1,000 were included in this study, the relative frequencies (and average size of claim) shown in the tables refer only to larger claims. Particularly at the younger ages where many of the claims may be excluded from this study because of low total medical expenses, these **relative frequencies** and average medical expenses, for all size claims, may be quite different.

TABLE 11

SPECIAL MAJOR MEDICAL STUDY CLAIMS WITH EXPENSES OF \$1,000 OR MORE  
DISTRIBUTION OF EXPENSES AND NUMBER OF CLAIMS BY TYPE OF CLAIMANT AND NATURE OF ILLNESS

	MALE			FEMALE			WIFE			HUSBAND			CHILDREN			TOTAL ALL CLAIMANTS			
	Expenses		Number of Claims	Expenses		Number of Claims	Expenses		Number of Claims	Expenses		Number of Claims	Expenses		Number of Claims	Expenses		Number of Claims	Average Expenses
	Amount	Per cent		Amount	Per cent		Amount	Per cent		Amount	Per cent		Amount	Per cent		Amount	Per cent		
	Amount	Per cent	Number of Claims	Amount	Per cent	Number of Claims	Amount	Per cent	Number of Claims	Amount	Per cent	Number of Claims	Amount	Per cent	Number of Claims	Amount	Per cent	Number of Claims	Average Expenses
Tuberculosis	45,119	2.1	18	7,573	1.3	5	16,326	.9	7	6,120	8.9	1	1,927	5	1	77,065	1.6	32	2,408
Senility	47,733	2.2	20				5,869	.3	3							53,602	1.1	23	2,331
Malignant Neoplasms	275,029	12.9	129	111,614	18.6	49	293,160	16.7	129	10,574	15.3	6	22,039	6.0	13	712,416	14.5	326	2,185
Mental	137,082	6.5	53	56,044	9.4	27	203,192	11.6	87	8,761	12.7	2	52,401	14.2	19	457,480	9.3	188	2,433
Multiple Sclerosis	8,671	.4	4				8,572	.5	4				1,380	.4	1	18,623	.4	9	2,069
Poliomyelitis	18,124	.9	6	3,530	.6	2	8,287	.5	4				24,754	6.7	9	54,695	1.1	21	2,605
Cerebral	25,204	1.2	11	1,034	.2	1	24,699	1.4	8	2,012	2.9	1	5,759	1.6	2	58,708	1.2	23	2,553
Spinal	23,901	1.1	13	2,575	.4	2	21,972	1.3	10				12,230	3.3	4	60,678	1.2	29	2,092
Vision	51,360	2.4	25	3,822	.6	2	10,911	.6	7	1,846	2.7	1	3,507	1.0	3	71,446	1.5	38	1,880
Heart	368,845	17.4	182	41,601	6.9	23	130,395	7.4	62	9,710	14.0	6	20,971	5.7	11	571,522	11.6	284	2,012
Blood	44,547	2.1	14	10,179	1.7	5	21,754	1.2	13	1,928	2.8	1	5,450	1.5	4	83,858	1.7	37	2,266
Ulcers	131,526	6.2	80	18,003	3.0	11	28,461	1.6	18	3,444	5.0	2				181,434	3.7	111	1,635
Accident	126,482	6.0	56	70,646	11.8	35	120,556	6.9	47	1,660	2.4	1	68,267	18.5	33	387,611	7.9	172	2,254
Maternity				6,510	1.1	4	45,763	2.6	28				2,164	.6	1	54,437	1.1	33	1,650
All Other	820,662	38.6	442	265,952	44.4	149	815,937	46.5	445	23,093	33.3	11	147,796	40.0	70	2,073,440	42.1	1,117	1,856
Total	2,124,285	100.0	1,053	599,083	100.0	315	1,755,854	100.0	872	69,148	100.0	32	368,645	100.0	171	4,917,015	100.0	2,443	2,013

**TABLE 12**  
**SPECIAL MAJOR MEDICAL STUDY**  
**CLAIMS WITH EXPENSES OF \$1,000 OR MORE**  
**AGE FREQUENCY ANALYSIS**

	Ages under 40	Ages 40-44	Ages 45-49	Ages 50-54	Ages 55-59	Ages 60-64	Ages 65 and over
Actual Claims . . .	94	43	43	75	57	44	16
Relative Frequen- cies . . . . .	100%	183%	213%	456%	466%	669%	851%

**TABLE 13**  
**SPECIAL MAJOR MEDICAL STUDY**  
**CLAIMS WITH EXPENSES OF \$1,000 OR MORE**  
**WAGE FREQUENCY ANALYSIS**

	Annual Wages			
	Less Than \$5,000	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 and over
Actual Claims . . . . .	46	72	50	22
Relative Frequencies . .	100%	170%	221%	451%

**TABLE 14**  
**SPECIAL MAJOR MEDICAL STUDY**  
**CLAIMS WITH EXPENSES OF \$1,000 OR MORE**  
**DISTRIBUTION OF EXPENSES AND NUMBER OF CLAIMS BY AGE AND WAGE**  
**MALE AND FEMALE EMPLOYEES COMBINED**

AGE	AVERAGE WAGES OF LESS THAN \$10,000			AVERAGE WAGES OF \$10,000 AND OVER		
	Expenses	Number of Claims	Average Expenses	Expenses	Number of Claims	Average Expenses
Under 30 . . . . .	\$ 99,986	51	\$1,961	.....	.....	.....
30-39 . . . . .	177,545	94	1,889	\$ 12,605	6	\$2,101
40-49 . . . . .	273,921	154	1,779	42,014	25	1,681
50-59 . . . . .	393,341	212	1,855	68,103	30	2,270
60 and over	154,377	78	1,979	74,994	21	3,571
All Ages.	\$1,099,170	589	\$1,866	\$197,716	82	\$2,411