

SPECIAL INVESTIGATION OF GROUP HOSPITAL  
EXPENSE INSURANCE EXPERIENCE

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INTRODUCTION

GROUP hospital expense insurance was first introduced about 1934 and has grown tremendously in recent years. By the end of 1951, there were an estimated 26,600,000 persons (employees and dependents) protected in the United States under this form of insurance. Altogether almost 86,000,000 persons had hospital expense protection at the end of 1951 under all types of voluntary plans provided by group and individual insurance contracts, Blue Cross contracts, etc. The group hospital expense insurance in force at the end of 1951 was underwritten by 148 insurance carriers (including a few carriers that have insurance in effect only on their own employees). It is apparent that analyses of the experience of this rapidly expanding form of group insurance are of considerable importance and widespread interest.

The regular annual reports of the Group Mortality and Morbidity Committee have shown the experience of various group hospital expense insurance plans in the form of annual claim costs per dollar of exposure. Generally speaking, the methods employed in the operation of group hospital expense insurance coverages do not readily provide data from which a direct analysis of claim durations, frequencies and other detailed claim information can be prepared. However, Mr. G. W. Fitzhugh found it possible to obtain that type of data directly in the early years of the development of this insurance. His paper entitled "Further Developments in Group Hospital Expense Insurance" was presented in *RAIA XXIX*.

Since detailed claim information is not readily available to the Committee on Group Mortality and Morbidity on an annual basis, a special investigation was planned. That investigation is summarized in this paper in the following eight sections:

- Sec. I. Description of Plans
- Sec. II. Description of Samples
- Sec. III. Summary of Average Durations, Hospital Charges and Benefits Paid by Plan
- Sec. IV. Analysis of Charges for Miscellaneous Services
- Sec. V. Analysis of Claim Frequencies
- Sec. VI. Presentation of Continuation Data
- Sec. VII. Construction of Basic Claim Cost and Continuation Tables
- Sec. VIII. Analyses by Age and Geographical Location

The tables contained in this paper are numbered consecutively within each section and are prefaced by the Roman numeral of the section in which they are included. Since Section I contains no tables, the first table in this paper is II-1.

The responsibility for the work presented in this paper and its interpretation is primarily that of the author. However, its planning and execution depended on the cooperation of the Committee on Group Mortality and Morbidity and the contributing companies, whose invaluable assistance is greatly appreciated. Thanks are also due to Mr. C. J. Cicoro who very ably supervised the extensive statistical work involved in the preparation of this paper. The extent to which the judgment of the author was involved in the analysis and interpretation of the data collected and the desire to encourage discussion of the results led to the decision to present this study as a paper rather than as a report of the Committee.

#### SECTION I. DESCRIPTION OF PLANS

Group hospital expense insurance plans usually provide two benefits, one of which relates to hospital charges for room and board while the other relates to hospital charges for all services other than room and board.

The first type of benefit is an indemnity of a specified amount for each day of hospital confinement up to a specified maximum number of days, such as 31 or 70 days for each disability. This benefit alternatively takes the form of a reimbursement for room and board charges made by the hospital up to a specified maximum for each day of confinement, subject to an over-all maximum of a specified number of times (usually 31 or 70) the daily limit. Plans providing the indemnity type of benefit are commonly referred to as "fixed benefit" plans. Contracts providing the alternate benefit are referred to as "reimbursement" plans.

Under both the fixed benefit and the reimbursement plans, the other benefit provided consists of reimbursement for hospital charges for use of the operating room, X-rays, laboratory, ambulance, blood plasma, drugs and dressings, electrocardiograms, oxygen and other necessary services and supplies. In addition to these hospital charges, reimbursement is usually allowed for any charge made by a physician for the administration and cost of an anaesthetic given in the hospital and for any charge made by a professional ambulance service for transportation to and from the hospital. The limit of the amount reimbursed for all such charges is usually expressed as a specified number of times the daily indemnity under fixed benefit plans, or of the daily maximum room and board benefit pro-

vided under reimbursement plans; this is commonly referred to as the "miscellaneous benefit."

The above description relates to the benefits provided for nonmaternity hospital confinements. For maternity confinements, one of two types of more restrictive limits is used. Either the plan provides reimbursement for the cost of room and board and miscellaneous services combined up to say ten times the daily room and board limit for nonmaternity confinements, or separate reimbursements are provided for room and board expenses (limited generally to fourteen days) and for miscellaneous service expenses. The limit on the reimbursement for miscellaneous service expenses may be either the same or less than that for nonmaternity confinements.

Group hospital expense insurance contracts do not generally provide benefits for confinements arising from disabilities covered under workmen's compensation and other similar legislation, but generally no other causes of hospital confinement are excluded. Hence, regular benefits are provided for tuberculosis and mental disorders, as well as other diseases that may involve long periods of hospital confinement. In the case of additions to employee groups after the initial enrollment is completed and generally in the case of dependents, maternity benefits are not provided for pregnancies existing at the time the insurance becomes effective. However, an extension of maternity benefits is generally provided for pregnancies existing at the time the insurance terminates. Similarly, a three-month extension of nonmaternity benefits is provided if disability exists at termination of insurance. Coverage is generally provided for unmarried dependent children between the ages of 14 days and 19 years.

#### SECTION II. DESCRIPTION OF SAMPLES

This investigation of group employee and dependents hospitalization claims is based on two special samples which are referred to as the 1950 claim sample and the 1951 claim sample. The original intention was to collect only the 1950 sample and most of the data presented in this paper were derived from it. However, there are several indications that group hospital expense insurance costs have been increasing steadily in recent years. Inasmuch as the length of time required for the analysis of the 1950 claim sample precluded publication of any results until 1952, it was felt that a short analysis of the most recent available claims would be of value in indicating trends in hospital charges since 1950. The analysis of the 1951 claim sample serves to illustrate the need for caution in using the earlier experience presented in this paper for estimating current or future experience. All tables presented in this paper are derived from analyses of

the 1950 claim sample, except where the table headings specifically refer to the 1951 claim sample.

The 1950 claim sample consisted of hospitalization claims completed in a twelve-month period closely approximating the calendar year 1950. The size of the sample submitted by each contributing company was approximately 5% of all claims completed during the period of observation under each plan being studied. The sample was chosen proportionately from the claims of each month during the period of observation in order to minimize seasonal bias. Maternity claims were included. Claims under policies providing occupational coverage and claims occurring during the first policy year were excluded. This sample was selected only from claims of insured persons located in the Continental United States.

For the employee group hospital expense insurance coverage, the sample was selected from plans providing nonmaternity room and board benefits up to 31 or 70 days, on a fixed benefit basis. All employee plans studied included maternity benefits providing a fixed daily benefit for room and board for each day of confinement up to a maximum of 14 days. Reimbursement for miscellaneous service charges was provided up to a maximum of 5, 10, 15 or 20 times the daily benefit rate.

Under the dependents group hospital expense insurance coverage, the claims submitted arose from 31-day or 70-day plans, either on a fixed benefit or on a reimbursement basis, with or without maternity benefits. Nonmaternity miscellaneous benefits provided reimbursement of miscellaneous service charges up to 5, 10, 15 or 20 times the daily maximum room and board reimbursement. Maternity benefits were either on the 10 times over-all reimbursement basis or on the 14-day room and board plus 5, 10, 15 or 20 times miscellaneous benefit basis.

The 1951 claim sample was based on group employee and dependent hospitalization claims completed or incurred during the calendar months of September, October, November and December of the calendar year 1951. This four-month period was chosen because it provided the most recent available data. Furthermore, an analysis of the 1950 claim sample indicated no particular bias for that period, as far as the average miscellaneous service charges are concerned. The 1951 claim sample was confined to claims arising from 31-day plans which, for nonmaternity claims, provided miscellaneous benefits of 10, 15, 20 or 31 times the daily benefit rate. No distinctions were made according to the payment basis for room and board benefits (fixed benefit or reimbursement) or according to type of maternity provision. Only claims arising from plans which became effective prior to August 1, 1951 were included.

Experience for both studies was submitted on punched cards. One

punched card was submitted for each claim. Nine companies—the Aetna Life Insurance Company, the Connecticut General Life Insurance Company, the Continental Assurance Company, the Equitable Life Assurance Society, the John Hancock Mutual Life Insurance Company, the Metropolitan Life Insurance Company, the Occidental Life Insurance Company of California, the Prudential Insurance Company of America, and The Travelers Insurance Company—contributed 24,144 employee claims and 43,902 dependent claims to the 1950 study. These nine companies underwrite somewhat more than two-thirds of the employee and dependent group hospital expense insurance in the United States. Four of these companies (the Aetna Life Insurance Company, the Connecticut General Life Insurance Company, the Prudential Insurance Company of America and The Travelers Insurance Company) submitted 6,600 employee claims and 11,192 dependent claims to the supplementary 1951 study.

TABLE II-1  
COMPOSITION OF 1950 CLAIM SAMPLE

	NONMATERNITY CLAIMS				MATERNITY CLAIMS				TOTAL NUMBER OF CLAIMS
	31-Day Plans		70-Day Plans		14-Day Plans		10 Times Plans		
	Number of Claims	Average Duration of Hospital Confinement (Days)†	Number of Claims	Average Duration of Hospital Confinement (Days)‡	Number of Claims	Average Duration of Hospital Confinement (Days)§	Number of Claims	Average Duration of Hospital Confinement (Days)§	
Employee Claims—Fixed Benefit Only									
Male—Nonrated Industries	10,767	8.0	2,484	8.3					13,251
Male—Rated Industries*	1,314	8.4	241	9.0					1,555
Female—Nonrated Industries	4,717	7.4	952	7.9	2,583	5.9			8,252
Female—Rated Industries*	523	7.7	84	8.5	265	6.0			872
Claims Involving All-Inclusive Hospital Charges*									214
Total									24,144
Dependent Claims									
Spouse—Reimbursement	9,562	7.5	2,008	8.5			7,052	5.5	18,622
Spouse—Fixed Benefit*	3,732	7.9	285	7.8			1,711	5.5	5,728
Child—Reimbursement	11,051	3.5	2,209	3.8					13,260
Child—Fixed Benefit*	4,164	4.0	361	3.7					4,525
Claims Involving All-Inclusive Hospital Charges and Board Maternity Benefits*									1,767
Total									43,902
Grand Total									68,046

\* These categories of claims are not further analyzed in this paper.

† Durations in excess of 31 days considered as 31 days.

‡ Durations in excess of 70 days considered as 70 days.

§ Durations in excess of 14 days considered as 14 days.

At the outset of the analysis of the 1950 claim sample, it was decided to eliminate 1,011 dependent wife maternity claims which arose from plans providing 14-day room and board benefits. This decision was made because such plans are relatively infrequent, and, in fact, the Committee on Group Mortality and Morbidity has not included data on such plans in its regular annual reports. Dependent claims on the fixed benefit basis were also omitted, since most of these were contributed by one company.

It was also necessary to exclude an additional 214 employee claims and 756 dependent claims for which no separation of hospital charges between room and board charges and miscellaneous service charges was available. These claims were for confinements in hospitals which make it a practice to present bills on an all-inclusive basis with no indication of what part of the bill is for room and board and what part is for miscellaneous services.

Claims arising from plans in industries rated substandard by the insurer for premium purposes were excluded from all analyses of the 1950 claim sample.

Table II-1 shows the number of claims and the average durations involved in the various categories of plans included in the 1950 claim sample. In computing the average durations of hospital confinement shown in this table, the durations of all nonmaternity confinements were limited to the maximum provided by the plan (*i.e.*, 31 or 70) and all maternity confinements were limited to a maximum of 14 days.

### SECTION III. SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES AND BENEFITS PAID BY PLAN

Tables III-1 through 6 present the more important averages that were developed directly from the 1950 claim sample. These tables are largely self-explanatory, but the following comments may be helpful.

In the calculation of column (4) "Average Daily Room and Board Rate Charged by Hospital," it was necessary to exclude claims whose durations equaled or exceeded the maximum benefit duration (31 or 70 days) provided by the plan. The reason for this exclusion was that some claims which could not be identified and which involved confinements in excess of the maximum benefit duration provided were reported as having involved confinements exactly equal to the maximum benefit duration.

In the calculation of column (5) "Average Duration of Hospital Confinement," the duration of hospital confinement for each claim was taken to the nearer day, except that claims involving hospital confinement of less than one day were classified as having zero days of confinement.

Column (10) "Average Miscellaneous Benefits Paid per Dollar of Daily Benefit Rate Provided" expresses the average miscellaneous benefit paid

TABLE III-1

EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND  
BENEFITS PAID BY PLAN

## 31-DAY FIXED BENEFIT PLANS—MALE CLAIMS—NONRATED INDUSTRIES

DAILY BENEFIT RATE PROVIDED	NUM- BER OF CLAIMS	AVER- AGE DAILY BENE- FIT RATE PRO- VIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOS- PITAL	AVER- AGE DURATION OF HOSPI- TAL CON- FINEMENT (DAYS)*	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVER- AGE MIS- CELLANEOUS BENE- FITS PAID PER DOLLAR OF DAILY BENE- FIT RATE PRO- VIDED (10)	RATIO OF MIS- CELLANEOUS BENE- FITS PAID TO TOTAL BENE- FITS PAID	RATIO OF TOTAL BENE- FITS PAID TO TOTAL EX- PENSES CHARGED
					Charged by Hos- pital	Paid by Plan	Charged	Paid by Plan			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Miscellaneous Benefit—5 Times Daily Benefit Rate Provided											
Less than \$5.00	944	\$3.86	\$ 8.56	9.0	\$ 80	\$35	\$ 69	\$18	\$ 4.67	34%	35%
\$5.00-\$5.99	1,438	5.01	8.54	8.9	83	44	67	23	4.54	34	45
6.00-6.99	970	6.00	9.30	8.5	85	51	67	26	4.40	34	51
7.00-7.99	737	7.00	8.81	8.8	80	62	57	30	4.30	33	67
8.00-8.99	438	8.00	9.34	8.7	85	69	62	33	4.06	32	70
\$9.00 and over	32	9.59	9.95	6.2	71	58	53	33	3.40	36	73
Total	4,559	\$5.63	\$ 8.83	8.8	\$ 82	\$49	\$ 65	\$25	\$ 4.40	34%	50%
Miscellaneous Benefit—10 Times Daily Benefit Rate Provided											
Less than \$5.00	205	\$4.00	\$ 7.43	8.3	\$ 67	\$33	\$ 62	\$31	\$ 7.81	48%	50%
\$5.00-\$5.99	1,702	5.01	8.19	7.4	64	37	61	37	7.37	50	59
6.00-6.99	2,102	6.01	8.51	7.4	66	44	60	40	6.70	48	67
7.00-7.99	896	7.05	8.97	7.5	72	53	67	44	6.20	45	70
8.00-8.99	613	8.05	9.45	7.5	73	61	72	48	5.99	44	75
\$9.00 and over	182	9.55	10.32	7.8	80	73	64	55	5.79	43	89
Total	5,700	\$6.13	\$ 8.61	7.5	\$ 67	\$46	\$ 63	\$41	\$ 6.65	47%	66%
Miscellaneous Benefit—15 Times Daily Benefit Rate Provided											
Less than \$5.00	1	\$3.00	\$ 6.75	8.0	\$ 54	\$24	\$ 37	\$30	\$10.00	56%	59%
\$5.00-\$5.99	17	5.21	7.72	6.9	52	37	47	37	7.01	50	74
6.00-6.99	44	6.00	7.87	5.4	42	33	46	42	6.98	56	85
7.00-7.99	35	7.01	7.60	5.8	44	41	50	50	7.07	55	96
8.00-8.99	25	8.00	9.35	5.6	52	43	62	52	6.50	55	83
\$9.00 and over	1	9.00	13.00	7.0	91	63	26	26	2.89	29	76
Total	123	\$6.59	\$ 8.12	5.8	\$ 46	\$38	\$ 50	\$45	\$ 6.86	54%	86%
Miscellaneous Benefit—20 Times Daily Benefit Rate Provided											
Less than \$5.00	8	\$4.50	\$ 5.47	7.3	\$ 40	\$33	\$ 53	\$35	\$ 7.86	52%	73%
\$5.00-\$5.99	57	5.08	6.64	5.9	39	30	53	50	9.77	62	86
6.00-6.99	160	6.00	9.10	8.8	86	53	77	57	9.47	52	67
7.00-7.99	92	7.02	9.16	8.1	75	57	83	64	9.15	53	77
8.00-8.99	44	8.00	10.16	7.9	95	62	63	62	7.81	50	79
\$9.00 and over	24	9.96	9.56	9.0	104	82	103	88	8.80	52	81
Total	385	\$6.55	\$ 8.88	8.1	\$ 78	\$53	\$ 75	\$60	\$ 9.10	53%	74%
All Miscellaneous Benefits Combined											
Less than \$5.00	1,158	\$3.89	\$ 8.34	8.8	\$ 77	\$34	\$ 68	\$21	\$ 5.27	37%	38%
\$5.00-\$5.99	3,214	5.01	8.33	8.0	72	40	63	31	6.14	43	53
6.00-6.99	3,276	6.01	8.77	7.7	72	47	63	37	6.15	44	62
7.00-7.99	1,760	7.03	8.89	8.0	75	56	63	39	5.58	41	69
8.00-8.99	1,120	8.03	9.43	7.9	77	64	68	43	5.32	40	73
\$9.00 and over	239	9.60	10.22	7.7	82	72	66	55	5.77	44	86
Total	10,767	\$5.94	\$ 8.71	8.0	\$ 74	\$47	\$ 64	\$35	\$ 5.85	42%	59%

\* Durations in excess of 31 days considered as 31 days.

TABLE III-2

EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE

SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND BENEFITS PAID BY PLAN  
31-DAY FIXED BENEFIT PLANS—FEMALE NONMATERNITY CLAIMS—NONRATED INDUSTRIES

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)			
Miscellaneous Benefit—5 Times Daily Benefit Rate Provided											
Less than \$5.00	713	\$ 3.71	\$ 7.83	8.2	\$66	\$30	\$59	\$17	\$ 4.68	37%	38%
\$5.00-\$5.99	681	5.01	8.73	7.5	68	37	58	22	4.48	38	48
6.00-6.99	451	6.00	9.07	7.5	71	45	63	27	4.57	38	54
7.00-7.99	468	7.01	9.62	8.3	81	58	55	31	4.49	35	66
8.00-8.99	187	8.00	9.27	7.9	73	63	58	34	4.23	35	74
\$9.00 and over	14	9.36	10.14	6.4	75	59	69	35	3.74	37	65
Total	2,514	\$ 5.44	\$ 8.75	7.9	\$71	\$43	\$59	\$25	\$ 4.51	37%	52%
Miscellaneous Benefit—10 Times Daily Benefit Rate Provided											
Less than \$5.00	117	\$ 3.96	\$ 7.46	6.7	\$52	\$27	\$62	\$32	\$ 8.06	54%	51%
\$5.00-\$5.99	803	5.02	8.31	7.4	66	37	62	39	7.79	51	60
6.00-6.99	595	6.01	8.86	6.8	60	41	59	42	6.93	51	69
7.00-7.99	320	7.06	8.89	6.2	56	44	53	45	6.31	50	81
8.00-8.99	139	8.04	10.29	6.7	69	53	69	52	6.51	50	77
\$9.00 and over	49	9.78	11.17	6.5	74	63	60	56	5.68	47	89
Total	2,023	\$ 5.89	\$ 8.71	6.9	\$62	\$40	\$60	\$42	\$ 7.06	51%	67%
Miscellaneous Benefit—15 Times Daily Benefit Rate Provided											
Less than \$5.00	3	\$ 4.00	\$ 4.45	3.3	\$15	\$13	\$13	\$13	\$ 3.22	49%	95%
\$5.00-\$5.99	10	5.05	9.89	6.0	86	30	77	31	6.20	51	38
6.00-6.99	18	6.00	7.91	4.7	37	28	47	44	7.36	61	86
7.00-7.99	21	7.00	7.61	9.6	72	67	98	59	8.43	47	74
8.00-8.99	5	8.00	10.54	2.6	27	21	34	34	4.26	62	89
\$9.00 and over	1	10.00	6.00	2.0	12	12	48	48	4.84	80	100
Total	58	\$ 6.34	\$ 7.92	6.4	\$56	\$41	\$68	\$45	\$ 7.09	52%	69%
Miscellaneous Benefit—20 Times Daily Benefit Rate Provided											
Less than \$5.00	3	\$ 4.00	\$ 9.14	6.0	\$ 55	\$24	\$57	\$57	\$14.31	70%	72
\$5.00-\$5.99	13	5.00	6.55	7.9	57	40	49	45	8.97	53	80
6.00-6.99	55	6.00	9.60	7.5	70	45	76	63	10.45	58	74
7.00-7.99	28	7.00	10.15	7.3	78	51	77	61	8.77	54	72
8.00-8.99	14	8.00	9.91	7.9	118	63	63	62	7.70	50	69
\$9.00 and over	9	10.22	10.00	2.9	29	28	33	33	3.25	55	98
Total	122	\$ 6.61	\$ 9.47	7.2	\$ 72	\$46	\$68	\$58	\$ 8.78	56%	74%
All Miscellaneous Benefits Combined											
Less than \$5.00	836	\$ 3.75	\$ 7.79	8.0	\$ 64	\$30	\$60	\$20	\$ 5.21	40%	40%
\$5.00-\$5.99	1,507	5.01	8.49	7.4	67	37	60	32	6.29	46	54
6.00-6.99	1,119	6.00	8.98	7.1	65	42	61	37	6.16	47	63
7.00-7.99	837	7.03	9.34	7.5	71	53	56	38	5.43	42	71
8.00-8.99	345	8.02	9.71	7.3	72	58	62	42	5.30	42	75
\$9.00 and over	73	9.75	10.90	6.0	68	57	58	49	5.00	46	84
Total	4,717	\$ 5.68	\$ 8.74	7.4	\$ 67	\$42	\$60	\$33	\$ 5.81	44%	59%

\* Durations in excess of 31 days considered as 31 days.

TABLE III-3

DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND BENEFITS PAID BY PLAN  
31-DAY REIMBURSEMENT PLANS—SPOUSE NONMATERNITY CLAIMS

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)	AVERAGE DAILY BENEFIT RATE PAID BY PLAN (13)	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED (14)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)					
Miscellaneous Benefit—5 Times Daily Benefit Rate Provided													
Less than \$5.00..	712	\$ 3.76	\$ 8.15	8.2	\$71	\$31	\$ 61	\$18	\$ 4.85	37%	37%	\$3.76	100%
\$5.00-\$5.99.....	676	5.02	8.71	8.4	79	42	68	23	4.67	36	44	4.99	99
6.00- 6.99.....	504	6.00	9.13	7.6	73	46	61	27	4.50	37	54	5.99	100
7.00- 7.99.....	153	7.00	10.21	8.7	92	61	63	32	4.52	34	60	6.98	100
8.00- 8.99.....	72	8.00	10.08	9.2	95	71	61	36	4.44	33	69	7.75	97
\$9.00 and over...	8	10.38	11.22	4.5	51	44	54	48	4.63	52	88	9.79	94
Total.....	2,125	\$ 5.09	\$ 8.80	8.2	\$76	\$41	\$ 64	\$24	\$ 4.64	36%	47%	\$5.06	99%
Miscellaneous Benefit—10 Times Daily Benefit Rate Provided													
Less than \$5.00..	686	\$ 3.93	\$ 7.68	7.4	\$60	\$29	\$ 55	\$31	\$ 7.85	52%	52%	\$3.91	99%
\$5.00-\$5.99.....	2,063	5.02	8.16	7.5	64	37	63	39	7.68	51	60	4.99	99

\* Durations in excess of 31 days considered as 31 days.

TABLE III-3—Continued

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)	AVERAGE DAILY BENEFIT RATE PAID BY PLAN (13)	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED (14)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)					
Miscellaneous Benefit—10 Times Daily Benefit Rate Provided—Continued													
\$6.00-\$6.99.....	1,859	\$ 6.00	\$ 9.14	7.7	\$74	\$46	\$ 66	\$43	\$ 7.22	49	64	\$5.96	99%
7.00- 7.99.....	1,026	7.06	8.98	7.5	71	52	64	47	6.66	47	74	6.93	98
8.00- 8.99.....	313	8.03	9.96	7.2	74	56	67	50	6.28	47	76	7.85	98
\$9.00 and over...	309	9.68	10.80	7.9	88	72	70	56	5.81	44	81	9.15	95
Total.....	6,256	\$ 5.91	\$ 8.76	7.6	\$69	\$44	\$ 64	\$42	\$ 7.11	49%	65%	\$5.84	99%
Miscellaneous Benefit—15 Times Daily Benefit Rate Provided													
Less than \$5.00..	39	\$ 3.98	\$ 6.73	6.5	\$44	\$26	\$ 48	\$36	\$ 9.03	58%	68%	\$4.00	101%
\$5.00-\$5.99.....	86	5.03	7.90	6.8	54	34	68	52	10.25	60	70	4.99	99
6.00- 6.99.....	63	6.00	9.21	7.9	70	47	71	58	9.65	55	74	5.88	98
7.00- 7.99.....	72	7.01	9.56	5.1	51	35	52	49	7.04	59	81	6.82	97
8.00- 8.99.....	19	8.00	9.91	7.8	77	60	76	65	8.12	52	81	7.70	96
\$9.00 and over...	6	9.33	11.33	5.7	64	49	63	64	6.82	56	89	8.71	93
Total.....	285	\$ 5.89	\$ 8.59	6.6	\$57	\$38	\$ 62	\$51	\$ 8.73	58%	75%	\$5.73	97%

TABLE III-3- Continued

DAILY BENEFIT RATE PROVIDED	NUMBER OF CLAIMS	AVERAGE DAILY BENEFIT RATE PROVIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED	AVERAGE DAILY BENEFIT RATE PAID BY PLAN	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED
					Charged by Hospital	Paid by Plan	Charged	Paid by Plan					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Miscellaneous Benefit—20 Times Daily Benefit Rate Provided													
Less than \$5.00.....	28	\$ 4.02	\$ 7.70	8.1	\$63	\$33	\$ 54	\$47	\$11.75	59%	68%	\$4.00	100%
\$5.00-\$5.99.....	407	5.00	8.51	5.1	44	25	52	45	9.01	64	73	5.02	100
6.00- 6.99.....	310	6.01	7.86	5.9	47	35	56	50	8.28	59	83	5.91	98
7.00- 7.99.....	93	7.01	8.94	6.4	57	43	67	62	8.80	59	85	6.79	97
8.00- 8.99.....	37	8.05	9.97	9.0	89	69	74	74	9.17	52	88	7.73	96
\$9.00 and over....	21	9.52	10.71	8.0	87	69	104	92	9.64	57	84	8.64	91
Total.....	896	\$ 5.76	\$ 8.45	5.8	\$50	\$34	\$ 57	\$51	\$ 8.81	60%	79%	\$5.78	100%
All Miscellaneous Benefits Combined													
Less than \$5.00.....	1,465	\$ 3.85	\$ 7.89	7.8	\$65	\$30	\$ 58	\$25	\$ 6.54	46%	45%	\$3.83	99%
\$5.00-\$5.99.....	3,232	5.02	8.31	7.4	64	37	63	37	7.29	50	58	4.99	99
6.00- 6.99.....	2,736	6.00	9.01	7.5	70	45	64	41	6.90	48	64	5.96	99
7.00- 7.99.....	1,344	7.04	9.17	7.5	71	52	64	46	6.58	47	73	6.92	98
8.00- 8.99.....	441	8.02	9.98	7.7	79	60	67	51	6.30	46	76	7.81	97
\$9.00 and over....	344	9.68	10.81	7.8	87	71	71	58	6.03	45	82	9.12	94
Total.....	9,562	\$ 5.71	\$ 8.74	7.5	\$69	\$42	\$ 63	\$39	\$ 6.83	48%	62%	\$5.64	99%

\* Durations in excess of 31 days considered as 31 days.

TABLE III-4

DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND BENEFITS PAID BY PLAN  
31-DAY REIMBURSEMENT PLANS—CHILD CLAIMS

DAILY BENEFIT RATE PROVIDED	NUMBER OF CLAIMS	AVERAGE DAILY BENEFIT RATE PROVIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED	AVERAGE DAILY BENEFIT RATE PAID BY PLAN	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED
					Charged by Hospital	Paid by Plan	Charged	Paid by Plan					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Miscellaneous Benefit—5 Times Daily Benefit Rate Provided													
Less than \$5.00..	745	\$3.75	\$ 6.92	3.9	\$29	\$15	\$31	\$17	\$4.41	53%	52%	\$3.72	99%
\$5.00-\$5.99.....	732	5.01	7.26	3.5	27	17	33	20	4.03	54	63	5.00	100
6.00- 6.99.....	622	6.00	7.73	3.5	30	20	32	23	3.81	53	70	5.87	98
7.00- 7.99.....	207	7.01	8.61	4.3	38	29	27	23	3.24	44	81	6.82	97
8.00- 8.99.....	97	8.00	8.80	3.1	27	24	29	25	3.16	52	87	7.65	96
\$9.00 and over..	19	9.79	8.70	2.6	23	22	31	28	2.85	56	94	8.42	86
Total.....	2,422	\$5.21	\$ 7.46	3.7	\$29	\$19	\$31	\$20	\$3.89	52%	64%	\$5.08	98%
Miscellaneous Benefit—10 Times Daily Benefit Rate Provided													
Less than \$5.00..	735	\$3.95	\$ 6.66	3.6	\$25	\$14	\$31	\$24	\$6.07	62%	69%	\$3.99	101%
\$5.00-\$5.99.....	2,379	5.02	6.67	3.7	25	18	31	26	5.26	59	79	4.92	98

\* Durations in excess of 31 days considered as 31 days.

TABLE III-4—Continued

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)	AVERAGE DAILY BENEFIT RATE PAID BY PLAN (13)	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED (14)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)					
<b>Miscellaneous Benefit—10 Times Daily Benefit Rate Provided—Continued</b>													
\$6.00-\$6.99.....	2,062	\$6.00	\$ 7.73	3.5	\$28	\$20	\$33	\$28	\$4.63	58	78	\$5.84	97
7.00- 7.99.....	1,165	7.06	7.94	3.3	29	22	31	28	4.04	56	85	6.66	94
8.00- 8.99.....	380	8.03	7.95	3.4	27	24	32	31	3.83	56	93	7.11	89
\$9.00 and over...	361	9.57	8.78	3.1	29	26	34	30	3.14	54	89	8.27	86
Total.....	7,082	\$5.92	\$ 7.33	3.5	\$27	\$20	\$32	\$27	\$4.61	58%	80%	\$5.62	95%
<b>Miscellaneous Benefit—15 Times Daily Benefit Rate Provided</b>													
Less than \$5.00.....	55	\$4.01	\$ 5.75	2.6	\$15	\$12	\$26	\$23	\$5.65	66%	83%	\$4.47	111%
\$5.00-\$5.99.....	83	5.04	6.45	3.7	24	19	34	32	6.37	63	88	4.98	99
6.00- 6.99.....	50	6.00	6.79	3.9	28	22	39	36	5.98	62	87	5.67	95
7.00- 7.99.....	143	7.00	8.76	3.3	41	22	50	40	5.69	65	68	6.54	93
8.00- 8.99.....	40	8.01	8.86	3.7	32	26	37	37	4.65	59	91	7.23	90
\$9.00 and over...	4	9.25	10.74	1.0	11	9	17	17	1.79	66	92	8.50	92
Total.....	375	\$6.13	\$ 7.46	3.4	\$30	\$20	\$40	\$35	\$5.64	63%	78%	\$5.88	96%

\* Durations in excess of 31 days considered as 31 days.

TABLE III-4—Continued

DAILY BENEFIT RATE PROVIDED  (1)	NUMBER OF CLAIMS  (2)	AVERAGE DAILY BENEFIT RATE PROVIDED  (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL  (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*  (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED  (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID  (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED  (12)	AVERAGE DAILY BENEFIT RATE PAID BY PLAN  (13)	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED  (14)
					Charged by Hospital  (6)	Paid by Plan  (7)	Charged  (8)	Paid by Plan  (9)					
Miscellaneous Benefit—20 Times Daily Benefit Rate Provided													
Less than \$5.00..	32	\$4.03	\$ 5.85	4.9	\$28	\$20	\$33	\$29	\$7.19	59%	81%	\$4.03	100%
\$5.00-\$5.99.....	527	5.00	6.70	2.3	16	11	26	24	4.75	68	84	4.91	98
6.00- 6.99.....	437	6.01	7.15	2.9	22	17	29	28	4.68	62	88	5.93	99
7.00- 7.99.....	132	7.01	7.23	3.4	23	20	32	32	4.49	61	94	5.95	85
8.00- 8.99.....	26	8.03	7.69	3.5	27	24	32	32	3.94	57	95	6.81	85
\$9.00 and over...	18	9.50	9.30	4.0	49	36	53	52	5.44	59	87	9.09	96
Total.....	1,172	\$5.71	\$ 6.98	2.8	\$20	\$15	\$28	\$27	\$4.72	64%	87%	\$5.56	97%
All Miscellaneous Benefits Combined													
Less than \$5.00..	1,567	\$3.86	\$ 6.74	3.7	\$26	\$14	\$31	\$20	\$5.31	59%	61%	\$3.87	100%
\$5.00-\$5.99.....	3,721	5.01	6.79	3.5	24	17	31	25	4.97	59	76	4.93	98
6.00- 6.99.....	3,171	6.00	7.65	3.4	28	20	32	27	4.50	58	78	5.86	98
7.00- 7.99.....	1,647	7.04	8.05	3.4	30	23	32	29	4.12	56	83	6.62	94
8.00- 8.99.....	543	8.02	8.16	3.3	27	24	32	30	3.77	56	92	7.19	90
\$9.00 and over...	402	9.57	8.80	3.1	29	26	34	31	3.21	54	89	8.33	87
Total.....	11,051	\$5.75	\$ 7.34	3.5	\$27	\$19	\$32	\$26	\$4.52	58%	77%	\$5.50	96%

TABLE III-5

GROUP HOSPITAL EXPENSE INSURANCE  
SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND BENEFITS PAID BY PLAN  
70-DAY PLANS—ALL MISCELLANEOUS BENEFITS

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)	AVERAGE DAILY BENEFIT RATE PAID BY PLAN (13)	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED (14)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)					
Fixed Benefit Plans—Employee Male Claims—Nonrated Industries													
Less than \$5.00..	202	\$3.94	\$ 8.75	9.0	\$78	\$35	\$68	\$21	\$5.21	37%	38%		
\$5.00-\$5.99.....	474	5.04	8.47	7.7	65	39	63	28	5.58	42	53		
6.00- 6.99.....	837	6.01	8.97	8.0	72	48	67	44	7.35	48	67		
7.00- 7.99.....	528	7.02	9.48	8.7	82	61	66	46	6.58	43	72		
8.00- 8.99.....	318	8.04	9.77	8.7	84	69	73	54	6.76	44	79		
\$9.00 and over...	125	9.19	11.66	7.6	88	66	73	51	5.57	44	72		
Total.....	2,484	\$6.29	\$ 9.21	8.3	\$75	\$52	\$67	\$41	\$6.56	44%	65%		
Fixed Benefit Plans—Employee Female Nonmaternity Claims—Nonrated Industries													
Less than \$5.00..	104	\$3.87	\$ 8.43	8.6	\$68	\$34	\$55	\$20	\$5.30	38%	44%		
\$5.00-\$5.99.....	250	5.00	8.12	8.4	66	42	60	28	5.53	40	55		
6.00- 6.99.....	296	6.01	8.50	7.3	62	44	59	49	8.12	53	77		
7.00- 7.99.....	210	7.02	8.78	8.1	72	56	67	51	7.20	47	77		
8.00- 8.99.....	79	8.01	10.64	7.7	79	61	62	52	6.51	46	80		
\$9.00 and over...	13	9.31	8.29	6.8	57	62	38	35	3.71	36	102		
Total.....	952	\$5.95	\$ 8.62	7.9	\$67	\$47	\$61	\$41	\$6.83	46%	68%		

\* Durations in excess of 70 days considered as 70 days.

TABLE III-5—Continued

DAILY BENEFIT RATE PROVIDED	NUMBER OF CLAIMS	AVERAGE DAILY BENEFIT RATE PROVIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED	AVERAGE DAILY BENEFIT RATE PAID BY PLAN	RATIO OF AVERAGE DAILY BENEFIT RATE PAID TO AVERAGE DAILY BENEFIT RATE PROVIDED
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Reimbursement Plans—Dependent Spouse Nonmaternity Claims													
Less than \$5.00...	139	\$3.93	\$ 8.07	8.4	\$69	\$33	\$59	\$27	\$6.76	45%	46%	\$3.89	99%
\$5.00—\$5.99.....	461	5.01	8.65	7.8	68	39	66	44	8.72	53	62	4.98	99
6.00—6.99.....	583	6.00	9.94	8.3	82	50	68	44	7.31	47	62	5.98	100
7.00—7.99.....	568	7.00	8.92	9.4	85	64	73	48	6.92	43	71	6.78	97
8.00—8.99.....	214	8.09	10.19	8.7	89	69	64	55	6.83	45	81	7.89	98
\$9.00 and over...	43	9.28	10.52	6.8	71	58	64	59	6.35	50	87	8.63	93
Total.....	2,008	\$6.21	\$ 9.26	8.5	\$79	\$52	\$68	\$45	\$7.33	47%	67%	\$6.13	99%
Reimbursement Plans—Dependent Child Claims													
Less than \$5.00...	133	\$3.88	\$ 5.92	3.6	\$21	\$14	\$31	\$23	\$5.97	63%	70%	\$3.76	97%
\$5.00—\$5.99.....	560	5.01	7.34	3.7	27	18	33	29	5.82	62	79	4.88	97
6.00—6.99.....	544	6.01	7.79	3.7	29	21	31	27	4.50	56	81	5.79	96
7.00—7.99.....	649	7.01	7.77	4.2	34	27	37	29	4.21	52	80	6.44	92
8.00—8.99.....	259	8.09	7.84	3.7	29	26	30	28	3.51	52	92	7.01	87
\$9.00 and over...	64	9.19	8.53	3.5	30	27	34	32	3.45	54	92	7.59	83
Total.....	2,209	\$6.26	\$ 7.58	3.8	\$29	\$22	\$33	\$28	\$4.53	56%	81%	\$5.85	93%

TABLE III-6

GROUP HOSPITAL EXPENSE INSURANCE  
 SUMMARY OF AVERAGE DURATIONS, HOSPITAL CHARGES, AND BENEFITS PAID BY PLAN  
 Employee Female Maternity Claims  
 31-Day and 70-Day Fixed Benefit Plans—14-Day Maternity Benefit—Nonrated Industries  
 All Miscellaneous Benefits

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE ROOM AND BOARD EXPENSES		AVERAGE MISCELLANEOUS SERVICE EXPENSES		AVERAGE MISCELLANEOUS BENEFITS PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF MISCELLANEOUS BENEFITS PAID TO TOTAL BENEFITS PAID (11)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (12)
					Charged by Hospital (6)	Paid by Plan (7)	Charged (8)	Paid by Plan (9)			
Less than \$5.00	492	\$3.79	\$ 8.14	5.5	\$45	\$21	\$39	\$20	\$5.27	49%	49%
\$5.00-\$5.99	862	5.01	8.09	5.8	48	29	40	29	5.72	50	66
6.00-6.99	590	6.01	9.07	5.9	53	36	44	36	5.99	50	74
7.00-7.99	426	7.03	9.27	6.1	57	43	48	39	5.60	48	79
8.00-8.99	172	8.02	9.33	6.2	57	50	50	41	5.13	45	84
\$9.00 and over	41	9.51	10.77	5.9	63	56	50	48	5.00	46	91
Total	2,583	\$5.61	\$ 8.66	5.9	\$51	\$33	\$43	\$32	\$5.63	49%	69%

Dependent Wife Maternity Claims  
 31-Day and 70-Day Reimbursement Plans—10 Times Maternity Benefit

DAILY BENEFIT RATE PROVIDED (1)	NUMBER OF CLAIMS (2)	AVERAGE DAILY BENEFIT RATE PROVIDED (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (4)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)* (5)	AVERAGE EXPENSES CHARGED			AVERAGE BENEFIT PAID BY PLAN (9)	AVERAGE BENEFIT PAID PER DOLLAR OF DAILY BENEFIT RATE PROVIDED (10)	RATIO OF TOTAL BENEFITS PAID TO TOTAL EXPENSES CHARGED (11)
					Room and Board (6)	Miscellaneous Service (7)	Total (8)			
Less than \$5.00	1,066	\$ 3.86	\$ 7.94	5.5	\$44	\$37	\$ 81	\$38	\$ 9.85	47%
\$5.00-\$5.99	2,068	5.02	8.71	5.4	47	37	84	49	9.70	58
6.00-6.99	1,964	6.00	9.31	5.6	53	41	94	57	9.54	61
7.00-7.99	1,350	7.03	9.14	5.6	51	44	95	66	9.31	69
8.00-8.99	420	8.05	10.19	5.7	58	44	102	74	9.22	73
\$9.00 and over	184	10.01	11.04	5.9	66	52	118	88	8.79	75
Total	7,052	\$ 5.82	\$ 9.00	5.5	\$50	\$40	\$ 90	\$55	\$ 9.50	61%

\* Durations in excess of 14 days considered as 14 days.

for each plan as the equivalent number of additional days of hospitalization at the daily room and board benefit rate provided by the contract.

Tables III-3 and 4 and the dependent portion of Table III-5 show data for reimbursement plans as opposed to Tables III-1 and 2 and the employee portion of Table III-5 which show data for fixed benefit plans. An interesting point that arises in connection with reimbursement plans is the matter of "salvage," *i.e.*, the amount by which the daily room and board benefit actually paid falls short, on the average, of the maximum daily room and board benefit provided under the contract. In order to furnish some information on this point, columns (13) and (14) are provided in Tables III-3 through 5. It will be noted that for some categories where the data are rather sparse, the ratios in column (14) exceed 100%. This was caused by claims having zero (*i.e.*, less than one) days of confinement, some of which involved room and board payments for part or all of the day.

The 31-day data in Tables III-1 through 4 have been subdivided by miscellaneous benefit provided. No similar subdivision was made of the 70-day data presented in Table III-5 because the smaller volume of those data did not warrant such a breakdown.

Table III-6 is an analysis of the maternity claims included in the 1950 claim sample. As explained previously, the female employee maternity claims analyzed arose from plans providing maternity benefits of the 14-day plus 5, 10, 15 or 20 times miscellaneous benefit type, and the dependent wife maternity claims analyzed arose from plans providing maternity benefits of the 10 times over-all reimbursement type.

An examination of column (3) of Tables III-1 through 6 indicates that the average daily benefit rate provided was in the neighborhood of \$6. It should be remembered that this represents an approximate average of only the renewal business in force during 1950. The costs of hospital care have been increasing quite rapidly and there has been a lag in revising in-force plans to provide benefits that are reasonably in line with current hospital costs. The rate at which such revision takes place depends, among other things, upon the willingness of the insured groups to make the necessary additional premium outlay for the increased benefits. Plans currently sold generally provide benefits that are more nearly in line with hospital costs than are those provided on the average under existing plans. This was borne out by an analysis of the benefits sold during the first eleven months of 1951 by the author's company which indicated that the daily benefit rate provided under new coverages averaged more than \$8.50 for both employees and dependents.

A comparison of the average daily benefit rate provided with the aver-

age daily room and board rate charged by the hospital gives one indication of the adequacy of the benefits provided under the existing plans in 1950. There was a tendency for the average daily benefit rate provided to approach more closely the average daily room and board rate charged by the hospital as the former increased. Also, the average daily benefit rate provided tended to approach more closely the average daily room and board rate charged by the hospital under plans providing more liberal miscellaneous benefits. Under the dependent plans, it will be noted that there was a smaller difference between the average daily benefit rate provided and the average daily room and board rate charged by the hospital in the case of children than was indicated in the case of spouse claims. This was to be expected because children are generally insured for the same daily benefit rate as adult dependents but are taken care of in less expensive hospital accommodations.

The average duration of hospital confinement for nonmaternity claims was considerably lower for the three categories of adult claimants—male employees, female employees and spouses—under 31-day plans providing a 10 times miscellaneous benefit than it was under 31-day plans providing a 5 times miscellaneous benefit. An attempt was made to determine the reason for this difference by analyzing the effect of age, the distribution of average daily benefit rates provided, and the geographical location of the persons insured. While these attempts to identify a specific cause were unsuccessful, the application of statistical sampling theory indicates that this consistent difference in durations for the three categories of adult claimants is an inherent characteristic of the experience.

One point that should be kept in mind in considering this characteristic difference is that the average duration of hospital confinement and frequency of hospital confinement are mutually interdependent. A decrease in average duration of hospital confinement for a particular category of claimants can be produced by the addition of some claims of a shorter duration. There is an increasing tendency for the general population to make use of the health services available in hospitals. This tendency is doubtless accelerated by the growth of insurance plans which provide benefits to defray the costs of such services. Also, there is an increasing tendency for doctors to organize their practices so as to take advantage of hospital services. It might be expected that this would affect the more liberal 10 times miscellaneous benefit plans to a greater extent than it would affect the 5 times miscellaneous benefit plans, especially since the secular trend brought out by the Morbidity Committee's 1951 report indicates that the annual claim cost has risen more rapidly under the 10

times miscellaneous benefit plans than it has under the 5 times miscellaneous benefit plans. However, this conjecture that the shorter durations of the 10 times miscellaneous benefit plans were caused by the addition of more claims of shorter durations is not borne out directly by the results shown in Section V, where the room and board portion of the male claim cost is not greater under the 31-day 10 times miscellaneous benefit plan than it is under the 31-day 5 times miscellaneous benefit plan.

A review of the average duration of hospital confinement subdivided by the average daily benefit rate provided did not reveal any significant trend. Therefore, in extracting continuation data in later sections, it was not considered necessary to subdivide the data by daily benefit rate provided within any given benefit plan.

It might be well at this point to comment on the limitations resulting from the fact that the information on expenses charged which is analyzed in this paper was collected from insurance company records of completed claims. It is clear that all claims provided reasonably complete data as far as the benefit paid items were concerned, but some may have provided incomplete data in the expenses charged items. For example, the reported amount of room and board expense charged by the hospital for some of the claims on which benefits were exhausted before the end of hospital confinement may reflect only the room and board charge made by the hospital for the first 31 or 70 days of confinement. Similarly, the miscellaneous service charges reported in this study for some of the claims include only those charges for which there was a possibility of reimbursement. Another circumstance giving rise to the understatement of miscellaneous service charges is the fact that some of the claims included arose from plans which do not provide reimbursement of any miscellaneous service charges incurred after the expiration of the maximum benefit duration available. The tendency for understatement of the room and board and miscellaneous service charges indicates the need for some caution in the application of the various figures relating to expenses charged that appear in this paper. However, it is not felt that this understatement invalidates the general conclusions that can be drawn from the information contained in this paper.

From the comparisons of column (7) with column (6) and column (9) with column (8) of Tables III-1 through 5, an indication of the relative adequacy of room and board benefits and miscellaneous service benefits can be obtained. In making this comparison and in reviewing column (12), it should be kept in mind that insurance plans are not designed to pay the entire cost of hospital confinement. One of the basic principles incorpo-

rated in insurance plans is that the insured should have some financial stake in the cost of the services obtained. Otherwise, unnecessary use on the part of some claimants will increase the cost to all of the insured persons. Within this basic principle imposed on insurance plans, insurance companies have demonstrated their readiness to underwrite adequate plans of benefits subject, of course, to the insured groups being able and willing to pay for the cost of such benefits. In other words, the average ratio of total benefits paid to total benefits charged for the business existing in 1950 does not furnish a real indication of the job that insurance plans are able to do in reimbursing the cost of hospital care, because adequate benefits have not been purchased by all insured groups. As can be seen from column (12), where more adequate benefits have been purchased the ratio of total benefits paid to total benefits charged is considerably higher than the average.

Tables III-7 through 9, which furnish the ratio of total benefits paid to total expenses charged subdivided by duration of hospital confinement, indicate that expenses arising from claims of shorter duration are reimbursed more completely than are expenses arising from longer periods of hospital confinement. The reimbursement of expense for claims classified as involving no (*i.e.*, less than one) days of confinement approached 100%. This percentage declined with increase in duration and approached or fell below 50% for all plans and categories of claimants as the duration of confinement increased to the maximum number of days of benefit provided. This is due to the fact that the miscellaneous benefit provision is the same for any duration of hospital confinement and, therefore, will reimburse a lesser proportion of the miscellaneous expense charges incurred for the longer periods of hospitalization since such charges increase substantially with duration. It will be noted that Tables III-7 through 9 are composite tables, including data from 5, 10, 15 and 20 times miscellaneous benefit plans. The level of the reimbursement percentages depends on the average room and board rate provided, as well as on the relative number of claims under each of the various miscellaneous benefit plans. Thus, only the pattern by duration rather than the level itself can be considered to be significant. However, the 70-day plans provided somewhat more liberal miscellaneous benefit provisions than did the 31-day plans. This accounts for the fact that the ratios of total benefits paid to total benefits charged for 70-day plans were about 5% greater than the corresponding percentages under 31-day plans even though, as can be seen from Tables III-1 through 5, the average miscellaneous service expenses charged were somewhat higher under the 70-day plans.

**TABLE III-7**  
**EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE**

DAYS OF HOSPITALI- ZATION	MALE CLAIMS				FEMALE NONMATERNITY CLAIMS			
	31-Day Plans		70-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged
	(1)	(2)	(2)	(3)	(2)	(3)	(2)	(3)
0 .....	378	93%	77	98%	106	96%	8	100%
1 .....	1,273	89	337	88	506	89	101	92
2 .....	1,047	83	246	86	509	81	87	83
3 .....	834	77	206	78	389	73	86	76
4 .....	870	73	200	78	340	71	82	79
5 .....	892	73	182	75	390	68	95	73
6 .....	766	70	172	76	349	66	77	82
7 .....	703	67	151	71	315	65	83	71
Total 0-7...	6,763	74%	1,571	78%	2,904	72%	619	78%
8 .....	595	67%	116	69%	306	63%	63	72%
9 .....	417	64	118	70	256	59	45	66
10 .....	365	62	93	69	216	59	35	69
11 .....	291	62	74	63	175	57	34	67
12 .....	262	59	66	62	126	57	18	58
13 .....	204	57	44	67	107	53	24	61
14 .....	207	57	49	56	101	58	13	53
Total 8-14..	2,341	62%	560	66%	1,287	59%	232	65%
15 .....	133	57%	24	52%	73	56%	9	58%
16 .....	131	54	24	56	52	52	14	68
17 .....	121	56	32	57	57	47	6	57
18 .....	105	51	24	54	30	54	7	55
19 .....	91	52	32	60	31	50	5	44
20 .....	83	52	18	58	24	54	8	62
21 .....	97	52	22	47	29	54	6	62
Total 15-21..	761	54%	176	55%	296	52%	55	59%
22 .....	70	53%	15	58%	20	50%	5	69%
23 .....	62	53	12	61	14	57	5	51
24 .....	63	54	21	69	16	50	2	55
25 .....	46	48	14	46	17	52	1	72
26 .....	38	55	12	47	11	42	1	66
27 .....	47	50	4	47	12	45	2	50
28 .....	57	52	8	48	10	48	1	37
Total 22-28..	383	52%	86	55%	100	49%	17	57%
29 .....	44	49%	5	58%	9	36%	2	76%
30 .....	38	52	†	†	15	41	†	†
31 and over.	437	39	†	†	106	37	†	†
Total 30-39..	*	*	35	58	*	*	9	76
40-49..	*	*	18	57	*	*	4	36
50-59..	*	*	9	48	*	*	3	70
60-69..	*	*	8	55	*	*	2	60
70 and over..	*	*	16	57	*	*	9	63
Total—All Durations	10,767	59%	2,484	65%	4,717	59%	952	68%

**TABLE III-8**  
**DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE**

DAYS OF HOSPITALIZA- TION	SPOUSE NONMATERNITY CLAIMS				CHILD CLAIMS			
	31-Day Plans		70-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged	Number of Claims	Ratio of Total Benefits Paid to Total Expenses Charged
0	431	96%	63	96%	1,346	97%	203	99%
1	913	89	177	87	4,108	93	869	94
2	969	83	186	84	1,423	88	287	90
3	776	80	167	81	773	85	138	88
4	755	76	176	79	639	81	133	84
5	636	74	135	73	613	79	112	84
6	608	70	125	76	501	80	99	83
7	669	70	141	74	398	77	83	81
Total 0-7	5,757	76%	1,170	78%	9,801	86%	1,924	88%
8	648	69%	134	70%	254	78%	57	85%
9	524	66	126	72	183	74	50	79
10	466	63	95	66	125	72	33	81
11	362	61	97	64	101	70	30	83
12	306	59	50	64	91	69	17	69
13	210	58	40	66	48	62	10	66
14	193	56	33	61	62	70	8	85
Total 8-14	2,709	63%	575	67%	864	73%	205	79%
15	144	57%	26	61%	47	64%	8	65%
16	104	55	31	60	26	66	5	57
17	87	55	15	68	20	66	7	83
18	90	53	22	50	26	61	3	59
19	60	53	12	52	29	64	2	60
20	48	51	16	55	21	56	5	73
21	64	52	9	51	15	60	3	62
Total 15-21	597	54%	131	57%	184	63%	33	66%
22	48	50%	11	52%	20	62%	4	60%
23	32	51	5	76	15	71	6	67
24	34	49	5	54	15	48	3	53
25	22	53	12	65	7	57	5	78
26	27	51	6	68	7	57	3	50
27	28	51	5	76	10	64	1	68
28	23	55	10	64	7	69	2	81
Total 22-28	214	51%	54	63%	81	60%	24	64%
29	20	49%	5	58%	7	61%	0	
30	19	49	†	†	11	50	†	†
31 and over	246	37	†	†	103	42	†	†
Total 30-39	*	*	30	55	*	*	6	57%
40-49	*	*	19	49	*	*	5	60
50-59	*	*	9	60	*	*	4	79
60-69	*	*	7	68	*	*	2	53
70 and over	*	*	8	45	*	*	6	55
Total—All Durations	9,562	62%	2,008	67%	11,051	77%	2,209	81%

† Included below

TABLE III-9  
GROUP HOSPITAL EXPENSE INSURANCE

DAYS OF HOSPITALIZATION	EMPLOYEE FEMALE MATERNITY CLAIMS		DEPENDENT WIFE MATERNITY CLAIMS	
	31-Day and 70-Day Plans		31-Day and 70-Day Plans	
	Number of Claims	Ratio of Total Bene- fits Paid to Total Expenses Charged (3)	Number of Claims	Ratio of Total Bene- fits Paid to Total Expenses Charged (3)
(1)	(2)	(3)	(2)	(3)
0.....			7	100%
1.....	30	79%	125	92
2.....	98	79	370	92
3.....	213	76	749	87
4.....	318	75	1,086	77
5.....	580	72	1,465	68
6.....	468	70	1,169	62
7.....	388	69	842	56
Total 0-7.....	2,095	72%	5,813	69%
8.....	191	68%	544	48%
9.....	130	64	285	42
10.....	70	64	240	38
11.....	37	56	58	35
12.....	20	59	36	33
13.....	13	49	24	34
Total 8-13.....	461	64%	1,187	42%
14 and over.....	27	50%	52	28%
Total—All Dura- tions.....	2,583	69%	7,052	61%

## SECTION IV. ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES

Tables IV-1 through 5 indicate the variation in miscellaneous service charges with duration of hospital confinement for both the 1950 and 1951 claim samples. The average miscellaneous service charges increased markedly with duration for all categories of claimants and plans, and, in general, were somewhat higher under 70-day plans than under 31-day plans. A review of the average miscellaneous service charges under 31-day plans shows a sizable increase at almost every duration of hospital confinement during the approximately one and a half year period separating the 1950 and 1951 claim samples. The percentage of increase was greater for female employees and for dependents than for male employees.

Tables IV-6 and 7 present, for both the 1950 and 1951 claim samples, the average cost of miscellaneous services, where such costs are individually subject to maximums varying by \$10 amounts from \$30 to \$200. In presenting Tables IV-6 and 7, it is necessary to caution the reader that these miscellaneous service charges, as developed from insurance records, are subject to a certain amount of underreporting as discussed in Section III. Such underreporting has a more serious effect on the average costs shown for the higher maximums. It was felt that this understatement would likely invalidate an extension of this table beyond the maximum shown (*i.e.*, \$200). However, the average charges actually reported, where no maximum was imposed, can be readily determined from column (8) of Tables III-1 through 5.

The remainder of this section is concerned with the relationship between hospital daily room and board charges and average miscellaneous service charges.

Table IV-8 shows an analysis for the 1950 claim sample of average duration of hospital confinement and average miscellaneous service expenses charged according to the daily room and board rate charged by the hospital. The daily room and board rate charged by the hospital was calculated for each claim by dividing the room and board expense charged by the hospital for each claim by the duration of hospital confinement for that claim. It was necessary to exclude from this calculation, and, therefore, from Tables IV-8 through 10, all claims for which the duration of hospital confinement was equal to or greater than 31 days and all claims which were reported as having involved zero days of hospital confinement. Claims having daily room and board rates charged by the hospital below or above the range shown in column (1) of Tables IV-8 through 10 were also excluded since the volume of data on such claims was not large enough to produce meaningful results.

In Table IV-8, the average miscellaneous service expenses charged

TABLE IV-1  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES  
 ACCORDING TO DURATION OF HOSPITAL CONFINEMENT  
 MALE CLAIMS

DAYS OF HOSPITALIZA- TION	1951 SAMPLE		1950 SAMPLE			
	31-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims	Average Miscella- neous Service Expenses Charged	Number of Claims	Average Miscella- neous Service Expenses Charged	Number of Claims	Average Miscella- neous Service Expenses Charged
(1)	(2)	(3)	(2)	(3)	(2)	(3)
0.....	411	\$ 12	378	\$ 12	77	\$ 11
1.....	511	28	1,273	23	337	23
2.....	414	37	1,047	32	246	31
3.....	373	44	834	38	206	41
4.....	302	53	870	45	200	45
5.....	295	59	892	49	182	52
6.....	272	67	766	53	172	54
7.....	246	68	703	60	151	60
Total 0-7....	2,824	\$ 42	6,763	\$ 39	1,571	\$ 39
8.....	207	\$ 76	595	\$ 61	116	\$ 62
9.....	162	80	417	67	118	81
10.....	128	105	365	73	93	73
11.....	122	86	291	77	74	84
12.....	101	103	262	89	66	100
13.....	74	105	204	91	44	84
14.....	60	116	207	99	49	120
Total 8-14....	854	\$ 91	2,341	\$ 75	560	\$ 82
15.....	60	\$115	133	\$103	24	\$137
16.....	36	141	131	117	24	148
17.....	40	155	121	107	32	108
18.....	38	130	105	127	24	131
19.....	30	178	91	116	32	129
20.....	39	166	83	118	18	124
21.....	32	138	97	140	22	190
Total 15-21....	275	\$143	761	\$117	176	\$136
22.....	17	\$148	70	\$145	15	\$143
23.....	16	179	62	140	12	144
24.....	16	182	63	161	21	145
25.....	11	230	46	183	14	260
26.....	15	187	38	140	12	187
27.....	12	213	47	174	4	235
28.....	15	248	57	134	8	196
Total 22-28....	102	\$195	383	\$153	86	\$178
29.....	9	\$195	44	\$182	5	\$120
30.....	12	357	38	133	†	†
31 and over..	116	233	437	205	†	†
Total 30-39....	*	*	*	*	35	151
40-49.....	*	*	*	*	18	216
50-59.....	*	*	*	*	9	282
60-69.....	*	*	*	*	8	211
70 and over..	*	*	*	*	16	362
Total—All Durations..	4,192	\$ 69	10,767	\$ 64	2,484	\$ 67

\* Included above.

† Included below.

TABLE IV-2  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES  
 ACCORDING TO DURATION OF HOSPITAL CONFINEMENT  
 FEMALE NONMATERNITY CLAIMS

DAYS OF HOSPITALIZATION  (1)	1951 SAMPLE		1950 SAMPLE			
	31-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims (2)	Average Miscellaneous Service Expenses Charged (3)	Number of Claims (2)	Average Miscellaneous Service Expenses Charged (3)	Number of Claims (2)	Average Miscellaneous Service Expenses Charged (3)
0.....	102	\$ 12	106	\$ 12	8	\$ 10
1.....	180	28	506	23	101	23
2.....	193	38	509	31	87	31
3.....	142	42	389	37	86	34
4.....	134	54	340	40	82	44
5.....	129	59	390	48	95	49
6.....	125	65	349	53	77	55
7.....	100	75	315	57	83	59
Total 0-7....	1,105	\$ 45	2,904	\$ 38	619	\$ 41
8.....	96	\$ 80	306	\$ 62	63	\$ 66
9.....	92	90	256	71	45	72
10.....	79	93	216	75	35	79
11.....	46	96	175	80	34	79
12.....	45	101	126	87	18	113
13.....	27	107	107	103	24	78
14.....	42	110	101	83	13	106
Total 8-14....	427	\$ 93	1,287	\$ 76	232	\$ 78
15.....	15	\$157	73	\$ 94	9	\$115
16.....	18	173	52	102	14	94
17.....	16	143	57	123	6	80
18.....	10	156	30	99	7	146
19.....	5	96	31	125	5	175
20.....	8	129	24	101	8	115
21.....	14	130	29	107	6	76
Total 15-21....	86	\$147	296	\$107	55	\$111
22.....	6	\$198	20	\$122	5	\$ 85
23.....	4	171	14	89	5	124
24.....	4	323	16	136	2	137
25.....	7	275	17	139	1	142
26.....	4	311	11	143	1	201
27.....	1	129	12	166	2	192
28.....	3	86	10	140	1	216
Total 22-28....	29	\$232	100	\$132	17	\$133
29.....	3	\$125	9	\$282	2	\$150
30.....	1	88	15	175	†	†
31 and over..	38	237	106	206	†	†
Total 30-39..	*	*	*	*	9	138
40-49.....	*	*	*	*	4	247
50-59.....	*	*	*	*	3	151
60-69.....	*	*	*	*	2	278
70 and over..	*	*	*	*	9	233
Total—All Durations.	1,689	\$ 70	4,717	\$ 60	952	\$ 61

\* Included above.

† Included below.

TABLE IV-3

DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES  
ACCORDING TO DURATION OF HOSPITAL CONFINEMENT  
SPOUSE NONMATERNITY CLAIMS

DAYS OF HOSPITALIZA- TION  (1)	1951 SAMPLE		1950 SAMPLE			
	31-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims  (2)	Average Miscella- neous Service Expenses Charged (3)	Number of Claims  (2)	Average Miscella- neous Service Expenses Charged (3)	Number of Claims  (2)	Average Miscella- neous Service Expenses Charged (3)
0.....	216	\$ 13	431	\$ 14	63	\$ 14
1.....	446	28	913	23	177	23
2.....	390	39	969	33	186	33
3.....	394	45	776	37	167	38
4.....	296	51	755	42	176	43
5.....	351	62	636	48	135	49
6.....	288	67	608	55	125	59
7.....	273	73	669	61	141	60
Total 0-7....	2,654	\$ 47	5,757	\$ 39	1,170	\$ 41
8.....	259	\$ 82	648	\$ 67	134	\$ 76
9.....	239	92	524	73	126	75
10.....	183	96	466	77	95	93
11.....	139	109	362	83	97	96
12.....	136	103	306	87	50	97
13.....	72	97	210	98	40	97
14.....	67	126	193	103	33	94
Total 8-14....	1,095	\$ 96	2,709	\$ 79	575	\$ 86
15.....	63	\$121	144	\$100	26	\$113
16.....	51	133	104	105	31	125
17.....	35	123	87	115	15	86
18.....	27	155	90	121	22	131
19.....	33	139	60	137	12	131
20.....	25	188	48	167	16	133
21.....	14	140	64	118	9	139
Total 15-21....	248	\$138	597	\$117	131	\$122
22.....	13	\$281	48	\$162	11	\$193
23.....	15	137	32	157	5	119
24.....	18	192	34	165	5	167
25.....	13	154	22	135	12	133
26.....	8	160	27	181	6	154
27.....	9	224	28	156	5	98
28.....	8	177	23	178	10	146
Total 22-28....	84	\$189	214	\$162	54	\$149
29.....	13	\$180	20	\$215	5	\$152
30.....	7	139	19	208	†	†
31 and over..	93	286	246	204	†	†
Total 30-39....	*	*	*	*	30	169
40-49.....	*	*	*	*	19	249
50-59.....	*	*	*	*	9	121
60-69.....	*	*	*	*	7	193
70 and over..	*	*	*	*	8	194
Total—All Durations.	4,194	\$ 74	9,562	\$ 63	2,008	\$ 68

\* Included above.

† Included below.

**TABLE IV-4**  
**DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE**  
**ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES**  
**ACCORDING TO DURATION OF HOSPITAL CONFINEMENT**  
**CHILD CLAIMS**

DAYS OF HOSPITALIZA- TION  (1)	1951 SAMPLE		1950 SAMPLE			
	31-Day Plans		31-Day Plans		70-Day Plans	
	Number of Claims (2)	Average Miscella- neous Service Expenses Charged (3)	Number of Claims (2)	Average Miscella- neous Service Expenses Charged (3)	Number of Claims (2)	Average Miscella- neous Service Expenses Charged (3)
0.....	775	\$ 11	1,346	\$ 12	203	\$ 11
1.....	1,428	25	4,108	22	869	22
2.....	564	30	1,423	25	287	26
3.....	310	36	773	29	138	27
4.....	309	42	639	35	133	35
5.....	268	49	613	42	112	41
6.....	202	51	501	45	99	46
7.....	161	60	398	49	83	50
Total 0-7....	4,017	\$ 30	9,801	\$ 26	1,924	\$ 26
8.....	126	\$ 56	254	\$ 50	57	\$ 51
9.....	66	70	183	56	50	53
10.....	68	67	125	54	33	62
11.....	44	65	101	58	30	57
12.....	33	63	91	69	17	95
13.....	33	80	48	79	10	52
14.....	23	95	62	68	8	69
Total 8-14....	393	\$ 66	864	\$ 57	205	\$ 58
15.....	18	\$ 94	47	\$ 76	8	\$105
16.....	17	135	26	70	5	73
17.....	9	73	20	87	7	71
18.....	9	97	26	96	3	182
19.....	10	119	29	100	2	138
20.....	5	108	21	147	5	99
21.....	5	138	15	97	3	102
Total 15-21..	73	\$109	184	\$ 93	33	\$101
22.....	11	\$131	20	\$122	4	\$117
23.....	8	106	15	86	6	97
24.....	7	109	15	169	3	172
25.....	7	103	7	119	5	93
26.....	5	94	7	121	3	218
27.....	2	90	10	110	1	47
28.....	3	155	7	57	2	73
Total 22-28..	43	\$113	81	\$117	24	\$120
29.....	4	\$ 81	7	\$100	0	.....
30.....	8	115	11	179	†	†
31 and over..	61	147	103	170	†	†
Total 30-39..	*	*	*	*	6	\$170
40-49.....	*	*	*	*	5	175
50-59.....	*	*	*	*	4	132
60-69.....	*	*	*	*	2	356
70 and over..	*	*	*	*	6	300
Total—All Durations.	4,599	\$ 37	11,051	\$ 32	2,209	\$ 33

\* Included above.

† Included below.

TABLE IV-5  
 GROUP HOSPITAL EXPENSE INSURANCE  
 ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES ACCORDING  
 TO DURATION OF HOSPITAL CONFINEMENT

DAYS OF HOSPITALIZA- TION	EMPLOYEE FEMALE MATERNITY CLAIMS				DEPENDENT WIFE MATERNITY CLAIMS			
	1951 Sample		1950 Sample		1951 Sample		1950 Sample	
	31-Day Plans		31-Day and 70-Day Plans		31-Day Plans		31-Day and 70-Day Plans	
	Number of Claims	Average Miscel- laneous Service Expenses Charged	Number of Claims	Average Miscel- laneous Service Expenses Charged	Number of Claims	Average Miscel- laneous Service Expenses Charged	Number of Claims	Average Miscel- laneous Service Expenses Charged
(1)	(2)	(2)	(3)	(2)	(3)	(2)	(3)	
0.....	1	\$ 10	.....	.....	1	\$ 4	7	\$ 20
1.....	5	41	30	\$ 24	40	31	125	26
2.....	25	41	98	28	140	34	370	28
3.....	60	43	213	31	300	40	749	33
4.....	103	41	318	34	440	42	1,086	36
5.....	174	45	580	39	557	46	1,465	38
6.....	157	50	468	42	369	48	1,169	40
7.....	110	54	388	46	251	54	842	41
Total 0-7...	635	\$ 47	2,095	\$ 39	2,098	\$ 45	5,813	\$ 37
8.....	36	\$ 54	191	\$ 48	139	\$ 64	544	\$ 48
9.....	25	69	130	57	67	68	285	54
10.....	7	83	70	64	51	81	240	62
11.....	4	83	37	75	22	87	58	66
12.....	1	269	20	83	7	91	36	88
13.....	1	73	13	107	5	127	24	62
Total 8-13..	74	\$ 66	461	\$ 59	291	\$ 71	1,187	\$ 55
14 and over..	10	\$140	27	\$105	10	\$119	52	\$ 99
Total—All Durations	719	\$ 50	2,583	\$ 43	2,399	\$ 48	7,052	\$ 40

TABLE IV-6  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 AVERAGE COST OF MISCELLANEOUS BENEFITS UNDER  
 VARIOUS REIMBURSABLE MAXIMUMS

	MALE			FEMALE NONMATERNITY		
	1951 Sample	1950 Sample		1951 Sample	1950 Sample	
	31-Day Plans	31-Day Plans	70-Day Plans	31-Day Plans	31-Day Plans	70-Day Plans
Number of Claims.....	4,192	10,767	2,484	1,689	4,717	952
MAXIMUM MISCELLANEOUS BENEFIT (1)	Average Cost (2)	Average Cost (2)	Average Cost (3)	Average Cost (2)	Average Cost (2)	Average Cost (3)
\$ 30.....	\$25.93	\$26.08	\$26.05	\$27.01	\$26.67	\$27.10
40.....	32.44	32.23	32.29	34.04	33.04	33.79
50.....	37.86	37.04	37.35	39.84	37.98	39.04
60.....	42.29	40.81	41.38	44.57	41.81	43.12
70.....	45.90	43.75	44.59	48.39	44.78	46.22
80.....	48.83	46.13	47.14	51.56	47.12	48.65
90.....	51.24	48.11	49.24	54.18	48.96	50.55
100.....	53.25	49.79	51.03	56.30	50.45	52.04
110.....	54.90	51.21	52.57	58.02	51.64	53.24
120.....	56.30	52.45	53.92	59.48	52.62	54.31
130.....	57.51	53.53	55.09	60.75	53.45	55.18
140.....	58.55	54.49	56.13	61.81	54.16	55.91
150.....	59.47	55.35	57.03	62.70	54.74	56.51
160.....	60.29	56.11	57.85	63.46	55.26	57.01
170.....	61.02	56.79	58.58	64.12	55.70	57.40
180.....	61.63	57.39	59.27	64.68	56.07	57.73
190.....	62.18	57.91	59.88	65.16	56.38	58.03
200.....	62.68	58.39	60.43	65.58	56.67	58.30

NOTE.—See reference in text of Section IV for possible understatement of charges.

TABLE IV-7  
 DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
 AVERAGE COST OF MISCELLANEOUS BENEFITS UNDER  
 VARIOUS REIMBURSABLE MAXIMUMS

	SPOUSE NONMATERNITY			CHILD		
	1951 Sample	1950 Sample		1951 Sample	1950 Sample	
	31-Day Plans	31-Day Plans	70-Day Plans	31-Day Plans	31-Day Plans	70-Day Plans
Number of Claims.....	4,194	9,562	2,008	4,599	11,051	2,209
<b>MAXIMUM MISCELLANEOUS BENEFIT (1)</b>	<b>Average Cost (2)</b>	<b>Average Cost (2)</b>	<b>Average Cost (3)</b>	<b>Average Cost (2)</b>	<b>Average Cost (2)</b>	<b>Average Cost (3)</b>
\$ 30.....	\$27.20	\$26.56	\$26.79	\$22.56	\$21.76	\$22.07
40.....	34.40	33.07	33.58	26.26	24.52	24.94
50.....	40.49	38.35	39.22	28.80	26.29	26.84
60.....	45.56	42.54	43.75	30.55	27.45	28.07
70.....	49.75	45.85	47.44	31.76	28.25	28.94
80.....	53.18	48.48	50.37	32.63	28.81	29.56
90.....	56.00	50.58	52.74	33.28	29.23	30.04
100.....	58.30	52.27	54.67	33.79	29.55	30.42
110.....	60.21	53.59	56.27	34.21	29.81	30.72
120.....	61.81	54.69	57.65	34.54	30.03	30.96
130.....	63.17	55.59	58.83	34.81	30.21	31.17
140.....	64.32	56.38	59.83	35.03	30.37	31.35
150.....	65.29	57.05	60.66	35.21	30.50	31.51
160.....	66.13	57.64	61.38	35.36	30.61	31.64
170.....	66.84	58.15	62.00	35.49	30.71	31.76
180.....	67.48	58.59	62.55	35.61	30.79	31.86
190.....	68.03	58.97	63.04	35.70	30.86	31.94
200.....	68.51	59.32	63.47	35.78	30.92	32.02

NOTE.—See reference in text of Section IV for possible understatement of charges.

**TABLE IV-8**  
**GROUP HOSPITAL EXPENSE INSURANCE**  
**ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES ACCORDING TO**  
**DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL**

DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (1)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)
<b>Employees</b> <b>31-Day Fixed Benefit Plans—Nonrated Industries</b>						
Male Claims			Female Nonmaternity Claims			
\$ 3.00—\$ 5.99 . . . . .	984	6.5	\$44.04	392	6.1	\$43.89
6.00— 6.99 . . . . .	1,559	6.5	50.03	669	6.6	52.19
7.00— 7.99 . . . . .	1,842	6.9	53.86	852	6.9	51.16
8.00— 8.99 . . . . .	1,596	7.3	59.09	761	7.0	56.08
9.00— 9.99 . . . . .	1,243	7.7	65.83	565	7.3	60.67
10.00— 10.99 . . . . .	1,091	8.0	66.87	431	7.0	61.60
11.00— 13.99 . . . . .	1,213	8.2	75.14	659	8.0	70.18
14.00— 16.99 . . . . .	279	8.4	86.30	127	7.6	76.01
Total . . . . .	9,807	7.3	\$59.64	4,456	7.1	\$57.25
<b>Dependents</b> <b>31-Day Reimbursement Plans</b>						
Spouse Nonmaternity Claims			Child Claims			
\$ 3.00—\$ 5.99 . . . . .	780	6.6	\$47.70	2,328	3.6	\$27.69
6.00— 6.99 . . . . .	1,446	6.4	51.18	1,992	3.6	31.37
7.00— 7.99 . . . . .	1,614	6.9	56.64	1,955	3.7	34.45
8.00— 8.99 . . . . .	1,451	7.6	63.69	1,248	3.7	34.36
9.00— 9.99 . . . . .	1,199	7.5	64.94	802	3.6	34.87
10.00— 10.99 . . . . .	919	7.5	67.66	541	3.6	38.01
11.00— 13.99 . . . . .	1,097	7.8	74.35	544	3.9	43.08
14.00— 16.99 . . . . .	265	8.1	75.21	113	4.0	46.78
Total . . . . .	8,771	7.2	\$61.18	9,523	3.6	\$33.02

showed a distinct increase for all categories of claimants as the daily room and board rate charged by the hospital increased. This relationship is to be expected because the level of miscellaneous service expenses tends to follow the level of room and board costs. Table IV-8 shows, in addition, that the average duration of hospital confinement increased with increases in the daily room and board rate charged by the hospital. Further analyses of this characteristic for male claimants were made and are presented in Tables IV-9 and 10.

The data summarized in Table IV-9 are the same as those used in the corresponding portion of Table IV-8, except that a few claims were excluded because the age was not reported. It will be noted that there is still a tendency in some of the age groupings for the average duration of hospi-

1950 SAMPLE—MALE EMPLOYEES  
31-DAY FIXED BENEFIT PLANS

Maximum Miscellaneous Benefit (1)	All Claims (2)	Claims Arising from Confinements Involving Daily Hospital Room and Board Charges of \$11 to \$16.99 (3)	(3) ÷ (2) (4)
\$ 50.....	\$37.04	\$41.44	112%
100.....	49.79	59.28	119
150.....	55.35	67.23	121
200.....	58.39	71.32	122

tal confinement to increase as the daily room and board rate charged by the hospital increases. This is caused in part by the type of disabilities involved, in that more serious disabilities require or make desirable confinement in more expensive hospitals or in more expensive types of hospital accommodations.

Because of the fact that duration of hospital confinement increases with the room and board rate charged by the hospital, the male claim data shown in Table IV-9 were subdivided into duration groups, so as to obtain increases in average miscellaneous service charges that are independent of increases in duration, though not independent of such factors as age, income of the claimant, or nature of the confining disability. Grouping the claims according to durations has a tendency to bring together confinements of approximately equal severity and, thus, produce homogeneous sets of data. The results of this grouping are shown in Table IV-10. It can be observed from Table IV-10 that the increase in miscellaneous service charges with increasing hospital room and board rates charged is smaller

TABLE IV-9

EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES ACCORDING TO  
AGE AND DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL  
31-DAY FIXED BENEFIT PLANS—MALE CLAIMS—NONRATED INDUSTRIES

DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (1)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)
	Ages 29 and under				Ages 30-39				Ages 40-49			
\$ 3.00-5.99.....	246	5.5	\$40.08	\$ 5.02	243	5.6	\$ 41.50	\$ 4.95	218	7.0	\$47.26	\$ 4.94
6.00- 6.99.....	405	5.2	43.11	6.20	394	5.9	47.98	6.20	316	6.5	51.73	6.23
7.00- 7.99.....	405	5.3	44.38	7.20	464	5.7	49.68	7.18	386	7.2	53.74	7.23
8.00- 8.99.....	314	5.0	48.62	8.17	343	6.2	52.77	8.18	347	7.2	56.77	8.22
9.00- 9.99.....	195	5.6	47.01	9.15	277	5.9	53.87	9.17	290	7.7	67.18	9.19
10.00-10.99.....	198	5.5	50.61	10.19	238	6.9	60.43	10.22	239	8.3	61.26	10.17
11.00-13.99.....	165	6.1	54.29	11.77	254	6.9	64.25	11.79	294	8.1	76.53	11.88
14.00-16.99.....	22	5.3	56.58	15.26	50	6.8	76.43	15.02	68	7.2	74.13	14.95
Total.....	1,950	5.4	\$46.13	\$ 7.85	2,263	6.1	\$ 52.84	\$ 8.18	2,158	7.4	\$59.67	\$ 8.48
	Ages 50-59				Ages 60 and over				All Ages			
\$ 3.00-5.99.....	161	7.0	\$45.40	\$ 4.94	96	9.7	\$ 48.24	\$ 5.00	964	6.5	\$43.76	\$ 4.97
6.00- 6.99.....	251	6.9	52.07	6.24	175	10.3	66.78	6.22	1,541	6.5	50.27	6.21
7.00- 7.99.....	311	8.3	63.95	7.25	254	9.4	65.63	7.25	1,820	6.9	54.02	7.22
8.00- 8.99.....	311	8.7	66.76	8.24	239	9.6	70.98	8.26	1,554	7.2	58.43	8.21
9.00- 9.99.....	250	9.0	77.48	9.24	210	10.6	82.89	9.22	1,222	7.7	65.75	9.19
10.00-10.99.....	233	9.0	77.62	10.19	166	10.5	90.31	10.18	1,074	8.0	67.15	10.19
11.00-13.99.....	292	9.3	88.78	11.89	183	10.6	87.35	12.00	1,188	8.3	75.50	11.87
14.00-16.99.....	63	8.8	89.55	14.86	69	11.5	113.36	14.97	272	8.4	86.66	14.97
Total.....	1,872	8.4	\$69.47	\$ 8.69	1,392	10.1	\$ 76.26	\$ 8.79	9,635	7.3	\$59.63	\$ 8.37

TABLE IV-10

EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
ANALYSIS OF CHARGES FOR MISCELLANEOUS SERVICES ACCORDING TO DURATION OF HOSPITAL  
CONFINEMENT AND DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL  
31-DAY FIXED BENEFIT PLANS—MALE CLAIMS—NONRATED INDUSTRIES

DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (1)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)	NUMBER OF CLAIMS (2)	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS) (3)	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED (4)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL (5)
	1-4 Days Confinement				5-7 Days Confinement				8-10 Days Confinement			
\$ 3.00-\$ 5.99.....	459	2.1	\$ 26.73	\$ 4.95	227	5.9	\$ 47.04	\$ 5.03	112	8.9	\$57.57	\$ 4.97
6.00- 6.99.....	747	2.3	28.39	6.17	357	5.9	48.24	6.23	186	8.8	56.28	6.24
7.00- 7.99.....	791	2.3	31.09	7.18	444	5.9	52.05	7.23	245	8.8	64.61	7.22
8.00- 8.99.....	634	2.3	32.22	8.17	382	5.9	51.91	8.23	226	8.8	63.20	8.23
9.00- 9.99.....	437	2.3	36.26	9.15	312	5.9	56.06	9.20	195	8.8	69.13	9.23
10.00- 10.99.....	397	2.3	38.47	10.12	264	6.0	55.54	10.16	169	8.9	73.36	10.25
11.00- 13.99.....	412	2.6	39.44	11.82	285	5.9	60.72	11.84	191	8.9	73.78	11.90
14.00- 16.99.....	103	2.6	50.86	14.88	56	6.1	74.71	15.10	36	8.9	69.19	14.88
Total.....	3,980	2.3	\$ 32.94	\$ 8.08	2,327	5.9	\$ 53.49	\$ 8.37	1,360	8.8	\$65.80	\$ 8.59
	11-20 Days Confinement				21-30 Days Confinement				1-30 Days Confinement			
\$ 3.00-\$ 5.99.....	140	14.1	\$ 70.65	\$ 4.96	46	24.8	\$ 87.94	\$ 4.93	984	6.5	\$44.04	\$ 4.97
6.00- 6.99.....	195	14.3	93.17	6.27	74	25.0	147.80	6.35	1,559	6.5	50.03	6.21
7.00- 7.99.....	276	14.3	91.31	7.28	86	24.6	121.84	7.31	1,842	6.9	53.86	7.22
8.00- 8.99.....	276	14.3	100.21	8.27	78	25.1	155.21	8.27	1,596	7.3	59.09	8.21
9.00- 9.99.....	224	14.2	102.81	9.22	75	24.8	159.74	9.25	1,243	7.7	65.83	9.19
10.00- 10.99.....	178	14.9	95.74	10.25	83	24.4	163.64	10.37	1,091	8.0	66.87	10.19
11.00- 13.99.....	242	14.3	114.64	11.92	83	24.8	189.89	11.96	1,213	8.2	75.14	11.87
14.00- 16.99.....	64	14.3	124.26	15.09	20	25.1	210.56	15.03	279	8.4	86.30	14.98
Total.....	1,595	14.3	\$ 98.23	\$ 8.75	545	24.8	\$152.48	\$ 8.84	9,807	7.3	\$59.64	\$ 8.37

for each subgroup of claims involving a relatively constant duration than it is for the entire group of claims analyzed in this table. However, these increases within the various subgroups are of sufficient magnitude to indicate that the average miscellaneous service expenses charged increase as the daily room and board rates charged by the hospitals increase. This, of course, would be of somewhat greater importance for plans providing higher miscellaneous benefits as is to be noted in the table on page 77.

The figures in column (2) thereof are taken from Table IV-6 and involve an average daily room and board charge by the hospital of \$8.71 and an average miscellaneous service charge of \$64.17. The figures in column (3) are based on 1,492 male claims on 31-day plans that arose from hospital confinements for which the hospital's daily room and board rate charged was from \$11.00 to \$16.99. The claims used in column (3) involved an average room and board rate charged by the hospital of \$12.45 and an average miscellaneous service charge of \$77.23.

The information shown in Tables IV-8 through 10 is not conclusive as to the relationship between hospital charges for miscellaneous services and the level of daily room and board benefit provided, because these tables are not based on room and board benefit provisions. In particular, this information should not be construed as indicating that miscellaneous service charges under plans providing low room and board rates will be considerably lower than the average, because the experience under existing plans, as presented in Section III, does not bear out such a conclusion.

When plans for collecting the 1951 claim sample were made, it was thought that information concerning the subdivision of miscellaneous service charges between drugs and other miscellaneous service costs would be of value. This subdivision was not obtainable on all the claims included in that sample, and hence no extensive analysis was made. However, for the claims on which the information was submitted, it was noted that drugs comprised 30% of the total miscellaneous service charges incurred by employees and 28% of those incurred by dependents.

#### SECTION V. ANALYSIS OF CLAIM FREQUENCIES

An important feature of this study is the derivation of claim frequencies, *i.e.*, the annual number of hospital confinements per insured employee or per insured dependent family unit. The frequencies shown in Tables V-1 and 2 were obtained by combining data from the 1950 sample with claim costs derived from the data compiled for the annual reports of the Committee on Group Mortality and Morbidity. For other than dependent wife maternity claims, the method of deriving frequencies of hospitalization was to determine an annual claim cost for room and board

TABLE V-1  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 SUBDIVISION OF ANNUAL CLAIM COSTS AND DERIVATION OF ANNUAL CLAIM FREQUENCIES  
 FIXED BENEFIT PLANS—NONRATED INDUSTRIES

	31-DAY, 14+5X, 5X*			31-DAY, 14+10X, 10X			70-DAY, 14+5X, 5X		
	Male Claims	Female Non-maternity Claims	Female Maternity Claims	Male Claims	Female Non-maternity Claims	Female Maternity Claims	Male Claims	Female Non-maternity Claims	Female Maternity Claims
Average Daily Benefit Rate Provided.....	\$5.63	\$5.46	\$5.25	\$6.13	\$5.83	\$5.85	\$5.08	\$5.02	\$4.89
Average Duration of Hospital Confinement (Days).....	8.76†	7.82†	5.73‡	7.46†	7.00†	5.88‡	8.08§	8.86§	5.66‡
Average Miscellaneous Service Benefits Paid per Dollar of Daily Benefit Rate Provided.....	\$4.40	\$4.50	\$4.65	\$6.65	\$7.09	\$6.90	\$4.35	\$4.53	\$4.14
Annual Claim Cost per Dollar of Daily Benefit Rate Provided.....	\$ .849	\$1.124	\$ .414	\$1.053	\$1.467	\$ .623	\$ .970	\$1.155	\$ .535
Ratio of Room and Board Benefit Claim Cost to Total Claim Cost.....	.664	.633	.553	.529	.495	.462	.646	.660	.578
Annual Room and Board Benefit Claim Cost.....	\$ .564	\$ .711	\$ .229	\$ .557	\$ .726	\$ .288	\$ .627	\$ .762	\$ .309
Ratio of Miscellaneous Benefit Claim Cost to Total Claim Cost.....	.336	.367	.447	.471	.505	.538	.354	.343	.422
Annual Miscellaneous Benefit Claim Cost.....	\$ .285	\$ .413	\$ .185	\$ .496	\$ .741	\$ .335	\$ .343	\$ .393	\$ .226
Annual Claim Frequency.....	.064	.091	.040	.075	.104	.049	.078	.086	.055

  

	31-DAY, 14+5X, 5X					31-DAY, 14+10X, 10X					70-DAY, 14+5X, 5X				
	Annual Room and Board Benefit Claim Cost	Annual Miscellaneous Benefit Claim Cost	Total Annual Claim Cost	Annual Claim Frequency	Duration of Hospital Confinement (Days)	Annual Room and Board Benefit Claim Cost	Annual Miscellaneous Benefit Claim Cost	Total Annual Claim Cost	Annual Claim Frequency	Duration of Hospital Confinement (Days)	Annual Room and Board Benefit Claim Cost	Annual Miscellaneous Benefit Claim Cost	Total Annual Claim Cost	Annual Claim Frequency	Duration of Hospital Confinement (Days)
Male.....	\$ .564	\$ .285	\$ .849	.064	8.76†	\$ .557	\$ .496	\$1.053	.075	7.46†	\$ .627	\$ .343	\$ .970	.078	8.08§
Female Nonmaternity.....	\$ .711	\$ .413	\$1.124	.091	7.82†	\$ .726	\$ .741	\$1.467	.104	7.00†	\$ .762	\$ .393	\$1.155	.086	8.86§
Female Maternity.....	\$ .229	\$ .185	\$ .414	.040	5.73‡	\$ .288	\$ .335	\$ .623	.049	5.88‡	\$ .309	\$ .226	\$ .535	.055	5.66‡
Total Female.....	\$ .940	\$ .598	\$1.538	.131	7.17	\$1.014	\$1.076	\$2.090	.153	6.65	\$1.071	\$ .619	\$1.690	.141	7.61
Ratio of Female Nonmaternity to Total Female.....	.756	.691	.731	.695	.....	.716	.689	.702	.680	.....	.711	.635	.683	.610	.....
Ratio of Female Nonmaternity to Male.....	1.261	1.449	1.324	1.422	.893	1.303	1.494	1.393	1.387	.938	1.215	1.146	1.191	1.103	1.097
Ratio of Total Female to Male.....	1.667	2.098	1.812	2.047	.818	1.820	2.169	1.985	2.040	.891	1.708	1.805	1.742	1.808	.942

\* 31-Day, 14+5X, 5X—A plan providing payment of the daily room and board benefit rate for each day of confinement up to a maximum of 31 days for nonmaternity confinements and up to a maximum of 14 days for maternity confinements. In addition, reimbursement is provided for all charges, other than for room and board, up to a maximum of 5 times the daily benefit rate for both nonmaternity and maternity confinements.

† Durations in excess of 31 days considered as 31 days.

‡ Durations in excess of 14 days considered as 14 days.

§ Durations in excess of 70 days considered as 70 days.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

TABLE V-2  
 DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
 SUBDIVISION OF ANNUAL CLAIM COSTS AND DERIVATION OF  
 ANNUAL CLAIM FREQUENCIES  
 REIMBURSEMENT PLANS

	31-Day, 10×, 5×*			31-Day, 10×, 10×			70-Day, 10×, 10×		
Annual Claim Cost per Dependent Family Unit per Dollar of Daily Benefit Rate Provided	\$2.541			\$2.986			\$3.273		
Ratio of Spouse Nonmaternity Claim Cost to Total Dependent Claim Cost	.428			.471			.502		
Ratio of Wife Maternity Claim Cost to Total Dependent Claim Cost	.273			.242			.200		
Ratio of Children Claim Cost to Total Dependent Claim Cost	.299			.287			.298		
	Spouse Nonmaternity Claims	Wife Maternity Claims	Child Claims	Spouse Nonmaternity Claims	Wife Maternity Claims	Child Claims	Spouse Nonmaternity Claims	Wife Maternity Claims	Child Claims
Average Daily Benefit Rate Paid by Plan	\$5.11		\$5.11	\$5.87		\$5.68	\$6.54		\$6.20
Average Daily Benefit Rate Provided	\$5.11	\$5.13	\$5.22	\$5.95	\$5.94	\$5.97	\$6.65	\$6.66	\$6.68
Ratio of Average Daily Benefit Rate Paid to Average Daily Benefit Rate Provided	1.000		.979	.987		.951	.983		.928
Average Duration of Hospital Confinement (Days)	8.08†		3.63†	7.63†		3.50†	9.17‡		4.20‡
Average Miscellaneous Service Benefit Paid per Dollar of Daily Benefit Rate Provided	\$4.64		\$3.90	\$7.10		\$4.60	\$7.05		\$4.23
Average Miscellaneous Service Benefit Paid per Dollar of Daily Benefit Rate Paid	\$4.64		\$3.98	\$7.20		\$4.83	\$7.17		\$4.55
Average Total Benefit Paid per Dollar of Daily Benefit Rate Provided		\$9.63			\$9.45			\$9.64	
Annual Claim Cost per Dollar of Daily Benefit Rate Provided	\$1.088	\$ .694	\$ .759	\$1.406	\$ .724	\$ .856	\$1.643	\$ .655	\$ .975
Ratio of Room and Board Benefit Claim Cost to Total Claim Cost	.635		.477	.514		.419	.561		.480
Annual Room and Board Benefit Claim Cost	\$ .691		\$ .362	\$ .723		\$ .359	\$ .922		\$ .468
Ratio of Miscellaneous Benefit Claim Cost to Total Claim Cost	.365		.523	.486		.581	.439		.520
Annual Miscellaneous Benefit Claim Cost	\$ .397		\$ .397	\$ .683		\$ .497	\$ .721		\$ .507
Annual Claim Frequency	.086	.072	.102	.096	.077	.108	.102	.068	.120

\* 31-Day, 10×, 5×—A plan providing reimbursement of the amount of room and board charges made by the hospital up to a maximum daily benefit rate for each day of confinement, subject to an over-all limit of 31 times the daily benefit rate for all nonmaternity confinements resulting from any one disability and a reimbursement for all hospital charges up to a maximum of 10 times the daily benefit rate for maternity confinements. In addition, reimbursement is provided for all charges, other than for room and board, up to a maximum of 5 times the daily benefit rate for nonmaternity confinements.

† Durations in excess of 31 days considered as 31 days.

‡ Durations in excess of 70 days considered as 70 days.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

benefits per dollar of daily benefit rate provided for all categories of claims for which frequencies were to be obtained. These annual room and board claim costs were divided by the average duration of confinement. For reimbursement plans, the result was divided by the ratio of the average daily benefit rate paid to the average daily benefit rate provided. For dependent wife maternity claims, the frequency was obtained by dividing the annual maternity claim cost per dollar of daily benefit rate provided by the average total benefit paid per dollar of daily benefit rate provided.

The first step, therefore, was the determination of reasonably satisfactory annual claim costs for the various plans. For employee plans, separate claim costs were required for male and female employees. These employee claim costs were derived from data assembled in connection with the publication of the 1951 report of the Committee on Group Mortality and Morbidity.

While the data accumulated by the Group Mortality and Morbidity Committee essentially provide a separation of the exposure (in units of dollars of daily benefit provided) into its male and female components, no similar separation by sex of the annual amount of incurred claims is available. Therefore, male and female claim costs per dollar of daily benefit exposed must be obtained by some indirect approach. Several methods for making this kind of calculation have been devised, and tests have indicated that the one chosen in the current study gives reasonably satisfactory results. The method used was to solve simultaneous equations in two unknowns, namely, the male and female annual claim costs per dollar of daily benefit exposed. One equation expressed the condition that the male and female claim costs applied respectively to the male and female exposures for all female percent brackets combined must yield the total incurred claims for the plan under consideration. The other equation expressed the condition that the male and female claim costs applied respectively to the male and female exposures in the less than 11% female bracket must yield the incurred claims arising from that bracket in the plan under consideration.

Male and female claim costs were derived for the selected plans from the combined 1947-1950 policy year experience as shown in the 1951 report of the Committee on Group Mortality and Morbidity. In these calculations, experience of groups with annual exposures in excess of \$10,000 of daily benefit provided was excluded because it was found that this removed certain inconsistencies in the results. The male and female costs thus developed for each plan from the combined 1947-1950 policy year experience, with the largest groups excluded, were multiplied by a factor to adjust them to the over-all level of the single 1950 policy year claim

costs for all exposure size groups for that plan. That factor was the ratio of the actual claims incurred in the 1950 policy year under each plan to the expected claims for that plan, where the expected claims were calculated by applying to the appropriate 1950 policy year exposures the preliminary male and female claim costs derived from the 1947-1950 policy year experience.

The adjusted male and female claim costs were used for the analysis shown in Table V-1. The subdivision between room and board benefits and miscellaneous benefits of the male claim costs in Table V-1 was based on the analysis shown in column (11) of Tables III-1 and 5. The average duration of hospital confinement for males was also taken from the same source. In order to separate the female claim costs into their maternity and nonmaternity portions, it was necessary to extract data relating to the specific plans being analyzed from the information included in Tables III-2, 5 and 6. These data also served to subdivide both the maternity and nonmaternity claim costs into room and board benefit costs and miscellaneous benefit costs, and, in addition, supplied the average durations needed to complete the calculation of the frequencies.

The results of the frequency calculations for employees are shown in Table V-1 along with some convenient comparisons of results for males and females that may be of interest. For example, the ratio of total female to male annual claim costs under the 31-day 10 times miscellaneous benefit plans is 1.985. Of course, this ratio of total female to male annual claim costs would not be uniform for all plans. It depends to a marked extent on the type of maternity benefit provided under a particular plan as compared with the nonmaternity benefit provided.

The preparation of Table V-2 was similar to that of Table V-1. The claim costs shown in the first line are the annual claim costs for the indicated plans according to the 1951 report compiled by the Group Mortality and Morbidity Committee. The annual claim costs used were taken from the experience of all exposure size groups for the single 1950 policy year. Comparisons of these 1950 policy year claim costs with those for the 1947-1950 policy year experience indicated that no appreciable distortion was introduced by the inclusion of the very largest groups in the derivation. The separation of the annual claim cost for each plan into its several components:

- Spouse Nonmaternity Room and Board Claim Cost
- Spouse Nonmaternity Miscellaneous Benefit Claim Cost
- Wife Maternity Claim Cost
- Children Room and Board Claim Cost
- Children Miscellaneous Benefit Claim Cost

was made by analyzing the claims submitted under the plans considered and finding the proportion of the amount paid under those claims that fell into each of the five categories required. The analysis also provided the various daily benefit rates and durations of confinement that were used.

In examining the dependent frequencies, it should be kept in mind that they have been related to the number of family units insured and not to the approximate number of individual dependents insured. In order to illustrate the significance of this point, reference to other data is necessary. For internal calculations in the author's company, it is generally assumed that family units on the average can be considered to include approximately .95 spouses and 1.26 children. The total is about 2.2 individuals per family unit and the figure of 1.26 children per family unit is based on the assumption that 70% of the units have children, and that the children average 1.8 per such unit. If these distributions are applied to the 31-day 10 times miscellaneous benefit plan frequencies, the spouse nonmaternity frequency of .096 per family unit converts to .101 per spouse, the maternity frequency of .077 per family unit converts to .081 per spouse and the child frequency of .108 per family unit converts to .086 per child. Different assumptions as to the average composition of the family unit would, of course, lead to results different from those derived in this illustration.

As mentioned in the footnotes to Tables V-1 and 2, it must be borne in mind that the frequencies and claim costs shown reflect the 1950 level of experience since they could not be adjusted for any changes that have taken place since 1950. In other words, this is an analysis of the situation as it existed in 1950 and is not intended to be an estimate of current costs or a projection of future costs. It is particularly important to keep this comment in mind because the entire field of group hospital expense insurance is undergoing rapid change and development.

A comparison of the claim frequencies and durations shown in Tables V-1 and 2 with those of prior experience would naturally be of general interest. However, the situation has changed rather radically since Mr. Fitzhugh published his analysis of the 1938-1939 experience (*RAIA XXIX*) based on the rather small amount of data then available. Therefore, it is not considered practicable to make a detailed comparison with the results of any previous investigation. However, in general, claim frequencies have increased and the average durations of confinement have decreased. There are several factors which lie behind this decrease in average duration. The more obvious one is the advance made by the medical profession in the care and treatment of illness. Among other things, the development of new drugs has produced spectacular results in shortening the duration of hospital confinement necessary for the treatment of a

number of illnesses. Another factor contributing to this reduction involves the interplay between frequency and duration. The increased usage of hospitals for purposes of diagnosis and treatment that involve shorter durations of confinement results in the statistical paradox of reducing durations and increasing total costs. Minor liberalizations of policy benefit provisions, by adding more claims of shorter duration, have contributed to the tendency for claim frequencies to increase and durations of hospital confinement to decrease.

#### SECTION VI. PRESENTATION OF CONTINUATION DATA

Tables VI-1 through 5 present the crude continuation data for various plans and categories of claimants. In these tables, it can be seen from column (2) which shows the number of claims involving  $t$  days of hospital confinement, that there were a significant number of claims for duration zero. These claims involved confinements of less than a day and arose from emergency treatments, diagnosis, etc. The omission of any fractional part of a day's confinement for such claims did not materially affect the resulting durations.

Column (4) of Tables VI-1 through 5 "Ratio of Hospitalization Arising from First  $t$  Days of Hospitalization to Hospitalization Arising from First 31 Days" requires some explanation. The figures in this column were obtained in such a way that the ratio shown for duration  $t$  is equal to the quotient of the average duration of hospital confinement for a  $t$ -day plan and the average duration of hospital confinement for a 31-day plan (a 14-day plan in the case of the maternity claims shown in Table VI-5). Thus, the ratio may be regarded as comparing the cost of the room and board benefit for a  $t$ -day plan with that for a 31-day (or 14-day) plan.

In those portions of Tables VI-1 through 4 which relate to 70-day plans, the later durations have been grouped into 9-day and 10-day duration brackets. In reference to these brackets, it should be noted that the figure that appears in column (3) "Ratio of Total Number Confined for  $t$  or More Days to Number Entering Hospital" is the figure that would appear opposite the first day in the bracket if a separate line were shown for each day. On the other hand, the figure that appears in column (4) "Ratio of Hospitalization Arising From First  $t$  Days to Hospitalization Arising from First 31 Days" is the figure that would appear opposite the last day in the bracket if a separate line were shown for each day.

The longer duration of 31-day 5 times miscellaneous benefit plans as compared with the 31-day 10 times miscellaneous benefit plans for the three categories of adult claimants noted in Section III is reflected in Tables VI-1, 2 and 3 where the proportions of claimants remaining in the

TABLE VI-1  
EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
FIXED BENEFIT PLANS—NONRATED INDUSTRIES  
MALE CLAIMS

DAYS OF HOSPITALI- ZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5X Miscellaneous Benefit			10X Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospi- tal <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hospi- talization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospi- tal <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hospi- talization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospi- tal <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hospi- talization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospi- tal <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hospi- talization Arising from First 31 Days <i>R<sub>t</sub></i>
0.....	96	1.0000	.....	258	1.0000	.....	378	1.0000	.....	77	1.0000	.....
1.....	440	.9789	.1118	768	.9547	.1279	1,273	.9649	.1204	337	.9690	.1261
2.....	416	.8824	.2126	576	.8200	.2378	1,047	.8467	.2260	246	.8333	.2345
3.....	358	.7912	.3029	443	.7189	.3341	834	.7494	.3195	206	.7343	.3300
4.....	392	.7127	.3843	444	.6412	.4200	870	.6720	.4034	200	.6514	.4148
5.....	367	.6267	.4559	482	.5633	.4954	892	.5912	.4771	182	.5709	.4890
6.....	332	.5462	.5183	391	.4788	.5596	766	.5083	.5406	172	.4976	.5538
7.....	299	.4733	.5723	378	.4102	.6145	703	.4372	.5951	151	.4283	.6095
8.....	272	.4078	.6189	293	.3439	.6606	595	.3719	.6415	116	.3676	.6573
9.....	185	.3481	.6586	212	.2925	.6998	417	.3166	.6810	118	.3209	.6991
10.....	146	.3075	.6938	197	.2553	.7340	365	.2779	.7157	93	.2733	.7346
11.....	128	.2755	.7252	150	.2207	.7635	291	.2440	.7461	74	.2359	.7653
12.....	122	.2474	.7535	127	.1944	.7896	262	.2170	.7732	66	.2061	.7921
13.....	95	.2207	.7787	102	.1721	.8126	204	.1926	.7972	44	.1795	.8155
14.....	96	.1998	.8015	100	.1542	.8333	207	.1737	.8189	49	.1618	.8365
15.....	55	.1788	.8219	69	.1367	.8516	133	.1545	.8382	24	.1421	.8550
16.....	59	.1667	.8410	66	.1246	.8683	131	.1421	.8559	24	.1324	.8723
17.....	55	.1538	.8585	62	.1130	.8834	121	.1299	.8721	32	.1228	.8882

TABLE VI-1—Continued

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DAYS OF HOSPITALIZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5× Miscellaneous Benefit			10× Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
18.....	54	.1417	.8747	47	.1021	.8971	105	.1187	.8869	24	.1099	.9025
19.....	46	.1299	.8895	41	.0939	.9097	91	.1089	.9005	32	.1002	.9156
20.....	48	.1198	.9032	33	.0867	.9213	83	.1005	.9131	18	.0874	.9269
21.....	49	.1092	.9157	43	.0809	.9321	97	.0928	.9247	22	.0801	.9374
22.....	21	.0985	.9269	47	.0733	.9419	70	.0838	.9351	15	.0713	.9466
23.....	36	.0939	.9377	23	.0651	.9507	62	.0773	.9447	12	.0652	.9551
24.....	29	.0860	.9475	32	.0611	.9588	63	.0715	.9537	21	.0604	.9630
25.....	19	.0796	.9566	25	.0554	.9663	46	.0657	.9619	14	.0519	.9697
26.....	16	.0755	.9652	18	.0511	.9731	38	.0614	.9695	12	.0463	.9758
27.....	22	.0719	.9734	24	.0479	.9795	47	.0579	.9767	4	.0415	.9811
28.....	31	.0671	.9811	24	.0437	.9854	57	.0535	.9834	8	.0399	.9863
29.....	23	.0603	.9880	20	.0395	.9907	44	.0482	.9894	5	.0366	.9911
30.....	23	.0553	.9943	13	.0360	.9955	38	.0441	.9949	2	.0346	.9956
31.....	229	.0502	1.0000	192	.0337	1.0000	437	.0406	1.0000	8	.0338	1.0000
32-40.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29	.0306	1.0290
41-50.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.0189	1.0510
51-60.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.0129	1.0648
61-70.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	.0089	1.0745
Total..	4,559	.....	.....	5,700	.....	.....	10,767	.....	.....	2,484	.....	.....

TABLE VI-2

EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
FIXED BENEFIT PLANS—NONRATED INDUSTRIES  
FEMALE NONMATERNITY CLAIMS

DAYS OF HOSPITALI- ZATION t	31-DAY PLANS									70-DAY PLANS		
	5× Miscellaneous Benefit			10× Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hos- pital t Days n <sub>t</sub>	Ratio of Total Num- ber Con- fined in Hospital for t or More Days to Number Entering Hospital	Ratio of Hospitali- zation Aris- ing from First t Days to Hospi- talization Arising from First 31 Days R <sub>t</sub>	Number Confined in Hos- pital t Days n <sub>t</sub>	Ratio of Total Num- ber Con- fined in Hospital for t or More Days to Number Entering Hospital	Ratio of Hospitali- zation Aris- ing from First t Days to Hospi- talization Arising from First 31 Days R <sub>t</sub>	Number Confined in Hos- pital t Days n <sub>t</sub>	Ratio of Total Num- ber Con- fined in Hospital for t or More Days to Number Entering Hospital	Ratio of Hospitali- zation Aris- ing from First t Days to Hospi- talization Arising from First 31 Days R <sub>t</sub>	Number Confined in Hos- pital t Days n <sub>t</sub>	Ratio of Total Num- ber Con- fined in Hospital for t or More Days to Number Entering Hospital	Ratio of Hospitali- zation Aris- ing from First t Days to Hospi- talization Arising from First 31 Days R <sub>t</sub>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
0.....	44	1.0000	53	1.0000	106	1.0000	8	1.0000	101	.9916	.1351	
1.....	227	.9825	257	.9738	506	.9775	1316	.8855	87	.8855	.2557	
2.....	232	.8922	253	.8468	509	.8703	.2488	.7941	86	.7941	.3639	
3.....	214	.7999	158	.7217	389	.7623	.3515	.7038	82	.7038	.4597	
4.....	200	.7148	127	.6436	340	.6799	.4431	.6176	95	.6176	.5439	
5.....	213	.6352	162	.5808	390	.6078	.5249	.5179	77	.5179	.6144	
6.....	184	.5505	156	.5007	349	.5251	.5956	.4370	83	.4370	.6739	
7.....	169	.4773	134	.4236	315	.4511	.6564	.7082	63	.3498	.7216	
8.....	161	.4101	138	.3574	306	.3844	.7082	.2836	45	.2836	.7602	
9.....	147	.3461	103	.2892	256	.3195	.7512	.7869	35	.2363	.7924	
10.....	118	.2876	90	.2383	216	.2652	.8165	.1996	34	.1996	.8196	
11.....	105	.2407	64	.1938	175	.2194	.8410	.1639	18	.1639	.8419	
12.....	64	.1989	58	.1621	126	.1823	.8620	.1450	24	.1450	.8616	
13.....	59	.1734	43	.1335	107	.1556	.8799	.1197	13	.1197	.8780	
14.....	60	.1500	37	.1122	101	.1329	.9078	.0966	9	.1061	.8924	
15.....	39	.1261	31	.0939	73	.1115	.9078	.0966	14	.0966	.9056	
16.....	37	.1106	12	.0786	52	.0960	.9193	.0819	6	.0819	.9167	
17.....	36	.0959	21	.0727	57	.0850						

TABLE VI-2—Continued

DAYS OF HOSPITALIZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5× Miscellaneous Benefit			10× Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
18.....	16	.0815	.9248	14	.0623	.9365	30	.0729	.9291	7	.0756	.9270
19.....	19	.0752	.9344	9	.0554	.9445	31	.0666	.9380	5	.0683	.9363
20.....	17	.0676	.9430	6	.0509	.9519	24	.0600	.9461	8	.0630	.9449
21.....	15	.0609	.9507	14	.0479	.9588	29	.0549	.9535	6	.0546	.9524
22.....	12	.0549	.9577	8	.0410	.9647	20	.0488	.9601	5	.0483	.9589
23.....	13	.0501	.9641	1	.0371	.9701	14	.0445	.9661	5	.0431	.9648
24.....	9	.0449	.9698	7	.0366	.9754	16	.0416	.9717	2	.0378	.9700
25.....	7	.0414	.9751	9	.0331	.9802	17	.0382	.9768	1	.0357	.9748
26.....	7	.0386	.9800	4	.0287	.9843	11	.0346	.9815	1	.0347	.9795
27.....	5	.0358	.9845	6	.0267	.9881	12	.0322	.9858	2	.0336	.9841
28.....	4	.0338	.9888	5	.0237	.9916	10	.0297	.9898	1	.0315	.9884
29.....	6	.0322	.9929	3	.0213	.9946	9	.0276	.9935	2	.0305	.9926
30.....	10	.0298	.9967	5	.0198	.9975	15	.0257	.9970	2	.0284	.9964
31.....	65	.0259	1.0000	35	.0173	1.0000	106	.0225	1.0000	2	.0263	1.0000
32-40.....										5	.0242	1.0265
41-50.....										4	.0189	1.0489
51-60.....										3	.0147	1.0665
61-70.....										11	.0116	1.0810
Total..	2,514			2,023			4,717			952		

06

TABLE VI-3  
DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
REIMBURSEMENT PLANS  
SPOUSE NONMATERNITY CLAIMS

DAYS OF HOSPITALIZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5X Miscellaneous Benefit			10X Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
0	46	1.0000	216	1.0000	431	1.0000	63	1.0000				
1	179	.9784	624	.9655	1278	.9549	177	.9686	1216			
2	202	.8941	656	.8657	2424	.8594	186	.8805	2321			
3	171	.7991	518	.7609	3431	.7581	167	.7878	3310			
4	147	.7186	499	.6781	4329	.6770	176	.7047	4194			
5	139	.6494	429	.5983	5121	.5980	135	.6170	4968			
6	137	.5840	396	.5297	5822	.5315	125	.5498	5658			
7	168	.5195	419	.4664	6439	.4679	141	.4875	6270			
8	147	.4405	443	.3995	6968	.3979	134	.4173	6794			
9	105	.3713	364	.3286	7403	.3302	126	.3506	7234			
10	116	.3219	311	.2705	7761	.2754	95	.2878	7595			
11	102	.2673	213	.2207	8053	.2266	97	.2405	7897			
12	83	.2193	188	.1867	8301	.1888	50	.1922	8139			
13	53	.1802	126	.1566	8508	.1568	40	.1673	8349			
14	44	.1553	127	.1365	8689	.1348	33	.1474	8534			
15	43	.1346	87	.1162	8842	.1146	26	.1310	8698			
16	34	.1144	63	.1023	8978	.0996	31	.1180	8846			
17	16	.0984	63	.0922	9100	.0887	15	.1026	8975			

TABLE VI-3—Continued

DAYS OF HOSPITALIZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5× Miscellaneous Benefit			10× Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
18.....	32	.0908	.9207	49	.0822	.9209	90	.0796	.9247	22	.0951	.9094
19.....	10	.0758	.9300	45	.0743	.9307	60	.0702	.9341	12	.0842	.9200
20.....	11	.0711	.9387	30	.0671	.9396	48	.0639	.9426	16	.0782	.9298
21.....	17	.0659	.9467	39	.0623	.9478	64	.0589	.9504	9	.0702	.9386
22.....	8	.0579	.9538	37	.0561	.9553	48	.0522	.9574	11	.0657	.9469
23.....	7	.0541	.9604	23	.0502	.9619	32	.0472	.9637	5	.0603	.9544
24.....	9	.0508	.9666	23	.0465	.9681	34	.0438	.9695	5	.0578	.9617
25.....	6	.0466	.9723	15	.0428	.9737	22	.0403	.9749	12	.0553	.9686
26.....	6	.0438	.9776	20	.0404	.9791	27	.0380	.9799	6	.0493	.9748
27.....	5	.0409	.9826	20	.0372	.9840	28	.0351	.9846	5	.0463	.9806
28.....	5	.0386	.9874	18	.0340	.9885	23	.0322	.9889	10	.0438	.9861
29.....	4	.0362	.9918	15	.0312	.9927	20	.0298	.9929	5	.0388	.9910
30.....	3	.0344	.9960	13	.0288	.9965	19	.0277	.9966	2	.0364	.9956
31.....	70	.0329	1.0000	167	.0267	1.0000	246	.0257	1.0000	3	.0354	1.0000
32-40.....										28	.0339	1.0306
41-50.....										17	.0199	1.0516
51-60.....										9	.0115	1.0635
61-70.....										14	.0070	1.0702
Total..	2,125			6,256			9,562			2,008		

TABLE VI-4  
DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
REIMBURSEMENT PLANS  
CHILD CLAIMS

DAYS OF HOSPITALIZATION <i>t</i>	31-DAY PLANS						70-DAY PLANS					
	5× Miscellaneous Benefit			10× Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hospital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Confined in Hospital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hospitalization Arising from First <i>t</i> Days to Hospitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
0	176	1.0000		781	1.0000		1,346	1.0000		203	1.0000	
1	910	.9273	.2535	2,657	.8897	.2534	4,108	.8782	.2539	869	.9081	.2506
2	366	.5516	.4042	927	.5145	.3999	1,423	.5065	.4004	287	.5147	.3926
3	161	.4005	.5137	510	.3836	.5092	773	.3777	.5096	138	.3848	.4988
4	164	.3340	.6050	406	.3116	.5980	639	.3078	.5986	133	.3223	.5877
5	152	.2663	.6778	401	.2543	.6704	613	.2499	.6708	112	.2621	.6600
6	103	.2036	.7334	327	.1977	.7267	501	.1945	.7271	99	.2114	.7183
7	89	.1610	.7775	263	.1515	.7698	398	.1491	.7702	83	.1666	.7643
8	54	.1243	.8114	180	.1144	.8024	254	.1131	.8029	57	.1290	.7999
9	48	.1020	.8393	108	.0890	.8278	183	.0901	.8290	50	.1032	.8284
10	44	.0822	.8618	71	.0737	.8488	125	.0736	.8502	33	.0806	.8506
11	25	.0640	.8792	67	.0637	.8669	101	.0623	.8682	30	.0656	.8687
12	19	.0537	.8939	64	.0542	.8823	91	.0531	.8836	17	.0521	.8831
13	12	.0458	.9064	31	.0452	.8952	48	.0449	.8966	10	.0444	.8953
14	13	.0409	.9176	42	.0408	.9068	62	.0405	.9083	8	.0398	.9063
15	13	.0355	.9273	28	.0349	.9168	47	.0349	.9184	8	.0362	.9163
16	5	.0301	.9356	17	.0309	.9256	26	.0307	.9273	5	.0326	.9253
17	3	.0281	.9432	12	.0285	.9337	20	.0283	.9355	7	.0303	.9337

TABLE VI-4—Continued

DAYS OF HOSPITALI- ZATION <i>t</i>	31-DAY PLANS									70-DAY PLANS		
	5X Miscellaneous Benefit			10X Miscellaneous Benefit			All Miscellaneous Benefits			All Miscellaneous Benefits		
	Number Confined in Hos- pital <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hos- pitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hos- pital <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hos- pitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hos- pital <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hos- pitalization Arising from First 31 Days <i>R<sub>t</sub></i>	Number Confined in Hos- pital <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Num- ber Con- fined in Hospital for <i>t</i> or More Days to Number Entering Hospital <i>R<sub>t</sub></i>	Ratio of Hospit- alization Aris- ing from First <i>t</i> Days to Hos- pitalization Arising from First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	
18.....	7	.0268	.9506	19	.0268	.9413	26	.0265	.9431	3	.0272	.9412
19.....	7	.0239	.9571	16	.0241	.9482	29	.0242	.9501	2	.0258	.9483
20.....	4	.0211	.9629	11	.0219	.9544	21	.0215	.9563	5	.0249	.9552
21.....	5	.0194	.9682	7	.0203	.9620	15	.0196	.9620	3	.0226	.9614
22.....	4	.0173	.9729	12	.0193	.9657	20	.0183	.9673	4	.0213	.9673
23.....	2	.0157	.9772	13	.0177	.9708	15	.0165	.9721	6	.0195	.9726
24.....	7	.0149	.9813	8	.0158	.9753	15	.0151	.9764	3	.0167	.9773
25.....	2	.0120	.9845	5	.0147	.9795	7	.0138	.9804	5	.0154	.9815
26.....	1	.0111	.9876	6	.0140	.9834	7	.0131	.9842	3	.0131	.9851
27.....	3	.0107	.9905	5	.0131	.9872	10	.0125	.9878	1	.0118	.9884
28.....	1	.0095	.9931	5	.0124	.9907	7	.0116	.9912	2	.0113	.9915
29.....	1	.0091	.9956	6	.0117	.9940	7	.0109	.9943	.....	.0104	.9944
30.....	3	.0087	.9980	6	.0109	.9971	11	.0103	.9973	1	.0104	.9973
31.....	18	.0074	1.0000	71	.0100	1.0000	103	.0093	1.0000	1	.0100	1.0000
32-40.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.0095	1.0214
41-50.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.0072	1.0393
51-60.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.0054	1.0503
61-70.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.0032	1.0580
Total..	2,422	.....	.....	7,082	.....	.....	11,051	.....	.....	2,209	.....	.....

TABLE VI-5  
GROUP HOSPITAL EXPENSE INSURANCE

DAYS OF HOS- PITALIZA- TION <i>t</i>	EMPLOYEE—NONRATED INDUSTRIES			DEPENDENT—REIMBURSEMENT		
	Female Maternity Claims			Wife Maternity Claims		
	31-Day and 70-Day Plans Combined— 14-Day Maternity Benefit			31-Day and 70-Day Plans Combined— 10× Maternity Benefit		
	Number Confined in Hos- pital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Con- fined in Hos- pital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hos- pitalization Arising from First <i>t</i> Days to Hospitali- zation Arising from First 14 Days <i>R<sub>t</sub></i>	Number Confined in Hos- pital for <i>t</i> Days <i>n<sub>t</sub></i>	Ratio of Total Number Con- fined in Hos- pital for <i>t</i> or More Days to Number Entering Hospital	Ratio of Hos- pitalization Arising from First <i>t</i> Days to Hospitali- zation Arising from First 14 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(2)	(3)	(4)	
0.....	0		7	1.0000		
1.....	30	1.0000	125	.9990	.1801	
2.....	98	.9884	370	.9813	.3570	
3.....	213	.9504	749	.9288	.5245	
4.....	318	.8680	1,086	.8226	.6728	
5.....	580	.7449	1,465	.6686	.7933	
6.....	468	.5203	1,169	.4609	.8764	
7.....	388	.3391	842	.2951	.9296	
8.....	191	.1889	544	.1757	.9613	
9.....	130	.1150	285	.0986	.9790	
10.....	70	.0647	240	.0581	.9895	
11.....	37	.0376	58	.0241	.9939	
12.....	20	.0232	36	.0159	.9967	
13.....	13	.0155	24	.0108	.9987	
14.....	27	.0105	52	.0074	1.0000	
Total...	2,583		7,052			

hospital at each duration of confinement are greater under the 5 times miscellaneous benefit plan than they are under the 10 times plan.

SECTION VII. CONSTRUCTION OF BASIC CLAIM  
COST AND CONTINUATION TABLES

Despite the variation in the experience under different plans that are analyzed in this paper, it was considered desirable to construct basic continuation and claim cost tables based upon as broad a consolidation of the available experience as possible. Such tables, it was felt, would serve as reference material which might be of assistance in connection with actuarial problems concerned with frequency and duration of hospitalization. The applicability of the basic cost and continuation tables presented in this section to the solution of specific problems must, of course, be determined by reference to the source material used in the construction of the tables. This applies particularly in connection with the longer hospital confinements, because the 1950 claim sample contained very little data concerning hospital confinements lasting 32 to 70 days and no usable data concerning hospital confinements in excess of 70 days. The claim cost tables were extrapolated beyond 70 days by reviewing what little data were available between 31 and 70 days.

The first steps in the construction of the 1950 Basic Group Hospitalization Tables VII-2, 3, 4, 4*a* and 4*b* were the preparation of continuation tables for the first 31 days of confinement, from the 1950 claim sample experience of both 31-day and 70-day plans, and the extension of the tables from 31 to 70 days, based on the experience of the 70-day plans. Difficulty was encountered in making the extension from 31 days to 70 days, because there were several conflicting indications as to the cost of room and board benefits for periods of hospitalization between 31 and 70 days as summarized on the next page.

After reviewing all the available information concerning the increase in days of hospitalization in going from 31-day plans to 70-day plans, it was decided for all categories to make use of a weighted average of the ratios that appear opposite the 61-day to 70-day bracket in the extreme right hand column of Tables VI-1, 2, 3 and 4. The weighted average of those ratios was 1.0694. If the ratios had been averaged for the three adult categories of claimants, a factor of 1.0741 would have been obtained. This might have seemed more appropriate in relation to the crude ratio of 1.0580 for children. However, the 10 times miscellaneous benefit plan data which contain the largest volume of homogeneous data, on the 70-day plans, do not indicate that the ratio for children is lower than that for adults. Rather than attempt to reach any conclusion on this refinement

	AVERAGE DURATION OF CONFINEMENT CALCULATED FROM DATA EXTRACTED FROM TABLES VI-1 THROUGH VI-4			
	Employees Hospitalization		Dependents Hospitalization	
	Male Claims	Female Nonma- ternity Claims	Spouse Nonma- ternity Claims	Children Claims
	10 × Miscellaneous Benefit Plans			
a. 31-day plans.....	7.46	6.92	7.55	3.51
b. 70-day plans truncated at 31 days.....	7.76	6.91	8.21	3.74
c. $b \div a$ .....	1.04	1.00	1.09	1.07
d. 70-day plans.....	8.31	7.27	8.87	4.02
e. $d \div a$ .....	1.11	1.05	1.17	1.15
f. $d \div b$ .....	1.07	1.05	1.08	1.07
g. Ratio corres. to <i>f</i> for 5× Miscella- neous Benefit Plans.....	1.05	1.10	1.08	1.02
h. Ratio corres. to <i>f</i> for 5×, 10×, 15× and 20× Miscellaneous Benefit Plans Combined.....	1.07	1.08	1.07	1.06

	DEPENDENTS HOSPITALIZATION 10 × Miscellaneous Benefit Plans					
	ROOM AND BOARD CLAIM COSTS FROM TABLE V-2		AVERAGE DURATION OF CONFINEMENT FROM TABLE V-2		FREQUENCIES FROM TABLE V-2	
	Spouse Non- maternity Claims	Children Claims	Spouse Non- maternity Claims	Children Claims	Spouse Non- maternity Claims	Children Claims
a. 31-day, 10×, 10× plans.....	.723	.359	7.63	3.50	.096	.108
b. 70-day, 10×, 10× plans.....	.922	.468	9.17	4.20	.102	.120
c. $b \div a$ .....	1.28	1.30	1.20	1.20	1.06	1.11

TABLE VII-1  
 GROUP HOSPITAL EXPENSE INSURANCE  
 ANNUAL CLAIM COSTS PER DOLLAR OF DAILY BENEFIT RATE PROVIDED

EMPLOYEES					
PLAN	MALE		FEMALE		
	1947-1950 Exposure	Annual Room and Board Claim Cost	1947-1950 Exposure	Annual Room and Board Claim Cost	
				Non- maternity	Maternity
31-Day, 5× .....	\$16,526,068	Crude \$ 5641	\$5,687,506	Crude \$ .7109	Crude \$ .2292
31-Day, 10× .....	7,733,929	.5567	1,959,282	.7264	.2883
70-Day, 5× .....	4,115,317	.6273	1,203,117	.7623	.3093
First 31 Days, All Plans .....		Graduated .5656		Graduated .7146	
First 70 Days, All Plans .....		.6049		.7642	
First 14 Days, All Plans .....					.2532

DEPENDENTS				
PLAN	1947-1950 EXPOSURE	SPOUSE		CHILD
		Nonmater- nity Annual Room and Board Claim Cost	Maternity Total Annual Claim Cost	Annual Room and Board Claim Cost
31-Day, No Maternity, 5× .....	\$ 985,132	Crude \$ 8047	Crude	Crude \$ 3273
31-Day, No Maternity, 10× .....	1,038,757	.6598		.3824
70-Day, No Maternity, 5× .....	161,020	.9946		.3047
31-Day, 10× Maternity, 5× .....	4,226,384	.6912	\$ .6943	.3619
31-Day, 10× Maternity, 10× .....	3,531,409	.7234	.7238	.3594
70-Day, 10× Maternity, 5× .....	361,031	.8873	.7787	.2560
70-Day, 10× Maternity, 10× .....	775,699	.9220	.6551	.4679
First 31 Days, All Plans .....		Graduated .7296	Graduated	Graduated .3602
First 70 Days, All Plans .....		.7802		.3852
10× Maternity, All Plans .....			.7060	

TABLE VII-2  
1950 BASIC GROUP HOSPITALIZATION TABLE  
MALE EMPLOYEES  
FIXED BENEFIT PLANS—NONRATED INDUSTRIES

Days of Hospitalization <i>t</i>	Graduated Ratio of Hospitalization Arising from <i>t</i> th Day (or Days) to Hospitalization Arising from First 31 Days <i>r<sub>t</sub></i>	Number of Persons Confined for <i>t</i> or More Days <i>l<sub>t</sub></i>	Annual Frequency of Hospitalization of Duration <i>t</i> or More <i>f<sub>t</sub></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from <i>t</i> th Day (or Days) of Confinement <i>c<sub>t</sub><sup>a</sup></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>a</sup></i>	Monthly Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>m</sup> = 1/2 C<sub>t</sub><sup>a</sup></i>	Ratio of Room and Board Claim Cost for First <i>t</i> Days to Cost for First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0		10,000	.0700				
1	.1195	9,657	.0676	.0676	.0676	.0056	.1195
2	.1070	8,647	.0605	.0605	.1281	.0107	.2265
3	.0950	7,677	.0537	.0537	.1818	.0151	.3215
4	.0838	6,772	.0474	.0474	.2292	.0191	.4053
5	.0734	5,932	.0415	.0415	.2707	.0226	.4787
6	.0637	5,148	.0360	.0360	.3067	.0256	.5424
7	.0549	4,437	.0311	.0311	.3378	.0281	.5973
8	.0471	3,806	.0266	.0266	.3644	.0304	.6444
9	.0404	3,265	.0229	.0229	.3873	.0323	.6848
10	.0349	2,820	.0197	.0197	.4070	.0339	.7197
11	.0304	2,457	.0172	.0172	.4242	.0353	.7501
12	.0268	2,166	.0152	.0152	.4394	.0366	.7769
13	.0239	1,931	.0135	.0135	.4529	.0377	.8008
14	.0214	1,729	.0121	.0121	.4650	.0387	.8222
15	.0193	1,560	.0109	.0109	.4759	.0397	.8415
16	.0175	1,414	.0099	.0099	.4858	.0405	.8590
17	.0160	1,293	.0091	.0091	.4949	.0412	.8750
18	.0147	1,188	.0083	.0083	.5032	.0419	.8897
19	.0135	1,091	.0076	.0076	.5108	.0426	.9032
20	.0124	1,002	.0070	.0070	.5178	.0431	.9156
21	.0114	921	.0064	.0064	.5242	.0437	.9270
22	.0104	840	.0059	.0059	.5301	.0442	.9374
23	.0095	768	.0054	.0054	.5355	.0446	.9469
24	.0087	703	.0049	.0049	.5404	.0450	.9556
25	.0080	646	.0045	.0045	.5449	.0454	.9636
26	.0074	598	.0042	.0042	.5491	.0458	.9710
27	.0068	550	.0039	.0039	.5530	.0461	.9778
28	.0063	509	.0036	.0036	.5566	.0464	.9841
29	.0058	469	.0033	.0033	.5599	.0467	.9899
30	.0053	428	.0030	.0030	.5629	.0469	.9952
31	.0048	388	.0027	.0027	.5656	.0471	1.0000
32-40	(.0289)	(192)	(.0013)	(.0163)	(.5819)	(.0485)	(1.0289)
41-50	(.0180)	(118)	(.0008)	(.0102)	(.5921)	(.0493)	(1.0469)
51-60	(.0125)	(90)	(.0006)	(.0071)	(.5992)	(.0499)	(1.0594)
61-70	(.0100)	(75)	(.0005)	(.0057)	(.6049)	(.0504)	(1.0694)
71-90				(.0089)	(.6138)	(.0512)	(1.0853)
91-120				(.0100)	(.6238)	(.0520)	(1.1029)
121-180				(.0137)	(.6375)	(.0531)	(1.1271)
181-270				(.0133)	(.6508)	(.0542)	(1.1507)
271-360				(.0094)	(.6602)	(.0550)	(1.1672)

NOTE.—See text for caution regarding values shown in parentheses.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

TABLE VII-3

1950 BASIC GROUP HOSPITALIZATION TABLE  
 FEMALE EMPLOYEES—NONMATERNITY  
 FIXED BENEFIT PLANS—NONRATED INDUSTRIES

Days of Hospitalization <i>t</i>	Graduated Ratio of Hospitalization Arising from <i>t</i> th Day (or Days) to Hospitalization Arising from First 31 Days <i>r<sub>t</sub></i>	Number of Persons Confined for <i>t</i> or More Days <i>l<sub>t</sub></i>	Annual Frequency of Hospitalization of Duration <i>t</i> or More <i>f<sub>t</sub></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from <i>t</i> th Day (or Days) of Confinement <i>c<sub>t</sub><sup>a</sup></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>a</sup></i>	Monthly Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>m</sup> = 1/12 C<sub>t</sub><sup>a</sup></i>	Ratio of Room and Board Claim Cost for First <i>t</i> Days to Cost for First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0.....		10,000	.0958				
1.....	.1313	9,799	.0938	.0938	.0938	.0078	.1313
2.....	.1178	8,791	.0842	.0842	.1780	.0148	.2491
3.....	.1049	7,829	.0750	.0750	.2530	.0211	.3540
4.....	.0927	6,918	.0662	.0662	.3192	.0266	.4467
5.....	.0813	6,067	.0581	.0581	.3773	.0314	.5280
6.....	.0705	5,261	.0504	.0504	.4277	.0356	.5985
7.....	.0604	4,508	.0432	.0432	.4709	.0392	.6589
8.....	.0511	3,814	.0365	.0365	.5074	.0423	.7100
9.....	.0427	3,187	.0305	.0305	.5379	.0448	.7527
10.....	.0355	2,649	.0254	.0254	.5633	.0469	.7882
11.....	.0294	2,194	.0210	.0210	.5843	.0487	.8176
12.....	.0245	1,828	.0175	.0175	.6018	.0501	.8421
13.....	.0206	1,537	.0147	.0147	.6165	.0514	.8627
14.....	.0174	1,299	.0124	.0124	.6289	.0524	.8801
15.....	.0149	1,112	.0106	.0106	.6395	.0533	.8950
16.....	.0129	963	.0092	.0092	.6487	.0541	.9079
17.....	.0113	843	.0081	.0081	.6568	.0547	.9192
18.....	.0100	746	.0071	.0071	.6639	.0553	.9292
19.....	.0090	672	.0064	.0064	.6703	.0559	.9382
20.....	.0081	605	.0058	.0058	.6761	.0563	.9463
21.....	.0073	545	.0052	.0052	.6813	.0568	.9536
22.....	.0066	493	.0047	.0047	.6860	.0572	.9602
23.....	.0060	448	.0043	.0043	.6903	.0575	.9662
24.....	.0055	410	.0040	.0040	.6943	.0579	.9717
25.....	.0051	381	.0037	.0037	.6980	.0582	.9768
26.....	.0047	351	.0034	.0034	.7014	.0584	.9815
27.....	.0043	321	.0031	.0031	.7045	.0587	.9858
28.....	.0040	299	.0029	.0029	.7074	.0589	.9898
29.....	.0037	276	.0026	.0026	.7100	.0592	.9935
30.....	.0034	254	.0024	.0024	.7124	.0594	.9969
31.....	.0031	231	.0022	.0022	.7146	.0595	1.0000
32- 40.....	(.0236)	(172)	(.0016)	(.0169)	(.7315)	(.0610)	(1.0236)
41- 50.....	(.0198)	(129)	(.0012)	(.0141)	(.7456)	(.0621)	(1.0434)
51- 60.....	(.0147)	(97)	(.0009)	(.0105)	(.7564)	(.0630)	(1.0581)
61- 70.....	(.0113)	(76)	(.0007)	(.0081)	(.7642)	(.0637)	(1.0694)
71- 90.....				(.0114)	(.7756)	(.0646)	(1.0853)
91-120.....				(.0125)	(.7881)	(.0657)	(1.1029)
121-180.....				(.0173)	(.8054)	(.0671)	(1.1271)
181-270.....				(.0169)	(.8223)	(.0685)	(1.1507)
271-360.....				(.0118)	(.8341)	(.0695)	(1.1672)

NOTE.—See text for caution regarding values shown in parentheses.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

TABLE VII-4  
1950 BASIC GROUP HOSPITALIZATION TABLE  
DEPENDENT SPOUSES AND DEPENDENT CHILDREN—NONMATERNITY  
REIMBURSEMENT PLANS

Days of Hospitalization <i>t</i>	Graduated Ratio of Hospitalization Arising from <i>t</i> th Day (or Days) to Hospitalization Arising from First 31 Days <i>r<sub>t</sub></i>	Number of Persons Confined for <i>t</i> or More Days <i>l<sub>t</sub></i>	Annual Frequency (per Family Unit) of Hospitalization of Duration <i>t</i> or More <i>f<sub>t</sub></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from <i>t</i> th Day (or Days) of Confinement <i>c<sub>t</sub><sup>a</sup></i>	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>a</sup></i>	Monthly Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First <i>t</i> Days of Confinement <i>C<sub>t</sub><sup>m</sup> = 1/12 C<sub>t</sub><sup>a</sup></i>	Ratio of Room and Board Claim Cost for First <i>t</i> Days to Cost for First 31 Days <i>R<sub>t</sub></i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0.....		10,000	.2020				
1.....	.1662	9,188	.1856	.1801	.1801	.0150	.1662
2.....	.1278	7,064	.1427	.1389	.3190	.0266	.2940
3.....	.1066	5,891	.1190	.1160	.4350	.0363	.4006
4.....	.0899	4,970	.1004	.0980	.5330	.0444	.4905
5.....	.0762	4,213	.0851	.0832	.6162	.0514	.5667
6.....	.0646	3,569	.0721	.0705	.6867	.0572	.6313
7.....	.0546	3,020	.0610	.0597	.7464	.0622	.6859
8.....	.0459	2,535	.0512	.0501	.7965	.0664	.7318
9.....	.0381	2,109	.0426	.0417	.8382	.0699	.7699
10.....	.0316	1,748	.0353	.0346	.8728	.0727	.8015
11.....	.0262	1,450	.0293	.0287	.9015	.0751	.8277
12.....	.0219	1,208	.0244	.0239	.9254	.0771	.8496
13.....	.0184	1,015	.0205	.0201	.9455	.0788	.8680
14.....	.0158	871	.0176	.0172	.9627	.0802	.8838
15.....	.0135	748	.0151	.0148	.9775	.0815	.8973
16.....	.0119	658	.0133	.0130	.9905	.0825	.9092
17.....	.0106	584	.0118	.0116	1.0021	.0835	.9198
18.....	.0096	530	.0107	.0105	1.0126	.0844	.9294
19.....	.0087	480	.0097	.0095	1.0221	.0852	.9381
20.....	.0079	436	.0088	.0086	1.0307	.0859	.9460
21.....	.0073	401	.0081	.0079	1.0386	.0866	.9533
22.....	.0066	366	.0074	.0072	1.0458	.0872	.9599
23.....	.0060	332	.0067	.0065	1.0523	.0877	.9659
24.....	.0056	307	.0062	.0060	1.0583	.0882	.9715
25.....	.0052	287	.0058	.0056	1.0639	.0887	.9767
26.....	.0047	262	.0053	.0052	1.0691	.0891	.9814
27.....	.0043	243	.0049	.0048	1.0739	.0895	.9857
28.....	.0040	223	.0045	.0044	1.0783	.0899	.9897
29.....	.0037	208	.0042	.0041	1.0824	.0902	.9934
30.....	.0034	188	.0038	.0038	1.0862	.0905	.9968
31.....	.0032	178	.0036	.0036	1.0898	.0908	1.0000
32-40.....	(.0236)	(124)	(.0025)	(.0258)	(1.1156)	(.0930)	(1.0236)
41-50.....	(.0194)	(94)	(.0019)	(.0211)	(1.1367)	(.0947)	(1.0430)
51-60.....	(.0148)	(74)	(.0015)	(.0161)	(1.1528)	(.0961)	(1.0578)
61-70.....	(.0116)	(54)	(.0011)	(.0126)	(1.1654)	(.0971)	(1.0694)
71-90.....				(.0173)	(1.1827)	(.0986)	(1.0853)
91-120.....				(.0193)	(1.2020)	(.1002)	(1.1029)
121-180.....				(.0263)	(1.2283)	(.1024)	(1.1271)
181-270.....				(.0258)	(1.2541)	(.1045)	(1.1507)
271-360.....				(.0179)	(1.2720)	(.1060)	(1.1672)

NOTE.—See text for caution regarding values shown in parentheses.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

TABLE VII-4a  
1950 BASIC GROUP HOSPITALIZATION TABLE  
DEPENDENT SPOUSES—NONMATERNITY  
REIMBURSEMENT PLANS

Days of Hospitalization $t$	Graduated Ratio of Hospitalization Arising from $t$ th Day (or Days) to Hospitalization Arising from First 31 Days $r_t$	Number of Persons Confined for $t$ or More Days $f_t$	Annual Frequency (per Family Unit) of Hospitalization of Duration $t$ or More $f_t$	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from $t$ th Day (or Days) of Confinement $C_t^m$	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First $t$ Days of Confinement $C_t^a$	Monthly Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First $t$ Days of Confinement $C_t^m = \frac{1}{12}C_t^a$	Ratio of Room and Board Claim Cost for First $t$ Days to Cost for First 31 Days $R_t$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0		10,000	.0968				
1	.1255	9,573	.0927	.0916	.0916	.0076	.1255
2	.1133	8,642	.0837	.0827	.1743	.0145	.2388
3	.1015	7,742	.0750	.0741	.2484	.0207	.3403
4	.0903	6,888	.0667	.0659	.3143	.0262	.4306
5	.0799	6,095	.0590	.0583	.3726	.0310	.5105
6	.0703	5,362	.0519	.0513	.4239	.0353	.5808
7	.0612	4,668	.0453	.0447	.4686	.0390	.6420
8	.0525	4,005	.0388	.0383	.5069	.0422	.6945
9	.0443	3,379	.0327	.0323	.5392	.0449	.7388
10	.0369	2,815	.0272	.0269	.5661	.0472	.7757
11	.0306	2,334	.0226	.0223	.5884	.0490	.8063
12	.0253	1,930	.0187	.0185	.6069	.0506	.8316
13	.0212	1,617	.0157	.0155	.6224	.0519	.8528
14	.0179	1,365	.0133	.0131	.6355	.0530	.8707
15	.0154	1,175	.0113	.0112	.6467	.0539	.8861
16	.0134	1,022	.0099	.0098	.6565	.0547	.8995
17	.0119	908	.0088	.0087	.6652	.0554	.9114
18	.0107	816	.0079	.0078	.6730	.0561	.9221
19	.0096	732	.0071	.0070	.6800	.0567	.9317
20	.0087	664	.0064	.0063	.6863	.0572	.9404
21	.0079	603	.0059	.0058	.6921	.0577	.9483
22	.0072	549	.0054	.0053	.6974	.0581	.9555
23	.0066	503	.0049	.0048	.7022	.0585	.9621
24	.0061	465	.0045	.0044	.7066	.0589	.9682
25	.0057	435	.0042	.0041	.7107	.0592	.9739
26	.0053	404	.0038	.0038	.7145	.0595	.9792
27	.0049	374	.0035	.0035	.7180	.0598	.9841
28	.0045	343	.0032	.0032	.7212	.0601	.9886
29	.0041	313	.0030	.0030	.7242	.0603	.9927
30	.0038	290	.0028	.0028	.7270	.0606	.9965
31	.0035	267	.0026	.0026	.7296	.0608	1.0000
32-40	(.0250)	(178)	(.0017)	(.0181)	(.7477)	(.0623)	(1.0250)
41-50	(.0194)	(126)	(.0012)	(.0142)	(.7619)	(.0635)	(1.0444)
51-60	(.0141)	(94)	(.0009)	(.0103)	(.7722)	(.0644)	(1.0585)
61-70	(.0109)	(75)	(.0007)	(.0080)	(.7802)	(.0650)	(1.0694)
71-90				(.0116)	(.7918)	(.0660)	(1.0853)
91-120				(.0129)	(.8047)	(.0671)	(1.1029)
121-180				(.0176)	(.8223)	(.0685)	(1.1271)
181-270				(.0173)	(.8396)	(.0700)	(1.1507)
271-360				(.0120)	(.8516)	(.0710)	(1.1672)

NOTE.—See text for caution regarding values shown in parentheses.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

TABLE VII-4b  
1950 BASIC GROUP HOSPITALIZATION TABLE  
DEPENDENT CHILDREN  
REIMBURSEMENT PLANS

Days of Hospitalization $t$	Graduated Ratio of Hospitalization Arising from $t$ th Day (or Days) to Hospitalization Arising from First 31 Days $r_t$	Number of Persons Confined for $t$ or More Days $l_t$	Annual Frequency (per Family Unit) of Hospitalization of Duration $t$ or More $f_t$	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from $t$ th Day (or Days) of Confinement $C_t^a$	Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First $t$ Days of Confinement $C_t^b$	Monthly Room and Board Claim Cost per Dollar of Daily Benefit Exposed (per Family Unit) Arising from First $t$ Days of Confinement $C_t^c = \frac{1}{12} C_t^b$	Ratio of Room and Board Claim Cost for First $t$ Days to Cost for First 31 Days $R_t$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0		10,000	.1052				
1	.2456	8,832	.0929	.0885	.0885	.0074	.2456
2	.1560	5,610	.0590	.0562	.1447	.0121	.4016
3	.1163	4,182	.0440	.0419	.1866	.0156	.5179
4	.0890	3,201	.0337	.0321	.2187	.0182	.6069
5	.0692	2,488	.0261	.0249	.2436	.0203	.6761
6	.0533	1,917	.0202	.0192	.2628	.0219	.7294
7	.0416	1,496	.0157	.0150	.2778	.0232	.7710
8	.0328	1,180	.0124	.0118	.2896	.0241	.8038
9	.0262	942	.0099	.0094	.2990	.0249	.8300
10	.0213	766	.0081	.0077	.3067	.0256	.8513
11	.0177	637	.0067	.0064	.3131	.0261	.8690
12	.0150	539	.0057	.0054	.3185	.0265	.8840
13	.0129	464	.0048	.0046	.3231	.0269	.8969
14	.0113	406	.0043	.0041	.3272	.0273	.9082
15	.0100	360	.0038	.0036	.3308	.0276	.9182
16	.0090	324	.0034	.0032	.3340	.0278	.9272
17	.0082	295	.0030	.0029	.3369	.0281	.9354
18	.0075	270	.0028	.0027	.3396	.0283	.9429
19	.0069	248	.0026	.0025	.3421	.0285	.9498
20	.0063	227	.0024	.0023	.3444	.0287	.9561
21	.0058	209	.0022	.0021	.3465	.0289	.9619
22	.0053	191	.0020	.0019	.3484	.0290	.9672
23	.0049	176	.0018	.0017	.3501	.0292	.9721
24	.0045	162	.0017	.0016	.3517	.0293	.9766
25	.0041	147	.0016	.0015	.3532	.0294	.9807
26	.0038	137	.0015	.0014	.3546	.0296	.9845
27	.0035	126	.0014	.0013	.3559	.0297	.9880
28	.0033	119	.0013	.0012	.3571	.0298	.9913
29	.0031	111	.0012	.0011	.3582	.0299	.9944
30	.0029	104	.0010	.0010	.3592	.0299	.9973
31	.0027	97	.0010	.0010	.3602	.0300	1.0000
32-40	(.0213)	(76)	(.0008)	(.0077)	(.3679)	(.0307)	(1.0213)
41-50	(.0192)	(65)	(.0007)	(.0069)	(.3748)	(.0312)	(1.0405)
51-60	(.0162)	(53)	(.0006)	(.0058)	(.3806)	(.0317)	(1.0567)
61-70	(.0127)	(40)	(.0004)	(.0046)	(.3852)	(.0321)	(1.0694)
71-90				(.0057)	(.3909)	(.0326)	(1.0853)
91-120				(.0064)	(.3973)	(.0331)	(1.1029)
121-180				(.0087)	(.4060)	(.0338)	(1.1271)
181-270				(.0085)	(.4145)	(.0345)	(1.1507)
271-360				(.0059)	(.4204)	(.0350)	(1.1672)

NOTE.—See text for caution regarding values shown in parentheses.

NOTE.—The above claim costs and frequencies are not adjusted for continuation of the secular trend shown in Table VII of the 1951 report of the Committee on Group Mortality and Morbidity.

from the sparse data available (see Tables VI-1 through 4 for number of claims lasting more than 31 days), it was decided to use the over-all ratio of 1.0694 for all categories of claimants. This, in turn, meant that only one extrapolation beyond 70 days was required.

The sparsity of data concerning hospital confinements in excess of 31 days makes the 1950 Basic Group Hospitalization Table values beyond 31 days highly questionable, and it is possible that these tables may understate the amount of hospitalization that arises after the 31st day of confinement for adult claimants. Because of the increasing importance of 70-day plans, it is hoped that arrangements can be made, within the near future, to obtain additional data with which to study this point further. If that proves to be feasible and if the results turn out to be significantly different from those contained in this paper, they will be included in the author's review of the discussion of this paper.

The next step in the construction of the 1950 Basic Group Hospitalization Tables was the derivation of graduated annual room and board claim costs for each category of claimants. The derivation for each plan of these annual room and board claim costs, which represent the level of experience for policy years ending in 1950, was based on a combination of statistics from the 1950 claim sample and statistics used in the 1951 report of the Committee on Group Mortality and Morbidity in the manner already described in Section V. The annual room and board claim costs so derived for each plan were combined into graduated claim costs by weighting the claim cost for each plan by the 1947-1950 exposure for that plan as published in the 1951 report of the Committee on Group Mortality and Morbidity. The additional condition was imposed that the room and board claim cost for 70-day plans be related to the room and board claim cost for 31-day plans by the factor 1.0694. The information used in the calculation of the graduated room and board claim costs is set forth in Table VII-1.

It can be determined from the figures contained in Table VII-1 that the graduated female employee nonmaternity annual room and board claim cost is 126% of the corresponding male employee claim cost. This agrees with the weighted (by the 1947-1950 policy year exposure) average of the corresponding crude ratios shown in Table V-1. However, the similarly weighted average of the crude ratios of the female employee total (*i.e.*, room and board plus miscellaneous benefit) nonmaternity annual claim costs to the male employee total annual claim costs is 132%. Thus, the ratio of female employee room and board nonmaternity annual claim costs to male employee room and board annual claim costs of 126% that is inherent in the basic cost Tables VII-2 and 3 should not be taken as the

ratio of total claim costs because the latter ratio is somewhat higher than 126%.

It will be noted that for female employees the graduated maternity room and board claim cost shown in Table VII-1 was obtained merely by weighting the cost for each plan by the appropriate exposure. The graduated maternity claim cost for dependent wives was also obtained as a weighted average of the cost for each plan involved. These dependent maternity claim costs are not room and board claim costs, but are overall claim costs (in accordance with the fact that the dependents maternity benefit for the plan analyzed was of the type providing over-all reimbursement of expenses for maternity confinements).

A description of Tables VII-2, 3, 4a and 4b follows:

Column (2) "Graduated Ratio of Hospitalization Arising from  $t$ th Day (or Days) to Hospitalization Arising from First 31 Days— $r_t$ " was obtained by graduating crude ratios obtained from the combination of the data for 31-day and 70-day plans through the first 31 days of confinement. The extension of column (2) through 70 days, by 9-day and 10-day duration brackets was done by a graphic graduation which imposed the condition that the sum of the values for 32 through 70 days be .0694.

Column (3) "Number of Persons Confined for  $t$  or More Days— $l_t$ " shows the persistency of hospital confinements for each category of claimants. The value of  $l_1$  was obtained by reference to the number of zero day claims in the crude data as shown in Tables VI-1 through 4. The remaining values of  $l_t$  shown were derived from the ratios appearing in column (2). At the later durations where 9-day and 10-day duration brackets appear in column (2), the value of  $l_t$  that is shown is the value for the last day in the bracket.

Column (4) "Annual Frequency of Hospitalization of Duration  $t$  or More— $f_t$ " was arrived at in two steps. The value of  $f_0$  was obtained by dividing the appropriate graduated claim cost for 31-day plans shown in Table VII-1 by the average duration of confinement, truncated at 31 days, calculated from column (3). These average durations truncated were as follows:

- 8.081 days for male employee claims
- 7.463 days for female employee nonmaternity claims
- 7.628 days for spouse nonmaternity claims
- 3.596 days for children claims

For spouses and children (Tables VII-4a and 4b), it was, of course, necessary to derive composite 31-day and 70-day plan salvage factors, which turned out to be .9877 for spouses and .9524 for children, for use in the

calculation of the annual claim frequencies,  $f_0$ , following the method outlined in Section V. The values of  $f_t$  at durations other than zero were obtained as the product of  $f_0$  and  $l_t/l_0$ . Thus, the value of  $f_t$  that appears opposite each of the bracketed durations in column (1) is the value for the last day in the bracket.

The figures shown through 70 days in column (5) "Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from  $t$ th Day (or Days) of Confinement— $c_t^a$ " were obtained by prorating the graduated room and board claim costs shown in Table VII-1 by the ratios set forth in column (2). The values shown in column (5) for durations in excess of 70 days were obtained by reference to the extrapolation of column (8) "Ratio of Room and Board Claim Cost for First  $t$  Days to Cost for First 31 Days— $R_t$ " beyond 70 days.

Column (6) "Annual Room and Board Claim Cost per Dollar of Daily Benefit Exposed Arising from First  $t$  Days of Confinement— $C_t^a$ " is a forward summation of column (5).

The figures in column (8) "Ratio of Room and Board Claim Cost for First  $t$  Days to Cost for First 31 Days— $R_t$ " through the first 70 days of confinement were obtained by a forward summation of column (2). As there were no data available relating to confinements in excess of 70 days, it was necessary to extrapolate the figures beyond 70 days using as a guide the very sparse experience between 31 and 70 days. It may be of interest to mention that the extrapolation used implies that, in the case of adult claimants, approximately .1% of hospitalizations are incomplete after 360 days of confinement. In the case of children, the extrapolation implies that about .05% of hospitalizations are incomplete after 360 days of confinement.

Table VII-4 combines the spouse nonmaternity and children data shown in Tables VII-4a and 4b.

Although no basic cost and continuation tables were constructed for maternity claims, it was possible to derive over-all annual frequencies of hospital confinement for maternity for both female employees and spouses. For female employees, the composite room and board claim cost of .2532 shown in Table VII-1 was divided by the average duration of maternity confinement of 5.866 calculated from the female employee portion of Table VI-5 to give an annual frequency of female employee maternity confinement of .0432. For spouses, the composite maternity claim cost of .7060 shown in Table VII-1 was divided by the average benefit paid per dollar of daily benefit provided of \$9.498 calculated from the data shown in Table III-6 to obtain an annual frequency of spouse maternity confinement of .0743 per family unit.

## SECTION VIII. ANALYSES BY AGE AND GEOGRAPHICAL LOCATION

Table VIII-1 presents an analysis by age of insured of the nonmaternity claims submitted in the 1950 claim sample. The few claims for which the age of the insured was not available were omitted. They account for the small difference between the totals of column (2) in Table VIII-1 and the corresponding totals in the Table III series.

For all three categories of adult claimants, the average miscellaneous service expenses charged and the average duration of hospital confinement increased markedly with increase in age. This also held true for the average daily room and board rate charged by the hospital, whereas there was little or no tendency for the daily benefit rate provided to increase with age.

This investigation did not produce information concerning relative claim frequencies by age. However, other experiences have shown that claim frequencies generally increase with age. Thus, the relatively higher durations for the higher ages are not offset by lower frequencies at those ages. This fact is mentioned here in order to avoid any possibility that the discussion contained in Sections III and V of this paper, regarding the interdependence between frequencies and durations, might be construed as applying to these variations by age.

The fact that the average daily room and board rate charged by the hospital increases with age, while there is little or no tendency for the average daily rate provided to exhibit a similar pattern, probably arises from two important causes. At the higher ages, the nature of the illnesses requiring confinement and the general health of the individuals confined are such that more extensive care and treatment and longer periods of confinement for treatment and convalescence are required. This may give rise to the need for more expensive hospital accommodations on the average for older persons. Furthermore, older persons, with the exception of those at the extreme ages, may seek better hospital accommodations merely because they are better able to afford them.

It will be remembered that the data shown in Section IV bring out a correlation between the average miscellaneous service expenses charged and the average daily room and board rate charged by the hospital. Thus, part of the increase with age in average miscellaneous service expenses charged results from the type of hospital accommodations selected by the different age groups.

Tables VIII-2 and 3 are an analysis by geographical location of the non-maternity claims included in the 1950 sample. A relatively small proportion of the total claims included in this investigation arose from the West Coast States. This is probably due to the fact that many plans in force in

TABLE VIII-1  
GROUP HOSPITAL EXPENSE INSURANCE  
VARIATION BY AGE

AGE	(2)	(3)	(4)	(5)	(6)	AGE	(2)	(3)	(4)	(5)	(6)
	NUMBER OF CLAIMS	AVERAGE DAILY BENEFIT RATE PROVIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*		NUMBER OF CLAIMS	AVERAGE DAILY BENEFIT RATE PROVIDED	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL	AVERAGE MISCELLANEOUS SERVICE EXPENSES CHARGED	AVERAGE DURATION OF HOSPITAL CONFINEMENT (DAYS)*
(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
10-19	170	\$5.66	\$7.58	\$45.32	5.6	10-19	192	\$5.63	\$8.28	\$41.82	4.8
20-29	1,927	5.93	7.93	44.80	5.4	20-29	1,363	5.70	8.35	48.80	5.9
30-39	2,451	5.93	8.41	52.75	6.4	30-39	1,147	5.57	8.38	60.16	7.3
40-49	2,342	5.93	8.75	65.41	8.1	40-49	1,107	5.76	9.10	67.61	8.3
50-59	2,080	5.93	9.05	76.71	9.6	50-59	587	5.70	9.15	70.58	9.4
60-69	1,313	5.95	9.14	87.67	11.6	60-69	225	5.60	9.29	67.17	9.8
70-79	1,269	5.86	9.40	100.19	12.8	70-79	24	5.43	9.20	53.50	10.4
80 and over	18	5.97	9.16	93.46	15.7	80 and over	3	6.00	9.07	49.75	17.3
All Ages	10,570	\$5.93	\$8.71	\$64.32	8.0	All Ages	4,648	\$5.67	\$8.74	\$59.46	7.4
Employees											
31-Day Fixed Benefit Plans—Nonrated Industries											
Male Claims						Female Nonmaternity Claims					
10-19	170	\$5.66	\$7.58	\$45.32	5.6	10-19	192	\$5.63	\$8.28	\$41.82	4.8
20-29	1,927	5.93	7.93	44.80	5.4	20-29	1,363	5.70	8.35	48.80	5.9
30-39	2,451	5.93	8.41	52.75	6.4	30-39	1,147	5.57	8.38	60.16	7.3
40-49	2,342	5.93	8.75	65.41	8.1	40-49	1,107	5.76	9.10	67.61	8.3
50-59	2,080	5.93	9.05	76.71	9.6	50-59	587	5.70	9.15	70.58	9.4
60-69	1,313	5.95	9.14	87.67	11.6	60-69	225	5.60	9.29	67.17	9.8
70-79	1,269	5.86	9.40	100.19	12.8	70-79	24	5.43	9.20	53.50	10.4
80 and over	18	5.97	9.16	93.46	15.7	80 and over	3	6.00	9.07	49.75	17.3
All Ages	10,570	\$5.93	\$8.71	\$64.32	8.0	All Ages	4,648	\$5.67	\$8.74	\$59.46	7.4
Dependents											
31-Day Reimbursement Plans											
Spouse Nonmaternity Claims						Child Claims					
10-19	134	\$5.58	\$7.85	\$45.26	5.1	0-4	3,486	\$5.78	\$7.01	\$29.32	3.8
20-29	2,063	5.68	8.00	51.58	5.7	5-9	4,162	5.76	7.37	29.15	2.6
30-39	2,133	5.75	8.53	59.41	6.9	10-14	1,952	5.71	7.43	35.25	3.7
40-49	2,194	5.66	8.98	69.84	8.1	15-19	1,236	5.72	7.90	41.34	4.9
50-59	1,284	5.77	9.35	71.12	9.1	All Ages	10,836	\$5.75	\$7.34	\$31.69	3.4
60-69	1,532	5.67	9.24	82.06	11.3						
70-79	71	5.89	8.87	80.89	13.3						
80 and over	4	5.25	6.94	121.14	20.5						
All Ages	9,015	\$5.71	\$8.75	\$63.15	7.5						

\* Duration in excess of 31 days considered as 31 days.

TABLE VIII-2  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 31-DAY AND 70-DAY FIXED BENEFIT PLANS—NONRATED INDUSTRIES  
 VARIATION BY GEOGRAPHICAL LOCATION

GEOGRAPHICAL REGION  (1)	NUMBER OF CLAIMS  (2)	AVERAGE DAILY BENEFIT RATE PROVIDED  (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL  (4)	AVERAGE MISCELLA- NEOUS SERV- ICE EXPENSES CHARGED  (5)
Male Claims				
20—New England States.....	1,325	\$6.37	\$ 9.73	\$64.97
30—Middle Atlantic States.....	3,029	6.21	8.98	66.76
40—Midwestern States.....	4,279	5.92	8.87	67.88
50—North Central States.....	1,103	5.89	8.75	64.00
60—Rocky Mountain States.....	167	6.18	8.66	65.91
70—Pacific Coast States.....	324	6.97	11.42	85.86
80—Southwestern States.....	1,253	5.97	7.72	58.88
90—Southeastern States.....	1,771	5.48	7.81	54.18
Total.....	13,251	\$6.00	\$ 8.82	\$64.74
Female Nonmaternity Claims				
20—New England States.....	724	\$6.24	\$10.22	\$58.77
30—Middle Atlantic States.....	1,230	6.04	9.00	56.13
40—Midwestern States.....	1,593	5.71	8.77	65.32
50—North Central States.....	484	5.26	7.92	60.81
60—Rocky Mountain States.....	69	6.14	8.57	68.30
70—Pacific Coast States.....	112	6.85	12.03	91.59
80—Southwestern States.....	427	5.67	7.79	59.22
90—Southeastern States.....	1,030	5.08	7.50	52.08
Total.....	5,669	\$5.72	\$ 8.72	\$59.79

TABLE VIII-3  
 DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
 31-DAY AND 70-DAY REIMBURSEMENT PLANS  
 VARIATION BY GEOGRAPHICAL LOCATION

GEOGRAPHICAL REGION  (1)	NUMBER OF CLAIMS  (2)	AVERAGE DAILY BENEFIT RATE PROVIDED  (3)	AVERAGE DAILY ROOM AND BOARD RATE CHARGED BY HOSPITAL  (4)	AVERAGE MISCELLA- NEOUS SER- VICE EXPENSES CHARGED  (5)
Spouse Nonmaternity Claims				
20—New England States . . . . .	1,106	\$6.85	\$10.27	\$59.88
30—Middle Atlantic States . . . . .	2,062	5.99	9.16	66.04
40—Midwestern States . . . . .	3,995	5.58	8.74	64.93
50—North Central States . . . . .	1,184	5.32	8.72	60.47
60—Rocky Mountain States . . . . .	258	6.04	8.48	65.07
70—Pacific Coast States . . . . .	394	6.69	11.92	86.02
80—Southwestern States . . . . .	1,216	5.76	7.58	63.49
90—Southeastern States . . . . .	1,355	5.43	7.61	56.64
Total . . . . .	11,570	\$5.80	\$ 8.85	\$63.79
Child Claims				
20—New England States . . . . .	1,453	\$6.87	\$ 8.40	\$28.83
30—Middle Atlantic States . . . . .	2,209	6.11	7.69	32.47
40—Midwestern States . . . . .	4,706	5.61	7.18	32.02
50—North Central States . . . . .	1,289	5.28	6.78	32.44
60—Rocky Mountain States . . . . .	316	5.88	6.99	30.77
70—Pacific Coast States . . . . .	446	6.75	9.67	47.10
80—Southwestern States . . . . .	1,396	5.73	7.07	32.49
90—Southeastern States . . . . .	1,445	5.41	6.66	28.89
Total . . . . .	13,260	\$5.83	\$ 7.38	\$31.97

California do not provide standard benefits. Nevertheless, the general pattern of the rate of hospital charges substantiates the pattern of major medical expense costs presented by Mr. Alan M. Thaler in his paper entitled "Group Major Medical Expense Insurance," which is published in *TSA III*, in that the highest charges are generally incurred in the Pacific Coast states and the lowest charges are generally incurred in the Southern states.

#### CONCLUSION

Throughout this paper the reader has been cautioned about the fact that the 1950 claim sample hospital charges and the 1950 policy year annual claim costs have not been projected to take into account the secular trend toward rising costs. Therefore, although the information contained in this paper is all of the intercompany data now available on the subject of group hospital expense insurance claim costs, it is not directly useful for estimating the current or future claim costs of such insurance.

The upward trend exhibited by the data contained in the Group Morbidity Committee's 1951 report shows no signs of abating. Data that have become available in the author's company for policy years ending in 1951 indicate that a further increase of 6% in the claim costs of all employee hospitalization coverages and 3% in the claim costs of all dependent hospitalization coverages over the corresponding claim costs for policy years ending in 1950 has been experienced. This upward trend is of particular importance when we consider how long a time lag is necessarily involved before statistics relating to claim costs can be collected and applied. To explain this further, the 1950 policy year claim costs contained in the Group Morbidity Committee's 1951 report are for policy years ending during the period July 1, 1949 to July 1, 1950 for those companies which report on an "exact" claim basis. Thus, as of April 1, 1952 that information is about two and three-quarters years out of date for "exact" claim companies. Similarly, the lag for the "adjusted" claim companies is two and one-quarter years. Using a mean lag of two and one-half years as of April 1, 1952, this information is three and one-half years out of date on the average for use in estimating annual claim costs to be experienced in the policy years beginning in the twelve-month period April 1, 1952 to April 1, 1953. Since the annual increments in claim costs were 4% and 6% for the last two policy years shown in the Group Morbidity Committee's 1951 report for the 31-day, 14 + 10X, 10X employee plan (which is the plan issued to more new groups than either of the other two employee plans included in that report), a three and one-half year time lag may involve an understatement of claim costs of as much as 15% to 23% of the 1950 claim cost for that plan. Similarly, the 31-day, 10X (9 months wait-

ing period), 10X dependent plan (which is the plan issued to more new groups than any of the other dependent plans included in the Group Morbidity Committee's 1951 report) showed annual increments of 5% and 3% for the last two policy years, which indicates a possible understatement of as much as 11% to 19% of the 1950 claim cost for that plan arising out of the three and one-half year time lag.