

## TRANSACTIONS OF SOCIETY OF ACTUARIES 1951 REPORTS

### SECTION III. GROUP ACCIDENT AND HEALTH INSURANCE INCLUDING GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE

**T**HIS report adds the experience by amounts of benefit exposed under Group Accident and Health Insurance, including Group Hospital and Surgical Expense Insurance, for the 1950 policy year investigation to that previously presented in the 1950 report of the Committee. The benefits provided under each of the plans of insurance included in this investigation are described in Section III of the Committee's report in *TASA XLIX*.

Tables I and III of this report for Accident and Sickness and Employee Hospital Expense present the crude claim costs of all groups in those industrial classifications which the contributing companies individually rate standard for premium purposes. These tables are headed "Nonrated Industries." Table IV for Employee Surgical Expense, Table V for Dependent Hospital Expense, and Table VI for Dependent Surgical Expense contain the crude claim costs of all groups regardless of industrial classification. These tables are headed "All Industries." Table II presents a secular trend analysis of the data contained in Table I while Table VII presents similar analyses of the data contained in Tables III, IV, V, and VI.

The period of observation for companies using the "exact" claim basis covers the four policy years ending July 1, 1946 to June 30, 1950 inclusive. For companies using the "adjusted" claim basis, the period of observation covers the four policy years ending in the calendar years 1947 to 1950 inclusive. The "exact" claim basis refers to the use of actual claims incurred where the date first absent under Accident and Sickness Insurance, the first day of hospital confinement under Hospital Expense Insurance, or the date of operation under Surgical Expense Insurance, occurs within the policy year. The "adjusted" claim basis refers to the use of claims, or portions thereof, paid or reported during the policy year adjusted for changes in estimated claims outstanding at the beginning and end of the policy year. Although different periods are used because the "exact" claim experience does not mature until several months after the close of the policy year while the "adjusted" claim experience becomes available much sooner, any effects which might be produced by combining the data for these periods are probably minimized by the four-year compilation contained in this report.

TABLE I  
 COMBINED 1947, 1948, 1949 AND 1950 POLICY YEARS' EXPERIENCE  
 GROUP ACCIDENT AND SICKNESS INSURANCE  
 NONRATED INDUSTRIES

| Female Percent                        | Number of Experience Units | Actual Weekly Indemnity Exposed | Claims     | Annual Claim Cost per \$1 of Actual Exposure | Number of Experience Units | Actual Weekly Indemnity Exposed | Claims     | Annual Claim Cost per \$1 of Actual Exposure |
|---------------------------------------|----------------------------|---------------------------------|------------|--|----------------------------|---------------------------------|------------|--|
| 13-WEEK PLANS                         |                            |                                 |            |  |                            |                                 |            |  |
| 1st Day Accident and 4th Day Sickness |                            |                                 |            | 4th Day Accident and 4th Day Sickness        |                            |                                 |            |  |
| <11%                                  | 5,127                      | 12,320,750                      | 7,335,370  | \$ .60                                       | 860                        | 3,879,950                       | 2,215,212  | \$ .57                                       |
| 11- 21                                | 2,283                      | 6,657,010                       | 4,511,644  | .68  | 423                        | 3,445,250                       | 2,171,535  | .63  |
| 21- 31                                | 1,002                      | 4,919,100                       | 3,784,251  | .77  | 226                        | 940,620                         | 670,083    | .71  |
| 31- 41                                | 439                        | 1,478,690                       | 1,236,266  | .84  | 121                        | 512,780                         | 407,634    | .79  |
| 41- 51                                | 247                        | 914,460                         | 705,122    | .77  | 57                         | 200,060                         | 156,871    | .78  |
| 51- 61                                | 178                        | 324,970                         | 326,541    | 1.00   | 41                         | 119,130                         | 84,817     | .71  |
| 61- 71                                | 118                        | 251,330                         | 255,703    | 1.02   | 25                         | 88,610                          | 72,265     | .82  |
| 71- 81                                | 67                         | 245,950                         | 224,724    | .91  | 31                         | 89,600                          | 84,645     | .94  |
| 81- 91                                | 56                         | 100,690                         | 89,936     | .89  | 7                          | 17,380                          | 21,128     | 1.22   |
| 91-100                                | 18                         | 16,510                          | 16,146     | .98  | 7                          | 12,640                          | 10,566     | .84  |
| Total                                 | 9,535                      | 27,229,460                      | 18,485,703 |  | 1,798                      | 9,306,020                       | 5,894,756  |  |
| 1st Day Accident and 8th Day Sickness |                            |                                 |            | 8th Day Accident and 8th Day Sickness        |                            |                                 |            |  |
| <11%                                  | 10,010                     | 36,957,330                      | 18,430,443 | \$ .50                                       | 2,931                      | 21,917,450                      | 11,316,937 | \$ .52                                       |
| 11- 21                                | 5,086                      | 17,744,250                      | 9,506,034  | .54  | 1,724                      | 17,488,030                      | 9,812,325  | .56  |
| 21- 31                                | 2,723                      | 13,524,840                      | 8,557,197  | .63  | 947                        | 13,886,620                      | 9,414,068  | .68  |
| 31- 41                                | 1,821                      | 8,311,040                       | 5,913,823  | .71  | 751                        | 5,783,210                       | 3,875,586  | .67  |
| 41- 51                                | 1,203                      | 4,383,920                       | 3,317,642  | .76  | 547                        | 3,472,120                       | 2,679,239  | .77  |
| 51- 61                                | 859                        | 2,681,680                       | 2,248,127  | .84  | 331                        | 1,386,160                       | 1,045,044  | .75  |
| 61- 71                                | 605                        | 1,958,380                       | 1,598,156  | .82  | 301                        | 1,091,730                       | 895,335    | .82  |
| 71- 81                                | 433                        | 1,094,330                       | 995,157    | .91  | 209                        | 1,012,540                       | 868,398    | .86  |
| 81- 91                                | 254                        | 559,430                         | 574,161    | 1.03   | 160                        | 565,860                         | 493,415    | .87  |
| 91-100                                | 62                         | 128,880                         | 101,771    | .79  | 37                         | 47,590                          | 63,749     | 1.34   |
| Total                                 | 23,056                     | 87,344,080                      | 51,242,511 |  | 7,938                      | 66,651,310                      | 40,464,096 |  |
| 26-WEEK PLANS                         |                            |                                 |            |  |                            |                                 |            |  |
| 1st Day Accident and 8th Day Sickness |                            |                                 |            | 8th Day Accident and 8th Day Sickness        |                            |                                 |            |  |
| <11%                                  | 405                        | 3,566,980                       | 2,671,155  | \$ .75                                       | 540                        | 6,343,550                       | 4,266,406  | \$ .67                                       |
| 11- 21                                | 189                        | 2,013,430                       | 1,542,906  | .77  | 292                        | 4,626,590                       | 3,283,560  | .71  |
| 21- 31                                | 82                         | 863,330                         | 549,241    | .64  | 155                        | 3,692,810                       | 2,783,554  | .75  |
| 31- 41                                | 55                         | 330,190                         | 305,336    | .92  | 81                         | 586,880                         | 449,850    | .77  |
| 41- 51                                | 48                         | 117,390                         | 78,892     | .67  | 36                         | 231,150                         | 199,897    | .86  |
| 51- 61                                | 19                         | 80,040                          | 48,782     | .61  | 25                         | 231,470                         | 261,632    | 1.13   |
| 61- 71                                | 5                          | 9,960                           | 6,739      | .68  | 11                         | 16,750                          | 13,985     | .83  |
| 71- 81                                |                            |                                 |            |  | 1                          | 940                             | 450        | .48  |
| 81- 91                                |                            |                                 |            |  | 5                          | 15,810                          | 12,311     | .78  |
| 91-100                                | 2                          | 1,140                           | 1,641      | 1.44   | 3                          | 13,500                          | 12,394     | .92  |
| Total                                 | 805                        | 6,982,460                       | 5,204,692  |  | 1,149                      | 15,759,450                      | 11,284,039 |  |

In previous reports, "Number of Groups Insured" has been used as a definition of the number of policies included in a section of the experience. However, it has been noted that, due to the combination of more than one policy year's experience, the terminology may be misleading as an insured group may enter into the experience of more than one policy year and would therefore be counted as more than one policy. In order to clarify this situation, the Committee has adopted the term "experience unit." As used in the present report, "experience unit" is defined as a policy year's experience of an insured group.

TABLE II  
GROUP ACCIDENT AND SICKNESS INSURANCE  
NONRATED INDUSTRIES  
SECULAR TREND  
RATIOS OF ACTUAL TO AVERAGE CLAIMS

| Policy Year Experience | 1-4-13 Plan | 4-4-13 Plan | 1-8-13 Plan | 8-8-13 Plan | 1-8-26 Plan | 8-8-26 Plan | All Accident and Sickness |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------------|
| 1947.....              | 109%        | 105%        | 104%        | 103%        | 107%        | 107%        | 105%                      |
| 1948.....              | 99          | 101         | 100         | 100         | 101         | 106         | 101                       |
| 1949.....              | 97          | 99          | 100         | 98          | 98          | 98          | 99                        |
| 1950.....              | 94          | 97          | 96          | 98          | 98          | 93          | 96                        |

The Committee also feels that the term "expected claims" as used in previous reports may not be clearly indicative of the true nature of the items to which it refers when they are used for comparisons with actual claims. This is so because it is usually understood when the term "expected claims" is used that a generally accepted standard of measurement has been employed, thus providing a base from which the departure of the actual claim experience may be estimated. However, the "expected claims" of previous reports have not been developed from commonly accepted standards of morbidity, but rather have been developed by applying the crude claim costs by plan, and by percent female grouping where appropriate, to the corresponding exposures of the subdivisions involved in a particular analysis. In view of this, "average claims" has been used in the present report as a description of the items to which actual claims are compared. In order to analyze the secular trend underlying the accumulated four years' experience which has been collected, ratios of actual to average claims (nonrated industries where applicable) were obtained for the individual experience years. These ratios are presented in Tables II and VII. For an employee plan of insurance, the average claims

TABLE III  
 COMBINED 1947, 1948, 1949 AND 1950 POLICY YEARS' EXPERIENCE  
 EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE  
 NONRATED INDUSTRIES  
 FIXED BENEFIT PLANS

| Female Percent      | Number of Experience Units | "Actual" Daily Benefit Exposed | Claims     | Annual Claim Cost per \$1 of Actual Exposure |
|---------------------|----------------------------|--------------------------------|------------|--|
| 31 Day, 14+5X, 5X*  |                            |                                |            |  |
| <11% .....          | 6,291                      | 6,065,381                      | 5,359,908  | \$ .88                                       |
| 11- 21 .....        | 4,192                      | 5,219,865                      | 4,882,093  | .94  |
| 21- 31 .....        | 2,786                      | 3,362,795                      | 3,481,203  | 1.04   |
| 31- 41 .....        | 1,946                      | 3,112,903                      | 3,508,843  | 1.13   |
| 41- 51 .....        | 1,453                      | 1,612,490                      | 1,838,653  | 1.14   |
| 51- 61 .....        | 1,050                      | 1,169,763                      | 1,401,587  | 1.20   |
| 61- 71 .....        | 770                        | 667,863                        | 815,380    | 1.22   |
| 71- 81 .....        | 641                        | 562,601                        | 755,396    | 1.34   |
| 81- 91 .....        | 478                        | 325,804                        | 430,555    | 1.32   |
| 91-100 .....        | 149                        | 114,109                        | 167,424    | 1.47   |
| Total .....         | 19,756                     | 22,213,574                     | 22,641,042 |  |
| 31 Day, 14+10X, 10X |                            |                                |            |  |
| <11% .....          | 3,119                      | 3,887,475                      | 4,281,047  | \$1.10                                       |
| 11- 21 .....        | 1,607                      | 2,184,928                      | 2,431,304  | 1.11   |
| 21- 31 .....        | 920                        | 1,353,534                      | 1,661,817  | 1.23   |
| 31- 41 .....        | 600                        | 1,059,954                      | 1,350,908  | 1.27   |
| 41- 51 .....        | 404                        | 469,634                        | 696,837    | 1.48   |
| 51- 61 .....        | 263                        | 321,742                        | 480,915    | 1.49   |
| 61- 71 .....        | 162                        | 198,232                        | 331,521    | 1.67   |
| 71- 81 .....        | 141                        | 139,644                        | 231,390    | 1.66   |
| 81- 91 .....        | 68                         | 71,152                         | 119,744    | 1.68   |
| 91-100 .....        | 18                         | 6,916                          | 16,971     | 2.45   |
| Total .....         | 7,302                      | 9,693,211                      | 11,602,454 |  |
| 70 Day, 14+5X, 5X   |                            |                                |            |  |
| <11% .....          | 1,254                      | 1,649,361                      | 1,620,464  | \$ .98                                       |
| 11- 21 .....        | 995                        | 1,392,137                      | 1,510,318  | 1.08   |
| 21- 31 .....        | 568                        | 1,001,903                      | 1,082,142  | 1.08   |
| 31- 41 .....        | 349                        | 389,343                        | 455,357    | 1.17   |
| 41- 51 .....        | 267                        | 366,558                        | 460,713    | 1.26   |
| 51- 61 .....        | 194                        | 197,140                        | 260,359    | 1.32   |
| 61- 71 .....        | 148                        | 126,985                        | 181,933    | 1.43   |
| 71- 81 .....        | 99                         | 138,951                        | 203,126    | 1.46   |
| 81- 91 .....        | 63                         | 47,955                         | 73,599     | 1.53   |
| 91-100 .....        | 20                         | 8,101                          | 11,480     | 1.42   |
| Total .....         | 3,957                      | 5,318,434                      | 5,859,491  |  |

\* 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 hospital charges, other than for room and board, up to a maximum of 5 times the daily benefit rate for both nonmaternity and maternity confinements.

for a year were obtained by applying the crude claim costs of the accumulated four years' data for each female percentage grouping to the corresponding exposure of that year. For a dependent plan of insurance, the average claims for any one year were obtained by applying the crude claim cost derived from the accumulated four years' experience of the plan to the entire exposure of that year.

The analysis contained in Table II shows that the Group Accident and Sickness experience of the last year either improved over that of the preceding year or remained the same. However, current experience that has developed since the close of the period covered by this investigation indi-

TABLE IV  
COMBINED 1947, 1948, 1949 AND 1950 POLICY YEARS' EXPERIENCE  
EMPLOYEE GROUP SURGICAL EXPENSE INSURANCE  
ALL INDUSTRIES

| Female Percent | Number of Experience Units | "Actual" Maximum Indemnity Exposed per \$150 | Claims     | Annual Claim Cost per \$150 of Actual Exposure |
|----------------|----------------------------|--|------------|--|
| < 11%          | 13,874                     | 3,214,984                                    | 8,903,261  | \$2.77   |
| 11- 21         | 8,515                      | 2,364,479                                    | 7,522,707  | 3.18   |
| 21- 31         | 5,339                      | 1,870,621                                    | 6,947,462  | 3.71   |
| 31- 41         | 3,741                      | 1,141,993                                    | 4,518,422  | 3.96   |
| 41- 51         | 2,705                      | 798,605                                      | 3,589,196  | 4.49   |
| 51- 61         | 1,932                      | 548,979                                      | 2,566,198  | 4.67   |
| 61- 71         | 1,421                      | 295,250                                      | 1,458,154  | 4.94   |
| 71- 81         | 1,041                      | 210,653                                      | 1,132,366  | 5.38   |
| 81- 91         | 709                        | 133,723                                      | 795,522    | 5.95   |
| 91-100         | 251                        | 31,865                                       | 188,197    | 5.91   |
| Total          | 39,528                     | 10,611,152                                   | 37,621,485 |  |

cates a need for caution in the use of Table II. In studying this more recent experience, some of the contributing companies have indications that claim costs have begun to increase.

Table VII for Group Hospital and Surgical Expense Insurance shows a continuation of the general trend toward higher claim costs which has been noted in previous investigations. Table VII also indicates that the trend toward higher claim ratios is more pronounced under the Hospital plans providing ten times than under those providing five times the daily benefit for miscellaneous hospital charges. (It is the difference between the ratios of actual to average claims from the earliest to the latest year of experience rather than the relative level of such ratios reached in the latest year that should be observed in this connection.) In their studies of the

more recent 1951 experience the contributing companies have generally noted a continuation of the upward trends in Hospital and Surgical claim costs shown in Table VII and some have noted what is apparently a more pronounced upward trend.

It was mentioned in previous reports that provision was made to study morbidity experience by industrial classification. This report includes such a study of Accident and Sickness and Employee Hospital Expense experience, the results of which are presented in Table VIII. The complete industrial classification system, of which the industries listed in Table VIII are

TABLE V  
COMBINED 1947, 1948, 1949 AND 1950 POLICY YEARS' EXPERIENCE  
DEPENDENT GROUP HOSPITAL EXPENSE INSURANCE  
ALL INDUSTRIES

| Plan Identification                                      | Number of Experience Units | Daily Benefit Exposed | Claims     | Annual Claim Cost per \$1 of Exposure |
|--|----------------------------|-----------------------|------------|---------------------------------------|
| Reimbursement Plans with No Maternity Benefit            |                            |                       |            |                                       |
| 31 Day, 5X.....  | 1,193                      | 985,132               | 1,848,109  | \$1.88                                |
| 31 Day, 10X.....   | 680                        | 1,038,757             | 2,290,607  | 2.21                                  |
| 70 Day, 5X.....  | 306                        | 161,020               | 318,391    | 1.98                                  |
| Reimbursement Plans with 10X Daily Benefit for Maternity |                            |                       |            |                                       |
| 31 Day, 5X,<br>No Maternity }<br>Waiting Period          | 373                        | 335,973               | 906,563    | 2.70                                  |
| 31 Day, 5X,<br>9 Months' Maternity }<br>Waiting Period   | 7,056                      | 4,226,384             | 10,413,018 | 2.46                                  |
| 31 Day, 10X,<br>9 Months' Maternity }<br>Waiting Period  | 4,669                      | 3,531,409             | 10,281,263 | 2.91                                  |
| 70 Day, 5X,<br>9 Months' Maternity }<br>Waiting Period   | 506                        | 361,031               | 974,936    | 2.70                                  |
| 70 Day, 10X,<br>9 Months' Maternity }<br>Waiting Period  | 561                        | 775,699               | 2,426,002  | 3.13                                  |
| Fixed Benefit Plan with 10X Daily Benefit for Maternity  |                            |                       |            |                                       |
| 31 Day, 5X,<br>9 Months' Maternity }<br>Waiting Period   | 669                        | 989,655               | 2,412,359  | 2.44                                  |

only a part, is contained in Section I of the Committee's report covering Group Life Insurance.

Table VIII contains an analysis of the accumulated experience of rated and nonrated industries and shows the number of experience units, the exposure, the proportion of total exposure, and the ratio of actual to average claims according to industrial classification for experience units of all exposure size groupings. The average claims for an industry were obtained by applying the crude claim costs of the nonrated industries from Table I, by plan and female percentage grouping, to the corresponding exposures

TABLE VI  
COMBINED 1947, 1948, 1949 AND 1950  
POLICY YEARS' EXPERIENCE  
DEPENDENT GROUP SURGICAL EXPENSE INSURANCE  
ALL INDUSTRIES

| Number of Experience Units | Maximum Indemnity Exposed per \$150                    | Claims     | Annual Claim Cost per \$150 of Exposure |
|----------------------------|--|------------|---|
|                            | No Obstetrical Benefits                                |            |   |
| 2,992 .....                | 577,464  | 4,668,755  | \$ 8.08                                 |
|                            | With Obstetrical Benefits—<br>9 Months' Waiting Period |            |   |
| 8,013 .....                | 1,200,108  | 14,420,209 | \$12.02                                 |

within the various industrial classifications. The actual and average claims were then summarized for each industry and the ratios calculated. As the volume of experience contained in some of the industrial classifications was extremely small, it was eliminated from the analysis by imposing the conditions that only those industries containing at least 100 experience units or 1% of the total exposure for either the Accident and Sickness or Employee Hospital Expense coverage would be included.

In addition to the complete analysis described in the above paragraph for experience units of all exposure size groupings, Table VIII also contains ratios of actual to average claims for experience units of the smaller exposure size groupings, namely, those with less than \$40,000 of weekly indemnity exposed under Accident and Sickness, and those with less than \$10,000 of daily benefit exposed under Employee Hospital Expense. The

TABLE VII  
 GROUP HOSPITAL AND SURGICAL EXPENSE INSURANCE  
 SECULAR TREND  
 RATIOS OF ACTUAL TO AVERAGE CLAIMS

| POLICY YEAR<br>EXPERIENCE | EMPLOYEE HOSPITAL EXPENSE*    |                                 |                               |              | EM-<br>PLOYEE<br>SURGICAL<br>EXPENSE<br>PLAN | DEPENDENT HOSPITAL EXPENSE      |                                  |   |  |               | DEPENDENT SURGICAL EXPENSE        |                                     |              |
|---------------------------|-------------------------------|---------------------------------|-------------------------------|--------------|--|---------------------------------|----------------------------------|---|--|---------------|-----------------------------------|-------------------------------------|--------------|
|                           | 31 Day<br>14+5X<br>5X<br>Plan | 31 Day<br>14+10X<br>10X<br>Plan | 70 Day<br>14+5X<br>5X<br>Plan | All<br>Plans |  | 31 Day<br>No Mat.<br>5X<br>Plan | 31 Day<br>No Mat.<br>10X<br>Plan | 31 Day<br>10X, 5X<br>9 Mos.<br>W.P.<br>Plan | 31 Day<br>10X, 10X<br>9 Mos.<br>W.P.<br>Plan | All<br>Plans† | No<br>Obstet.<br>Benefits<br>Plan | With<br>Obstet.<br>Benefits<br>Plan | All<br>Plans |
| 1947.....                 | 99%                           | 86%                             | 100%                          | 98%          | 93%  | 96%                             | 90%                              | 95%   | 89%  | 95%           | 96%                               | 93%                                 | 94%          |
| 1948.....                 | 101                           | 96                              | 98                            | 99           | 98   | 99                              | 93                               | 100   | 95   | 99            | 99                                | 97                                  | 98           |
| 1949.....                 | 99                            | 100                             | 101                           | 100          | 102  | 102                             | 101                              | 102   | 100  | 101           | 98                                | 100                                 | 99           |
| 1950.....                 | 100                           | 106                             | 102                           | 103          | 104  | 102                             | 103                              | 103   | 103  | 103           | 105                               | 102                                 | 103          |

\* Nonrated industries.

† All plans published in Table V.



TABLE VIII  
COMBINED 1947, 1948, 1949 AND 1950 POLICY YEARS' EXPERIENCE  
INDUSTRY ANALYSIS

| INDUSTRY CODE | INDUSTRY DESCRIPTION  | GROUP ACCIDENT AND SICKNESS INSURANCE           |  |  |                                   |   | EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE       |                            |   |  |   |
|---------------|---|---|--|--|-----------------------------------|---|---|----------------------------|---|--|---|
|               |   | Experience Units of All Exposure Size Groupings |  |  |                                   | Experience Units with Less Than \$40,000 of Actual W.I. Exposed | Experience Units of All Exposure Size Groupings |                            |   |  | Experience Units with Less Than \$10,000 of Actual D.B. Exposed |
|               |   | Number of Experience Units                      | Actual Weekly Indemnity Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings | Ratio of Actual to Average Claims |   | Ratio of Actual to Average Claims               | Number of Experience Units | Actual Daily Benefit Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings |   |
| 001           | Florists and Nurserymen   | 144   | 200,330                                      | 0.1%   | 77%                               | 77%   | 109   | 51,425                     | 0.1%                                      | 87%  | 87%   |
| 011           | Coal—Bit. (Underground)—Mining  | 111   | 506,120                                      | 0.2  | 118                               | 110   | 37  | 25,459                     | 0.1                                       | 106  | 106   |
| 023           | Quarries (Slate, Stone and Marble)  | 115   | 289,550                                      | 0.1  | 112                               | 112   | 59  | 77,535                     | 0.2                                       | 106  | 106   |
| 030           | Mineral Oil Prod., Refining and Distribution                                  | 532   | 4,100,380                                    | 1.7  | 85                                | 77  | 440   | 916,889                    | 2.2                                       | 111  | 98  |
| 041           | Wood, Brick and Stone Construction  | 256   | 502,420                                      | 0.2  | 89                                | 90  | 179   | 78,385                     | 0.2                                       | 94   | 90  |
| 042           | Shipbuilding (Iron and Steel)   | 120   | 2,176,880                                    | 0.9  | 119                               | 107   | 65  | 162,643                    | 0.4                                       | 96   | 105   |
| 044           | Roads (incl. Sewers, Bridges, etc.)—Construction                              | 175   | 247,600                                      | 0.1  | 85                                | 85  | 128   | 119,712                    | 0.3                                       | 97   | 87  |
| 060           | Steel Works (with or without Rolling Mills)                                   | 161   | 6,631,640                                    | 2.7  | 97                                | 96  | 97  | 1,920,586                  | 4.6                                       | 104  | 105   |
| 061           | Steel and Iron Foundries  | 908   | 3,662,340                                    | 1.5  | 102                               | 100   | 561   | 560,396                    | 1.3                                       | 95   | 91  |
| 063           | Tube, Rod and Pipe Mills  | 191   | 1,661,160                                    | 0.7  | 107                               | 95  | 117   | 166,526                    | 0.4                                       | 100  | 100   |
| 064           | Malleable Iron Works  | 167   | 652,400                                      | 0.3  | 101                               | 102   | 111   | 87,475                     | 0.2                                       | 105  | 105   |
| 065           | Wire Drawing and Wire Products  | 254   | 1,784,040                                    | 0.7  | 114                               | 113   | 158   | 281,036                    | 0.7                                       | 91   | 91  |
| 068           | Non-Ferrous Metal Foundries   | 240   | 890,170                                      | 0.4  | 117                               | 101   | 169   | 254,057                    | 0.6                                       | 97   | 95  |
| 079           | Airplane Mfg.   | 110   | 5,208,570                                    | 2.1  | 92                                | 95  | 118   | 774,956                    | 1.8                                       | 79   | 108   |
| 080           | Automobiles and Agriculture Implements  | 435   | 6,119,890                                    | 2.5  | 107                               | 101   | 324   | 1,332,126                  | 3.2                                       | 105  | 94  |
| 081           | Car and Railroad Shops—Metal Products   | 54  | 1,892,530                                    | 0.8  | 102                               | 106   | 36  | 432,815                    | 1.0                                       | 106  | 121   |
| 082           | Sheet Metal Products (Stamping and Pressing)                                  | 1,052   | 6,636,130                                    | 2.7  | 104                               | 101   | 626   | 1,001,433                  | 2.4                                       | 100  | 101   |
| 083           | Steel Fabrication (excluding Erecting)  | 281   | 982,680                                      | 0.4  | 90                                | 90  | 179   | 272,811                    | 0.7                                       | 104  | 105   |
| 084           | Drop Forging  | 161   | 712,710                                      | 0.3  | 93                                | 93  | 77  | 95,789                     | 0.2                                       | 88   | 88  |
| 085           | Heavy Machinery and Other Metal Products                                      | 2,037   | 13,625,840                                   | 5.6  | 100                               | 98  | 1,198   | 1,916,405                  | 4.6                                       | 100  | 100   |
| 086           | Light Metal Prod. and Mach. (Tools, Hardware, Instruments of Precision, etc.) | 5,869   | 32,185,780                                   | 13.2   | 100                               | 99  | 3,688   | 4,783,548                  | 11.4                                      | 103  | 103   |
| 088           | Boiler Making (Heavy Tanks, etc.)   | 174   | 451,370                                      | 0.2  | 102                               | 102   | 128   | 173,598                    | 0.4                                       | 101  | 98  |
| 089           | Mfg. Radio, Television, Electronic Equipment                                  | 117   | 969,440                                      | 0.4  | 92                                | 93  | 72  | 112,971                    | 0.3                                       | 103  | 106   |
| 111           | Paint and Varnish Factories   | 235   | 757,450                                      | 0.3  | 81                                | 81  | 177   | 134,736                    | 0.3                                       | 89   | 87  |

TABLE VIII—Continued

| INDUSTRY CODE | INDUSTRY DESCRIPTION   | GROUP ACCIDENT AND SICKNESS INSURANCE           |  |  |                                   |   | EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE       |                            |   |  |   |
|---------------|--|---|--|--|-----------------------------------|---|---|----------------------------|---|--|---|
|               |  | Experience Units of All Exposure Size Groupings |  |  |                                   | Experience Units with Less Than \$10,000 of Actual W.I. Exposed | Experience Units of All Exposure Size Groupings |                            |   |  | Experience Units with Less Than \$10,000 of Actual D.B. Exposed |
|               |  | Number of Experience Units                      | Actual Weekly Indemnity Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings | Ratio of Actual to Average Claims |   | Ratio of Actual to Average Claims               | Number of Experience Units | Actual Daily Benefit Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings |   |
| 113           | Explosives—Chemical and Allied Industries                            | 52  | 2,553,100                                    | 1.0%   | 106%                              | 97%   | 26  | 25,813                     | 0.1%                                      | 108%   | 108%  |
| 117           | General Chemical Mfg.  | 453   | 5,158,190                                    | 2.1  | 88                                | 88  | 331   | 487,557                    | 1.2                                       | 101  | 103   |
| 130           | Brick, Tile, Terra Cotta and Pottery Glazed                          | 512   | 1,424,540                                    | 0.6  | 105                               | 104   | 304   | 296,192                    | 0.7                                       | 99   | 95  |
| 131           | Glass Factories (excl. Polished Plate Glass)                         | 267   | 3,232,520                                    | 1.3  | 126                               | 120   | 147   | 578,466                    | 1.4                                       | 111  | 107   |
| 133           | Lime, Cement and Gypsum  | 160   | 956,580                                      | 0.4  | 101                               | 93  | 100   | 155,891                    | 0.4                                       | 100  | 89  |
| 160           | Hat Factories (Felt)   | 105   | 448,840                                      | 0.2  | 111                               | 109   | 64  | 93,631                     | 0.2                                       | 111  | 108   |
| 162           | All Other Clothing, Mattresses, Bedding, Wool, Cotton, Silk Products | 917   | 2,821,350                                    | 1.2  | 107                               | 105   | 959   | 916,005                    | 2.2                                       | 97   | 96  |
| 180           | Dairy Products—Food Industries                                       | 812   | 3,707,670                                    | 1.5  | 83                                | 76  | 492   | 399,403                    | 1.0                                       | 83   | 86  |
| 181           | Flour and Grain Mills and Elevators                                  | 350   | 1,392,600                                    | 0.6  | 81                                | 77  | 239   | 188,388                    | 0.4                                       | 99   | 99  |
| 183           | Canneries (Meat, Fruit and Vegetables)                               | 161   | 469,660                                      | 0.2  | 109                               | 106   | 81  | 97,570                     | 0.2                                       | 89   | 84  |
| 184           | Slaughter and Packing Houses and Stock Yards                         | 464   | 3,368,360                                    | 1.4  | 113                               | 99  | 311   | 489,607                    | 1.2                                       | 103  | 102   |
| 186           | Mfg. and Bottling Bev.   | 219   | 654,390                                      | 0.3  | 69                                | 73  | 185   | 260,809                    | 0.6                                       | 86   | 85  |
| 187           | Cereals, Prepared Food and All Other Foods                           | 1,248   | 7,753,040                                    | 3.2  | 100                               | 95  | 933   | 1,199,347                  | 2.9                                       | 92   | 92  |
| 191           | Beer and Other Malt Bev. Mfg. and Bottling                           | 290   | 1,566,610                                    | 0.6  | 116                               | 120   | 160   | 126,062                    | 0.3                                       | 116  | 116   |
| 194           | Wholesale Dealers in Alcoholic Beverages—Food and Kindred Inds.      | 112   | 222,780                                      | 0.1  | 86                                | 86  | 83  | 37,997                     | 0.1                                       | 116  | 116   |
| 200           | Heavy Leather Goods  | 143   | 391,230                                      | 0.2  | 112                               | 112   | 84  | 68,572                     | 0.2                                       | 108  | 108   |
| 201           | Shoes and Other Light Leather Goods                                  | 635   | 2,238,540                                    | 0.9  | 105                               | 102   | 509   | 436,963                    | 1.0                                       | 89   | 91  |
| 202           | Tanneries—Leather Industries   | 261   | 793,890                                      | 0.3  | 109                               | 107   | 128   | 156,686                    | 0.4                                       | 97   | 97  |
| 221           | Lumber Yds. and Saw and Planing Mills                                | 1,202   | 2,352,560                                    | 1.0  | 104                               | 103   | 730   | 324,499                    | 0.8                                       | 92   | 92  |
| 222           | Furniture and Woodworking (Carriages and Musical Instruments)        | 1,789   | 5,123,700                                    | 2.1  | 107                               | 107   | 1,201   | 948,468                    | 2.3                                       | 95   | 94  |
| 240           | Paper and Ground Wood Pulp Mills                                     | 362   | 4,183,800                                    | 1.7  | 104                               | 107   | 251   | 566,026                    | 1.4                                       | 113  | 102   |
| 242           | Paper Boxes—Manufacturing  | 507   | 2,549,640                                    | 1.0  | 95                                | 97  | 343   | 403,539                    | 1.0                                       | 91   | 90  |
| 243           | All Other Paper Mfg.—Paper and Pulp Mfg.                             | 560   | 2,734,920                                    | 1.1  | 104                               | 99  | 350   | 334,035                    | 0.8                                       | 108  | 108   |
| 260           | Printing, Bookbinding and Publishing                                 | 1,932   | 5,597,410                                    | 2.3  | 94                                | 93  | 1,125   | 966,967                    | 2.3                                       | 106  | 107   |
| 270           | Bleaching, Dyeing, Printing and Finishing—Textile Industries         | 292   | 1,488,380                                    | 0.6  | 105                               | 102   | 220   | 272,380                    | 0.6                                       | 95   | 95  |
| 271           | Hemp, Jute, Rope and Cordage—Textile Industries                      | 183   | 582,400                                      | 0.2  | 115                               | 103   | 148   | 204,722                    | 0.5                                       | 95   | 90  |
| 272           | All Other Textiles (Wool, Silk, etc.)                                | 1,950   | 12,513,470                                   | 5.1  | 123                               | 119   | 1,382   | 2,126,935                  | 5.1                                       | 94   | 93  |

TABLE VIII—Continued

| INDUSTRY CODE | INDUSTRY DESCRIPTION  | GROUP ACCIDENT AND SICKNESS INSURANCE           |  |  |                                   |   | EMPLOYEE GROUP HOSPITAL EXPENSE INSURANCE       |                            |   |  |   |
|---------------|---|---|--|--|-----------------------------------|---|---|----------------------------|---|--|---|
|               |   | Experience Units of All Exposure Size Groupings |  |  |                                   | Experience Units with Less Than \$40,000 of Actual W.I. Exposed | Experience Units of All Exposure Size Groupings |                            |   |  | Experience Units with Less Than \$10,000 of Actual D.B. Exposed |
|               |   | Number of Experience Units                      | Actual Weekly Indemnity Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings | Ratio of Actual to Average Claims |   | Ratio of Actual to Average Claims               | Number of Experience Units | Actual Daily Benefit Exposed for Industry | Ratio of Exposure for Ind. to Total Exposure of All Size Groupings |   |
| 289           | Plastic Products  | 235   | 695,870                                      | 0.3%   | 92%                               | 91%   | 161   | 84,148                     | 0.2%                                      | 90%  | 90%   |
| 292           | Elec. Cables and Supplies (Not Falling under Industry Code No. 100)   | 446   | 2,802,040                                    | 1.1  | 101                               | 97  | 344   | 491,446                    | 1.2                                       | 99   | 98  |
| 293           | Rubber  | 383   | 6,906,390                                    | 2.8  | 108                               | 104   | 288   | 1,068,847                  | 2.6                                       | 100  | 99  |
| 297           | Drugs (Sundries, incl. Perfumes, Chewing Gum, etc.)                   | 243   | 2,421,480                                    | 1.0  | 91                                | 93  | 155   | 473,803                    | 1.1                                       | 98   | 96  |
| 299           | Ice (Mfg., Harvesting and Distributing)                               | 119   | 205,740                                      | 0.1  | 78                                | 78  | 53  | 38,735                     | 0.1                                       | 93   | 93  |
| 300           | Miscellaneous Mfg. and Processing                                     | 1,088   | 4,956,850                                    | 2.0  | 94                                | 95  | 703   | 846,028                    | 2.0                                       | 95   | 98  |
| 310           | City Employees (incl. more than One Class)                            | 363   | 566,540                                      | 0.2  | 113                               | 113   | 316   | 158,642                    | 0.4                                       | 119  | 122   |
| 325           | Auto Sales and Service Stations                                       | 2,109   | 2,448,240                                    | 1.0  | 76                                | 76  | 1,319   | 474,445                    | 1.1                                       | 94   | 92  |
| 326           | Taxis and Buses—Transportation and Public Service                     | 559   | 1,862,310                                    | 0.8  | 117                               | 115   | 443   | 618,066                    | 1.5                                       | 104  | 111   |
| 327           | Truck, Transfer, etc.—Transportation                                  | 1,134   | 2,257,300                                    | 0.9  | 79                                | 79  | 716   | 412,567                    | 1.0                                       | 89   | 89  |
| 341           | Gas Works   | 111   | 560,620                                      | 0.2  | 86                                | 85  | 92  | 163,984                    | 0.4                                       | 105  | 104   |
| 342           | Electric Light and Power—Public Utilities                             | 232   | 4,716,970                                    | 1.9  | 102                               | 104   | 185   | 523,405                    | 1.2                                       | 107  | 108   |
| 360           | Clerical (Banks, Insurance, and Other Office Forces)                  | 1,126   | 2,922,420                                    | 1.2  | 77                                | 77  | 1,585   | 1,267,595                  | 3.0                                       | 106  | 105   |
| 361           | Medical (Nurses, Sanitaria, Hospitals, etc.)                          | 126   | 210,900                                      | 0.1  | 95                                | 95  | 64  | 37,841                     | 0.1                                       | 144  | 144   |
| 362           | Theatrical—Radio and TV Broadcasting, Electrical Transcriptions, etc. | 253   | 1,757,330                                    | 0.7  | 99                                | 90  | 237   | 327,676                    | 0.8                                       | 111  | 109   |
| 370           | Wholesale Merchants and Dealers—Trades and Service                    | 1,879   | 3,180,620                                    | 1.3  | 83                                | 83  | 1,460   | 841,889                    | 2.0                                       | 97   | 98  |
| 371           | Retail Merchants and Dealers—Trades and Service                       | 3,014   | 8,982,720                                    | 3.7  | 93                                | 90  | 2,303   | 2,667,496                  | 6.4                                       | 100  | 102   |
| 372           | Warehouses and Cold Storage Plants—Trades and Service                 | 265   | 444,400                                      | 0.2  | 85                                | 85  | 163   | 93,768                     | 0.2                                       | 100  | 100   |
| 373           | Hotels and Restaurants—Trades and Service                             | 742   | 2,378,130                                    | 1.0  | 95                                | 94  | 557   | 354,226                    | 0.8                                       | 101  | 101   |
| 374           | Laundries (incl. Dry Cleaning)  | 482   | 440,410                                      | 0.2  | 89                                | 89  | 318   | 109,530                    | 0.3                                       | 79   | 79  |
| 375           | Coal Delivery   | 227   | 257,150                                      | 0.1  | 91                                | 91  | 99  | 45,263                     | 0.1                                       | 101  | 101   |
| 380           | Miscellaneous Trade and Service                                       | 267   | 318,430                                      | 0.1  | 79                                | 79  | 174   | 64,641                     | 0.2                                       | 96   | 96  |
| Total         | All Industries Listed in the Above                                    | 45,238  | 220,420,450                                  | 90.2%  | 101%                              | 98%   | 31,474  | 39,059,883                 | 93.6%                                     | 100%   | 99%   |

ratios of the smaller exposure size groupings have been shown because there may be a lack of homogeneity between large and small cases within an industrial classification. In any event, these ratios give one illustration of the wide dispersion of claim costs that exists among individual experience units within various industrial classifications. The Committee feels the existence of this wide dispersion is of such importance that it should not be overlooked in the use of this industry analysis. In view of this, consideration is being given to the possibility of studying the dispersion within a few industries.

The results of the industry analysis are arranged in order of industry code for convenience in summarizing the data. When examining this information, it must be understood that the results are not necessarily indicative of the effect of the industrial classification alone on morbidity experience. In other words, while the analysis furnishes some information of interest from an underwriting standpoint, caution must be exercised in its interpretation and use because of the limitations discussed in the following three paragraphs.

Four years' experience does not represent sufficient volume to eliminate accidental fluctuations from many industrial classifications. The experience of any particular industry depends to a great extent on factors other than those directly related to working conditions. For example, there is a wide variation in the age distribution of the workers engaged in different industries. In addition, various social, economic, or geographical factors may underlie any marked variation in the experience by a particular industry. The effect of underwriting selection should also be kept in mind in reviewing the results of the industry analysis. If other standards of selection were applied in accepting individual risks, substantially different results might be obtained for some industries.

This analysis is not entirely comparable to the industry table contained in Section I covering Group Life Insurance. A larger proportion of Group Accident and Health plans are necessarily excluded from this investigation, because they do not provide one of the plans of benefits being studied, than is true in the case of the Group Life Insurance investigation. For example, experience under compulsory State Cash Sickness plans is excluded from the Accident and Sickness data. This may have a marked effect on the experience exhibited by some of the industrial classifications included in this analysis.

Finally, the industrial classification itself is subject to some limitations. Up-to-date information is not always available for the assignment of each experience unit to its proper classification. Some experience units involve more than one industrial classification. Hence, it was necessary to assign

such units to the classification which contained the largest number of insured employees even though that classification might not contain a majority of such employees. This limitation probably affects the experience of relatively more of the units in the larger exposure size groupings than of the units in the smaller exposure size groupings. To summarize this discussion of limitations, the volume of material and the form that the analysis must take necessarily prevent the Committee from indicating the effect of industry alone on morbidity experience.

This study by industrial classification is the third special study that has been presented in addition to the basic morbidity tables. In last year's report, studies of morbidity experience by size of experience unit for each coverage and of the effective percentage of benefits on females insured under the various employee coverages were presented.

In compiling this report, the Committee has included the combined experience of employer-employee groups with 50 or more lives at issue and with less than 50 lives at issue. The experience of insured groups outside of the Continental United States, as well as that of trusteeship and association cases insuring employees of member employers of the trusteeship or association and of union cases where insurance depends on continued employment, has been excluded.

The Committee feels that it may be well to mention again some of the limitations of the results in the basic tables of this report which should be kept in mind when using them. Because of practical considerations, it is impossible to classify and analyze the experience according to all of the many factors which affect morbidity. Hence, the results contained in the basic tables can only be presented as the composite experience of groups having various geographical locations, industry classifications, distributions of exposure by age, different types of claim administration, levels of benefits, etc. In addition, the information on which the female percentage groupings are based for the employee coverages cannot be considered completely accurate. With these limitations in mind the tables containing the analyses previously mentioned are presented.

The following companies contributed experience for the investigation covered by this section: Aetna Life Insurance Company, Connecticut General Life Insurance Company, Continental Assurance Company, Equitable Life Assurance Society, John Hancock Mutual Life Insurance Company, Metropolitan Life Insurance Company, Prudential Insurance Company of America, and The Travelers Insurance Company.