

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1984 REPORTS**

# **TRANSACTIONS**

1984 REPORTS OF MORTALITY, MORBIDITY AND OTHER EXPERIENCE

---

## **REPORTS OF THE COMMITTEE ON LIFE INSURANCE**

### **I. MORTALITY UNDER STANDARD ORDINARY INSURANCE ISSUES BETWEEN 1983 AND 1984 ANNIVERSARIES**

#### **ABSTRACT**

This is the latest in a series of annual reports on intercompany mortality experience under Standard Ordinary life insurance policies. Because of differences in contributors, comparisons with previous studies are affected.

First-time mortality ratios based on the 1975-80 Tables are shown in the body of the report. Mortality ratios based on the 1965-70 Tables also are shown for comparison with previous reports.

Although a direct comparison with the previous study (between 1982 and 1983 anniversaries) is not completely valid because of a different mix of contributors, the following results are noted, using results on the 1975-80 Basic Table:

- The overall medical mortality ratio in the select period (93.6 percent) was up slightly from 92.5 percent.
- The overall nonmedical mortality ratio in the select period (89.6 percent) decreased by almost 3 percentage points from 92.5 percent. This follows a decrease of 5 percentage points in the previous year, using ratios calculated on the 1965-70 Basic Table.
- The overall paramedical mortality ratio in the select period (92.2 percent) decreased slightly from 92.5 percent.
- The overall mortality ratio in the ultimate period (91.8 percent) decreased from 94.5 percent.
- The combined medical, paramedical, and nonmedical select experience was 69.1 percent on the 1965-70 Select Basic Table and 92.4 percent on the 1975-80 Select Basic Table.

In the select period, for all policy years combined, nonmedical mortality was significantly higher than medical mortality for issue ages 30-44.

INDEX OF PRIMARY TABLES

Table	Exposure Period	Policy Years	Medical, Nonmedical or Paramedical	Male and Female	Mortality Ratios by	Mortality Ratios Based on
1	1983-84	1-15	Medical	Combined	Ages at issue	1965-70 and 1975-80 Select Basic Tables
2	1983-84	1-15	Medical	Combined	Year of issue	1965-70 and 1975-80 Select Basic Tables
3	1983-84	1-15	Nonmedical	Combined	Ages at issue	1965-70 and 1975-80 Select Basic Tables
4	1983-84	1-15	Nonmedical	Combined	Year of issue	1965-70 and 1975-80 Select Basic Tables
5	1983-84	1-15	Paramedical	Combined	Year of issue	1965-70 and 1975-80 Select Basic Tables
6	1983-84	1-15	Paramedical	Combined	Ages at issue	1965-70 and 1975-80 Select Basic Tables
7	1979-84	1-15	Medical and nonmedical	Combined	Age of issue and policy year	1975-80 Select Basic Tables
8	1979-84	1-15	Medical	Separate	Ages at issue	1965-70 and 1975-80 Select Basic Tables
9	1979-84	1-15	Nonmedical	Separate	Ages at issue	1975-80 and 1975-80 Select Basic Tables
10	1979-84	1-15	Medical and nonmedical	Separate	Age group at issue and policy year	1975-80 Select Basic Tables
11	1983-84	1-15	Smoker/nonsmoker: medical, nonmedical and paramedical	Combined	Year of issue	1985-80 Select Basic Tables
12	1983-84	16 and later	Medical and nonmedical	Combined	Attained ages	1965-70 and 1975-80 Select Basic Tables
13	1979-84	16 and later	Medical and nonmedical	Combined	Attained ages	1965-70 and 1975-80 Select Basic Tables
14	1979-84	16 and later	Medical and nonmedical	Combined	Attained ages; premium-paying and paid-up	1965-70 and 1975-80 Select Basic Tables
15	1979-84	16 and later	Medical and nonmedical	Separate	Attained ages	1965-70 and 1975-80 Select Basic Tables

Appendix Table A... Names of the contributing companies, proportion of total 1983-84 exposures contributed by each company.

In the ultimate period, nonmedical mortality exceeded medical mortality for each of the attained age groups 40 and over.

As has been true in the past, overall mortality on premium-paying insurance was slightly lower than that on fully paid-up insurance.

In the select period, female mortality averaged 72 percent of male mortality for medical issues and 55 percent for nonmedical issues. In the ultimate period, female mortality was about 63 percent of male mortality.

---

#### INTRODUCTION

This report covers the intercompany mortality experience under Standard Ordinary insurance between 1983 and 1984 policy anniversaries. The report also covers experience between 1979 and 1984 policy anniversaries for certain comparisons of data (that is, medical and nonmedical, premium-paying and paid-up, male and female). The following classes of business are included:

1. Standard Ordinary insurance issued subject to a medical examination, observed during the first 15 policy years;
2. Standard Ordinary insurance issued without a medical or paramedical examination, observed during the first 15 policy years;
3. Standard Ordinary insurance issued subject to a paramedical examination, observed during the first 13 policy years;
4. Standard Ordinary insurance observed during the 16th and subsequent policy years. As in previous reports, this ultimate experience is shown for medical and nonmedical issues combined, with a portion of it also shown for medical and nonmedical issues separately. The ultimate experience also is shown separately for premium-paying and fully paid-up (excluding reduced paid-up) policies.

Each of the tables included in this report (with some minor exceptions) shows amounts exposed to risk, actual amounts of death claims, and expected amounts of death claims and mortality ratios of actual to expected death claims based on the 1965-70 Male and Female Basic Tables and on the new 1975-80 Basic Tables. All the data were submitted separately for males and females in the select period; some of the data were submitted on a combined male-female basis in the ultimate period, and where it was necessary, the combined-sex Basic Table was used to determine expected death claims.

The 1983-84 experience is derived from the contributions of 23 companies. Table A of the Appendix gives the names and proportionate contributions of these companies. Each of the tables is based on either select (first 15 policy years) or ultimate (policy years 16 and subsequent) experience.

## COMMITTEE ON LIFE INSURANCE

The following summaries compare (1) relative percentages of exposures by underwriting category in policy year one, (2) the distribution of exposures by underwriting category for the different groups of ages at issue, and (3) the aggregate mortality ratios with the results of studies made since the 1965-70 Tables were introduced. Variations in aggregate mortality ratios among the contributing companies are shown in the summaries on pages 5 and 6.

EXPOSURES FOR POLICY YEAR 1  
AS A PERCENTAGE OF TOTAL EXPOSURES

Year of Issue	Medical	Nonmedical	Paramedical
1977.....	34.7%	36.4%	28.9%
1978.....	35.1	36.4	28.5
1979.....	35.1	34.4	30.5
1980.....	38.2	29.3	32.5
1981.....	33.1	36.3	30.6
1982.....	29.2	45.7	25.1
1983.....	24.7	51.8	23.5

EXPOSURES AS A PERCENTAGE OF TOTAL

Issue Ages	Policy Year 1			Policy Years 1-15		
	Medical	Nonmedical	Paramedical	Medical	Nonmedical	Paramedical
0-9.....	2.6%	96.6%	0.8%	6.4%	92.5%	1.1%
10-19.....	4.1	94.1	1.8	6.7	90.1	3.2
20-29.....	5.3	87.6	7.1	12.6	74.3	13.1
30-39.....	21.6	53.0	25.4	32.5	36.1	31.4
40-49.....	41.7	19.1	39.2	54.4	11.9	33.7
50 and over...	59.0	6.5	34.5	69.5	3.8	26.7
All ages.....	24.7	51.8	23.5	32.2	44.2	23.6

AGGREGATE MORTALITY RATIOS

Exposure Year	Policy Years 1-15				Policy Years 16 and Over
	Medical	Nonmedical	Paramedical	Combined	
1973-74.....	88.0%	99.1%	81.1%	89.9%	93.4%
1974-75.....	85.1	94.9	85.5	87.8	87.1
1975-76.....	80.9	88.5	81.4	82.3	85.0
1976-77.....	75.5	87.9	78.0	77.9	82.0
1977-78.....	75.0	85.9	80.5	77.4	80.5
1978-79.....	68.7	84.9	74.5	72.1	77.0
1979-80.....	69.8	82.9	80.2	73.3	77.1
1980-81.....	69.5	79.8	70.1	71.0	75.2
1981-82.....	67.8	79.2	73.2	70.7	72.8
1982-83.....	68.0	74.2	69.9	69.6	73.2
1983-84.....	68.6	70.8	68.8	69.1	71.2

VARIATION IN 1983-84 AGGREGATE MORTALITY RATIOS  
FOR ALL CONTRIBUTING COMPANIES

	Medical		Nonmedical		Paramedical	
	Number of Companies	Proportion of Actual Deaths	Number of Companies	Proportion of Actual Deaths	Number of Companies	Proportion of Actual Deaths
Based on 1965-70 Basic Tables						
Percentage points below average:						
More than 15 .....	5	14.1%	6	8.7%	7	10.6%
10-15 .....	1	5.8	1	1.0	0	0.0
5-10 .....	2	5.6	4	9.9	1	7.6
0-5 .....	2	5.9	5	36.8	3	8.0
Percentage points above average:						
0-5 .....	1	4.4	2	12.1	5	30.0
5-10 .....	5	44.5	0	0.0	2	9.6
10-15 .....	4	9.6	1	23.9	1	19.8
More than 15 .....	3	10.2	4	7.5	4	14.4
Based on 1975-80 Basic Tables						
Percentage points below average:						
More than 15 .....	6	19.9%	7	9.7%	7	10.6%
10-15 .....	1	1.2	1	2.6	0	0.0
5-10 .....	1	4.4	2	3.4	1	7.6
0-5 .....	2	5.9	5	25.6	4	28.1
Percentage points above average:						
0-5 .....	1	4.4	3	27.2	4	28.1
5-10 .....	2	20.3	0	0.0	2	2.9
10-15 .....	4	27.5	1	23.9	1	8.6
More than 15 .....	6	16.5	4	7.5	5	34.2

## COMMITTEE ON LIFE INSURANCE

VARIATION IN 1983-84 AGGREGATE  
ULTIMATE MORTALITY RATIOS  
FOR ALL CONTRIBUTING COMPANIES

	Based on 1965-70 Basic Tables		Based on 1975-80 Basic Tables	
	Number of Companies	Proportion of Actual Deaths	Number of Companies	Proportion of Actual Deaths
Percentage points below average:				
More than 15.....	1	1.1%	2	5.4%
10-15.....	3	7.6	3	10.3
5-10.....	3	9.4	3	8.2
0-5.....	0	28.6	9	34.3
Percentage points above average:				
0-5.....	2	12.5	1	0.9
5-10.....	5	40.8	3	22.1
10-15.....	0	0.0	2	18.8
More than 15.....	0	0.0	0	0.0

It would be desirable for the comparison of medical, nonmedical, and paramedical experience to be based on strictly comparable policies, but data for such a comparison are not available. Medical business generally includes larger amounts of insurance issued to persons at higher average socio-economic levels than nonmedical and paramedical business. However, medical business also includes policies issued to persons within nonmedical or paramedical amount limits who were not acceptable on these bases because of a medical history. Similarly, paramedical business includes persons not acceptable on a nonmedical basis. In addition, there are considerable variations in limits and proportions of medical, nonmedical, and paramedical business among contributing companies. It should also be kept in mind that in this comparison and in all others throughout this report, the different mix of companies from that in earlier reports may account for some of the differences in mortality ratios.

EXPERIENCE UNDER STANDARD ISSUES  
DURING THE FIRST 15 POLICY YEARS

*Medically Examined Issues*

The 1983-84 experience during the first 15 policy years includes exposures of \$214 billion and actual deaths of \$567 million. The corresponding amounts in the 1982-83 experience were \$209 billion and \$528 million, respectively.

The experience by age group at issue is shown in Table 1 for the first 15 policy years combined. The experience by year of issue is shown in Table 2. The detailed experience by age group at issue for each year of issue, for male and female lives separately, is not shown in this report but is available from the Society Research Department upon request.

TABLE 1  
STANDARD MEDICALLY EXAMINED ISSUES OF 1969-83  
MALE AND FEMALE LIVES COMBINED  
EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
BY AGE AT ISSUE  
POLICY YEARS 1-15 COMBINED  
(Amounts Shown in \$1,000 Units)

Ages at Issue	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
			Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
0-9 .....	\$ 1,978,975	\$ 657	\$ 1,119	58.7%	\$ 767	85.7%
10-14 .....	937,413	563	682	82.6	708	79.5
15-19 .....	1,413,467	1,444	1,344	107.4	1,352	106.8
20-24 .....	5,458,722	3,783	5,127	73.8	4,397	86.0
25-29 .....	16,592,606	14,271	18,120	78.8	14,852	96.1
30-34 .....	34,529,328	32,277	50,808	63.5	39,327	82.1
35-39 .....	42,942,865	65,906	87,755	75.1	68,473	96.3
40-44 .....	38,463,745	76,652	125,953	60.9	91,355	83.9
45-49 .....	28,445,855	105,085	143,588	73.2	105,830	99.3
50-54 .....	21,252,928	97,462	149,711	65.1	101,802	95.7
55-59 .....	12,798,580	80,744	115,649	69.8	87,842	91.9
60-64 .....	6,197,735	52,359	78,699	66.5	53,293	98.2
65-69 .....	2,049,332	26,834	36,399	73.7	27,738	96.7
70 and over .....	486,178	9,062	11,842	76.5	8,423	107.6
All ages .....	\$213,547,730	\$567,099	\$826,796	68.6%	\$606,159	93.6%

The aggregate medical mortality ratio for the period from 1983 to 1984 anniversaries was 68.6 percent on the 1965-70 Select Basic Table and 93.6 percent on the 1975-80 Table. The 1983-84 result is a continuation of the general mortality level of the 1982-83 study for male lives. For female lives the mortality ratios increased from 86.9 percent to 93.4 percent on the 1965-70 Table and from 110.9 percent to 120.1 percent on the 1975-80 Table. The relatively small exposure for female lives (about \$25 billion or about 13 percent of that for male lives) seems to be a contributing factor to the large variation from the previous study.

## COMMITTEE ON LIFE INSURANCE

TABLE 2  
 STANDARD MEDICALLY EXAMINED ISSUES OF 1969-83  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY YEAR OF ISSUE  
 ALL AGES COMBINED  
 (Amounts Shown in \$1,000 Units)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
				Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
1969	15	\$ 5,720,735	\$ 38,898	\$ 53,125	73.2%	\$ 40,145	96.9%
1970	14	5,950,181	32,355	50,183	64.5	38,039	85.1
1971	13	6,452,910	31,996	49,650	64.4	37,648	85.0
1972	12	7,028,448	29,984	48,432	61.9	36,646	81.8
1973	11	7,293,082	32,103	46,155	69.6	34,662	92.6
1974	10	8,218,905	33,901	47,171	71.9	34,619	97.9
1975	9	8,350,947	27,874	44,507	62.6	32,645	85.4
1976	8	9,272,919	34,518	47,184	73.2	34,314	100.6
1977	7	10,531,054	35,114	47,509	73.9	34,449	101.9
1978	6	11,842,910	32,278	49,948	64.6	36,579	88.2
1979	5	14,482,264	37,253	54,512	68.3	40,961	90.9
1980	4	17,595,713	54,947	61,072	90.0	43,848	125.3
1981	3	23,899,584	60,361	72,100	83.7	51,197	117.9
1982	2	34,675,519	45,802	81,319	56.3	57,217	80.1
1983	1	42,232,559	39,714	73,929	53.7	53,191	74.7
All years of issue		\$213,547,730	\$567,099	\$826,796	68.6%	\$606,159	93.6%

*Nonmedical Issues*

The 1983-84 experience during the first 15 policy years includes exposures of \$294 billion and actual deaths of \$207 million. The corresponding amounts in the 1981-82 study were \$244 billion and \$178 million, respectively.

As shown on page 4, the proportion of nonmedical business for the first policy year continued to increase sharply from the prior year.

The experience by age group at issue is shown in Table 3 for the first 15 policy years combined. The experience by year of issue is shown in Table 4. The detailed unadjusted experience by age group at issue for each year of issue, for male and female lives separately, is not shown in this report but is available from the Society Research Department.

The aggregate mortality ratio for the period from 1983 to 1984 anniversaries was 70.8 percent on the 1965-70 Table and 89.6 percent on the 1975-80 Table. As the table on page 4 shows, the overall nonmedical ratio decreased by over 3 percentage points in 1983-84 on the 1965-70 Table. This decrease follows a decrease of 5 percentage points in 1982-83.



TABLE 3  
 STANDARD NONMEDICAL ISSUES OF 1969-83  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY AGE AT ISSUE  
 POLICY YEARS 1-15 COMBINED  
 (Amounts Shown in \$1,000 Units)

Ages at Issue	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
			Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
0-9 .....	\$ 28,521,439	\$ 8,585	\$ 22,483	38.2%	\$ 10,888	78.9%
10-14 .....	9,062,794	4,889	5,812	84.1	5,800	84.3
15-19 .....	22,580,507	17,757	19,575	90.7	19,590	90.6
20-24 .....	55,375,952	35,240	43,369	81.3	37,595	93.7
25-29 .....	75,074,067	42,762	59,982	71.3	51,599	82.9
30-34 .....	56,991,629	37,786	59,161	63.9	44,891	84.2
35-39 .....	29,005,045	25,725	38,463	66.9	28,859	89.1
40-44 .....	10,561,763	15,842	20,603	76.9	15,195	104.3
45-49 .....	4,060,256	7,832	10,519	74.5	8,049	97.3
50 and over ..	2,365,355	10,413	12,091	86.1	8,318	125.2
All ages .....	\$293,598,807	\$206,830	\$292,057	70.8%	\$230,783	89.6%

TABLE 4  
 STANDARD NONMEDICAL ISSUES OF 1969-83  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY YEAR OF ISSUE  
 ALL AGES COMBINED  
 (Amounts Shown in \$1,000 Units)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
				Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
1969 .....	15	\$ 4,658,701	\$ 7,077	\$ 10,145	69.8%	\$ 7,861	90.0%
1970 .....	14	5,355,946	7,409	10,292	72.0	8,094	91.5
1971 .....	13	5,837,762	7,911	10,103	78.3	8,008	98.8
1972 .....	12	6,824,397	7,665	10,343	74.1	8,401	91.2
1973 .....	11	7,617,825	8,610	10,434	82.5	8,681	99.2
1974 .....	10	8,496,856	8,059	10,533	76.5	8,742	92.2
1975 .....	9	8,781,416	8,041	10,330	77.8	8,499	94.6
1976 .....	8	10,105,798	8,320	10,723	77.6	8,950	93.0
1977 .....	7	11,572,811	8,878	11,480	77.3	9,714	91.4
1978 .....	6	14,266,062	11,667	13,814	84.5	11,715	99.6
1979 .....	5	16,825,319	11,330	15,383	73.6	13,046	86.8
1980 .....	4	20,139,651	14,445	17,854	80.9	14,729	98.1
1981 .....	3	29,550,362	21,525	27,462	78.4	21,967	98.0
1982 .....	2	54,929,341	32,934	48,562	67.8	37,751	87.2
1983 .....	1	88,636,560	42,960	74,598	57.6	54,624	78.6
All years of issues ..		\$293,598,807	\$206,830	\$292,057	70.8%	\$230,783	89.6%

The mortality ratios in Tables 3 and 4 generally understate the mortality ratios for nonmedical business because, in calculating the expected deaths, no adjustment has been made to allow for differences in the average age of the exposure in each nonmedical five-year age group compared with the average age of the exposure in the corresponding age group used in developing the Basic Tables (the 1965–70 Select Basic Tables were based on medical issues). These differences arise from the fact that companies generally change their nonmedical limits at ages 30, 35, 40, and so on.

It should be noted that nonmedical issues over age 50 arise largely from business issued under special circumstances (such as pension trust and salary allotment plans). For other business nonmedical limits extending to age 50, and in some cases for limited amounts above age 50, have only been introduced in recent years. So-called policyholder's nonmedical, issued on the basis of a previous medical examination within six or twelve months, is also included in nonmedical issues for some companies; others include it in their medical or paramedical issues.

#### *Paramedically Examined Issues*

The paramedical experience in the 1982–83 study was limited to issues of 1970 and later, due to the insignificant number of paramedical issues before that time. For 1983–84, issues of 1969 and later are included. But the limited experience in the early years should be noted carefully in comparisons with medical and nonmedical results. The 1983–84 experience includes exposures of \$157 billion and actual deaths of \$218 million. The volume of paramedical business increased from exposures of \$143 billion and actual deaths of \$183 million in 1982–83.

The experience by year of issue is shown in Table 5. The detailed experience by age group at issue is included in Table 6. The relatively limited experience at the higher durations should be noted in any comparisons with medical and nonmedical experience.

The aggregate paramedical mortality ratio for the period from 1983 to 1984 anniversaries was 68.8 percent on the 1965–70 Table and 92.3 percent on the 1975–80 Table. As the table on page 4 shows, the overall paramedical ratio decreased by slightly more than 1 percentage point this year compared to last year. This decrease followed a decrease of more than 3 percentage points in 1982–83 compared to 1981–82.

TABLE 5  
 STANDARD PARAMEDICALLY EXAMINED ISSUES OF 1969-83  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY YEAR OF ISSUE — ALL AGES COMBINED  
 (Amounts Shown in \$1,000 Units)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
				Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
1969.....	15	\$ 2,296	\$ 0	\$ 14	0.0%	\$ 10	0.0%
1970.....	14	36,540	122	185	66.1	140	87.5
1971.....	13	186,900	641	1,002	64.0	761	84.3
1972.....	12	575,637	2,107	2,770	76.1	2,103	100.2
1973.....	11	1,385,467	4,542	6,134	74.1	4,637	97.9
1974.....	10	2,444,708	6,897	9,446	73.0	7,077	97.5
1975.....	9	3,710,106	9,475	13,263	71.4	9,889	95.8
1976.....	8	5,417,551	12,303	17,163	71.7	12,834	95.9
1977.....	7	7,656,034	15,366	21,264	72.3	16,027	95.9
1978.....	6	9,666,477	18,921	24,701	76.6	18,828	100.5
1979.....	5	13,176,658	24,459	30,322	80.7	23,579	103.7
1980.....	4	18,322,409	24,581	38,799	63.4	29,164	84.3
1981.....	3	23,168,767	31,871	44,696	71.3	33,150	96.1
1982.....	2	30,997,650	33,633	52,410	64.2	37,949	88.6
1983.....	1	40,197,281	33,564	55,548	60.4	40,928	82.0
All years of issue....		\$156,944,481	\$218,484	\$317,717	68.8%	\$237,077	92.2%

TABLE 6  
 STANDARD PARAMEDICALLY EXAMINED ISSUES OF 1969-83  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY AGE AT ISSUE — POLICY YEARS 1-15 COMBINED  
 (Amounts Shown in \$1,000 Units)

Ages at Issue	Exposed to Risk	Actual Deaths	1965-70 Select Basic Tables		1975-80 Select Basic Tables	
			Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio
0-9.....	\$ 333,547	\$ 210	\$ 174	120.5%	\$ 103	204.7%
10-14.....	271,695	275	176	156.0	176	156.3
15-19.....	842,600	561	764	73.5	796	70.5
20-24.....	4,936,477	3,346	3,876	86.3	3,504	95.5
25-29.....	18,045,339	10,965	14,329	76.5	12,909	84.9
30-34.....	36,189,364	25,034	39,434	63.5	31,363	79.8
35-39.....	38,481,004	32,860	56,132	58.5	43,677	75.2
40-44.....	25,646,866	37,131	57,018	65.1	41,063	90.4
45-49.....	15,788,717	38,276	52,092	73.5	39,197	97.7
50-54.....	9,417,316	29,946	44,600	67.1	29,403	101.8
55-59.....	5,022,211	23,813	30,216	78.8	22,126	107.6
60-64.....	1,527,407	10,632	13,297	80.0	8,709	122.1
65-69.....	367,368	4,223	4,593	91.9	3,241	130.3
70 and over....	74,572	1,211	1,016	119.2	810	149.4
All ages.....	\$156,944,481	\$218,484	\$317,717	68.8%	\$237,077	92.2%

*Comparison of Medical and Nonmedical Experience*

Table 7 presents the experience on medical and nonmedical select issues between 1979 and 1984 anniversaries. The nonmedical mortality ratios shown in Table 7 are based on the 1975-80 Table. They have not been age-adjusted to reflect the distribution of nonmedical exposures by age, which is likely to have a significant effect on issue-age groups 40-44 and higher. Table 7 indicates that, for policy years 1-15 combined, nonmedical mortality was generally less than medical for issue ages 10 through 24. A significant proportion of medical issues at these young ages includes persons who were not acceptable on a nonmedical basis because of medical history.

TABLE 7  
COMPARISON OF MEDICAL AND NONMEDICAL EXPERIENCE\*  
MALE AND FEMALE LIVES COMBINED  
BETWEEN 1979 AND 1984 ANNIVERSARIES  
BY AGE GROUP AT ISSUE AND POLICY-YEAR GROUP  
(First Fifteen Policy Years)

AGE GROUP AT ISSUE	POLICY YEARS									
	1-2		3-5		6-10		11-15		1-15	
	Medical	Non- Medical	Medical	Non- medical	Medical	Non- medical	Medical	Non- medical	Medical	Non- medical
Mortality Ratios on 1975-80 Select Basic Tables										
0 . . . . .	19%	84%	89%	75%	28%	89%	70%	87%	45%	83%
1-9 . . . . .	43	76	56	75	82	91	100	94	79	85
10-19 . . . . .	149	93	85	95	105	96	108	99	107	96
20-24 . . . . .	138	95	94	100	108	100	94	94	105	97
25-29 . . . . .	80	82	86	97	96	95	90	94	89	91
30-34 . . . . .	85	87	92	97	87	99	87	95	88	94
35-39 . . . . .	87	91	107	105	84	105	92	104	92	100
40-44 . . . . .	92	92	94	113	94	113	93	118	93	107
45-49 . . . . .	92	99	91	89	91	104	96	85	93	96
50 and over . . . . .	92	92	104	152	94	67	93	82	95	101
All ages . . . . .	91%	89%	99%	99%	92%	98%	93%	97%	94%	95%
Ratio of Nonmedical to Medical Mortality Ratios										
0 . . . . .	442%		84%		318%		124%		184%	
1-9 . . . . .	177		134		111		94		108	
10-19 . . . . .	62		112		91		92		90	
20-24 . . . . .	69		106		93		100		92	
25-29 . . . . .	102		113		99		104		102	
30-34 . . . . .	102		105		114		109		107	
35-39 . . . . .	105		98		125		113		109	
40-44 . . . . .	100		120		120		127		115	
45-49 . . . . .	108		98		114		89		103	
50 and over . . . . .	100		146		71		88		106	
All ages . . . . .	98%		100%		107%		104%		101%	

\*Exposures not adjusted for distribution by age within each five-year age group at issue.

*Comparison of Male and Female Experience*

For the select period, each of the 23 contributing companies submitted medical, nonmedical, and paramedical data separately for males and females.

Table 8 shows the experience by sex and issue age group between 1979 and 1984 anniversaries for the first 15 policy years combined for standard medical issues. Table 9 shows comparable data for standard nonmedical issues. For the purpose of comparing male and female mortality, the ratios of female to male mortality are based on expected deaths for females calculated on the male table. For all issue ages combined, the ratios of female to male mortality were 72.0 percent and 72.2 percent for medical issues and 54.7 percent and 55.4 percent for nonmedical issues on the 1965–70 and 1975–80 Tables, respectively. This difference reflects the generally lower ratio of female to male mortality rates at younger ages, largely due to the higher accidental death rate for males.

The detailed select experience by sex for the period from 1983 to 1984 policy anniversaries by age group at issue for each year of issue is available from the Society Research Department: Table B for medical issues, Table C for nonmedical issues, and Table D for paramedical issues.

Table 10 compares the experience between 1979 and 1984 anniversaries on medical and nonmedical issues, separately for each sex, for policy years 1–2, 3–5, 6–10, 11–15, and 1–15 based on the 1975–80 Select Basic Tables. The nonmedical mortality ratios shown in Table 10 have not been adjusted to reflect the distribution of nonmedical exposures by age, which is likely to have a significant effect on issue age groups 40–44 and over. For males, the ratios of the nonmedical to the medical mortality ratios exceeded 100 percent at all issue ages except 10–19 in policy years 1–15 combined. For females, the ratios exceeded 100 percent for issue ages 0 and 25–29, 35–39 and 45–49 in policy years 1–15 combined.

TABLE 8

COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE\*  
 STANDARD MEDICALLY EXAMINED ISSUES  
 OBSERVED BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY AGE AT ISSUE — POLICY YEARS 1-15 COMBINED  
 EXPECTED DEATHS ON MALE AND FEMALE SELECT BASIC TABLES  
 (Amounts Shown in \$1,000 Units)

Ages at Issue	Exposed to Risk		Actual Deaths		Based on 1965-70 Basic Tables			Based on 1975-80 Basic Tables		
					Mortality Ratio		Ratio of Female to Male Mortality*	Mortality Ratio		Ratio of Female to Male Mortality*
	Male	Female	Male	Female	Male	Female		Male	Female	
0.....	\$ 1,198,504	\$ 672,969	\$ 321	\$ 57	23.0%	7.7%	27.8%	53.3%	24.7%	30.0%
1.....	866,817	459,446	92	256	17.5	101.9	499.8	28.8	218.0	525.2
2-4.....	1,408,276	803,808	511	61	74.1	19.9	21.3	99.3	32.4	22.9
5-9.....	2,364,797	1,352,193	989	326	71.0	69.9	63.1	75.2	86.5	65.5
10-14.....	3,087,616	1,395,122	3,174	1,336	118.8	223.5	101.6	111.3	244.2	103.7
15-19.....	5,938,858	1,550,665	6,427	505	100.6	60.5	30.6	97.2	73.4	29.8
20-24.....	28,452,860	3,379,560	23,779	2,713	87.9	131.2	103.8	99.8	179.4	100.2
25-29.....	84,217,162	8,266,874	68,257	3,034	76.6	48.3	53.8	90.5	68.4	50.3
30-34.....	152,675,171	15,477,831	154,432	11,526	68.0	67.6	83.9	87.2	95.2	82.6
35-39.....	170,061,450	17,936,540	272,757	17,829	72.5	62.1	67.2	92.4	84.2	66.8
40-44.....	146,422,646	17,007,794	353,839	36,466	65.9	95.2	89.2	91.8	111.0	89.1
45-49.....	109,026,759	15,047,655	408,871	38,326	67.5	79.4	65.0	93.2	90.5	65.1
50-54.....	76,357,759	11,896,119	362,172	37,065	61.8	66.7	62.0	91.7	90.3	61.9
55-59.....	42,082,254	7,515,020	292,699	39,935	69.2	106.5	71.9	91.9	121.7	71.4
60-64.....	18,018,986	4,137,105	170,476	24,951	65.4	77.5	60.9	97.5	103.3	60.7
65-69.....	5,326,367	1,756,930	80,303	27,320	72.4	147.8	103.4	92.9	214.1	103.6
70 and over.....	1,076,676	518,062	21,807	7,690	69.9	72.4	75.4	93.7	129.6	74.7
All ages.....	\$848,582,958	\$109,173,692	\$2,220,904	\$249,397	67.6%	83.6%	72.0%	92.3%	106.9%	72.2%

\*Female mortality ratios calculated on Male Select Basic Tables.

TABLE 9

COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE\*  
 STANDARD NONMEDICAL ISSUES  
 OBSERVED BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY AGE AT ISSUE — POLICY YEARS 1-15 COMBINED  
 EXPECTED DEATHS ON MALE AND FEMALE SELECT BASIC TABLES  
 (Amounts Shown in \$1,000 Units)

Ages at Issue	Exposed to Risk		Actual Deaths		Based on 1965-70 Basic Tables			Based on 1975-80 Basic Tables		
					Mortality Ratio		Ratio of Female to Male Mortality*	Mortality Ratio		Ratio of Female to Male Mortality*
	Male	Female	Male	Female	Male	Female		Male	Female	
0 . . . . .	\$ 20,908,994	\$ 16,280,199	\$ 8,964	\$ 5,606	30.2%	26.9%	71.4%	78.2%	92.7%	76.0%
1 . . . . .	8,255,517	6,130,828	2,482	1,349	46.5	37.8	68.4	81.2	84.5	72.0
2-4 . . . . .	13,137,977	9,876,317	3,501	1,493	55.1	38.4	56.4	79.0	65.5	60.2
5-9 . . . . .	17,743,150	12,851,283	8,087	2,504	87.2	59.7	47.2	98.0	77.1	50.0
10-14 . . . . .	21,606,869	13,383,101	18,047	4,395	102.2	79.1	43.2	98.1	88.4	44.1
15-19 . . . . .	65,060,645	31,112,308	69,225	12,584	100.9	77.0	38.4	95.6	94.9	37.5
20-24 . . . . .	168,526,102	67,088,293	134,961	23,309	91.1	60.2	46.2	99.5	85.2	44.8
25-29 . . . . .	184,668,488	75,827,170	139,713	29,235	84.5	55.7	57.8	93.0	82.5	54.7
30-34 . . . . .	107,103,172	52,883,588	101,929	28,475	77.2	55.4	62.3	97.3	82.7	61.4
35-39 . . . . .	45,552,764	24,718,664	62,929	21,688	81.0	65.0	64.9	103.8	91.0	64.4
40-44 . . . . .	14,936,994	9,433,220	28,828	15,439	76.4	88.8	73.1	108.6	104.4	72.7
45-49 . . . . .	5,958,140	2,587,931	13,097	4,476	68.6	91.5	77.3	92.7	107.7	77.4
50 and over . . . . .	3,634,533	1,372,911	15,894	3,192	68.6	73.0	64.0	99.7	106.8	64.1
All ages . . . . .	\$677,093,344	\$323,545,813	\$607,656	\$153,744	82.1%	59.8%	54.7%	97.1%	88.2%	55.4%

\*Female mortality ratios calculated on Male Select Basic Tables.

TABLE 10

COMPARISON BY SEX OF MEDICAL AND NONMEDICAL EXPERIENCE\*  
 BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY AGE GROUP AT ISSUE AND POLICY-YEAR GROUP  
 (First Fifteen Policy Years)

AGE GROUP AT ISSUE	POLICY YEARS									
	1-2		3-5		6-10		11-15		1-15	
	Medical	Non- medical	Medical	Non- medical	Medical	Non- medical	Medical	Non- medical	Medical	Non- medical
Male Experience—Mortality Ratios on 1975-80 Male Select Basic Tables										
0 .....	27%	77%	109%	68%	18%	88%	75%	93%	53%	78%
1-9 .....	50	80	2	85	108	94	87	94	74	89
10-19 .....	131	92	64	95	108	96	108	101	101	96
20-24 .....	123	98	92	103	108	102	88	95	100	100
25-29 .....	82	83	86	99	96	98	92	96	91	93
30-34 .....	85	91	88	100	88	104	87	98	87	97
35-39 .....	86	100	107	98	85	112	93	106	92	104
40-44 .....	82	98	92	114	94	115	93	116	92	109
45-49 .....	91	98	93	85	93	103	95	70	93	93
50 and over ..	86	86	101	153	90	66	93	91	93	100
All ages .....	87%	91%	97%	100%	91%	100%	93%	99%	92%	97%
Female Experience—Mortality Ratios on 1975-80 Female Select Basic Tables										
0 .....	1%	97%	36%	90%	58%	90%	54%	72%	25%	93%
1-9 .....	28	70	162	60	8	83	170	92	94	75
10-19 .....	244	96	224	95	80	93	109	87	149	93
20-24 .....	323	83	111	85	112	86	214	87	179	85
25-29 .....	49	74	79	90	89	84	47	84	68	83
30-34 .....	89	75	145	90	69	86	84	82	95	83
35-39 .....	95	69	98	120	76	91	77	97	84	91
40-44 .....	211	77	117	111	86	111	88	122	111	104
45-49 .....	101	102	77	107	73	106	110	130	90	108
50 and over ..	143	116	128	143	120	76	92	27	117	107
All ages .....	137%	80%	116%	94%	99%	90%	94%	92%	107%	88%
Male Experience—Ratio of Nonmedical to Medical Mortality Ratios										
0 .....	285%		62%		489%		124%		147%	
1-9 .....	160		4,250		87		108		120	
10-19 .....	70		148		89		94		95	
20-24 .....	80		112		94		108		100	
25-29 .....	101		115		102		104		102	
30-34 .....	107		114		118		113		111	
35-39 .....	116		92		132		114		113	
40-44 .....	120		124		122		125		118	
45-49 .....	108		91		111		74		100	
50 and over ..	100		151		73		98		108	
All ages .....	105%		103%		110%		106%		105%	
Female Experience—Ratio of Nonmedical to Medical Mortality Ratios										
0 .....	9,700%		250%		155%		133%		372%	
1-9 .....	250		37		1,038		54		80	
10-19 .....	39		42		116		80		62	
20-24 .....	26		77		77		41		47	
25-29 .....	151		114		94		179		122	
30-34 .....	84		62		125		98		87	
35-39 .....	73		122		120		126		108	
40-44 .....	36		95		129		139		94	
45-49 .....	101		139		145		118		120	
50 and over ..	81		112		63		29		91	
All ages .....	58%		81%		91%		98%		82%	

\*Exposures not adjusted for distribution by age.



*Comparison of Smoker and Nonsmoker Experiences*

Tables 1-6 were analyzed using available smoker/nonsmoker data for the 9 companies that submitted any smoker/nonsmoker distinct data. Table 11 shows the available experience for durations 1, 2, 3, and 4-15 combined. The exposures are concentrated in the first two years. Nearly all the duration 1 medical and nonmedical exposure for the companies is distinct by smoking status. But there is a substantial volume of nonmedical for which the smoking status is unknown. The small exposures for the smoker and unknown categories limit the usefulness of the mortality ratios.

TABLE 11  
SMOKER/NONSMOKER DATA  
STANDARD ISSUES OF 1969-83  
MALE AND FEMALE LIVES COMBINED  
EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
BY YEAR OF ISSUE  
BASED ON EXPERIENCE FROM NINE CONTRIBUTING COMPANIES  
(Amounts Shown in \$1,000 Units)

Year of Issue	Policy Year	Nonsmoker		Smoker		Status Unknown	
		Actual Deaths	Mortality Ratio	Actual Deaths	Mortality Ratio	Actual Deaths	Mortality Ratio
Medically Examined Issues							
1983 .....	1	17,001	76.9%	4,739	121.5%	962	195.0%
1982 .....	2	15,182	73.8	3,555	114.3	6,569	115.9
1981 .....	3	14,478	108.0	3,339	186.1	13,505	113.3
1969-80 .....	4-15	6,750	85.7	3,994	287.6	176,180	91.8
All years ....	1-15	53,411	83.5%	15,627	153.3%	197,216	93.9%
Nonmedical Issues							
1983 .....	1	14,221	72.2%	8,905	153.7%	2,158	102.6%
1982 .....	2	7,879	77.0	5,146	152.6	3,813	62.8
1981 .....	3	1,733	75.5	800	114.0	10,330	100.9
1969-80 .....	4-15	945	77.7	284	97.7	56,332	92.8
All years ....	1-15	24,778	74.1%	15,135	149.0%	72,633	91.8%
Paramedically Examined Issues							
1983 .....	1	10,279	72.9%	6,170	171.6%	233	100.8%
1982 .....	2	8,374	69.4	4,985	147.6	1,481	84.7
1981 .....	3	4,899	73.4	2,104	111.5	8,408	92.3
1969-80 .....	4-15	2,123	49.1	1,671	127.8	63,665	98.7
All years ....	1-15	25,674	69.1%	14,929	146.9%	73,787	97.6%

EXPERIENCE UNDER STANDARD ISSUES  
DURING THE SIXTEENTH AND SUBSEQUENT POLICY YEARS

The 1983–84 experience during the sixteenth and subsequent policy years includes exposures of \$117 billion and actual deaths of \$1.4 billion. The 1982–83 experience included exposures of \$112 billion and actual deaths of \$1.35 billion.

Table 12 shows mortality ratios by attained age groups based on (1) the 1965–70 and 1975–80 Ultimate Basic Tables (Male, Female, and Male and Female Combined for the male experience, the female experience, and the experience reported without subdivision by sex, respectively); (2) the Commissioners 1958 Standard Ordinary Mortality Table; and (3) the Commissioners 1980 Standard Ordinary Mortality Table.

The aggregate mortality ratio for the period from 1983 to 1984 anniversaries on the 1965–70 Ultimate Basic Tables was 71.2 percent. The tabulation on page 4 compares this result with the results of previous studies.

*Comparison of Ultimate Medical and Nonmedical Experience*

Companies were asked to subdivide their ultimate data into medical and nonmedical if they could do so conveniently. Seventeen companies, comprising 77.0 percent of the total ultimate exposure, were able to subdivide their data (in whole or in part) in this manner. The experience between 1979 and 1984 anniversaries is shown in Table 13.

The pattern of this experience is similar to that in past years in that the nonmedical experience has higher ratios at the older attained ages. At some younger attained ages (especially issue ages under 30) and at ages 35–39 where most medical examinations are obtained because of a medical history, the medical experience shows higher mortality ratios.

TABLE 12  
 STANDARD ISSUES OF 1968 AND PRIOR\*  
 MALE AND FEMALE LIVES COMBINED  
 (INCLUDING DATA NOT SUBDIVIDED BY SEX)  
 EXPERIENCE BETWEEN 1983 AND 1984 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 (Amounts Shown in \$1,000 Units)

Attained Ages	Exposed to Risk	Actual Deaths	1965-70 Ultimate Basic Tables		1975-80 Ultimate Basic Tables		Mortality Ratio	
			Expected Deaths	Mortality Ratio	Expected Deaths	Mortality Ratio	1958 CSO Table	1980 CSO Table
15-19.....	\$ 1,475,413	\$ 1,053	\$ 1,193	88.2%	\$ 1,322	79.7%	45.9%	50.2%
20-24.....	2,062,282	1,841	1,969	93.5	2,302	80.0	49.0	54.7
25-29.....	2,591,163	2,426	2,457	98.8	2,693	90.1	47.4	58.8
30-34.....	3,715,541	4,384	4,297	102.0	3,776	116.1	52.7	66.1
35-39.....	8,207,440	9,812	13,413	73.2	10,383	94.5	42.5	50.4
40-44.....	12,554,418	21,660	33,351	64.9	23,833	90.9	42.1	49.1
45-49.....	14,245,629	39,737	62,694	63.4	46,062	86.3	44.3	53.2
50-54.....	15,799,602	76,636	116,088	66.0	84,816	90.4	49.1	61.5
55-59.....	17,462,536	139,149	208,284	66.8	149,968	92.8	52.0	65.7
60-64.....	15,141,266	198,165	283,953	69.8	209,825	94.4	55.2	71.0
65-69.....	10,032,910	199,597	294,089	67.9	222,784	89.6	53.8	68.8
70-74.....	6,561,339	209,664	291,975	71.8	230,585	90.9	56.5	70.7
75-79.....	4,023,132	206,020	279,135	73.8	222,535	92.6	61.8	70.7
80-84.....	2,016,195	158,793	211,437	75.1	174,309	91.1	64.1	71.2
85-89.....	741,697	90,174	115,804	77.9	98,006	92.0	69.1	71.8
90-95.....	207,852	39,062	44,331	88.1	40,615	96.2	74.0	76.3
All ages.....	\$116,838,418	\$1,398,174	\$1,964,471	71.2%	\$1,523,816	91.8%	56.5%	68.3%

\*Not including paramedical data; based on data from 23 companies.

TABLE 13

COMPARISON OF MEDICAL AND NONMEDICAL EXPERIENCE\*  
 MALE AND FEMALE LIVES COMBINED  
 (INCLUDING DATA NOT SUBDIVIDED BY SEX)  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 (Amounts Shown in \$1,000 Units)

Attained Ages	Exposed to Risk		Actual Deaths		Based on 1965-70 Basic Tables			Based on 1975-80 Basic Tables		
					Mortality Ratio		Ratio of Nonmedical to Medical Mortality	Mortality Ratio		Ratio of Nonmedical to Medical Mortality
	Medical	Nonmedical	Medical	Nonmedical	Medical	Nonmedical		Medical	Nonmedical	
15-19	\$ 598,452	\$ 4,283,757	\$ 511	\$ 3,258	103.4%	95.2%	92.1%	92.5%	85.9%	92.8%
20-24	1,240,228	4,921,609	1,136	5,146	94.2	107.9	114.5	80.3	92.1	114.7
25-29	1,606,288	5,162,147	1,761	5,016	113.5	100.9	88.9	102.6	91.1	88.8
30-34	2,326,064	8,794,165	2,536	9,688	92.9	93.6	100.7	105.1	106.2	101.1
35-39	5,675,170	19,664,019	7,626	23,130	80.6	71.9	89.3	104.3	92.8	88.9
40-44	12,970,370	23,713,018	21,221	41,714	60.2	66.6	110.7	84.9	93.3	109.9
45-49	21,882,571	19,955,363	59,827	60,596	60.9	70.4	115.5	83.3	95.5	114.7
50-54	32,895,635	14,528,426	167,012	78,582	68.0	76.2	112.1	93.3	103.6	111.1
55-59	39,188,879	9,169,872	314,536	84,045	66.3	80.2	121.0	92.2	110.2	119.6
60-64	34,004,692	4,314,768	440,612	64,444	68.2	81.9	120.0	92.2	110.2	119.5
65-69	20,756,555	1,249,245	428,792	29,469	69.5	83.1	119.6	91.5	109.0	119.1
70-74	12,950,885	663,551	438,945	24,575	75.2	83.7	111.3	94.7	105.2	111.0
75-79	7,569,039	377,237	398,195	22,135	75.0	84.1	112.2	93.4	104.5	111.8
80-84	3,556,778	155,656	288,769	13,893	76.5	84.3	110.1	92.3	101.0	109.5
85-89	1,254,186	46,830	162,413	6,517	81.9	87.9	107.3	96.3	102.8	106.8
90-95	311,441	11,444	62,788	2,468	92.7	99.1	106.9	100.1	107.3	107.2
All ages	\$198,787,233	\$117,011,106	\$2,796,681	\$474,677	71.9%	78.0%	108.5%	92.9%	102.8%	110.7%

\*Based on data from 17 companies.

*Comparison of Premium-Paying and Fully Paid-Up Ultimate Experience*

A comparison of the mortality on premium-paying and fully paid-up (excluding reduced paid-up) policies for the period from 1979 to 1984 anniversaries is shown in Table 14 for standard medical and nonmedical issues combined. Twenty companies submitted their experience separately on premium-paying policies, and eighteen companies did so on fully paid-up policies. This could distort comparisons between premium-paying and paid-up.

For all attained ages combined, the ratios of premium-paying paid-up mortality were 96.2 percent and 95.2 percent on the 1965-70 and 1975-80 Select Tables, respectively. The ratios at attained ages 15-19 and 30-49 for premium-paying policies were significantly less than the ratios for fully paid-up policies.

*Comparison of Male and Female Experience*

Table 15 shows the experience by sex and attained-age groups between 1979 and 1984 anniversaries for policy years 16 and over for standard medical and nonmedical issues combined. Twenty-one of the contributing companies submitted data (in whole or in part) separately for males and females for policy years 16 and over. As in Tables 8 and 9, for the purpose of comparing male and female mortality, the ratios of female to male mortality are based on expected deaths for females calculated on the male table. For all ages combined, the ratios of female mortality to male mortality were 63.4 and 62.2 percent on the 1965-70 and 1975-80 Tables, respectively.

## APPENDIX

Table A names the contributing companies and details the proportion of total 1983-84 exposures contributed by each. Tables B, C, and D are not included in this report, as is the case with the two previous studies. However, copies of Tables B, C, and D in a computer printout format can be obtained from the Society Research Department for a nominal fee to cover duplication and shipping charges.

TABLE 14

COMPARISON OF MORTALITY EXPERIENCE\*  
 UNDER PREMIUM-PAYING AND FULLY PAID-UP POLICIES  
 MALE AND FEMALE LIVES COMBINED  
 (INCLUDING DATA NOT SUBDIVIDED BY SEX)  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 EXPECTED DEATHS MALE AND FEMALE ULTIMATE BASIC TABLES  
 (Amounts Shown in \$1,000 Units)

Attained Ages	Exposed to Risk		Actual Deaths		Based on 1965-70 Basic Tables			Based on 1975-80 Basic Tables		
					Mortality Ratio		Ratio of Premium-Paying to Paid-Up Mortality	Mortality Ratio		Ratio of Premium-Paying to Paid-Up Mortality
	Premium-Paying	Paid-Up	Premium-Paying	Paid-Up	Premium-Paying	Paid-Up		Premium-Paying	Paid-Up	
15-19 .....	\$ 5,906,825	\$ 104,441	\$ 4,713	\$ 147	99.8%	185.7%	53.8%	90.0%	171.9%	52.4%
20-24 .....	7,732,753	1,248,246	7,811	1,058	103.6	92.6	111.9	88.4	81.6	108.3
25-29 .....	8,395,668	2,100,259	8,313	1,951	102.2	101.3	100.8	92.2	95.4	96.6
30-34 .....	13,678,070	2,048,725	14,798	2,222	91.7	101.3	90.6	104.0	115.9	89.8
35-39 .....	32,111,512	1,896,393	38,265	2,514	72.6	89.8	80.9	93.7	113.9	82.3
40-44 .....	48,902,433	1,984,542	83,311	4,497	63.8	92.5	69.0	89.7	125.4	71.5
45-49 .....	57,290,977	2,602,504	164,627	8,846	65.2	83.3	78.3	89.1	111.3	80.0
50-54 .....	65,888,089	3,856,975	343,426	19,461	70.8	74.6	94.9	97.2	100.9	96.3
55-59 .....	68,534,417	5,048,011	569,646	40,951	69.3	74.1	93.5	96.5	101.4	95.2
60-64 .....	56,109,418	6,008,137	740,562	76,133	69.6	71.7	97.1	94.5	96.5	98.0
65-69 .....	33,061,791	7,694,778	691,542	160,877	70.3	73.7	95.5	93.1	97.3	95.7
70-74 .....	21,269,497	6,060,900	730,701	198,649	76.0	74.9	101.5	96.3	95.6	100.8
75-79 .....	12,661,830	4,150,871	678,765	214,535	76.2	74.8	101.9	95.5	94.5	101.0
80-84 .....	6,092,222	2,317,398	501,474	185,305	77.3	75.9	101.8	93.6	92.5	101.2
85-89 .....	1,925,085	1,197,194	251,972	146,259	82.6	77.6	106.4	97.3	92.1	105.6
90-95 .....	438,937	409,594	87,916	78,006	91.8	88.2	104.1	99.3	96.0	103.4
All ages .....	\$439,999,524	\$48,728,965	\$4,917,842	\$1,141,411	73.1%	76.0%	96.2%	95.0%	95.2%	99.7%

\*Premium-paying based on data from 21 companies; fully paid-up based on data from 18 companies.

TABLE 15

COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE\*  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1979 AND 1984 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 EXPECTED DEATHS MALE AND FEMALE ULTIMATE BASIC TABLES  
 (Amounts Shown in \$1,000 Units)

Attained Ages	Exposed to Risk		Actual Deaths		Based on 1965-70 Basic Tables			Based on 1975-80 Basic Tables		
					Mortality Ratio		Ratio of Female to Male Mortality†	Mortality Ratio		Ratio of Female to Male Mortality†
	Male	Female	Male	Female	Male	Female	Mortality†	Male	Female	Mortality†
15-19.....	\$ 3,911,727	\$ 2,111,032	\$ 3,872	\$ 829	102.4%	81.6%	40.4%	88.6%	89.1%	40.5%
20-24.....	5,793,214	2,729,579	6,926	1,428	105.3	92.9	43.7	85.8	99.7	43.8
25-29.....	6,872,181	2,718,248	8,199	1,306	110.0	83.6	40.4	95.9	90.3	40.1
30-34.....	11,713,730	3,101,405	14,003	1,909	94.1	83.0	51.9	105.9	97.4	51.6
35-39.....	27,326,830	4,913,700	35,257	4,031	75.3	68.6	65.4	97.6	85.2	64.7
40-44.....	42,008,365	4,872,366	74,056	6,352	64.2	67.7	75.4	91.4	80.1	75.4
45-49.....	49,331,091	4,946,294	145,909	11,563	65.2	78.8	79.7	89.7	91.9	79.7
50-54.....	57,315,540	5,921,391	302,566	21,914	69.2	83.1	70.4	95.4	97.8	70.4
55-59.....	59,340,004	6,573,469	501,602	36,058	67.6	83.4	65.0	94.6	95.0	65.0
60-64.....	48,267,890	5,629,865	656,014	45,400	68.6	80.2	59.4	93.2	92.8	59.4
65-69.....	30,431,486	3,827,537	649,519	49,733	68.4	87.1	60.8	90.3	100.3	60.8
70-74.....	19,170,240	2,818,140	675,465	56,130	74.5	75.6	56.4	93.0	98.7	56.4
75-79.....	11,116,724	1,840,460	623,129	55,830	76.6	62.3	54.0	94.0	87.5	54.0
80-84.....	5,222,579	976,235	448,839	53,661	78.0	69.6	63.8	92.7	89.7	63.8
85-89.....	1,880,347	382,854	251,555	38,372	81.8	80.5	74.7	95.1	99.1	74.7
90-95.....	488,808	106,677	100,836	17,276	92.9	80.5	78.7	98.4	103.2	78.7
All ages.....	\$380,190,758	\$53,469,251	\$4,497,748	\$401,791	72.3%	75.8%	63.4%	93.2%	94.3%	62.2%

\*Based on data from 21 companies.

†Female mortality ratios calculated on Male Ultimate Basic Tables.

TABLE A

PROPORTION OF TOTAL EXPOSURES BETWEEN 1983 AND 1984 ANNIVERSARIES  
CONTRIBUTED BY EACH COMPANY

Company	First 15 Policy Years			Sixteenth and Subsequent Policy Years	First 15 Policy Years by Sex						Sixteenth and Subsequent Policy Years	
	Medical	Non- medical	Para- medical		Medical		Nonmedical		Paramedical		Male	Female
	Male and Female Combined (Including Data Not Subdivided by Sex)				Male	Female	Male	Female	Male	Female		
Northwestern Mutual . . .	12.7%	6.3%	9.4%	7.4%	11.3%	1.4%	3.9%	2.3%	7.8%	1.6%	6.6%	0.9%
New York Life . . . . .	12.1	16.7	17.0	11.7	10.2	1.8	11.1	5.6	13.7	3.3	9.3	2.2
Occidental . . . . .	8.9	2.7	4.0	0.9	8.0	0.8	1.8	0.9	3.4	0.7	0.6	0.1
Equitable . . . . .	8.2	8.7	3.9	7.3	7.2	1.0	5.8	2.9	3.3	0.6	6.5	0.8
Massachusetts Mutual . . .	6.3	3.1	7.8	4.6	5.7	0.6	2.3	0.9	6.7	1.1	4.2	0.4
Metropolitan . . . . .	5.7	10.7	7.2	11.9	5.1	0.6	6.5	4.2	5.8	1.4	4.4	0.5
Prudential . . . . .	5.4	20.3	12.6	20.0	4.6	0.8	13.0	7.4	9.8	2.8	17.0	3.0
State Farm Life . . . . .	5.4	10.4	8.9	2.2	4.7	0.7	7.2	3.2	7.3	1.5	2.0	0.2
Connecticut Mutual . . . . .	5.0	2.9	5.1	6.2	4.4	0.5	2.0	0.9	4.5	0.7	5.7	0.6
New England Life . . . . .	4.0	1.9	2.9	2.5	3.6	0.4	1.4	0.6	2.5	0.4	2.3	0.2
Phoenix Mutual . . . . .	3.9	0.6	1.3	1.2	3.5	0.4	0.4	0.2	1.1	0.2	1.1	0.1
Actna . . . . .	3.4	0.8	3.1	1.5	3.1	0.3	0.5	0.3	2.6	0.5	1.3	0.2
John Hancock . . . . .	2.6	3.1	4.7	5.5	2.3	0.3	2.0	1.1	3.7	1.0	4.7	0.8
Connecticut General . . . . .	2.5	0.2	1.3	1.0	2.1	0.4	0.1	0.1	1.1	0.2	0.9	0.1
Mutual Benefit Life . . . . .	2.3	0.7	0.5	2.5	2.0	0.3	0.5	0.2	0.4	0.1	2.2	0.2
Penn Mutual . . . . .	2.1	1.2	1.0	2.5	1.9	0.2	0.8	0.3	0.9	0.1	—	—
Mutual of New York . . . . .	2.1	2.8	2.4	3.3	1.8	0.3	2.0	0.8	2.1	0.4	2.8	0.4
Travelers . . . . .	1.9	1.1	2.3	1.5	1.7	0.2	0.7	0.3	1.9	0.4	1.3	0.2
Franklin Life . . . . .	1.7	3.1	1.1	1.8	1.4	0.2	2.1	1.0	0.9	0.2	1.4	0.4
Continental Assurance . . . .	1.4	0.6	0.6	1.1	1.3	0.1	0.4	0.2	0.6	0.1	1.0	0.1
Provident Mutual . . . . .	1.0	0.8	1.0	1.5	0.9	0.1	0.6	0.2	0.9	0.1	—	—
Lincoln National . . . . .	1.0	0.5	1.3	1.1	0.9	0.1	0.3	0.2	1.1	0.2	0.9	0.2
Sun Life . . . . .	0.4	0.6	0.4	0.9	0.3	—	0.4	0.2	0.3	0.1	0.7	0.1
	100.0%	100.0%	100.0%	100.0%	88.2%	11.7%	65.9%	34.0%	82.2%	17.7%	76.7%	11.7%