

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1983 REPORTS**

**II. MORTALITY UNDER STANDARD ORDINARY  
INSURANCE ISSUES BETWEEN 1982  
AND 1983 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.

A special feature of this report is a summary of results with mortality ratios based on the new 1975-80 Basic Tables. The next study, of experience between 1983 and 1984 anniversaries, will have mortality ratios based on the 1975-80 Tables in the body of the report; comparisons of mortality ratios based on the 1965-70 and 1975-80 Tables will also be shown.

*General Mortality between 1982 and 1983 Anniversaries*

Although a direct comparison with the previous study is not completely valid because of the different mix of contributors, the following results are noted:

The overall medical mortality ratio in the select period (68.0 percent) was essentially unchanged from 67.8 percent.

The overall nonmedical mortality ratio in the select period (74.2 percent) decreased by about 5 percentage points from 79.2 percent.

The overall paramedical mortality ratio in the select period (69.9 percent, first thirteen years only) decreased by more than 3 percentage points from 73.2 percent.

The overall mortality ratio in the ultimate period (73.2 percent) was essentially unchanged from 72.8 percent.

*Medical versus Nonmedical Mortality between 1978 and 1983 Anniversaries*

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

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

*Premium-paying versus Fully Paid-up Mortality in the Ultimate Period, between 1978 and 1983 Anniversaries*

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

*Male versus Female Mortality between 1978 and 1983 Anniversaries*

There was little change from previous years' reports. In the select period, female mortality averaged 69 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.

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Tables	Exposure Period	Policy Years	Type of Underwriting	Male and Female	Mortality Ratios by
1	1982-83	1-15	Medical	Combined	Ages at issue
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4	1982-83	1-15	Nonmedical	Combined	Year of issue
5	1982-83	1-13	Paramedical	Combined	Year of issue
6	1978-83	1-15	Medical and nonmedical	Combined	Age group at issue and policy year
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10	1982-83	16 and later	Combined	Combined	Attained ages
11	1978-83	16 and later	Medical and nonmedical	Combined	Attained ages
12	1978-83	16 and later	Combined	Combined	Attained ages; premium paying and paid-up
13	1978-83	16 and later	Combined	Separate	Attained ages
14	1982-83	1-15	Medical and nonmedical	Combined	Age at issue summary*
15	1982-83	1-15	Medical, nonmedical and Paramedical	Combined	Year of issue summary*
16	1982-83	16 and later	Combined	Combined	Attained age summary*

\*Comparison of Mortality Ratios based on 1965-70 and 1975-80 Basic Tables.

Note that Table 6 was formerly Table 5 in previous *Reports*, Tables 7-9 dealing with policy years 1-15 experience were formerly Tables 9-11, and that Tables 10-12 dealing with ultimate experience were formerly Tables 6-8.

## APPENDIX

Table A	Names of the contributing companies, and proportion of total 1982-83 exposures contributed by each company				
Table B**	1982-83	1-15	Medical	Separate	Year of issue and ages at issue
Table C**	1982-83	1-15	Nonmedical	Separate	Year of issue and ages at issue
Table D**	1982-83	1-15	Paramedical	Separate	Year of issue and ages at issue

\*\*Not included in this report. Available from the Society office Research Department.

## INTRODUCTION

This report covers the intercompany mortality experience under Standard Ordinary insurance between 1982 and 1983 policy anniversaries. The report also covers experience between 1978 and 1983 policy anniversaries for certain comparisons of data (i.e., 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 fifteen policy years;
2. Standard Ordinary insurance issued without a medical or paramedical examination, observed during the first fifteen policy years;
3. Standard Ordinary insurance issued subject to a paramedical examination, observed during the first thirteen policy years;
4. Standard Ordinary insurance observed during the sixteenth 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 is also 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, expected amounts of death claims, and mortality ratios of actual to expected death claims. In Tables 1–13, the expected death claims are based on the 1965–70 Male and Female Basic Tables. Tables 14–16 compare the mortality ratios based on the 1965–70 Basic Tables and 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 1982–83 experience is derived from the contributions of twenty-two 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 fifteen policy years) or ultimate (policy years 16 and subsequent) experience.

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.

## COMMITTEE ON MORTALITY—ORDINARY

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

EXPOSURES AS A PERCENTAGE OF TOTAL

Issue Ages	Policy Year 1			Policy Years 1-15		
	Medical	Nonmedical	Paramedical	Medical	Nonmedical	Paramedical
0-9	4.0%	95.4%	0.6%	7.1%	91.8%	1.1%
10-19	4.6	93.0	2.4	7.0	89.7	3.3
20-29	8.2	79.8	12.0	14.9	69.7	15.4
30-39	27.6	41.6	30.8	37.6	28.2	34.2
40-49	49.4	16.0	34.6	60.2	8.6	31.2
50 and over	65.7	5.0	29.3	74.1	2.6	23.3
All ages	29.6	45.3	25.1	35.0	41.0	24.0

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

\*Note that paramedical experience is limited to issues of 1970 and later.

Variations in aggregate mortality ratios among the contributing companies are shown in the following tables.

VARIATIONS IN 1982-83 AGGREGATE MORTALITY RATIOS  
FOR CONTRIBUTING COMPANIES FROM 1982-83 ALL COMPANY AVERAGE

	MEDICAL		NONMEDICAL		PARAMEDICAL	
	No. of Cos.	Prop. of Act. Deaths	No. of Cos.	Prop. of Act. Deaths	No. of Cos.	Prop. of Act. Deaths
Based on 1965-70 Basic Tables						
Percentage points below average:						
More than 15 .....	0	0.0%	4	6.1%	6	17.0%
10-15 .....	2	12.0	3	4.0	1	0.7
5-10 .....	5	14.7	1	0.8	1	1.4
0-5 .....	4	9.8	7	37.0	2	4.5
Percentage points above average:						
0-5 .....	6	39.1%	3	19.7%	5	26.6%
5-10 .....	2	15.4	2	26.3	3	34.1
10-15 .....	1	6.7	0	0.0	2	10.5
More than 15 .....	2	2.3	2	6.1	2	5.2
Based on 1975-80 Basic Tables						
Percentage points below average:						
More than 15 .....	2	12.0%	6	7.2%	7	17.7%
10-15 .....	4	9.8	2	3.7	0	0.0
5-10 .....	2	7.7	3	13.6	1	1.4
0-5 .....	4	8.3	5	26.6	4	19.6
Percentage points above average:						
0-5 .....	4	24.0%	0	0.0%	2	10.7%
5-10 .....	1	13.8	3	17.3	1	0.8
10-15 .....	2	15.4	2	26.6	3	34.1
More than 15 .....	3	9.0	1	5.0	4	15.7

VARIATION IN 1982-83 AGGREGATE  
ULTIMATE MORTALITY RATIOS  
FOR CONTRIBUTING COMPANIES  
FROM 1982-83 ALL-COMPANY AVERAGE

	1965-70 BASIC TABLES		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 .....	0	0.0%	0	0.0%
10-15 .....	0	0.0	1	7.2
5-10 .....	5	15.4	5	11.4
0-5 .....	7	33.3	6	30.7
Percentage points above average:				
0-5 .....	7	31.3%	5	13.1%
5-10 .....	3	20.0	5	37.6
10-15 .....	0	0.0	0	0.0
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 socioeconomic 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 accounts for some of the differences in mortality ratios.

EXPERIENCE UNDER STANDARD ISSUES DURING THE  
FIRST FIFTEEN POLICY YEARS

*Medically Examined Issues*

The 1982–83 experience during the first fifteen policy years includes exposures of \$209 billion and actual deaths of \$528 million. The corresponding amounts in the 1981–82 experience were \$193 billion and \$491 million, respectively.

The experience by age group at issue is shown in Table 1 for the first fifteen 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 (Table B of Appendix) from the Society office Research Department upon request.

The aggregate medical mortality ratio for the period from 1982 to 1983 anniversaries was 68.0 percent. The 1982–83 result is a continuation of the general mortality level of the 1981–82 study.

*Nonmedical Issues*

The 1982–83 experience during the first fifteen policy years includes exposures of \$244 billion and actual deaths of \$178 million. The corresponding amounts in the 1981–82 study were \$189 billion and \$150 million, respectively. Much of the difference was a \$26 billion increase in duration 1

TABLE 1  
STANDARD MEDICALLY EXAMINED ISSUES OF 1968 TO 1982  
MALE AND FEMALE LIVES COMBINED  
EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
BY AGE AT ISSUE  
POLICY YEARS 1-15 COMBINED  
EXPECTED DEATHS ON 1965-70 SELECT BASIC TABLES  
(AMOUNTS SHOWN IN \$1,000 UNITS)

Ages at Issue	Exposed to Risk	Actual Deaths	Expected Deaths	Mortality Ratio
0-9.....	\$ 2,000,962	\$ 349	\$ 968	36.1%
10-14.....	927,187	1,064	568	187.3
15-19.....	1,505,286	1,273	1,348	94.4
20-24.....	6,302,391	4,331	5,726	75.6
25-29.....	18,854,918	17,024	19,689	86.5
30-34.....	36,616,414	35,975	52,646	68.3
35-39.....	41,763,076	61,456	86,696	70.9
40-44.....	35,973,818	77,921	121,582	64.1
45-49.....	26,793,384	97,957	138,134	70.9
50-54.....	19,439,605	85,807	138,602	61.9
55-59.....	11,454,637	75,152	103,350	72.7
60-64.....	5,217,353	42,919	67,108	64.0
65-69.....	1,722,453	19,047	30,317	62.8
70 and over.....	380,025	8,167	9,967	81.9
All ages.....	\$208,951,509	\$528,441	\$776,701	68.0%

exposures, from \$41 to \$67 billion. About 20 percent of that increase in duration 1 exposure was from a contributor not in the 1981-82 study.

As shown on page 28, the proportion of nonmedical business again increased sharply from the prior year for the first policy year.

The experience by age group at issue is shown in Table 3 for the first fifteen 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 included in Table C of the Appendix which is not shown in this report but is available from the Society office Research Department.

The aggregate mortality ratio for the period from 1982 to 1983 anniversaries was 74.2 percent. As the table on page 28 shows, the overall nonmedical ratio decreased 5 percentage points in 1982-83. The mortality ratios were significantly lower in each of the first five policy years.

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

TABLE 2  
 STANDARD MEDICALLY EXAMINED ISSUES OF 1968 TO 1982  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
 BY YEAR OF ISSUE  
 ALL AGES COMBINED  
 EXPECTED DEATHS ON 1965-70 SELECT BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	Expected Deaths	Mortality Ratio
1968	15	\$ 5,258,202	\$ 31,031	\$ 47,637	65.1%
1969	14	5,996,236	33,702	49,559	68.0
1970	13	6,310,278	31,587	47,182	66.9
1971	12	6,889,420	29,455	46,546	63.5
1972	11	7,615,094	31,622	46,180	68.5
1973	10	8,207,690	30,977	45,599	67.9
1974	9	9,078,226	29,778	45,900	64.9
1975	8	9,305,988	33,001	43,937	75.1
1976	7	10,483,399	30,769	47,170	65.2
1977	6	12,061,402	25,020	46,713	53.6
1978	5	14,150,056	35,487	50,663	70.0
1979	4	17,432,653	39,641	57,219	69.3
1980	3	21,968,480	49,313	62,241	79.2
1981	2	31,439,323	55,418	70,185	79.0
1982	1	42,755,061	41,638	69,971	59.5
All years of issue		\$208,951,509	\$528,441	\$776,701	68.0%

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). 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 is limited to issues of 1970 and later, due to the insignificant number of paramedical issues before that time. The 1982-



TABLE 3  
 STANDARD NONMEDICAL ISSUES OF 1968 TO 1982  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
 BY AGE AT ISSUE  
 POLICY YEARS 1-15 COMBINED  
 EXPECTED DEATHS ON 1965-70 SELECT BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

Ages at Issue	Exposed to Risk	Actual Deaths	Expected Deaths	Mortality Ratio*
0-9	\$ 25,776,614	\$ 8,075	\$ 20,160	40.1%
10-14	8,278,999	4,890	5,321	91.9
15-19	22,773,601	18,648	19,850	93.9
20-24	54,304,635	35,389	42,924	82.4
25-29	63,845,192	39,621	52,848	75.0
30-34	40,623,571	30,649	45,259	67.7
35-39	18,186,621	20,435	27,109	75.4
40-44	6,550,806	11,865	13,961	85.0
45-49	2,455,203	4,861	6,305	77.1
50 and over	1,329,226	3,820	6,587	58.0
All ages	\$244,124,466	\$178,255	\$240,325	74.2%

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

83 experience during the first thirteen policy years includes exposures of \$143 billion and actual deaths of \$183 million. The volume of paramedical business increased from exposures of \$121 billion and actual deaths of \$150 million in 1981-82. Interestingly, the first-year exposure is only \$1.9 billion above that in the 1981-82 study, chiefly attributed to a shift to nonmedical underwriting in the 1982 issues. The substantial increase in nonmedical business is seen in Table 4.

The experience by year of issue is shown in Table 5. The detailed experience by age group at issue for each year of issue, for male and female lives separately is included in Table D of the Appendix which is not shown in the report but is available from the Society office Research Department.

The aggregate paramedical mortality ratio for the period from 1982 to 1983 anniversaries was 69.9 percent. As the table on page 28 shows, the overall paramedical ratio decreased by more than 3 percentage points this year compared to last year. This decrease effectively reversed the increase shown in the 1981-82 study. A different mix of contributing companies may have accounted for this pattern.

TABLE 4  
 STANDARD NONMEDICAL ISSUES OF 1968 TO 1982  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
 BY YEAR OF ISSUE  
 ALL AGES COMBINED  
 EXPECTED DEATHS ON 1965-70 SELECT BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	Expected Deaths	Mortality Ratio*
1968	15	\$ 4,675,753	\$ 7,541	\$ 10,118	74.5%
1969	14	4,953,026	6,994	9,491	73.7
1970	13	5,738,034	7,644	9,783	78.1
1971	12	6,292,194	7,619	9,696	78.6
1972	11	7,416,146	8,174	10,026	81.5
1973	10	8,455,202	7,807	10,348	75.4
1974	9	9,289,940	8,933	10,472	85.3
1975	8	9,653,166	8,736	10,309	84.7
1976	7	11,175,990	8,807	10,819	81.4
1977	6	12,969,653	10,062	11,797	85.3
1978	5	16,392,967	11,880	14,695	80.8
1979	4	19,424,506	13,314	16,735	79.6
1980	3	23,962,501	15,260	19,790	77.1
1981	2	36,688,524	20,355	30,093	67.6
1982	1	67,036,866	35,129	56,155	62.6
All years of issue		\$244,124,466	\$178,255	\$240,325	74.2%

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

### *Comparison of Medical and Nonmedical Experience*

Table 6 (Table 5 in prior *Reports*) presents the experience on medical and nonmedical select issues between 1978 and 1983 anniversaries. The nonmedical mortality ratios shown in Table 6 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 6 indicates that, for policy years 1-15 combined, nonmedical mortality was generally less than medical for issue ages 1 through 24. A significant proportion of medical issues at these young ages include persons who were not acceptable on a nonmedical basis because of medical history. Nonmedical mortality ratios were also less than medical at issue ages 50 and over. This older age group represents only about 0.5 percent of nonmedical exposures, and is subject to special considerations noted earlier. For issue ages 30-44 the nonmedical mortality was significantly higher than medical mortality.

TABLE 5  
 STANDARD PARAMEDICALLY EXAMINED ISSUES OF 1970 TO 1982  
 MALE AND FEMALE LIVES COMBINED  
 EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
 BY YEAR OF ISSUE  
 ALL AGES COMBINED  
 EXPECTED DEATHS ON 1965-70 SELECT BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

Year of Issue	Policy Year	Exposed to Risk	Actual Deaths	Expected Deaths	Mortality Ratio
1970	13	\$ 38,972	\$ 129	\$ 163	79.1%
1971	12	203,283	535	917	58.3
1972	11	636,947	1,585	2,658	59.6
1973	10	1,607,050	4,051	6,236	65.0
1974	9	2,789,479	6,894	9,470	72.8
1975	8	4,268,781	8,708	13,516	64.4
1976	7	6,307,622	11,448	17,541	65.3
1977	6	9,107,324	15,773	21,875	72.1
1978	5	11,872,910	20,128	26,042	77.3
1979	4	16,176,500	24,088	32,652	73.8
1980	3	23,482,737	30,039	40,965	73.3
1981	2	30,061,656	30,277	44,270	68.4
1982	1	36,757,842	28,985	45,054	64.3
All years of issue		\$143,311,105	\$182,639	\$261,357	69.9%

### *Comparison of Male and Female Experience*

For the select period, each of the twenty-two contributing companies submitted all of its medical, nonmedical, and paramedical data separately for males and females.

Table 7 (Table 9 in prior *Reports*) shows the experience by sex and issue-age group between 1978 and 1983 anniversaries for the first fifteen policy years combined for standard medical issues. Table 8 (Table 10 in prior *Reports*) shows comparable data for standard nonmedical issues. For the purpose of comparing male and female mortality, the right-hand column of each of these tables is based on expected deaths for females calculated on the male table. For all issue ages combined, the ratio of female to male mortality was 68.7 percent for medical issues and 54.7 percent for nonmedical issues. 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.

TABLE 6  
 COMPARISON OF MEDICAL AND NONMEDICAL EXPERIENCE  
 MALE AND FEMALE LIVES COMBINED  
 BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY AGE GROUP AT ISSUE AND DURATION  
 POLICY YEAR GROUP  
 (FIRST FIFTEEN POLICY YEARS)

AGE GROUP AT ISSUE	POLICY YEARS									
	1-2		3-5		6-10		11-15		1-15	
	Mortality Ratios on 1965-70 Select Basic Table									
	Medical %	Non- medical %	Medical %	Non- medical %	Medical %	Non- medical %	Medical %	Non- medical %	Medical %	Non- medical %
0	5	21	4	46	46	67	90	76	12	30
1-9	28	43	10	53	103	78	140	103	76	65
10-19	132	98	119	106	104	99	117	96	115	100
20-24	131	92	87	89	96	87	75	75	91	86
25-29	79	83	82	88	81	79	65	70	75	80
30-34	74	70	74	83	67	78	65	74	69	76
35-39	64	75*	77	81*	72	86*	71	83*	71	81*
40-44	65	67*	72	91*	65	88*	72	93*	69	85*
45-49	74	70*	64	72*	62	72*	69	78*	66	72*
50 and over	66	54*	67	71*	65	51*	72	51*	68	58*
All ages	68	71*	69	86*	66	84*	71	79*	69	80*
	Ratio of Nonmedical to Medical Mortality Ratios									
0	420%		1,150%		146%		84%		250%	
1-9	154		530		76		74		86	
10-19	74		89		95		82		87	
20-24	70		102		91		100		95	
25-29	105		107		98		108		107	
30-34	95		112		116		114		110	
35-39	117*		105*		119*		117*		114*	
40-44	103*		126*		135*		129*		123*	
45-49	95*		113*		116*		113*		109*	
50 and over	82*		106*		78*		71*		85*	
All ages	104%*		125%*		127%*		111%*		116%*	

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

The detailed select experience by sex for the period from 1982 to 1983 policy anniversaries by age group at issue for each year of issue is available, from the Society office Research Department: Table B for medical issues, Table C for nonmedical issues, and Table D for paramedical issues.

Table 9 (Table 11 in prior *Reports*) compares the experience between 1978 and 1983 anniversaries on medical and nonmedical issues, separately for each sex, for policy years 1-2, 3-5, 6-10, 11-15, and 1-15. The nonmedical mortality ratios shown in Table 9 have not been adjusted to reflect the distribution of nonmedical exposures by age which is likely to

TABLE 7  
 COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE  
 STANDARD MEDICALLY EXAMINED ISSUES  
 OBSERVED BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY AGE AT ISSUE—POLICY YEARS 1-15 COMBINED  
 EXPECTED DEATHS ON 1965-70 MALE SELECT BASIC TABLE  
 AND 1965-70 FEMALE SELECT BASIC TABLE  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

AGES AT ISSUE	EXPOSED TO RISK		ACTUAL DEATHS		MORTALITY RATIO		RATIO OF FEMALE TO MALE MORTALITY*
	Male	Female	Male	Female	Male	Female	
0 . . . . .	\$ 1,130,955	\$ 613,868	\$ 192	55	13.9%	8.0%	46.0%
1 . . . . .	806,379	417,369	94	50	20.1	23.5	90.5
2-4 . . . . .	1,337,540	734,254	555	73	92.2	30.5	22.1
5-9 . . . . .	2,320,326	1,292,624	1,216	401	96.4	107.2	59.5
10-14 . . . . .	3,065,320	1,321,739	3,374	1,373	130.9	283.7	100.5
15-19 . . . . .	6,258,539	1,536,764	6,770	536	101.1	73.8	32.5
20-24 . . . . .	30,814,522	3,400,466	26,112	2,240	89.8	113.8	83.9
25-29 . . . . .	88,201,624	7,994,440	70,746	2,925	76.8	48.9	54.0
30-34 . . . . .	150,733,217	14,566,219	157,837	8,201	69.9	51.4	61.9
35-39 . . . . .	160,851,269	16,543,995	267,820	15,582	72.5	57.7	62.2
40-44 . . . . .	136,824,464	15,920,622	352,236	35,004	67.2	94.4	86.6
45-49 . . . . .	102,572,402	14,365,102	383,449	37,520	65.4	80.3	68.0
50-54 . . . . .	69,721,979	11,025,639	335,405	35,123	61.1	67.8	63.7
55-59 . . . . .	36,883,210	6,709,886	265,914	36,043	69.7	105.9	71.2
60-64 . . . . .	15,203,065	3,496,593	150,900	19,189	66.5	68.4	52.9
65-69 . . . . .	4,411,193	1,415,984	72,129	19,567	76.9	126.6	84.3
70 and over . . . . .	877,503	404,117	18,314	6,441	66.7	67.6	79.3
All ages . . . . .	\$812,013,507	\$101,759,680	\$2,113,063	\$220,323	67.8%	79.7%	68.7%

\*Female mortality ratios calculated on 1965-70 Male Select Basic Table.

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 issue ages 0 and 20-49 in policy years 1-15 combined. For females, the ratios exceeded 100 percent for issue ages 0 and 25-49 in policy years 1-15 combined. These results are generally consistent with those in the 1977-82 experience shown in last year's study.

#### EXPERIENCE UNDER STANDARD ISSUES DURING THE SIXTEENTH AND SUBSEQUENT POLICY YEARS

The 1982-83 experience during the sixteenth and subsequent policy years includes exposures of \$112 billion and actual deaths of \$1.35 billion. The 1981-82 experience included exposures of \$107 billion and actual deaths of \$1.27 billion.

TABLE 8  
 COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE  
 STANDARD NONMEDICAL ISSUES  
 OBSERVED BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY AGE AT ISSUE—POLICY YEARS 1 TO 15 COMBINED  
 EXPECTED DEATHS ON 1965-70 MALE SELECT BASIC TABLE  
 AND 1965-70 FEMALE SELECT BASIC TABLE  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

AGES AT ISSUE	EXPOSED TO RISK		ACTUAL DEATHS		MORTALITY RATIO*		RATIO OF FEMALE TO MALE MORTALITY*
	Male	Female	Male	Female	Male	Female	
0 . . . . .	\$ 19,755,480	\$ 14,052,658	\$ 8,248	\$ 4,609	32.1%	25.9%	63.9%
1 . . . . .	7,678,574	5,258,745	2,100	1,253	45.8	42.3	76.2
2-4 . . . . .	12,149,105	8,467,828	3,600	1,449	65.6	44.8	54.0
5-9 . . . . .	16,117,988	11,261,061	7,608	2,319	90.8	65.0	48.3
10-14 . . . . .	20,073,027	11,769,305	17,513	4,313	105.3	89.9	46.6
15-19 . . . . .	63,827,352	28,560,275	69,647	11,745	103.7	78.6	38.0
20-24 . . . . .	163,884,029	59,702,539	132,720	21,240	92.0	61.5	46.8
25-29 . . . . .	161,586,003	61,748,957	129,180	25,008	86.5	57.7	58.6
30-34 . . . . .	81,112,781	39,184,932	88,991	23,663	81.8	59.4	62.8
35-39 . . . . .	30,463,573	17,082,107	52,054	18,687	85.0	72.8	68.2
40-44 . . . . .	9,097,242	6,579,710	21,430	12,825	79.8	94.2	74.3
45-49 . . . . .	3,397,106	1,451,577	7,891	2,816	66.6	93.6	79.0
50 and over . . . . .	2,167,086	681,654	8,198	1,353	57.3	60.0	60.0
All ages . . . . .	\$589,103,328	\$265,801,348	\$549,180	\$131,279	85.2%	62.6%	54.7%

\*Female mortality ratios calculated on 1965-70 Male Select Basic Table.

\*Exposures not adjusted for distribution by age.

Table 10 (Table 6 in prior *Reports*) shows mortality ratios by attained-age groups based on (1) the 1965-70 Ultimate Basic Tables (Male, Female, and Male and Female Combined, respectively, for the male experience, the female experience, and the experience reported without subdivision by sex); (2) the Commissioners 1941 Standard Ordinary Mortality Table; and (3) the Commissioners 1958 Standard Ordinary Mortality Table.

The aggregate mortality ratio for the period from 1982 to 1983 anniversaries on the 1965-70 Ultimate Basic Tables was 73.2 percent. The tabulation on page 28 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

**TABLE 9**  
**COMPARISON BY SEX OF MEDICAL AND NONMEDICAL EXPERIENCE**  
**BETWEEN 1978 AND 1983 ANNIVERSARIES**  
**BY AGE GROUP AT ISSUE AND DURATION**  
**(FIRST FIFTEEN POLICY YEARS)**

AGE GROUP AT ISSUE	POLICY YEARS									
	1-2		3-5		6-10		11-15		1-15	
	Medi- cal %	Non- medi- cal %	Medi- cal %	Non- medi- cal %	Medi- cal %	Non- medi- cal %	Medi- cal %	Non- medi- cal %	Medi- cal %	Non- medi- cal %
Male Experience—Mortality Ratios on 1965-70 Male Select Basic Table										
0 .....	7	22	0	47	46	72	88	81	14	32
1-9 .....	26	49	2	61	132	81	125	103	80	72
10-19 .....	113	104	93	112	111	103	116	97	109	104
20-24 .....	136	107	86	96	98	92	70	75	90	92
25-29 .....	83	101	85	97	82	83	66	70	77	87
30-34 .....	75	82	78	93	68	82	64	75	70	82
35-39 .....	66	84*	80	81*	73	93*	71	82*	72	85*
40-44 .....	60	70*	69	87*	64	80*	71	85*	67	80*
45-49 .....	72	64*	65	72*	61	70*	67	61*	65	67*
50 and over.....	61	53*	65	69*	63	50*	72	60*	66	57*
All ages.....	65	83*	69	93*	66	88*	70	78*	68	85*
Female Experience—Mortality Ratios on 1965-70 Female Select Basic Table										
0 .....	0	18	11	45	46	57	95	67	8	26
1-9 .....	32	35	27	41	12	69	222	102	63	51
10-19 .....	218	78	292	83	47	81	123	84	158	81
20-24 .....	96	52	91	65	74	64	204	75	114	61
25-29 .....	46	42	53	65	61	66	32	69	49	58
30-34 .....	56	47	33	61	46	66	77	74	51	59
35-39 .....	51	55*	45	82*	62	72*	69	85*	58	73*
40-44 .....	140	59*	102	99*	79	100*	86	111*	94	94*
45-49 .....	104	93*	54	74*	70	79*	97	143*	80	94*
50 and over.....	112	49*	80	46*	82	57*	72	70*	84	52*
All ages.....	99	45*	72	67*	75	71*	80	82*	80	62*
Male Experience—Ratio of Nonmedical to Medical Mortality Ratios										
0 .....	314 %		0 %		157 %		92 %		229 %	
1-9 .....	188		3,050		61		82		90	
10-19 .....	92		120		93		84		95	
20-24 .....	79		112		94		107		102	
25-29 .....	122		114		101		106		113	
30-34 .....	109		119		121		117		117	
35-39 .....	127*		101*		127*		115*		118*	
40-44 .....	117*		126*		125*		120*		119*	
45-49 .....	89*		111*		115*		91*		103*	
50 and over.....	87*		106*		79*		83*		86*	
Female Experience—Ratio of Nonmedical to Medical Mortality Ratios										
0 .....	0 %		409 %		124 %		71 %		325 %	
1-9 .....	109		152		575		46		81	
10-19 .....	36		28		172		68		51	
20-24 .....	54		71		86		37		54	
25-29 .....	91		123		108		216		118	
30-34 .....	84		185		143		96		116	
35-39 .....	108*		182*		116*		123*		126*	
40-44 .....	42*		97*		127*		129*		100*	
45-49 .....	89*		137*		113*		147*		117*	
50 and over.....	44*		57*		70*		97*		62*	

\*Exposures not adjusted for distribution by age.

TABLE 10  
 STANDARD ISSUES OF 1967 AND PRIOR\*  
 MALE AND FEMALE LIVES COMBINED  
 (INCLUDING DATA NOT SUBDIVIDED BY SEX)  
 EXPERIENCE BETWEEN 1982 AND 1983 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 TABLE		MORTALITY RATIO	
			Expected Deaths	Mortality Ratio	1941 CSO Table	1958 CSO Table
15-19	\$ 1,447,738	\$ 1,184	\$ 1,148	103.1%	36.1%	50.3%
20-24	2,043,032	2,005	1,934	103.7	37.6	52.7
25-29	2,510,011	2,428	2,375	102.2	30.9	48.4
30-34	3,681,278	4,317	4,263	101.3	29.3	51.4
35-39	8,058,681	9,645	13,296	72.5	22.8	41.4
40-44	11,835,400	21,504	31,666	67.9	25.6	43.1
45-49	13,598,539	38,408	59,919	64.1	28.3	43.9
50-54	15,640,551	80,385	115,129	69.8	35.5	50.9
55-59	16,758,623	136,176	200,001	68.1	38.5	52.0
60-64	14,247,199	188,718	267,589	70.5	42.6	54.6
65-69	9,187,854	189,643	271,098	70.0	44.7	54.5
70-74	6,035,793	200,702	269,142	74.6	48.1	57.3
75-79	3,736,584	199,051	259,724	76.6	51.9	62.7
80-84	1,855,082	150,474	194,843	77.2	53.7	64.3
85-89	698,622	88,335	108,879	81.1	57.7	70.2
90-95	191,091	34,540	40,649	85.0	57.2	69.2
All ages	\$111,526,079	\$1,347,515	\$1,841,655	73.2%	44.4%	56.8%

\*Based on data from twenty-two companies.

their data (in whole or in part) in this manner. The experience between 1978 and 1983 anniversaries is shown in Table 11 (Table 7 in prior *Reports*).

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 the younger attained ages (especially issue ages under 30) where most medical examinations are obtained because of a medical history, the medical experience was higher mortality ratios.

#### *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 1978 to 1983 anniversaries is shown in Table 12 (Table 8 in prior *Reports*) for standard medical and nonmedical issues combined. Twenty companies submitted their experience separately on premium-paying policies, and seventeen companies did



TABLE 11  
 COMPARISON OF MEDICAL AND NONMEDICAL MORTALITY EXPERIENCE\*  
 MALE AND FEMALE LIVES COMBINED  
 (INCLUDING DATA NOT SUBDIVIDED BY SEX)  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 EXPECTED DEATHS ON 1965-70 ULTIMATE BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

ATTAINED AGES	EXPOSED TO RISK		ACTUAL DEATHS		MORTALITY RATIO		RATIO OF NONMEDICAL TO MEDICAL MORTALITY RATIOS
	Medical	Nonmedical	Medical	Nonmedical	Medical	Non-medical	
15-19	\$ 608,965	\$ 3,879,031	\$ 586	\$ 3,001	116.5%	96.2%	82.6%
20-24	1,221,081	4,391,824	1,284	4,679	110.0	109.4	99.5
25-29	1,515,195	4,444,274	1,722	4,512	118.4	104.8	88.5
30-34	2,243,716	8,060,748	2,224	8,635	84.7	89.9	106.1
35-39	5,464,189	17,925,297	7,392	21,659	80.1	73.2	91.4
40-44	12,336,514	21,095,519	20,928	37,224	61.6	66.3	107.6
45-49	21,098,535	17,727,350	59,687	55,651	62.4	72.7	116.5
50-54	31,781,872	12,872,028	163,970	72,161	68.8	79.3	115.3
55-59	36,163,709	7,857,730	297,529	73,647	68.0	82.5	121.3
60-64	30,554,268	3,443,738	403,374	52,226	69.6	84.1	120.8
65-69	18,196,824	978,783	385,247	22,868	70.9	80.7	113.8
70-74	11,545,490	570,721	401,747	21,531	77.5	85.4	110.2
75-79	6,728,866	319,344	361,837	18,157	77.2	81.7	105.8
80-84	3,194,949	134,276	266,698	12,200	79.1	85.9	108.6
85-89	1,116,922	43,632	147,775	6,163	84.7	90.2	106.5
90-95	280,063	9,883	56,519	2,131	94.6	101.7	107.5
All ages	\$184,051,157	\$103,754,180	\$2,578,518	\$416,444	73.6%	79.3%	107.7%

\*Based on data from seventeen companies.

so on fully paid-up policies. This could distort comparisons between premium paying and paid-up.

Although for all attained ages combined the mortality ratio of 74.6 percent on premium-paying policies was only 2.5 percentage points below the mortality ratio for 77.1 percent on fully paid-up policies, 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 13 shows the experience by sex and attained-age groups between 1978 and 1983 anniversaries for policy years 16 and over, for standard

TABLE 12  
 COMPARISON OF MORTALITY EXPERIENCE  
 UNDER PREMIUM-PAYING AND FULLY PAID-UP POLICIES  
 MALE AND FEMALE LIVES COMBINED  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY ATTAINED AGE  
 POLICY YEARS 16 AND OVER COMBINED  
 EXPECTED DEATHS ON 1965-70 ULTIMATE BASIC TABLES  
 (AMOUNTS SHOWN IN \$1,000 UNITS)

ATTAINED AGES	PREMIUM-PAYING POLICIES*			FULLY PAID-UP POLICIES			RATIO OF PREMIUM PAYING TO PAID-UP MORTALITY RATIOS
	Exposed to Risk	Actual Deaths	Mortality Ratio	Exposed to Risk	Actual Deaths	Mortality Ratio	
15-19 ...	\$ 5,624,770	\$ 4,795	105.7%	\$ 110,437	\$ 196	254.5%	41.5%
20-24 ...	7,365,961	7,753	107.8	1,474,645	1,344	100.1	107.7
25-29 ...	7,650,124	7,891	105.9	2,171,816	2,003	101.2	104.6
30-34 ...	13,007,721	13,622	88.1	2,029,573	2,146	98.9	89.1
35-39 ...	30,275,163	37,115	74.0	1,830,519	2,563	94.8	78.1
40-44 ...	45,869,128	79,386	64.3	2,001,526	4,542	91.6	70.2
45-49 ...	54,680,366	162,958	67.2	2,770,766	9,502	83.1	80.9
50-54 ...	64,188,659	341,954	71.5	4,090,856	21,326	77.1	92.7
55-59 ...	65,033,197	549,485	69.9	5,241,160	42,263	73.3	95.4
60-64 ...	52,245,635	700,386	70.9	6,156,281	79,199	72.3	98.1
65-69 ...	30,499,415	652,172	71.8	7,586,946	161,372	75.1	95.6
70-74 ...	19,871,585	698,550	78.2	5,958,862	197,915	76.1	102.8
75-79 ...	11,775,327	642,213	78.2	3,998,891	207,020	75.4	103.7
80-84 ...	5,686,195	478,941	79.6	2,216,873	179,939	77.6	102.6
85-89 ...	1,779,308	235,302	84.6	1,127,534	138,926	79.3	106.7
90-95 ...	406,765	81,762	94.0	370,641	71,240	90.7	103.6
All ages	\$415,959,319	\$4,694,286	74.6%	\$49,137,328	\$1,121,497	77.1%	96.8%

\* Premium paying based on data from twenty companies.

† Fully paid-up based on data from seventeen companies.

medical and nonmedical issues combined. Twenty 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 7 and 8, for the purpose of comparing male and female mortality, the right-hand column of this table is based on expected deaths for females calculated on the male table. For all ages combined, the ratio of female mortality to male mortality was 63.1 percent.

#### RESULTS BASED ON 1975-80 BASIC TABLES

The expected deaths for the companies' 1982-83 contributions were also calculated using the 1975-80 Select Basic Tables. Table 14 compares the

TABLE 13  
 COMPARISON OF MALE AND FEMALE MORTALITY EXPERIENCE\*  
 STANDARD ISSUES OF 1967 AND PRIOR  
 EXPERIENCE BETWEEN 1978 AND 1983 ANNIVERSARIES  
 BY ATTAINED AGE—POLICY YEARS 16 AND OVER COMBINED  
 EXPECTED DEATHS ON 1965-70 MALE ULTIMATE BASIC TABLE  
 AND 1965-70 FEMALE ULTIMATE BASIC TABLE  
 (AMOUNTS SHOWN IN \$1,000 units)

ATTAINED AGES	EXPOSED TO RISK		ACTUAL DEATHS		MORTALITY RATIO		RATIO OF FEMALE TO MALE MORTALITY †
	Male	Female	Male	Female	Male	Female	
15-19	\$ 3,682,288	\$ 1,967,145	\$ 3,888	\$ 835	108.4%	89.8%	40.9%
20-24	5,503,112	2,574,260	6,863	1,365	110.2	95.8	42.4
25-29	6,303,670	2,430,299	7,792	1,178	114.2	85.3	39.2
30-34	11,130,926	2,773,448	12,938	1,661	91.2	81.6	52.1
35-39	25,688,224	4,221,226	33,864	3,548	76.5	70.5	65.9
40-44	38,961,325	4,109,434	69,171	5,819	64.2	73.4	81.6
45-49	46,629,420	4,445,972	142,942	10,893	67.3	82.2	80.4
50-54	55,284,041	5,520,917	296,341	21,100	70.2	85.7	71.5
55-59	55,659,179	6,024,978	475,403	33,862	68.4	85.6	65.9
60-64	44,436,805	5,082,459	610,536	41,115	69.6	80.7	58.9
65-69	27,781,578	3,474,591	605,287	45,514	70.1	88.0	59.9
70-74	17,788,020	2,583,069	644,060	50,266	76.9	74.2	53.6
75-79	10,276,969	1,668,967	583,424	52,544	78.2	65.1	55.2
80-84	4,863,597	884,002	426,430	50,613	80.1	73.1	65.2
85-89	1,750,692	345,914	237,062	33,929	84.0	80.0	72.1
90-95	450,872	92,948	92,496	14,907	94.2	82.0	78.2
All ages	\$356,190,717	\$48,199,628	\$4,248,496	\$369,150	73.9%	77.4%	63.1%

\* Based on data from 16 or 20 companies for the period 1978 to 1983, data contributions from companies by sex varied over time. Either as few as 16 companies provided at least some sex distinct records or 20 companies contributed some sex distinct data.

† Female mortality ratios calculated on 1965-70 Male Ultimate Basic Table.

1965-70 Table mortality ratios by issue age group and sex with the 1975-80 Table ratios. Table 15 shows the comparable ratios by year of issue and also includes the ratios for paramedical issues. The ratios on the new Basic Tables relative to those on the 1965-70 Basic Tables vary substantially as shown in the Tables. Interestingly, the overall mortality ratios for each underwriting category on a combined-sex basis (not shown here) on the 1975-80 Tables are 92.5 percent. However, the 1975-80 Tables were based on combined medical, paramedical, and nonmedical experience. Tables B, C, and D which give detailed experience by age group at issue for each year of issue and for male and female lives separately, are available based on the 1975-80 Tables. They may be requested from the Society office Research Department.

TABLE 14  
MORTALITY RATIOS  
FOR EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
BY AGE AT ISSUE  
POLICY YEARS 1-15 COMBINED  
EXPECTED DEATHS ON BASIC TABLES AS SHOWN

AGE AT ISSUE	MEDICALLY EXAMINED ISSUES		NONMEDICAL ISSUES	
	1965-70 Basic Tables	1975-80 Basic Tables	1965-70 Basic Tables	1975-80 Basic Tables
Male Lives				
0-9	38.1%	46.0%	46.0%	84.7%
10-14	211.5	178.2	95.6	90.8
15-19	99.9	94.1	98.4	93.4
20-24	76.0	86.6	90.4	98.9
25-29	87.3	103.8	81.6	89.3
30-34	69.8	89.4	73.5	91.9
35-39	71.8	91.6	81.5	104.4
40-44	63.1	88.0	84.4	120.1
45-49	68.8	95.1	78.2	105.1
50-54	61.3	90.8	56.4*	80.5*
55-59	63.8	84.9		
60-64	62.2	92.9		
65-69	63.1	80.9		
70 and over	77.1	106.0		
All ages	66.3%	90.7%	80.4%	95.1%
Female Lives				
0-9	30.7%	40.8%	31.1%	75.5%
10-14	40.0	27.6	80.5	85.6
15-19	35.7	28.3	76.4	92.9
20-24	71.0	83.9	54.1	76.4
25-29	75.0	104.3	55.0	81.7
30-34	50.3	70.6	53.6	80.8
35-39	59.9	81.5	61.3	86.2
40-44	78.0	91.2	86.2	100.5
45-49	96.6	110.2	72.8	82.5
50-54	67.8	91.6	66.3*	87.8*
55-59	171.5	196.3		
60-64	78.2	104.0		
65-69	61.1	88.5		
70 and over	95.9	176.9		
All ages	86.9%	110.9%	56.9%	83.5%

\* Ages 50 and over.

TABLE 15  
MORTALITY RATIOS  
FOR EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
BY YEAR OF ISSUE  
ALL AGES COMBINED  
EXPECTED DEATHS ON BASIC TABLES AS SHOWN

YEAR OF ISSUE	MEDICALLY EXAMINED ISSUES		NONMEDICAL ISSUES		PARAMEDICAL ISSUES	
	1965-70	1975-80	1965-70	1975-80	1965-70	1975-80
	Basic Tables	Basic Tables	Basic Tables	Basic Tables	Basic Tables	Basic Tables
Males Lives						
1968	63.2%	84.5%	73.0%	96.0%	.....	.....
1969	65.9	88.0	71.3	92.1	.....	.....
1970	66.0	87.9	76.0	97.1	79.9%	100.8%
1971	60.9	81.4	79.6	99.8	57.4	74.6
1972	66.4	89.7	86.1	104.4	53.1	71.1
1973	66.9	92.4	77.9	92.4	64.5	87.9
1974	62.1	86.1	88.3	104.0	71.2	97.1
1975	74.8	104.1	88.1	102.5	63.8	87.1
1976	65.5	91.1	87.9	98.9	64.6	86.6
1977	51.7	70.6	93.6	104.0	70.6	92.4
1978	68.7	91.2	88.9	99.1	79.9	101.8
1979	69.1	95.6	83.1	93.4	74.3	97.1
1980	79.5	110.7	84.6	95.5	75.4	98.3
1981	70.0	99.0	77.2	87.8	68.5	91.6
1982	60.2	82.7	73.8	89.7	66.3	87.1
All years of issue	66.3%	90.7%	80.4%	95.1%	70.5%	92.9%
Female Lives						
1968	91.2%	105.7%	82.6%	94.8%	.....	.....
1969	95.7	109.7	85.8	97.1	.....	.....
1970	78.4	92.8	87.9	101.8	76.9%	71.4%
1971	92.1	104.5	74.4	85.8	70.4	61.7
1972	92.1	104.9	63.4	72.7	129.5	126.7
1973	79.3	93.0	66.8	81.2	68.5	74.2
1974	93.1	112.3	75.7	94.7	83.9	95.3
1975	78.4	94.8	75.2	95.8	68.1	80.4
1976	62.6	78.9	64.4	83.2	69.3	84.9
1977	71.6	92.7	64.0	83.7	81.3	102.1
1978	83.5	111.2	58.9	78.4	61.8	80.3
1979	71.5	100.6	70.5	99.9	70.5	98.5
1980	76.4	111.8	59.0	89.3	62.0	91.2
1981	172.7	245.9	45.3	74.7	67.9	98.6
1982	51.8	73.6	38.6	72.7	52.2	75.6
All years of issue	86.9%	110.9%	56.9%	83.5%	66.2%	89.6%

TABLE 16  
MORTALITY RATIOS  
FOR EXPERIENCE BETWEEN 1982 AND 1983 ANNIVERSARIES  
BY ATTAINED AGE  
POLICY YEARS 16 AND OVER COMBINED  
EXPECTED DEATHS ON BASIC TABLES AS SHOWN

ATTAINED AGE	1965-70 BASIC TABLE	1975-80 BASIC TABLE
Male Lives		
15-19	107.9%	92.3%
20-24	103.3	83.5
25-29	107.2	93.2
30-34	103.1	116.1
35-39	73.2	95.4
40-44	67.1	95.5
45-49	62.3	85.6
50-54	68.9	94.9
55-59	66.1	92.6
60-64	69.6	94.5
65-69	67.9	89.6
70-74	73.3	91.6
75-79	77.4	95.1
80-84	78.8	93.8
85-89	83.3	96.8
90-95	86.5	91.9
All ages	72.1%	93.0%
Female Lives		
15-19	85.7%	87.7%
20-24	91.2	93.8
25-29	79.8	83.8
30-34	85.2	97.0
35-39	67.6	83.6
40-44	70.5	83.3
45-49	93.6	108.8
50-54	80.9	94.9
55-59	92.5	105.1
60-64	80.0	92.4
65-69	88.5	101.8
70-74	79.0	103.0
75-79	61.7	86.7
80-84	65.8	84.9
85-89	81.1	99.8
90-95	80.3	102.5
All ages	76.9%	95.5%

The Table on page 29 shows the variations in aggregate mortality ratios by underwriting category among the contributing companies. There is a generally wider spread for ratios on the new table than on the 1965-70 Basic Tables.

Table 16 compares the mortality ratios for the ultimate experience with those based on the new 1975-80 Basic Tables. The ratios for male lives on the 1975-80 Table are lower through attained age 29, but sharply higher overall. The ratios for female lives are higher in all age groups. The other analyses of ultimate experience are not shown because they include experience from the 1978 to 1983 anniversaries and only the 1982-83 mortality ratios have been calculated using the 1975-80 Table.

The variation in aggregate mortality ratios for all contributing companies is shown on page 29. The ratios based on the 1975-80 Basic Tables vary more than the ratios on the 1965-70 Basic Tables.

The Appendix Table A names the contributing companies and details the proportion of total 1982-83 exposures contributed by each. Tables B, C, and D are not included in this report as in the case with the 1981-82 study. However, copies of Tables B, C, and D in a computer printout format can be obtained from the Society office Research Department.

APPENDIX

TABLE A

PROPORTION OF TOTAL EXPOSURES BETWEEN 1982 AND 1983 ANNIVERSARIES  
CONTRIBUTED BY EACH COMPANY

COMPANY	FIRST FIFTEEN POLICY YEARS*		SIX- MONTH AND SUBSE- QUENT POLICY YEARS	FIRST FIFTEEN POLICY YEARS BY SEX				SIXTEENTH AND SUBSEQUENT POLICY YEARS BY SEX	
	Medi- cal	Non- medical		Medical		Nonmedical		Male	Female
				Male	Female	Male	Female		
Northwestern Mutual	12.4%	5.9%	7.3%	11.1%	1.3%	3.7%	2.2%	6.5%	0.8%
New York Life	11.5	14.2	11.9	9.7	1.8	9.3	4.9	10.0	1.7
Occidental Equitable	9.0	1.8	0.9	8.0	1.0	1.2	0.6	0.6	0.1
New York Massachusetts	7.6	8.8	7.6	6.7	0.9	6.1	2.7	6.8	0.8
Mutual	6.4	3.3	4.7	5.8	0.6	2.4	0.9	4.2	0.4
Metropolitan	6.3	11.2	12.7	5.6	0.7	7.1	4.2	4.4	0.5
Prudential	6.3	22.7	20.7	5.4	0.9	14.6	8.1	17.8	3.0
State Farm Life	5.3	10.5	1.9	4.7	0.6	7.4	3.1	1.7	0.2
Connecticut Mutual	4.9	2.8	6.1	4.4	0.5	2.0	0.8	5.6	0.5
Phoenix Mutual	4.0	0.8	1.2	3.6	0.4	0.5	0.3	1.1	0.1
Aetna Connecticut	3.5	1.0	1.6	3.2	0.3	0.7	0.3	1.4	0.2
General	3.2	0.3	1.1	2.8	0.5	0.2	0.1	1.0	0.1
Mutual Benefit	3.0	0.7	2.7	2.7	0.3	0.5	0.2	2.3	0.2
Mutual of New York	2.9	3.3	3.4	2.6	0.3	2.4	0.9	2.9	0.4
John Hancock	2.9	3.8	5.5	2.5	0.4	2.5	1.3	4.7	0.8
Travelers	2.2	1.2	2.0	1.9	0.2	0.8	0.4	1.8	0.2
Penn Mutual	2.2	1.4	2.1	2.0	0.3	1.0	0.4	0.0	0.0
Franklin Life	1.7	3.2	1.9	1.5	0.2	2.1	1.1	1.5	0.4
Continental Assurance	1.7	0.7	1.2	1.5	0.1	0.5	0.2	1.1	0.1
Lincoln National	1.4	0.9	1.2	1.3	0.2	0.6	0.3	1.0	0.2
Provident Mutual	1.0	0.7	1.4	0.9	0.1	0.6	0.2	0.0	0.0
Sun Life, Canada	0.4	0.7	0.9	0.4	0.1	0.4	0.2	0.8	0.1
Total	99.8%	99.9%	100.0%	88.3%	11.7%	66.6%	33.4%	77.2%	10.8%

\*Male and Female combined (including data not subdivided by sex).