

TRANSACTIONS OF SOCIETY OF ACTUARIES 1970 REPORTS

IV. MORTALITY ON POLICIES FOR LARGE AMOUNTS

ABSTRACT

This is one of a series of quinquennial reports on intercompany mortality experience under medically examined Standard Ordinary life insurance policies for large amounts. The data were contributed by eighteen large life insurance companies and are presented in the form of actual and expected claims together with the number of lives terminated by death and the ratios of actual to expected. Expected claims are based on the 1958-63 Standard Ordinary intercompany experience on policies for all amounts on a twenty-five-year select basis.

This study covers the experience between policy anniversaries in 1963 and 1968 in the first twenty-five policy years of the issues of 1939-67. In addition to the usual categories of issue age and policy year, the data were categorized by plan of insurance, sex, the presence or absence of a supplemental term element, classification amount group (defined as the total amount of insurance likely to be in force on the life in all companies, including the current application), purpose of insurance, and insured's annual income. An analysis of the deaths by cause is also included.

Based on the same table of expected deaths, the aggregate mortality ratio declined from 94 per cent in the 1958-63 period to 88 per cent between 1963 and 1968 anniversaries. It has been estimated that the mortality on standard medically examined lives individually underwritten improved about 4 per cent between the two periods. The balance of the decrease experienced can be regarded as improvement in large-amount mortality relative to all-amount mortality. This decrease was remarkably uniform over all the issue age and policy-year groups. The mortality ratios decreased with advancing issue age and were quite uniform by policy year. The mortality ratio on term plans was about 9 percentage points higher than that for permanent plans. The mortality ratios generally decreased with advancing classification amount group.

In the current period, female mortality was about 58 per cent of male mortality. Contrary to previous results, male permanent plans having a supplemental term element showed better mortality than did the corresponding plans without a supplemental term element. Actual claims both for suicide and for accidents and homicide were definitely in excess of expected levels.

The volume of data categorized by purpose of insurance and annual income of the insured was far more significant than in previous study periods. The results for both business and key-man insurance were very favorable, while personal insurance mortality was very close to the aggregate average. The mortality ratios for the "Not Accurately Determined" income category were quite high.

INTRODUCTION

THIS report presents the findings of the latest in a series of inter-company studies of the mortality on policies for large amounts. The current study includes the experience on Standard Ordinary issues of 1939 through 1967 from policy anniversaries in 1963 to policy anniversaries in 1968. The previous report (*TSA, 1964 Reports*, p. 50) covered the experience from 1958 to 1963 anniversaries on the issues of 1934 through 1962.

The experience covered in this report is based on a total exposure of \$145,540,706,000, an increase of more than 66 per cent over the previous study. Actual claims were \$594,677,000 on 7,822 lives. The average-size claim per life was \$76,026, an increase of over \$3,000 from the previous period.

The study is by amounts of insurance on a select policy-year basis. The basic requirement for inclusion of a policy is that it be the result of one or more applications to a contributing company for a total of at least \$50,000 on one life during a ninety-day period and that the "classification amount," as defined in the instructions, shall be at least \$50,000. The detailed instructions relating to the study were published in the Appendix to the *1949 Reports (TSA, I, 602)*. They were modified in 1950 to request inclusion of group insurance in the "classification amount" where this could conveniently be done. Instructions were revised again in 1959 to include, for the issues of 1959 and subsequent years, information as to the purpose of insurance and the estimated current annual income of the insured at the time of issue. The Committee felt that there would be widespread interest in analyses of the experience by purpose of insurance and according to income even for a limited volume of data.

This is the third study in which companies were asked to submit sex-specific data, and the second study in which they were asked to contribute their experience for the issue age group 0-9 and to subdivide their experience for issue ages 65 and over into the groups 65-69 and 70 and over.

A subdivision of the experience according to the presence or absence of a decreasing term element was introduced where possible for the 1953-58 study. Although this subdivision was originally requested for both permanent and term plans, it has been restricted to permanent plans in subsequent study periods because the volume of experience on term plans with a decreasing term element was quite small in the 1953-58 study. Also, the supplemental term classification has been broadened to include policies with a level as well as a decreasing term element for the last two studies.

This study is limited to the experience in the first twenty-five policy years, since the Committee felt that experience on large-amount policies issued more than twenty-five years ago would have little significance today. The earliest year of issue included in this study is 1939, whereas previous studies of mortality on policies for large amounts have included the issues of 1934 and subsequent years.

The current study uses the same rates of mortality to calculate expected deaths as were used for the previous study. These were derived from the Committee's annual reports on the mortality under Standard Ordinary medically examined issues for all amounts during the period from 1958 to 1963 anniversaries, modified to include nonmedical experience for policy years 16 and over. These mortality rates, together with a brief description of the method used to derive them, may be found on pages 78-79 of *TSA, 1964 Reports*. The decision to use the existing table was necessarily made before the appropriate mortality rates for standard medical issues for the 1963-68 period were available. Data for that period, which recently became available, indicate that mortality ratios for Standard Ordinary medically examined issues generally declined about 4 per cent between the two periods. This improvement in experience on policies for all amounts should be kept in mind when interpreting the results presented herein.

The names of the eighteen contributing companies and their proportionate contributions to the exposures in this study are given in Table A of the Appendix. Over 96 per cent of the exposure in the present investigation was submitted by seventeen companies that also contribute to the annual studies of mortality on Standard Ordinary medically examined issues, but there are some marked differences in the relative proportions of the experience contributed by these companies to the two investigations. Since the general level of mortality varies between companies, the basis of expected deaths differs slightly from what it would have been if each company's experience on Standard Ordinary medically examined issues for all amounts had been weighted in proportion to its contribution to the study of policies for large amounts. In connection with the previous study, it was estimated that, if this had been done, the mortality ratio on policies for large amounts would have been about $2\frac{1}{2}$ percentage points higher in the aggregate.

Fifteen of the eighteen contributing companies submitted their entire experience separately for males and females, and the other three submitted a large portion of their experience in this manner. The data subdivided by sex represented over 98 per cent of the total exposure both on permanent plans and on term plans. Seventeen companies were able to subdivide their permanent-plan experience between policies with and

policies without a supplemental term element, the subdivided data comprising over 94 per cent of the total exposure on permanent plans. Eleven companies were able to provide complete data by purpose of insurance and current annual income for issues of 1959 and later, while three additional companies were able to furnish partial data. The total exposure contributed to this portion of the study was \$76,270,102,000. It is estimated that this represents about three-fourths of the total exposure arising from policies issued in 1959 and subsequent years.

EXPERIENCE BY AGE AT ISSUE, POLICY YEAR, CLASSIFICATION AMOUNT,
AND PLAN OF INSURANCE

The results of the experience are summarized by age at issue and plan in Table 1, by policy year and plan in Table 2, and by classification amount and plan in Table 3. The number of lives terminated by death is shown in parentheses after the amount of actual claims; duplications have been eliminated in arriving at the total number of deaths shown in these tables.

Part A of each of these tables presents all the data, without subdivision by sex or term element. Parts B and C of these tables show the experience separately for males and females without regard to the inclusion of a supplemental term element. Since not all companies were able to subdivide their entire experience by sex, the totals of the claims shown in Parts B and C are less than the corresponding figures in Part A. In Parts D and E of these tables, the experience on male lives is presented separately for permanent plans without and with a supplemental term element, respectively. The totals of these two parts do not agree with Part B because, here also, not all the permanent-plan experience was subdivided between plans without and plans with a supplemental term element. Because of the very small volume of business on female lives with a supplemental term element, no analysis was made of the experience on female lives according to the inclusion of such benefit.

The experience includes 20 deaths due to the operations of war. These claims, which totaled \$1,051,000, were only 0.2 per cent of all claims by amount and increased the aggregate mortality ratio by 0.2 per cent. An analysis of the incidence of these war claims is given below, in the section on "Experience by Cause of Death."

The main features of the experience are summarized below.

Aggregate Experience

An aggregate mortality ratio of 88 per cent was experienced. At the 95 per cent confidence level, this ratio is significantly lower than the experience on Standard Ordinary medically examined issues for all

TABLE 1
 LARGE-AMOUNT ISSUES OF 1939-67
 EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
 BY AGE AT ISSUE AND PLAN OF INSURANCE
 Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
 (Amounts Shown in \$1,000 Units)

ISSUE AGE	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
A. Male and Female Lives, with and without Term Element									
00-09	\$ 583 (11)	\$ 417	<i>140%</i>	\$ 0 (0)	\$ 1	*	\$ 583 (11)	\$ 418	<i>139%</i>
10-19	1,827 (27)	1,694	<i>108</i>	100 (2)	44	*	1,927 (29)	1,738	<i>111</i>
20-29	15,703 (260)	13,727	<i>114</i>	2,960 (57)	2,625	<i>113%</i>	18,663 (310)	16,352	<i>114</i>
30-39	107,476 (1,660)	108,044	<i>99</i>	22,909 (430)	24,030	95	130,385 (1,994)	132,074	<i>99</i>
40-49	192,202 (2,748)	220,853	<i>87</i>	45,090 (730)	45,323	99	237,292 (3,327)	266,176	<i>89</i>
50-59	141,096 (1,917)	182,299	<i>77</i>	23,252 (350)	25,388	92	164,348 (2,192)	207,687	<i>79</i>
60-69	37,524 (459)	45,149	<i>83</i>	865 (17)	1,747	50	38,389 (472)	46,896	<i>82</i>
70 and over	3,090 (33)	2,173	<i>142</i>	0 (0)	0	*	3,090 (33)	2,173	<i>142</i>
All	\$499,501 (6,671)	\$574,356	<i>87%</i>	\$95,176 (1,554)	\$99,158	<i>96%</i>	\$594,677 (7,822)	\$673,514	<i>88%</i>

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 1—Continued

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ISSUE AGE	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
B. Male Lives, with and without Term Element									
00-09.....	\$ 520 (10)	\$ 313	166%	\$ 0 (0)	\$ 1	*	\$ 520 (10)	\$ 314	166%
10-19.....	1,264 (21)	1,298	97	100 (2)	44	*	1,364 (23)	1,342	102
20-29.....	14,834 (248)	12,561	118	2,910 (56)	2,507	116%	17,744 (297)	15,068	118
30-39.....	100,409 (1,563)	99,846	101	21,720 (409)	22,604	96	122,129 (1,880)	122,450	100
40-49.....	175,715 (2,566)	198,956	88	43,004 (694)	42,328	102	218,719 (3,117)	241,284	91
50-59.....	129,654 (1,756)	158,342	82	22,322 (332)	23,451	95	151,976 (2,017)	181,793	84
60-69.....	32,633 (405)	37,428	87	865 (17)	1,670	52	33,498 (418)	39,098	86
70 and over.....	1,980 (27)	1,430	138	0 (0)	0	*	1,980 (27)	1,430	138
All.....	\$457,009 (6,190)	\$510,174	90%	\$90,921 (1,481)	\$92,605	98%	\$547,930 (7,290)	\$602,779	91%

TABLE 1—Continued

ISSUE AGE	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
C. Female Lives, with and without Term Element									
00-09.....	\$ 63 (1)	\$ 97	*	\$ 0 (0)	\$ 0	*	\$ 63 (1)	\$ 97	*
10-19.....	563 (6)	360	*	0 (0)	0	*	563 (6)	360	*
20-29.....	693 (9)	847	*	0 (0)	48	*	693 (9)	895	*
30-39.....	3,383 (52)	4,965	68%	300 (5)	507	*	3,683 (56)	5,472	67%
40-49.....	9,031 (120)	14,701	61	525 (9)	1,366	*	9,556 (126)	16,067	59
50-59.....	6,397 (110)	18,579	34	180 (5)	958	*	6,577 (113)	19,537	34
60-69.....	4,166 (45)	6,884	61	0 (0)	68	*	4,166 (45)	6,952	60
70 and over.....	1,110 (7)	743	*	0 (0)	0	*	1,110 (7)	743	*
All.....	\$ 25,406 (340)	\$ 47,176	54%	\$ 1,005 (19)	\$ 2,947	34%	\$ 26,411 (353)	\$ 50,123	53%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 1—Continued

ISSUE AGE	PERMANENT PLANS					
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
	D. Male Lives without Term Element			E. Male Lives with Term Element		
00-09.....	\$ 520 (10)	\$ 304	171%	\$ 0 (0)	\$ 1	*
10-19.....	1,214 (20)	1,175	103	0 (0)	18	*
20-29.....	10,480 (163)	8,414	125	3,102 (64)	3,053	102%
30-39.....	71,787 (1,042)	69,039	104	19,090 (390)	20,470	93
40-49.....	139,386 (1,961)	156,255	89	14,701 (309)	19,425	76
50-59.....	110,051 (1,457)	133,146	83	3,578 (77)	5,476	65
60-69.....	28,346 (360)	33,262	85	63 (2)	332	*
70 and over.....	1,872 (25)	1,331	141	40 (1)	24	*
All.....	\$363,656 (4,751)	\$402,926	90%	\$40,574 (831)	\$48,799	83%

TABLE 2

LARGE-AMOUNT ISSUES OF 1939-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY POLICY YEAR AND PLAN OF INSURANCE
Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
(Amounts Shown in \$1,000 Units)

POLICY YEARS	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
A. Male and Female Lives, with and without Term Element									
1-2	\$ 45,806 (577)	\$ 50,090	91%	\$14,293 (237)	\$15,875	90%	\$ 60,099 (797)	\$ 65,965	91%
3-5	86,819 (1,156)	99,662	87	19,610 (286)	19,964	98	106,429 (1,423)	119,626	89
6-10	144,368 (2,020)	166,336	87	22,839 (396)	24,733	92	167,207 (2,336)	191,069	88
11-15	106,736 (1,697)	123,273	87	20,665 (336)	18,979	109	127,401 (1,962)	142,252	90
16-20	72,039 (1,177)	85,236	85	12,638 (247)	13,751	92	84,677 (1,368)	98,987	86
21-25	43,733 (758)	49,759	88	5,131 (119)	5,856	88	48,864 (852)	55,615	88
All	\$499,501 (6,671)	\$574,356	87%	\$95,176 (1,554)	\$99,158	96%	\$594,677 (7,822)	\$673,514	88%
B. Male Lives, with and without Term Element									
1-2	\$ 43,051 (542)	\$ 45,743	94%	\$14,173 (234)	\$15,256	93%	\$ 57,224 (760)	\$ 60,999	94%
3-5	81,446 (1,084)	90,363	90	19,460 (283)	19,224	101	100,906 (1,348)	109,587	92
6-10	133,636 (1,887)	149,214	90	21,330 (371)	23,314	91	154,966 (2,181)	172,528	90
11-15	95,589 (1,559)	106,533	90	19,063 (310)	16,978	112	114,652 (1,801)	123,511	93
16-20	63,682 (1,069)	74,854	85	11,954 (232)	12,477	96	75,636 (1,250)	87,331	87
21-25	39,605 (695)	43,467	91	4,941 (114)	5,356	92	44,546 (785)	48,823	91
All	\$457,009 (6,190)	\$510,174	90%	\$90,921 (1,481)	\$92,605	98%	\$547,930 (7,290)	\$602,779	91%

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

TABLE 2--Continued

POLICY YEARS	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
C. Female Lives, with and without Term Element									
1-2.....	\$ 2,755 (35)	\$ 4,347	<i>63%</i>	\$ 120 (3)	\$ 619	*	\$ 2,875 (37)	\$ 4,966	<i>58%</i>
3-5.....	5,373 (73)	9,298	58	150 (3)	740	*	5,523 (76)	10,038	55
6-10.....	7,142 (99)	13,900	51	375 (6)	719	*	7,517 (103)	14,619	51
11-15.....	5,009 (69)	9,871	51	90 (2)	453	*	5,099 (71)	10,324	49
16-20.....	3,283 (46)	5,879	<i>56</i>	220 (4)	302	*	3,503 (48)	6,181	57
21-25.....	1,844 (35)	3,881	<i>48</i>	50 (1)	114	*	1,894 (36)	3,995	<i>47</i>
All.....	\$ 25,406 (340)	\$ 47,176	<i>54%</i>	\$ 1,005 (19)	\$ 2,947	<i>34%</i>	\$ 26,411 (353)	\$ 50,123	<i>53%</i>

* Fewer than 10 lives terminated by death.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 2—Continued

POLICY YEARS	PERMANENT PLANS					
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
	D. Male Lives without Term Element			E. Male Lives with Term Element		
1-2	\$ 34,978 (408)	\$ 35,335	99%	\$ 5,539 (103)	\$ 8,190	68%
3-5	66,497 (843)	72,752	91	10,051 (192)	11,588	87
6-10	104,593 (1,440)	118,806	88	14,624 (288)	15,486	94
11-15	73,304 (1,153)	80,908	91	6,650 (157)	8,563	78
16-20	49,809 (774)	57,504	87	2,478 (78)	3,513	71
21-25	34,475 (588)	37,621	92	1,232 (34)	1,459	84
All	\$363,656 (4,751)	\$402,926	90%	\$40,574 (831)	\$48,799	83%

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 3

LARGE-AMOUNT ISSUES OF 1939-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY CLASSIFICATION AMOUNT AND PLAN OF INSURANCE
Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
(Amounts Shown in \$1,000 Units)

CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
A. Male and Female Lives, with and without Term Element									
\$ 50,000-\$ 99,999.....	\$120,662 (2,958)	\$133,609	90%	\$27,124 (689)	\$26,126	104%	\$147,786 (3,560)	\$159,735	93%
100,000- 199,999.....	186,632 (3,050)	218,481	85	35,477 (652)	38,626	92	222,109 (3,589)	257,107	86
200,000- 499,999.....	132,031 (1,209)	153,388	86	21,925 (241)	23,903	92	153,956 (1,376)	177,291	87
500,000- 999,999.....	37,412 (183)	44,209	85	4,847 (32)	6,732	72	42,259 (205)	50,941	83
1,000,000 and over.....	22,764 (57)	24,669	92	5,803 (13)	3,771	154	28,567 (65)	28,440	100
All.....	\$499,501 (6,671)	\$574,356	87%	\$95,176 (1,554)	\$99,158	96%	\$594,677 (7,822)	\$673,514	88%
B. Male Lives, with and without Term Element									
\$ 50,000-\$ 99,999.....	\$107,629 (2,677)	\$113,628	95%	\$25,819 (658)	\$24,063	107%	\$133,448 (3,253)	\$137,691	97%
100,000- 199,999.....	172,685 (2,861)	196,220	88	33,302 (617)	35,929	93	205,987 (3,369)	232,149	89
200,000- 499,999.....	121,969 (1,140)	138,871	88	21,275 (232)	22,637	94	143,244 (1,303)	161,508	89
500,000- 999,999.....	33,698 (166)	39,657	85	4,772 (31)	6,374	75	38,470 (188)	46,031	84
1,000,000 and over.....	21,028 (55)	21,798	96	5,753 (12)	3,602	160	26,781 (63)	25,400	105
All.....	\$457,009 (6,190)	\$510,174	90%	\$90,921 (1,481)	\$92,605	98%	\$547,930 (7,290)	\$602,779	91%

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 3—Continued

CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
C. Female Lives, with and without Term Element									
\$ 50,000—\$ 99,999	\$ 9,763 (213)	\$ 16,478	59%	\$ 515 (13)	\$ 1,190	43%	\$ 10,278 (222)	\$ 17,668	58%
100,000— 199,999	8,205 (110)	16,144	51	415 (5)	1,037	*	8,620 (115)	17,181	50
200,000— 499,999	4,671 (34)	9,429	50	0 (0)	447	*	4,671 (34)	9,876	47
500,000— 999,999	1,781 (9)	2,854	*	75 (1)	142	*	1,856 (9)	2,996	*
1,000,000 and over	986 (2)	2,271	*	0 (0)	131	*	986 (2)	2,402	*
All	\$ 25,406 (340)	\$ 47,176	54%	\$ 1,005 (19)	\$ 2,947	34%	\$ 26,411 (353)	\$ 50,123	53%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE 3—Continued

CLASSIFICATION AMOUNT	PERMANENT PLANS					
	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
	D. Male Lives without Term Element			E. Male Lives with Term Element		
\$ 50,000-\$ 99,999.....	\$ 78,255 (1,901)	\$ 81,286	96%	\$16,140 (443)	\$18,481	87%
100,000- 199,999.....	135,521 (2,211)	151,585	89	16,165 (324)	20,707	78
200,000- 499,999.....	101,858 (966)	116,760	87	7,020 (72)	7,397	95
500,000- 999,999.....	29,960 (148)	34,537	87	968 (7)	1,536	*
1,000,000 and over.....	18,062 (47)	18,758	96	281 (2)	678	*
All.....	\$363,656 (4,751)	\$402,926	90%	\$40,574 (831)	\$48,799	83%

amounts of insurance between 1958 and 1963 anniversaries—the basis for the expected death rates. The observed permanent-plan mortality ratio of 87 per cent was also significantly less than that for the 1958–63 experience on policies for all amounts. The observed mortality ratio of 96 per cent for term plans, however, was not significantly lower than that experience.

Experience by Age

With minor exceptions, the mortality ratios decreased with advancing issue age on both permanent and term plans. The mortality ratios exceeded 100 per cent at issue ages 0–29 and 70 and over on permanent plans and at issue ages 0–29 on term plans. The high ratios at issue ages 70 and over are based on claims involving only 33 lives; the otherwise favorable experience at the older issue ages probably reflects more careful medical selection of risks for large amounts at higher ages.

Experience by Policy Year

The mortality ratios by policy-year group were remarkably uniform. For permanent plans the mortality ratio was slightly higher in the first two policy years than in later years, while the term plans exhibited the highest mortality ratio in the middle durations.

Experience by Classification Amount

The mortality ratios for the smallest classification amount (\$50,000–\$99,999) were generally higher than those for the larger classification amounts for both permanent and term plans. The only exception was the classification amount of \$1 million and over, which experienced the highest mortality ratio for each type of plan. The pattern for permanent plans was quite uniform, with all mortality ratios well below 100 per cent, while that for term plans showed a decreasing trend with increasing class.

In the classification amount group \$1 million and over, the combined mortality ratio was 100 per cent, based on 65 deaths for \$28.6 million. These claims included 22 heart and circulatory deaths and 21 deaths from malignant neoplasms for over \$9 million each. There were 10 accidental deaths for \$4.5 million and 5 suicide deaths for \$3.6 million.

Experience by Sex

Since more than 92 per cent of the total exposure arose from policies issued on male lives, the male experience closely parallels that for both

sexes combined. Most of the male mortality ratios were slightly higher than those for the combined experience. The aggregate male mortality ratio was 91 per cent, and the age-specific male mortality ratio was 98 per cent. The difference in these ratios results from heavy exposure at relatively young ages with higher mortality ratios (principally 30-39).

The female experience is based on an exposure of less than \$9 billion and claims of \$26.4 million on 353 lives. In interpreting the mortality ratios for female lives, it should be kept in mind that the expected deaths are based on a mortality table for both sexes combined but very heavily weighted with male lives. The aggregate female mortality ratio was 53 per cent, or 58 per cent of the corresponding male mortality ratio. The age-specific female mortality ratio was 64 per cent, or 65 per cent of the corresponding male ratio. The observed female mortality ratio on term plans was only 34 per cent, as compared to 54 per cent on permanent plans, but there were only 19 lives terminated by death in the term experience. A decreasing pattern of mortality ratios was experienced with advancing issue age over the main range of issue age groups. The female mortality ratio declined slightly with advancing policy-year group and also with increasing classification amount.

The permanent-plan female mortality ratios for policy years 1-5 were somewhat higher than other female mortality ratios. One hundred and seven deaths for \$8.1 million were experienced, of which 41 deaths for \$2.9 million were due to malignant neoplasms. The other leading causes of death were heart and circulatory conditions (19) and accidents and homicide (18), each of which accounted for about \$1.3 million in claims.

Experience on Male Lives by Term-Element Classification

The mortality ratio for male lives on permanent plans with a supplemental term element was only 83 per cent, as compared to a ratio of 90 per cent for corresponding plans without a term element and a ratio of 98 per cent for male term plans alone. The 7-percentage-point advantage for plans *with* a term element is contrasted to an 8-percentage-point advantage of male permanent plans over male term plans. Thus there is no evidence of any mortality penalty for the attachment of supplemental term to permanent policies on male lives.

Tables B, C, and D of the Appendix present details of the experience covered in the present study by (1) age at issue and policy year, (2) age at issue and classification amount, and (3) policy year and classification amount, respectively, each subdivided by plan of insurance but without regard to sex or the inclusion of a supplemental term element.

COMPARISON WITH PREVIOUS EXPERIENCE

The large-amount experience between 1963 and 1968 anniversaries showed a definite improvement over the corresponding experience of the preceding period. The aggregate mortality ratio of 88 per cent was significantly lower than the 94 per cent mortality ratio experienced in the previous period. The mortality ratios for both permanent plans (87 per cent) and term plans (96 per cent) were also significantly lower than the observed mortality ratios of the previous period (93 and 104 per cent, respectively). The aggregate male (91 per cent) and female (53 per cent) mortality ratios were also significantly less than their counterparts of the previous period (97 and 60 per cent, respectively). Since the same basis of expected deaths was used for the two study periods, it can be concluded that there has been an absolute improvement in large-amount mortality. Since the Standard Ordinary medically examined mortality for all amounts generally improved about 4 per cent between the two periods, it might also be concluded that, in general, there has been a slight improvement in large-amount mortality experience relative thereto.

A comparison of the experience between 1963 and 1968 anniversaries with earlier studies is given in Table 4. Each of the ratios shown is relative to the mortality experience on Standard Ordinary medically examined issues for all amounts in the corresponding period, with the exception that the ratios for the current period are based on experience between 1958 and 1963 anniversaries. The main features of the comparison may be summarized as follows:

1. The increasing pattern of aggregate mortality ratios on permanent plans has been reversed. The current ratio of 87 per cent is the lowest value since 1941-48.
2. The aggregate mortality ratios for term plans and for all plans are lower than for any period since 1948-53.
3. By issue age group, the largest decreases occurred at the younger ages, particularly ages 20-29. In this age range the mortality ratio decreased 16 percentage points for permanent plans and 83 percentage points for term plans.
4. Except for term plans, the tendency of mortality ratios to decrease with advancing issue age has continued.
5. In the first several study periods there was a tendency for term plans at issue ages below 40 to experience excess mortality. With a ratio of 97 per cent in the current period, this tendency is no longer so apparent.
6. Policy years 3-10 experienced a sharp decrease in mortality ratios on both permanent and term plans. The mortality ratio for term plans in policy years 1-2 increased by 7 percentage points, however.

TABLE 4

COMPARISON OF MORTALITY RATIOS DURING THE FIRST TWENTY-FIVE POLICY YEARS ON LARGE-AMOUNT ISSUES OF 1934-67 EXPERIENCE BETWEEN 1934 AND 1968 ANNIVERSARIES BY AGE AT ISSUE, DURATION, CLASSIFICATION AMOUNT, AND PLAN OF INSURANCE
Expected Deaths Based on Corresponding Standard Ordinary Issues Experience*
Male and Female Lives Combined

	PERMANENT PLANS						TERM PLANS						ALL PLANS					
	1934-41	1941-48	1948-53	1953-58	1958-63	1963-68	1934-41	1941-48	1948-53	1953-58	1958-63	1963-68	1934-41	1941-48	1948-53	1953-58	1958-63	1963-68
Ages at issue:																		
00-09.....	†	†	†	†	†	<i>140%</i>	†	†	†	†	†	†	†	†	†	†	†	<i>139%</i>
10-39.....	<i>80%</i>	<i>100%</i>	<i>110%</i>	<i>97%</i>	<i>110%</i>	<i>101</i>	<i>168%</i>	<i>168%</i>	<i>107%</i>	<i>136%</i>	<i>123%</i>	<i>97%</i>	<i>93%</i>	<i>108%</i>	<i>109%</i>	<i>103%</i>	<i>112%</i>	<i>101</i>
40-49.....	<i>73</i>	<i>89</i>	<i>90</i>	<i>91</i>	<i>95</i>	<i>87</i>	<i>114</i>	<i>107</i>	<i>94</i>	<i>117</i>	<i>102</i>	<i>99</i>	<i>81</i>	<i>92</i>	<i>90</i>	<i>96</i>	<i>96</i>	<i>89</i>
50 and over.....	<i>95</i>	<i>78</i>	<i>78</i>	<i>83</i>	<i>83</i>	<i>79</i>	<i>107</i>	<i>91</i>	<i>72</i>	<i>102</i>	<i>92</i>	<i>89</i>	<i>96</i>	<i>79</i>	<i>77</i>	<i>85</i>	<i>84</i>	<i>80</i>
All.....	<i>85%</i>	<i>86%</i>	<i>88%</i>	<i>89%</i>	<i>93%</i>	<i>87%</i>	<i>119%</i>	<i>112%</i>	<i>90%</i>	<i>116%</i>	<i>104%</i>	<i>96%</i>	<i>90%</i>	<i>89%</i>	<i>88%</i>	<i>93%</i>	<i>94%</i>	<i>88%</i>
Policy years:																		
1-2.....	†	<i>90%</i>	<i>98%</i>	<i>75%</i>	<i>93%</i>	<i>91%</i>	†	<i>81%</i>	<i>83%</i>	<i>126%</i>	<i>83%</i>	<i>90%</i>	†	<i>89%</i>	<i>95%</i>	<i>85%</i>	<i>92%</i>	<i>91%</i>
3-5.....	†	<i>95</i>	<i>98</i>	<i>89</i>	<i>96</i>	<i>87</i>	†	<i>139</i>	<i>103</i>	<i>112</i>	<i>126</i>	<i>98</i>	†	<i>101</i>	<i>99</i>	<i>94</i>	<i>101</i>	<i>89</i>
6-10.....	†	<i>84</i>	<i>90</i>	<i>97</i>	<i>96</i>	<i>87</i>	†	<i>109</i>	<i>82</i>	<i>119</i>	<i>105</i>	<i>92</i>	†	<i>87</i>	<i>89</i>	<i>101</i>	<i>97</i>	<i>88</i>
11 and over.....	†	<i>78</i>	<i>82</i>	<i>88</i>	<i>90</i>	<i>86</i>	†	<i>105</i>	<i>91</i>	<i>113</i>	<i>98</i>	<i>100</i>	†	<i>80</i>	<i>83</i>	<i>91</i>	<i>91</i>	<i>88</i>
All.....	†	<i>86%</i>	<i>88%</i>	<i>89%</i>	<i>93%</i>	<i>87%</i>	†	<i>112%</i>	<i>90%</i>	<i>116%</i>	<i>104%</i>	<i>96%</i>	†	<i>89%</i>	<i>88%</i>	<i>93%</i>	<i>94%</i>	<i>88%</i>
Classification amount:																		
\$ 50,000-\$ 99,999.....	†	<i>91%</i>	<i>89%</i>	<i>92%</i>	<i>96%</i>	<i>90%</i>	†	<i>118%</i>	<i>104%</i>	<i>119%</i>	<i>102%</i>	<i>104%</i>	<i>84%</i>	<i>95%</i>	<i>91%</i>	<i>96%</i>	<i>97%</i>	<i>93%</i>
100,000- 199,999.....	†	<i>90</i>	<i>85</i>	<i>94</i>	<i>93</i>	<i>85</i>	†	<i>100</i>	<i>86</i>	<i>113</i>	<i>100</i>	<i>92</i>	<i>104</i>	<i>91</i>	<i>85</i>	<i>97</i>	<i>94</i>	<i>86</i>
200,000- 499,999.....	†	<i>89</i>	<i>94</i>	<i>85</i>	<i>89</i>	<i>86</i>	†	<i>128</i>	<i>80</i>	<i>119</i>	<i>96</i>	<i>92</i>	<i>88</i>	<i>93</i>	<i>92</i>	<i>90</i>	<i>90</i>	<i>87</i>
500,000 and over.....	†	<i>61</i>	<i>80</i>	<i>75</i>	<i>94</i>	<i>87</i>	†	<i>94</i>	†	<i>120</i>	<i>151</i>	<i>101</i>	<i>72</i>	<i>64</i>	<i>81</i>	<i>80</i>	<i>101</i>	<i>89</i>
All.....	†	<i>86%</i>	<i>88%</i>	<i>89%</i>	<i>93%</i>	<i>87%</i>	†	<i>112%</i>	<i>90%</i>	<i>116%</i>	<i>104%</i>	<i>96%</i>	<i>90%</i>	<i>89%</i>	<i>88%</i>	<i>93%</i>	<i>94%</i>	<i>88%</i>

* Except 1963-68 expected deaths, which are based on the 1958-63 Standard Ordinary issues experience. Use of the 1963-68 experience would have resulted in aggregate mortality ratios about 4 percentage points higher.

† Not available.

‡ Fewer than 10 lives terminated by death.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

7. In previous periods the mortality ratios by policy year generally displayed a convex pattern. That is, they were somewhat higher at the intermediate durations than at either early or late durations. In the current period this pattern was generally level.

EXPERIENCE BY CAUSE OF DEATH

An analysis of the experience by cause of death is presented in Table 5. The expected deaths, calculated on the 1958-63 table, were distributed by cause of death during the first fifteen policy years on the basis of the corresponding distribution of actual deaths on Standard Ordinary medically examined issues for all amounts during the period between 1963 and 1968 anniversaries. For the later policy years, this allocation was on the basis of the corresponding ultimate experience on medical and non-medical issues combined (policy years 16 and over).

A very high ratio of actual to expected claims was observed for the "suicide" and "accidents and homicide" categories. The ratio for malignant neoplasms was also significantly higher than the aggregate mortality ratio. Both suicides and diabetes mellitus showed substantial, though not statistically significant, increases from the previous period. The term-plan mortality ratios exceeded the permanent-plan mortality ratios for most causes of death.

The mortality ratio for suicide exceeded 100 per cent in every issue age and policy-year category for which there were 10 or more deaths. The ratios were particularly high at the younger ages (20-39) and at policy years 1-2 and 16-25. The mortality ratio for policy years 1-2 was 199 per cent (based on 58 lives terminated by death), even though only the benefits actually paid were included as suicide claim amounts. (The same procedure naturally applies to the data used in constructing the cause-of-death distribution.) The suicide mortality ratios were generally higher on term plans than on permanent plans, although they were quite high on both.

The accidents and homicide mortality ratios declined substantially from the previous period for permanent plans and term plans but were still significantly higher than 100 per cent for both. The mortality ratios were particularly high at the lower ages (20-29) and generally increased with duration. There was very little difference between permanent and term plans.

Motor vehicle and aviation mishaps continue to account for the majority of the fatal accidents. Table 6 shows the numbers of deaths from these causes, as well as the percentages of total deaths from accidents and homi-

TABLE 5

LARGE-AMOUNT ISSUES OF 1939-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY CAUSE OF DEATH

Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience*
(Amounts Shown in \$1,000 Units)

Cause of Death	Committee 1961 Code	Number of Lives Who Died	Pro- por- tion of All Deaths	Actual Claims	Expected Claims	A/E
Permanent Plans						
Tuberculosis (all forms)	01-02	0	0%	\$ 0	\$ 392	†
Malignant neoplasms	18-33	1,515	23	121,095	127,637	95%
Diabetes mellitus	37	36	1	2,757	3,296	84
Vascular lesions of central nervous system	42	351	5	24,360	34,276	71
Diseases of the heart and cir- culatory system	49-55, 5A	2,757	41	202,783	247,964	82
Pneumonia and influenza	56-59	88	1	5,551	9,129	61
Accidents and homicide	88-96, 98	787	12	63,698	52,861	121
Suicide	97	313	5	24,787	18,554	134
All other causes and unknown†	Residual	824	12	54,470	80,247	68
All causes		6,671	100%	\$499,501	\$574,356	87%
Term Plans						
Tuberculosis (all forms)	01-02	0	0%	\$ 0	\$ 29	†
Malignant neoplasms	18-33	312	20	20,615	21,517	96%
Diabetes mellitus	37	8	0	490	493	†
Vascular lesions of central nervous system	42	65	4	3,686	5,120	72
Diseases of the heart and cir- culatory system	49-55, 5A	634	41	36,360	41,353	88
Pneumonia and influenza	56-59	12	1	523	1,317	40
Accidents and homicide	88-96, 98	212	14	14,778	12,104	122
Suicide	97	91	6	7,137	3,608	198
All other causes and unknown‡	Residual	220	14	11,587	13,617	85
All causes		1,554	100%	\$ 95,176	\$ 99,158	96%
All Plans						
Tuberculosis (all forms)	01-02	0	0%	\$ 0	\$ 421	†
Malignant neoplasms	18-33	1,737	22	141,710	149,154	95%
Diabetes mellitus	37	41	1	3,247	3,789	86
Vascular lesions of central nervous system	42	396	5	28,046	39,396	71
Diseases of the heart and cir- culatory system	49-55, 5A	3,222	41	239,143	289,317	83
Pneumonia and influenza	56-59	98	1	6,074	10,446	58
Accidents and homicide	88-96, 98	949	12	78,476	64,965	121
Suicide	97	379	5	31,924	22,162	144
All other causes and unknown	Residual	1,000	13	66,057	93,864	70
All causes		7,822	100%	\$594,677	\$673,514	88%

* Distribution of expected deaths by cause based on 1963-68 experience.

† Fewer than 10 lives terminated by death.

‡ Includes 15 war deaths for \$776,000.

§ Includes 5 war deaths for \$275,000.

|| Includes 20 war deaths for \$1,051,000.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

cide represented by each, in the current and prior studies. No particular trend is evident. Compared to accidents only (excluding homicide), these percentages are, respectively, 40 and 25 per cent.

Public Health Service data indicate that fatalities due to motor vehicle accidents accounted for 57 per cent of all accidental deaths at ages 15-64 in the general population of the United States during 1963-68. Only 2 per cent of such accidental deaths were due to aviation.

The mortality ratio for deaths due to malignant neoplasms exceeded 100 per cent at issue ages 60 and above and at policy years 16-25. These

TABLE 6
MOTOR VEHICLE AND AVIATION ACCIDENT DEATHS
INCLUDED IN ACCIDENTS AND HOMICIDES

EXPERIENCE PERIOD	MOTOR VEHICLE ACCIDENT DEATHS		AVIATION ACCIDENT DEATHS		MOTOR VEHICLE AND AVIATION ACCIDENT DEATHS	
	Number	Per Cent of All Accidents and Homicides	Number	Per Cent of All Accidents and Homicides	Number	Per Cent of All Accidents and Homicides
1948-53.....	67	35%	45	23%	112	58%
1953-58.....	123	45	47	17	170	62
1958-63.....	242	39	165	26	407	65
1963-68.....	359	38	221	23	580	61

ratios generally increased both with increasing issue age and with increasing duration. Little difference by plan was noted. The aggregate mortality ratio of 95 per cent is significantly higher than the 88 per cent aggregate ratio for the entire study.

Deaths due to diseases of the heart and circulatory system claimed the greatest number of lives and accounted for the greatest volume of actual claims—over 40 per cent of the total. However, the aggregate mortality ratio for this cause group was significantly less than that for all causes combined. A relatively high mortality ratio was observed at issue ages 70 and over based on only 15 claims; otherwise, the mortality ratios were highest at issue ages 20-49. The experience was very uniform by duration. The mortality ratios on term plans were generally slightly higher than those for permanent plans for the individual issue-age and policy-year categories.

As indicated above, war deaths had a minimal impact (0.2 per cent) on the aggregate mortality ratio. The impact on the lower issue ages was much greater, however. War deaths added 26.3 percentage points to the mortality ratio at issue age group 0-9 and 7.8 points at issue age group 10-19. Forty-three per cent of all war deaths by amount occurred in issue age group 20-29, and 34 per cent in issue age group 30-39. War deaths added 0.6 per cent to the mortality ratio in policy years 1-2; they had a minimal impact on the experience for later policy years. Thirty-five

TABLE 7

LARGE-AMOUNT ISSUES OF 1959-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY PURPOSE OF INSURANCE AND PLAN OF INSURANCE

Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
(Amounts Shown in \$1,000 Units)

PURPOSE	PERMANENT PLANS		TERM PLANS		ALL PLANS	
	Actual Claims	A/E	Actual Claims	A/E	Actual Claims	A/E
Personal insurance	\$ 87,325 (1,309)	89%	\$20,648 (364)	96%	\$107,973 (1,645)	90%
Business insurance	30,071 (333)	79	6,999 (107)	77	37,070 (435)	79
Key-man or deferred-compensation insurance	20,862 (219)	81	4,289 (44)	84	25,151 (257)	82
Creditor and other insurance	2,907 (37)	113	1,446 (21)	122	4,353 (58)	116
All	\$141,165 (1,792)	86%	\$33,382 (513)	91%	\$174,547 (2,240)	87%

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

per cent of all war claims by amount occurred in the first two policy years, 62 per cent of such claims occurred in the first five policy years, and 87 per cent occurred in the first ten policy years.

EXPERIENCE BY PURPOSE OF INSURANCE AND INCOME OF INSURED

Purpose of insurance and annual income information was obtained for a large proportion of the issues of 1959 through 1967. Over 99 per cent of the data so coded were identified both by purpose of insurance and by annual income, while the balance carried only one of these codes.

Table 7 illustrates this experience analyzed by purpose of insurance and plan of insurance. The "purpose of insurance" categories were defined in the instructions as follows:

Personal insurance.—Insurance where the beneficiary is (a) wife, child, or other close relative; (b) estate; or (c) business involving a sole proprietorship.

Business insurance.—Insurance intended for the repurchase of the insured's

interest in an organization having not more than five principal owners (partnership or close corporation).

Key-man or deferred-compensation insurance.—Insurance intended primarily for key-man or deferred-compensation purposes.

Creditor and other insurance.—Insurance taken out to insure the repayment of a loan where either the creditor is designated beneficiary or the policy is assigned to the creditor. Also included here is any insurance the purpose of which does not fit the other categories.

In total, the term-plan mortality ratio was slightly higher than that for permanent plans. On personal insurance the term-plan mortality ratio was 96 per cent, while that for permanent insurance was only 89 per cent.

TABLE 8
LARGE-AMOUNT ISSUES OF 1959-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY ESTIMATED ANNUAL INCOME AT ISSUE AND PLAN OF INSURANCE
Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
(Amounts Shown in \$1,000 Units)

ESTIMATED ANNUAL INCOME AT ISSUE	PERMANENT PLANS		TERM PLANS		ALL PLANS	
	Actual Claims	A/E	Actual Claims	A/E	Actual Claims	A/E
Under \$20,000*	\$ 36,316 (690)	88%	\$11,426 (238)	90%	\$ 47,742 (917)	88%
\$20,000-\$49,999	63,066 (836)	88	13,234 (206)	83	76,300 (1,018)	87
\$50,000 and over	37,367 (275)	77	7,539 (56)	96	44,906 (317)	79
Not accurately determined	4,266 (48)	163	1,048 (18)	247	5,314 (64)	175
All	\$141,015 (1,790)	86%	\$33,247 (511)	90%	\$174,262 (2,236)	87%

* Includes juveniles, students, interns and other professionals in apprenticeship, noncareer members of armed forces, and married women without a substantial income in their own right.

NOTE.—Number of lives involved shown in parentheses.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

This reverses the relationship between mortality ratios on permanent and term plans for personal insurance observed in the previous study period. Business insurance showed favorable mortality on both permanent and term plans. Key-man or deferred-compensation insurance was also favorable on both plans. The mortality ratios for creditor and other insurance were not favorable, however. Heart and circulatory disorders accounted for 20 of the 58 deaths, while malignant neoplasms caused another 13. None of the mortality ratios indicated in Table 7 was significantly higher than 100 per cent.

Tables 8 and 9 present this experience analyzed by estimated annual income at issue and plan of insurance and by annual income at issue and

TABLE 9
 LARGE-AMOUNT ISSUES OF 1959-67
 EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
 BY ESTIMATED ANNUAL INCOME AT ISSUE AND CLASSIFICATION AMOUNT OF INSURANCE
 ALL PLANS OF INSURANCE
 Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
 (Amounts Shown in \$1,000 Units)

Estimated Annual Income at Issue	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
	\$50,000-\$99,999			\$100,000-\$199,999			\$200,000-\$499,999		
Under \$20,000*	\$23,646 (572)	\$26,685	89%	\$19,236 (311)	\$21,783	88%	\$ 4,010 (44)	\$ 4,904	82%
\$20,000-\$49,999	12,174 (270)	14,356	85	35,011 (543)	41,024	85	23,427 (226)	27,583	85
\$50,000 and over	1,459 (31)	1,704	86	7,141 (103)	8,756	82	17,186 (152)	22,913	75
Not accurately determined	846 (21)	787	107	1,843 (31)	1,012	182	640 (9)	592	†
All	\$38,125 (889)	\$43,532	88%	\$63,231 (971)	\$72,575	87%	\$ 45,263 (412)	\$ 55,992	81%
	\$500,000-\$999,999			\$1,000,000 and Over			All Classification Groups		
Under \$20,000*	\$ 850 (3)	\$ 541	†	\$ 0 (0)	\$ 213	†	\$ 47,742 (917)	\$ 54,126	88%
\$20,000-\$49,999	2,538 (13)	3,401	75%	3,150 (4)	921	†	76,300 (1,018)	87,285	87
\$50,000 and over	9,067 (43)	12,901	70	10,053 (21)	10,263	98%	44,906 (317)	56,537	79
Not accurately determined	400 (1)	204	†	1,585 (3)	441	†	5,314 (64)	3,036	175
All	\$12,855 (59)	\$17,047	75%	\$14,788 (28)	\$11,838	125%	\$174,262 (2,236)	\$200,984	87%

* Includes juveniles, students, interns and other professionals in apprenticeship, noncareer members of armed forces, and married women without a substantial income in their own right.

† Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

classification amount of insurance, respectively. The mortality ratios generally decreased with increasing annual income. Annual income groups under \$20,000 and \$50,000 and over showed substantial improvement over the previous study period. As in the earlier period, the "not accurately determined" category experienced very high mortality ratios for both permanent and term plans. The fact that this category has a higher concentration of females than the others makes these high ratios even more significant. Twenty-three of the 64 deaths in this class were due to heart and circulatory conditions, and another 13 each were due to malignant neoplasms and to accidents and homicide. The mortality ratios exhibited a generally decreasing trend with increasing annual income for most classification amount groups. The ratios for the "not accurately determined" category increased with increasing classification amount group.

APPENDIX

TABLE A

CONTRIBUTING COMPANIES

Company	Proportion of Permanent Insurance Exposures	Proportion of Term Insurance Exposures	Proportion of Total Exposures
New York Life.....	11.4%	10.2%	11.2%
Massachusetts Mutual.....	12.1	6.7	11.0
Northwestern Mutual.....	9.5	8.9	9.4
Equitable, N.Y.....	9.0	6.9	8.6
Prudential.....	7.5	12.4	8.4
Mutual Benefit.....	7.9	0.9	6.5
Connecticut Mutual.....	6.0	7.3	6.3
Metropolitan.....	3.9	12.5	5.6
New England Life.....	5.6	3.7	5.3
John Hancock.....	4.5	3.7	4.4
Connecticut General.....	4.1	4.1	4.1
Aetna.....	3.1	6.5	3.7
Travelers.....	2.5	7.0	3.4
Phoenix Mutual.....	3.8	0.8	3.2
Penn Mutual.....	2.9	3.5	3.0
Mutual Life, N.Y.....	2.9	2.6	2.8
Provident Mutual.....	2.2	1.5	2.1
Sun Life.....	1.1	0.8	1.0
Total.....	100.0%	100.0%	100.0%

TABLE B

LARGE-AMOUNT ISSUES OF 1939-67
EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
BY AGE AT ISSUE, POLICY YEAR, AND PLAN OF INSURANCE
Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
(Amounts Shown in \$1,000 Units)

ISSUE AGE	POLICY YEARS	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
00-09.....	1-2	\$ 50 (1)	\$ 151 *		\$ 0 (0)	\$ 1 *		\$ 50 (1)	\$ 152 *	
	3-5	200 (3)	81 *		0 (0)	0 *		200 (3)	81 *	
	6-10	110 (3)	90 *		0 (0)	0 *		110 (3)	90 *	
	11-15	60 (2)	69 *		0 (0)	0 *		60 (2)	69 *	
	16-20	163 (2)	26 *		0 (0)	0 *		163 (2)	26 *	
	21-25	0 (0)	0 *		0 (0)	0 *		0 (0)	0 *	
	All	\$ 583 (11)	\$ 417 <i>140%</i>		\$ 0 (0)	\$ 1 *		\$ 583 (11)	\$ 418 <i>139%</i>	
10-19.....	1-2	\$ 458 (4)	\$ 274 *		\$ 0 (0)	\$ 13 *		\$ 458 (4)	\$ 287 *	
	3-5	337 (5)	414 *		50 (1)	15 *		387 (6)	429 *	
	6-10	463 (8)	514 *		50 (1)	15 *		513 (9)	529 *	
	11-15	303 (6)	274 *		0 (0)	1 *		303 (6)	275 *	
	16-20	150 (4)	148 *		0 (0)	0 *		150 (4)	148 *	
	21-25	116 (2)	70 *		0 (0)	0 *		116 (2)	70 *	
	All	\$ 1,827 (27)	\$ 1,694 <i>108%</i>		\$ 100 (2)	\$ 44 *		\$ 1,927 (29)	\$ 1,738 <i>111%</i>	

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE B—Continued

ISSUE AGE	POLICY YEARS	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
20-29	1-2	\$ 3,240 (45)	\$ 2,351	<i>138%</i>	\$ 947 (21)	\$ 856	<i>111%</i>	\$ 4,187 (64)	\$ 3,207	<i>131%</i>
	3-5	3,525 (64)	2,883	122	675 (8)	603	*	4,200 (72)	3,486	120
	6-10	4,349 (65)	3,433	127	883 (19)	545	<i>162</i>	5,232 (84)	3,978	132
	11-15	2,160 (40)	2,311	<i>93</i>	210 (4)	352	*	2,370 (43)	2,663	<i>89</i>
	16-20	1,432 (28)	1,752	<i>82</i>	245 (5)	201	*	1,677 (32)	1,953	<i>86</i>
	21-25	997 (23)	997	<i>100</i>	0 (0)	68	*	997 (23)	1,065	<i>94</i>
	All	\$ 15,703 (260)	\$ 13,727	114%	\$ 2,960 (57)	\$ 2,625	113%	\$ 18,663 (310)	\$ 16,352	114%
30-39	1-2	\$ 12,196 (138)	\$ 9,936	<i>123%</i>	\$ 4,606 (77)	\$ 4,406	<i>105%</i>	\$ 16,802 (210)	\$ 14,342	<i>117%</i>
	3-5	18,063 (270)	18,181	99	5,021 (85)	4,910	102	23,084 (347)	23,091	100
	6-10	31,961 (499)	31,870	100	5,437 (103)	6,289	86	37,398 (580)	38,159	98
	11-15	21,496 (409)	23,752	91	4,241 (89)	4,451	95	25,737 (483)	28,203	91
	16-20	14,837 (282)	15,602	95	2,604 (66)	2,849	91	17,441 (325)	18,451	95
	21-25	8,923 (161)	8,703	103	1,000 (20)	1,125	<i>89</i>	9,923 (178)	9,828	101
	All	\$107,476 (1,660)	\$108,044	99%	\$22,909 (430)	\$24,030	95%	\$130,385 (1,994)	\$132,074	99%
40-49	1-2	\$ 14,225 (203)	\$ 18,629	<i>76%</i>	\$ 6,682 (102)	\$ 6,918	<i>97%</i>	\$ 20,907 (298)	\$ 25,547	<i>82%</i>
	3-5	33,978 (408)	36,649	93	8,673 (122)	8,777	99	42,651 (522)	45,426	94
	6-10	55,104 (805)	62,176	89	10,021 (179)	11,163	90	65,125 (948)	73,339	89
	11-15	40,418 (653)	46,110	88	10,104 (160)	8,855	114	50,522 (779)	54,965	92
	16-20	29,845 (492)	35,344	84	6,577 (117)	6,592	100	36,422 (591)	41,936	87
	21-25	18,632 (339)	21,945	85	3,033 (75)	3,018	100	21,665 (400)	24,963	87
	All	\$192,202 (2,748)	\$220,853	87%	\$43,090 (730)	\$45,323	99%	\$237,292 (3,327)	\$266,176	89%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE B—Continued

ISSUE AGE	POLICY YEARS	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
50-59.....	1-2	\$ 11,432 (143)	\$ 14,169	81%	\$ 1,913 (36)	\$ 3,305	58%	\$ 13,345 (176)	\$ 17,474	76%
	3-5	22,169 (305)	31,254	71	5,010 (68)	5,115	98	27,179 (371)	36,369	75
	6-10	38,634 (511)	52,862	73	6,098 (89)	6,368	96	44,732 (585)	59,230	76
	11-15	31,722 (470)	39,319	81	5,971 (81)	4,999	119	37,693 (532)	44,318	85
	16-20	22,950 (344)	28,300	81	3,162 (58)	3,972	80	26,112 (393)	32,272	81
	21-25	14,189 (230)	16,395	87	1,098 (26)	1,629	67	15,287 (248)	18,024	85
	All	\$141,096 (1,917)	\$182,299	77%	\$23,252 (350)	\$25,388	92%	\$164,348 (2,192)	\$207,687	79%
60-69.....	1-2	\$ 3,205 (36)	\$ 4,211	76%	\$ 145 (3)	\$ 376	*	\$ 3,350 (39)	\$ 4,587	73%
	3-5	7,619 (90)	9,691	79	181 (3)	544	*	7,800 (93)	10,235	76
	6-10	13,195 (157)	14,677	90	350 (6)	353	*	13,545 (161)	15,030	90
	11-15	9,967 (127)	10,875	92	139 (4)	321	*	10,106 (131)	11,196	90
	16-20	2,662 (45)	4,046	66	50 (1)	137	*	2,712 (46)	4,183	65
	21-25	876 (15)	1,649	53	0 (0)	16	*	876 (15)	1,665	53
	All	\$ 37,524 (459)	\$ 45,149	83%	\$ 865 (17)	\$ 1,747	50%	\$ 38,389 (472)	\$ 46,896	82%
70 and over....	1-2	\$ 1,000 (10)	\$ 369	271%	\$ 0 (0)	\$ 0	*	\$ 1,000 (10)	\$ 369	271%
	3-5	928 (15)	509	182	0 (0)	0	*	928 (15)	509	182
	6-10	552 (6)	714	*	0 (0)	0	*	552 (6)	714	*
	11-15	610 (2)	563	*	0 (0)	0	*	610 (2)	563	*
	16-20	0 (0)	18	*	0 (0)	0	*	0 (0)	18	*
	21-25	0 (0)	0	*	0 (0)	0	*	0 (0)	0	*
	All	\$ 3,090 (33)	\$ 2,173	142%	\$ 0 (0)	\$ 0	*	\$ 3,090 (33)	\$ 2,173	142%

TABLE C
 LARGE-AMOUNT ISSUES OF 1939-67
 EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
 BY AGE AT ISSUE, CLASSIFICATION AMOUNT, AND PLAN OF INSURANCE
 Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
 (Amounts Shown in \$1,000 Units)

ISSUE AGE	CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
146 00-09.....	\$ 50,000-\$ 99,999	\$ 333 (8)	\$ 219 *	*	\$ 0 (0)	\$ 0 *	*	\$ 333 (8)	\$ 219 *	*
	100,000- 199,999	250 (3)	167 *	*	0 (0)	0 *	*	250 (3)	167 *	*
	200,000- 499,999	0 (0)	29 *	*	0 (0)	0 *	*	0 (0)	29 *	*
	500,000- 999,999	0 (0)	2 *	*	0 (0)	0 *	*	0 (0)	2 *	*
	1,000,000 and over	0 (0)	0 *	*	0 (0)	1 *	*	0 (0)	1 *	*
	All	\$ 583 (11)	\$ 417 <i>140%</i>	<i>140%</i>	\$ 0 (0)	\$ 1 *	*	\$ 583 (11)	\$ 418 <i>139%</i>	<i>139%</i>
10-19.....	\$ 50,000-\$ 99,999	\$ 790 (20)	\$ 790 <i>100%</i>	<i>100%</i>	\$ 100 (2)	\$ 25 *	*	\$ 890 (22)	\$ 815 <i>109%</i>	<i>109%</i>
	100,000- 199,999	387 (4)	689 *	*	0 (0)	12 *	*	387 (4)	701 *	*
	200,000- 499,999	650 (3)	192 *	*	0 (0)	1 *	*	650 (3)	193 *	*
	500,000- 999,999	0 (0)	10 *	*	0 (0)	1 *	*	0 (0)	11 *	*
	1,000,000 and over	0 (0)	13 *	*	0 (0)	5 *	*	0 (0)	18 *	*
	All	\$ 1,827 (27)	\$ 1,694 <i>108%</i>	<i>108%</i>	\$ 100 (2)	\$ 44 *	*	\$ 1,927 (29)	\$ 1,738 <i>111%</i>	<i>111%</i>

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE C—Continued

ISSUE AGE	CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
20-29.....	\$ 50,000-\$ 99,999	\$ 6,818 (168)	\$ 6,599	103%	\$ 1,365 (33)	\$ 1,483	92%	\$ 8,183 (198)	\$ 8,082	101%
	100,000- 199,999	6,162 (84)	4,976	124	1,245 (22)	893	139	7,407 (105)	5,869	126
	200,000- 499,999	2,273 (15)	1,613	141	100 (1)	196	*	2,373 (16)	1,809	131
	500,000- 999,999	450 (3)	350	*	250 (1)	22	*	700 (4)	372	*
	1,000,000 and over	0 (0)	189	*	0 (0)	31	*	0 (0)	220	*
	All	\$ 15,703 (260)	\$ 13,727	114%	\$ 2,960 (57)	\$ 2,625	113%	\$ 18,663 (310)	\$ 16,352	114%
30-39.....	\$ 50,000-\$ 99,999	\$ 33,438 (837)	\$ 34,831	96%	\$ 8,907 (225)	\$ 8,547	104%	\$ 42,345 (1,036)	\$ 43,378	98%
	100,000- 199,999	42,970 (719)	46,371	93	9,623 (174)	10,153	95	52,593 (863)	56,524	93
	200,000- 499,999	21,970 (208)	20,848	105	3,104 (41)	4,059	76	25,074 (232)	24,907	101
	500,000- 999,999	5,159 (23)	3,812	135	975 (4)	743	*	6,134 (26)	4,555	135
	1,000,000 and over	3,939 (9)	2,182	*	300 (1)	528	*	4,239 (10)	2,710	156
	All	\$107,476 (1,660)	\$108,044	99%	\$22,909 (430)	\$24,030	95%	\$130,385 (1,994)	\$132,074	99%
40-49.....	\$ 50,000-\$ 99,999	\$ 45,196 (1,117)	\$ 49,577	91%	\$12,074 (311)	\$10,998	110%	\$ 57,270 (1,385)	\$ 60,575	95%
	100,000- 199,999	74,645 (1,288)	87,838	85	16,478 (309)	18,130	91	91,123 (1,549)	105,968	86
	200,000- 499,999	50,499 (494)	59,561	85	11,920 (122)	11,633	102	62,419 (593)	71,194	88
	500,000- 999,999	14,835 (69)	15,686	95	2,590 (18)	3,026	86	17,425 (81)	18,712	93
	1,000,000 and over	7,027 (13)	8,191	86	2,028 (7)	1,536	*	9,055 (19)	9,727	93
	All	\$192,202 (2,748)	\$220,853	87%	\$45,090 (730)	\$45,323	99%	\$237,292 (3,327)	\$266,176	89%

TABLE C—Continued

ISSUE AGE	CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
50-59.....	\$ 50,000-\$ 99,999	\$ 25,914 (638)	\$ 32,726	79%	\$ 4,423 (114)	\$ 4,847	91%	\$ 30,337 (741)	\$ 37,573	81%
	100,000- 199,999	51,630 (868)	63,802	81	7,866 (150)	8,956	88	59,496 (997)	72,758	82
	200,000- 499,999	43,236 (437)	55,727	78	6,456 (78)	7,443	87	49,692 (494)	63,170	79
	500,000- 999,999	13,529 (77)	19,417	70	1,032 (10)	2,668	39	14,561 (84)	22,085	66
	1,000,000 and over	6,787 (23)	10,627	64	3,475 (6)	1,474	*	10,262 (27)	12,101	85
	All	\$141,096 (1,917)	\$182,299	77%	\$23,252 (350)	\$25,388	92%	\$164,348 (2,192)	\$207,687	79%
60-69.....	\$ 50,000-\$ 99,999	\$ 7,668 (179)	\$ 8,352	92%	\$ 255 (6)	\$ 226	*	\$ 7,923 (184)	\$ 8,578	92%
	100,000- 199,999	9,565 (155)	14,005	68	265 (7)	482	*	9,830 (160)	14,487	68
	200,000- 499,999	12,601 (117)	14,942	84	345 (4)	571	*	12,946 (120)	15,513	83
	500,000- 999,999	3,439 (18)	4,765	72	0 (0)	272	*	3,439 (18)	5,037	68
	1,000,000 and over	4,251 (12)	3,085	138	0 (0)	196	*	4,251 (12)	3,281	130
	All	\$ 37,524 (459)	\$ 45,149	83%	\$ 865 (17)	\$ 1,747	50%	\$ 38,389 (472)	\$ 46,896	82%
70 and over...	\$ 50,000-\$ 99,999	\$ 505 (13)	\$ 515	98%	\$ 0 (0)	\$ 0	*	\$ 505 (13)	\$ 515	98%
	100,000- 199,999	1,023 (14)	633	162	0 (0)	0	*	1,023 (14)	633	162
	200,000- 499,999	802 (6)	476	*	0 (0)	0	*	802 (6)	476	*
	500,000- 999,999	0 (0)	167	*	0 (0)	0	*	0 (0)	167	*
	1,000,000 and over	760 (2)	382	*	0 (0)	0	*	760 (2)	382	*
	All	\$ 3,090 (33)	\$ 2,173	142%	\$ 0 (0)	\$ 0	*	\$ 3,090 (33)	\$ 2,173	142%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE D

LARGE-AMOUNT ISSUES OF 1939-67
 EXPERIENCE BETWEEN 1963 AND 1968 ANNIVERSARIES
 BY POLICY YEAR, CLASSIFICATION AMOUNT, AND PLAN OF INSURANCE
 Expected Deaths Based on 1958-63 Standard Ordinary Issues Experience
 (Amounts Shown in \$1,000 Units)

POLICY YEARS	CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
1-2	\$ 50,000-\$ 99,999	\$ 8,676 (199)	\$ 10,286	84%	\$ 4,421 (103)	\$ 4,031	110%	\$ 13,097 (296)	\$ 14,317	91%
	100,000- 199,999	15,436 (246)	18,158	85	5,440 (99)	5,814	94	20,876 (340)	23,972	87
	200,000- 499,999	10,761 (115)	13,767	78	2,552 (33)	3,730	68	13,313 (146)	17,497	76
	500,000- 999,999	4,840 (24)	4,334	112	1,218	1,218	*	5,360 (27)	5,552	97
	1,000,000 and over	6,093 (12)	3,545	172	1,360 (3)	1,082	*	7,453 (15)	4,627	161
	All	\$ 45,806 (577)	\$ 50,090	91%	\$14,293 (237)	\$ 15,875	90%	\$ 60,099 (797)	\$ 65,965	91%
3-5	\$ 50,000-\$ 99,999	\$ 19,607 (445)	\$ 20,398	96%	\$ 4,657 (113)	\$ 4,925	95%	\$ 24,264 (551)	\$ 25,323	96%
	100,000- 199,999	31,743 (497)	36,826	86	7,450 (114)	7,724	96	39,193 (605)	44,550	88
	200,000- 499,999	21,524 (201)	27,768	78	4,793 (56)	4,909	98	26,317 (254)	32,677	81
	500,000- 999,999	7,939 (35)	8,884	89	1,440 (6)	1,382	*	9,379 (41)	10,266	91
	1,000,000 and over	6,006 (12)	5,786	104	1,270 (2)	1,024	*	7,276 (13)	6,810	107
	All	\$ 86,819 (1,156)	\$ 99,662	87%	\$19,610 (286)	\$ 19,964	98%	\$106,429 (1,423)	\$119,626	89%
6-10	\$ 50,000-\$ 99,999	\$ 33,640 (816)	\$ 36,994	91%	\$ 7,210 (817)	\$ 6,684	108%	\$ 40,850 (974)	\$ 43,678	94%
	100,000- 199,999	55,377 (902)	64,056	86	8,655 (160)	9,802	88	64,032 (1,037)	73,858	87
	200,000- 499,999	40,301 (358)	43,868	92	5,251 (54)	5,785	91	45,552 (401)	49,653	92
	500,000- 999,999	11,227 (50)	14,165	79	100 (1)	1,634	*	11,327 (51)	15,799	72
	1,000,000 and over	3,823 (9)	7,253	*	1,623 (5)	828	*	5,446 (12)	8,081	67
	All	\$144,368 (2,020)	\$166,336	87%	\$22,839 (396)	\$24,733	92%	\$167,207 (2,336)	\$191,069	88%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.

TABLE D—Continued

POLICY YEARS	CLASSIFICATION AMOUNT	PERMANENT PLANS			TERM PLANS			ALL PLANS		
		Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E	Actual Claims	Expected Claims	A/E
11-15	\$ 50,000-\$ 99,999	\$ 29,071 (730)	\$ 32,273	90%	\$ 4,922 (127)	\$ 5,307	93%	\$ 33,993 (837)	\$ 37,580	90%
	100,000- 199,999	40,188 (716)	46,904	86	7,525 (148)	7,411	102	47,713 (842)	54,315	88
	200,000- 499,999	27,270 (296)	30,926	88	5,861 (57)	4,533	129	33,131 (341)	35,459	93
	500,000- 999,999	6,251 (35)	8,442	74	1,257 (10)	1,260	100	7,508 (44)	9,702	77
	1,000,000 and over	3,956 (12)	4,728	84	1,100 (2)	468	*	5,056 (12)	5,196	97
	All	\$106,736 (1,697)	\$123,273	87%	\$20,665 (336)	\$ 18,979	109%	\$127,401 (1,962)	\$142,252	90%
16-20	\$ 50,000-\$ 99,999	\$ 18,521 (500)	\$ 22,282	83%	\$ 4,046 (115)	\$ 3,802	106%	\$ 22,567 (601)	\$ 26,084	87%
	100,000- 199,999	27,680 (518)	33,511	83	3,992 (89)	5,355	75	31,672 (589)	38,866	81
	200,000- 499,999	19,635 (209)	22,407	88	2,755 (38)	3,347	82	22,390 (236)	25,754	87
	500,000- 999,999	4,217 (30)	4,939	85	1,395 (11)	919	152	5,612 (38)	5,858	96
	1,000,000 and over	1,986 (9)	2,097	*	450 (4)	328	*	2,436 (12)	2,425	100
	All	\$ 72,039 (1,177)	\$ 85,236	85%	\$12,638 (247)	\$ 13,751	92%	\$ 84,677 (1,368)	\$ 98,987	86%
21-25	\$ 50,000-\$ 99,999	\$ 11,147 (301)	\$ 11,376	98%	\$ 1,868 (49)	\$ 1,377	136%	\$ 13,015 (347)	\$ 12,753	102%
	100,000- 199,999	16,208 (309)	19,026	85	2,415 (58)	2,520	96	18,623 (353)	21,546	86
	200,000- 499,999	12,540 (169)	14,652	86	713 (13)	1,599	45	13,253 (178)	16,251	82
	500,000- 999,999	2,938 (22)	3,445	85	135 (2)	319	*	3,073 (23)	3,764	82
	1,000,000 and over	900 (6)	1,260	*	0 (0)	41	*	900 (6)	1,301	*
	All	\$ 43,733 (758)	\$ 49,759	88%	\$ 5,131 (119)	\$ 5,856	88%	\$ 48,864 (852)	\$ 55,615	88%

* Fewer than 10 lives terminated by death.

NOTE.—Number of lives involved shown in parentheses; duplications have been eliminated in determining totals.

NOTE.—Mortality ratio in italics where 10-49 lives terminated by death.