

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1962 REPORTS**

**REPORT OF THE COMMITTEE ON GROUP
ANNUITY MORTALITY**

GROUP ANNUITY MORTALITY

THE report this year includes a special study of the mortality experience of retirements under contingent annuitant options in addition to the regular matured life study that has been presented in prior years.

REGULAR MATURED LIFE STUDY

This portion of the current report has been prepared on the same general basis as corresponding previous reports and thus is limited to the experience of single life matured annuities under Group Annuity contracts. The mortality experience is compared with the *Ga*-1951 male and female tables (without projection). Comparisons with the 1937 Standard Annuity Table shown in previous reports have been discontinued. The tables reflect in the appropriate years any experience reported in 1961 which actually occurred in 1960 and prior years.

Tables 1, 2, and 3 show the experience for the year 1961 by attained five-year age groups for lives retiring on or after normal retirement date, for lives retiring prior to normal retirement date, and for lives retiring on plans having no stated normal retirement date, respectively.

The ratios shown in Table 3 for male lives continue to indicate higher mortality under plans having no stated normal retirement date than under plans with a stated normal retirement date during the period after normal retirement date as shown in Table 1.

Tables 4, 5, and 6 compare the experience for the year 1961 with corresponding experience for other periods for lives retiring on or after normal retirement date, for lives retiring prior to normal retirement date, and for lives retiring on plans having no stated normal retirement date, respectively. The data shown in Table 5 are reported for the first time this year.

Tables 7 and 8 show the experience since 1946 for successive five-year periods and by age groups for lives retiring on or after normal retirement date and for lives retiring prior to normal retirement date, respectively. Table 8 is also new this year. Table 9 shows the corresponding experience since 1956 for lives retiring on plans having no stated normal retirement date.

TABLE 1
INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1961
RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH G _a -1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
					Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
MALES								
50 and under.....	24.10		\$ 17,131		0.08	(*) *	\$ 90	(*) *
51-55.....	140.32		270,009		1.37	(*) *	2,575	(*) *
56-60.....	1,371.88	36	1,710,113	\$ 25,784	19.15	(146) 188%	24,160	(157) 107%
61-65.....	23,718.46	605	27,269,014	615,385	557.25	(104) 109	636,401	(112) 97
66-70.....	96,620.43	3,371	94,189,790	3,041,012	3,163.01	(108) 107	3,059,890	(101) 99
71-75.....	60,560.45	3,371	47,604,848	2,429,342	3,100.57	(110) 109	2,411,432	(105) 101
76-80.....	26,772.96	2,275	17,706,884	1,482,792	2,142.30	(105) 106	1,414,593	(100) 105
81-85.....	7,701.84	1,002	5,154,738	685,299	942.54	(102) 106	632,981	(95) 108
86-90.....	1,717.08	310	1,242,478	244,395	293.50	(100) 106	213,227	(111) 115
91-95.....	254.42	59	250,220	41,440	57.90	(109) 102	57,857	(81) 72
96 and over.....	25.25	3	18,944	1,620	8.27	(*) *	6,142	(*) *
All ages.....	218,907.19	11,032	\$195,434,169	\$8,567,069	10,285.94	(107) 107%	\$8,459,348	(103) 101%
FEMALES								
50 and under.....	15.00		\$ 15,457		0.01	(*) *	\$ 29	(*) *
51-55.....	346.19		154,689		1.52	(*) *	686	(*) *
56-60.....	2,454.63	18	1,551,847	\$ 10,077	17.14	(77) 105%	10,931	(97) 92%
61-65.....	9,902.34	116	5,522,536	73,806	117.15	(80) 99	64,600	(83) 114
66-70.....	19,390.30	333	8,892,161	144,638	354.70	(95) 94	161,229	(89) 90
71-75.....	10,594.01	349	4,178,148	130,803	354.73	(79) 98	139,443	(83) 94
76-80.....	3,901.58	195	1,525,018	73,683	228.66	(98) 85	89,581	(101) 82
81-85.....	1,057.17	109	448,019	45,211	98.54	(87) 111	42,055	(90) 108
86-90.....	275.00	35	132,065	20,227	37.21	(131) 94	18,039	(130) 112
91-95.....	39.00	7	18,879	3,730	7.62	(*) *	3,761	(*) *
96 and over.....	7.00	1	2,561	269	2.06	(*) *	715	(*) *
All ages.....	47,982.22	1,163	\$ 22,441,380	\$ 502,464	1,219.34	(90) 95%	\$ 531,069	(91) 95%

* Less than 10 deaths (actual or expected).

† Percentages in parentheses are for the year 1960 as adjusted in 1961.

TABLE 2
INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1961
RETIREMENT PRIOR TO NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
					Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
MALES								
50 and under.....	488 40	7	\$ 105,326	\$ 1,628	1 89	(*) *	\$ 507	(*) *
51-55.....	1,383 46	43	884,785	26,984	13 42	(263) 320%	8,494	(128) 318%
56-60.....	11,149 24	317	7,768,408	198,422	154 75	(235) 205	109,062	(185) 182
61-65.....	26,955 91	952	23,735,396	688,829	255 97	(185) 171	491,407	(153) 140
66-70.....	18,726 40	852	14,517,040	622,012	398 94	(139) 142	461,366	(135) 135
71-75.....	8,464 27	559	5,334,997	338,363	430 55	(125) 130	269,334	(103) 126
76-80.....	3,176 58	275	1,818,236	159,799	250 94	(121) 110	144,552	(125) 111
81-85.....	767 00	100	505,041	89,245	93 92	(127) 106	62,996	(109) 142
86 and over.....	207 00	32	178,691	25,645	36 94	(96) 87	33,084	(73) 78
All ages.....	71,318 26	3,137	\$34,847,920	\$2,150,927	2,137 32	(154) 147%	\$1,580,802	(136) 136%
FEMALES								
50 and under.....	152 09	2	\$ 29,483	\$ 459	0 36	(*) *	\$ 74	(*) *
51-55.....	1,022 21	10	351,390	2,585	4 15	(*) *	1,464	(*) *
56-60.....	3,112 73	40	1,077,100	11,657	20 38	(225) 196%	7,051	(292) 165%
61-65.....	5,772 44	113	2,195,777	41,792	65 07	(165) 174	24,792	(145) 169
66-70.....	3,512 91	80	1,296,041	27,970	62 43	(174) 128	22,914	(138) 122
71-75.....	1,516 18	41	507,539	15,256	50 59	(124) 81	16,934	(110) 90
76-80.....	502 00	32	177,262	8,808	29 50	(108) 108	10,415	(140) 85
81-85.....	119 00	11	55,678	4,803	11 15	(*) 99	5,262	(*) 91
86 and over.....	23 92	4	13,574	1,869	3 68	(*) *	1,999	(*) *
All ages.....	15,733 48	333	\$ 5,703,844	\$ 115,199	247 31	(154) 135%	\$ 90,905	(145) 127%

* Less than 10 deaths (actual or expected).

† Percentages in parentheses are for the year 1960 as adjusted in 1961.

TABLE 3
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR 1961
 RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE

ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
					Expected Deaths	Ratio† Act./Exp.	Expected Deaths	Ratio† Act./Exp.
MALES								
50 and under.....	9.99	1	\$ 6,400	\$ 814	0.04	(*) *	\$ 32	(*) *
51-55.....	71.69	4	52,542	1,562	0.69	(*) *	514	(*) *
56-60.....	680.10	20	548,938	15,779	9.50	(*) *	7,721	(*) *
61-65.....	6,186.28	165	5,393,856	125,779	140.79	(143) 117%	122,678	(114) 103%
66-70.....	21,121.75	856	15,985,641	646,383	695.97	(120) 123	523,158	(103) 124
71-75.....	12,664.92	743	7,637,616	434,792	644.33	(116) 115	385,706	(121) 113
76-80.....	4,712.71	375	2,426,707	187,096	375.60	(112) 100	193,032	(113) 97
81-85.....	1,317.83	147	662,172	71,855	161.59	(91) 91	81,559	(88) 88
86-90.....	272.49	43	153,595	21,545	46.75	(106) 92	26,526	(102) 81
91 and over.....	37.00	11	26,118	5,583	9.31	(*) *	6,626	(*) *
All ages.....	47,074.76	2,365	\$32,893,585	\$1,511,188	2,084.57	(117) 113%	\$1,347,552	(110) 112%
FEMALES								
50 and under.....	14.33		\$ 7,515		0.02	(*) *	\$ 18	(*) *
51-55.....	60.25	1	43,778	\$ 572	0.24	(*) *	180	(*) *
56-60.....	304.14		160,006		2.11	(*) *	1,083	(*) *
61-65.....	1,502.21	14	752,039	5,540	17.98	(127) 78%	9,043	(108) 61%
66-70.....	2,717.42	42	1,433,717	22,667	49.27	(93) 85	25,888	(81) 88
71-75.....	1,090.18	27	318,604	8,018	36.09	(78) 75	17,208	(77) 47
76-80.....	389.34	11	194,300	4,945	22.70	(*) 48	11,186	(*) 44
81-85.....	87.58	10	40,607	3,405	7.90	(*) *	3,736	(*) *
86-90.....	11.00	2	4,482	470	1.46	(*) *	612	(*) *
91 and over.....	0.42		88		0.14	(*) *	29	(*) *
All ages.....	6,176.87	107	\$ 3,155,136	\$ 45,617	137.91	(90) 78%	\$ 68,983	(85) 66%

* Less than 10 deaths (actual or expected).

† Percentages in parentheses are for the year 1960 as adjusted in 1961.

TABLE 4
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE TO DECEMBER 31, 1961
 RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
					Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
MALES								
1924-40.....	56,297.34	2,923	\$ 59,377,823	\$ 2,964,846	2,289.45	128%	\$ 2,485,673	119%
1941-45.....	114,397.15	5,905	86,810,361	4,792,550	4,766.51	124	3,862,496	124
1946-50.....	258,435.46	12,088	172,948,322	8,323,521	10,612.01	114	7,436,421	112
1951-55.....	519,989.47	24,315	359,383,803	16,267,313	21,829.73	111	15,105,037	108
1956-60.....	873,621.21	41,664	707,262,366	30,646,552	39,032.69	107	29,902,005	102
1960.....	205,969.05	10,148	177,518,782	7,811,888	9,462.87	107	7,591,614	103
1961.....	218,907.19	11,032	195,434,169	8,567,069	10,285.94	107	8,459,348	101
FEMALES								
1924-40.....	9,852.36	275	\$ 5,823,610	\$ 153,541	174.83	157%	\$ 99,999	154%
1941-45.....	17,593.08	491	8,937,855	239,864	339.17	145	176,096	136
1946-50.....	39,306.33	915	17,243,332	427,282	787.99	116	365,382	117
1951-55.....	88,029.69	1,985	36,334,409	861,451	1,890.48	105	803,687	107
1956-60.....	173,203.88	3,926	75,933,680	1,689,521	4,090.30	96	1,735,422	97
1960.....	43,444.75	970	19,848,498	421,398	1,073.42	90	462,034	91
1961.....	47,982.22	1,163	22,441,380	502,464	1,219.34	95	531,069	95

TABLE 5
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE TO DECEMBER 31, 1961
 RETIREMENT PRIOR TO NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GQ-1951 TABLE (WITHOUT PROJECTION)			
					By Number of Lives		By Amount of Annual Income	
	Exposed	Actual Deaths	Exposed	Actual Deaths	Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
MALES								
1924-40.....	16,782.35	740	\$ 14,786,816	\$ 606,943	405.70	182%	\$ 354,247	171%
1941-45.....	26,173.10	1,458	17,941,123	776,460	725.34	201	526,757	147
1946-50.....	64,979.15	3,460	37,438,310	1,794,647	1,765.27	196	1,122,698	160
1951-55.....	133,764.99	6,785	78,433,444	3,661,578	3,801.34	178	2,346,006	156
1956-60.....	250,830.02	12,018	173,844,327	7,212,595	7,465.28	161	5,068,977	142
1960.....	63,847.19	2,914	46,937,126	1,830,688	1,896.89	154	1,350,620	136
1961.....	71,318.26	3,137	54,847,920	2,150,927	2,137.32	147	1,580,802	136
FEMALES								
1927-40.....	1,919.84	44	\$ 812,372	\$ 20,273	17.38	253%	\$ 7,824	259%
1941-45.....	3,847.98	102	1,447,080	38,267	45.17	226	18,952	202
1946-50.....	10,125.65	231	3,381,960	80,824	128.59	180	49,815	162
1951-55.....	23,015.44	527	7,419,968	191,059	320.88	164	117,222	163
1956-60.....	50,696.79	1,149	17,519,806	392,614	770.34	149	278,840	141
1960.....	13,682.68	324	4,876,164	111,864	210.72	154	76,968	145
1961.....	15,733.48	333	5,703,844	115,199	247.31	135	90,905	127

TABLE 6

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE TO DECEMBER 31, 1961
RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE

CALENDAR YEARS	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
	Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
					Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
	MALES							
1956-60	127,111.40	6,253	\$78,548,890	\$3,578,121	5,505.06	114%	\$3,223,099	111%
1960	40,850.56	2,099	27,204,779	1,223,208	1,794.64	117	1,114,777	110
1961	47,074.76	2,365	32,893,585	1,511,188	2,084.57	113	1,347,552	112
	FEMALES							
1956-60	13,684.02	276	\$ 6,625,475	\$ 130,228	298.79	92%	\$ 141,707	92%
1960	4,872.46	97	2,415,596	44,501	107.87	90	52,394	85
1961	6,176.87	107	3,155,136	45,617	157.91	78	68,983	66

TABLE 7
INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE
EXPERIENCE TO DECEMBER 31, 1961
RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE
COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)

MALES

Attained Ages	1946-50	1951-55	1955-59	1956-60	1957-61
Actual Deaths, by Number of Lives					
60 and under . . .	46	49	68	94	117
61-65	1,209	2,130	2,690	2,822	2,935
66-70	4,789	9,648	13,381	14,342	15,289
71-75	3,160	6,766	11,308	12,643	14,105
76-80	1,731	3,546	6,435	7,455	8,649
81-85	855	1,567	2,696	3,123	3,671
86-90	232	494	825	951	1,108
91-95	60	104	189	213	244
96 and over	6	11	15	21	23
Total	12,088	24,315	37,607	41,664	46,141
Ratio: Actual/Expected, by Number of Lives					
60 and under . . .	190%	176%	146%	151%	154%
61-65	118	116	112	112	111
66-70	113	113	107	107	107
71-75	113	110	108	108	108
76-80	110	107	106	105	106
81-85	119	108	102	102	103
86-90	108	111	105	103	103
91-95	154	134	125	121	117
96 and over	*	104	69	79	72
Total	114%	111%	107%	107%	107%
Ratio: Actual/Expected, by Amount of Annual Income					
60 and under . . .	199%	150%	103%	124%	115%
61-65	114	115	105	108	104
66-70	114	108	101	101	101
71-75	112	108	104	104	103
76-80	101	104	102	101	102
81-85	121	99	102	102	102
86-90	90	108	103	105	106
91-95	169	157	121	108	98
96 and over	*	92	65	63	58
Total	112%	108%	102%	102%	102%

* Less than 10 deaths (actual or expected).

TABLE 7—Continued

FEMALES

Attained Ages	1946-50	1951-55	1955-59	1956-60	1957-61
Actual Deaths, by Number of Lives					
60 and under	41	67	77	76	77
61-65	163	324	450	457	485
66-70	258	644	1,108	1,250	1,378
71-75	233	421	880	1,003	1,213
76-80	128	291	559	666	758
81-85	63	173	286	311	374
86-90	25	53	98	127	143
91-95	4	12	20	29	35
96 and over			4	7	6
Total	915	1,985	3,482	3,926	4,469
Ratio: Actual/Expected, by Number of Lives					
60 and under	119%	124%	109%	99%	94%
61-65	113	109	102	96	95
66-70	109	104	95	95	93
71-75	125	95	93	90	92
76-80	108	102	104	102	96
81-85	135	128	108	100	101
86-90	144	117	116	121	111
91-95	*	*	87	105	111
96 and over	*	*	*	*	*
Total	116%	105%	99%	96%	95%
Ratio: Actual/Expected, by Amount of Annual Income					
60 and under	100%	108%	103%	107%	100%
61-65	122	115	108	101	101
66-70	107	109	99	96	93
71-75	123	92	88	86	88
76-80	102	106	110	107	97
81-85	150	126	110	100	96
86-90	158	108	111	119	116
91-95	*	*	96	109	114
96 and over	*	*	*	*	*
Total	117%	107%	101%	97%	95%

* Less than 10 deaths (actual or expected).

TABLE 8
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE
 EXPERIENCE TO DECEMBER 31, 1961
 RETIREMENT PRIOR TO NORMAL RETIREMENT DATE
 COMPARISON WITH *Ga*-1951 TABLE (WITHOUT PROJECTION)
 MALES

Attained Ages	1946-50	1951-55	1955-59	1956-60	1957-61
Actual Deaths, by Number of Lives					
60 and under..	651	1,133	1,432	1,545	1,656
61-65.....	1,238	2,305	3,494	3,845	4,200
66-70.....	843	1,856	2,944	3,205	3,519
71-75.....	470	885	1,745	2,011	2,273
76-80.....	218	422	756	905	1,044
81-85.....	36	160	330	389	440
86-90.....	4	22	82	103	111
91-95.....		2	11	14	17
96 and over.....			1	1	1
Total.....	3,460	6,785	10,795	12,018	13,261
Ratio: Actual/Expected, by Number of Lives					
60 and under..	335%	310%	267%	252%	239%
61-65.....	243	228	206	198	190
66-70.....	166	156	154	151	148
71-75.....	138	129	127	128	128
76-80.....	126	111	116	118	115
81-85.....	94	108	110	114	114
86-90.....	*	82	108	113	103
91-95.....	*	*	*	124	111
96 and over.....	*	*	*	*	*
Total.....	196%	178%	165%	161%	156%
Ratio: Actual/Expected, by Amount of Annual Income					
60 and under..	252%	249%	203%	195%	189%
61-65.....	206	206	176	164	156
66-70.....	145	141	135	136	134
71-75.....	131	120	126	122	121
76-80.....	115	102	114	119	116
81-85.....	78	94	102	105	112
86-90.....	*	150	89	93	88
91-95.....	*	*	*	106	62
96 and over.....	*	*	*	*	*
Total.....	160%	156%	146%	142%	139%

* Less than 10 deaths (actual or expected).

TABLE 8—Continued

FEMALES

Attained Ages	1946-50	1951-55	1955-59	1956-60	1957-61
Actual Deaths, by Number of Lives					
60 and under.....	64	117	168	194	221
61-65.....	59	155	270	327	396
66-70.....	54	126	231	291	335
71-75.....	34	71	149	185	201
76-80.....	16	40	86	99	114
81-85.....	3	13	41	46	51
86-90.....	1	4	7	6	8
91-95.....		1	1	1	2
96 and over.....					
Total.....	231	527	953	1,149	1,328
Ratio: Actual/Expected, by Number of Lives:					
60 and under.....	260%	255%	219%	221%	222%
61-65.....	173	186	166	166	167
66-70.....	175	147	133	144	143
71-75.....	140	120	114	118	108
76-80.....	*	119	122	116	111
81-85.....	*	125	153	137	124
86-90.....	*	*	*	*	*
91-95.....	*	*	*	*	*
96 and over.....	*	*	*	*	*
Total.....	180%	164%	147%	149%	146%
Ratio: Actual/Expected, by Amount of Annual Income					
60 and under.....	259%	255%	208%	229%	216%
61-65.....	166	216	149	147	153
66-70.....	184	150	148	147	141
71-75.....	114	102	98	103	98
76-80.....	*	106	96	111	102
81-85.....	*	136	154	137	112
86-90.....	*	*	*	*	*
91-95.....	*	*	*	*	*
96 and over.....	*	*	*	*	*
Total.....	162%	163%	138%	141%	136%

* Less than 10 deaths (actual or expected).

TABLE 9
 INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE
 EXPERIENCE TO DECEMBER 31, 1961
 RETIREMENT UNDER A PLAN HAVING NO STATED NORMAL RETIREMENT DATE
 COMPARISON WITH G α -1951 TABLE (WITHOUT PROJECTION)

ATTAINED AGES	MALES		FEMALES	
	1956-60	1957-61	1956-60	1957-61
Actual Deaths, by Number of Lives				
60 and under.....	61	81	11	10
61-65.....	538	658	50	61
66-70.....	2,427	3,059	119	152
71-75.....	1,809	2,387	54	79
76-80.....	948	1,241	22	30
81-85.....	343	464	15	25
86-90.....	107	141	5	6
91-95.....	15	26
96 and over.....	5	5
Total.....	6,253	8,062	276	363
Ratio: Actual/Expected, by Number of Lives				
60 and under.....	310%	284%	*	*
61-65.....	151	143	122%	108%
66-70.....	120	122	108	100
71-75.....	108	111	65	70
76-80.....	102	103	51	48
81-85.....	93	94	107	117
86-90.....	97	96	*	*
91-95.....	81	106	*	*
96 and over.....	*	*	*	*
Total.....	114%	115%	92%	87%
Ratio: Actual/Expected, by Amount of Annual Income				
60 and under.....	171%	191%	*	*
61-65.....	132	124	95%	84%
66-70.....	110	114	109	103
71-75.....	111	113	64	61
76-80.....	104	103	59	52
81-85.....	105	104	136	122
86-90.....	103	99	*	*
91-95.....	46	71	*	*
96 and over.....	*	*	*	*
Total.....	111%	112%	92%	84%

* Less than 10 deaths (actual or expected).

During 1961 little change is indicated in the mortality for male lives retiring on or after normal retirement date. The fluctuations shown by the other categories probably are due to the smaller amount of experience.

EXPERIENCE UNDER CONTINGENT ANNUITANT OPTIONS

This study covers the experience under contingent annuitant option elections that became effective at normal retirement dates for employees who retired on or after those dates. Elections which were effective prior to normal retirement date and all special elections were excluded from the study. It was also decided to exclude the experience under these options on contracts providing large death benefits, since it might be anticipated that there would be little or no antiselection present when significant death benefits are available. Accordingly all experience under contracts providing a 100 per cent guaranteed refund of stipulated payments and under contracts providing a term certain period of ten or more years and life thereafter were excluded.

The experience was studied for the period January 1, 1951, through December 31, 1960, separately for each of the following categories of contract provisions: (a) options must be elected five or more years prior to normal retirement date and (b) options may be elected less than five years prior to normal retirement date.

Each category was investigated as to experience on the lives of original male annuitants and on the lives of female contingent annuitants following the death of the original annuitant. The study did not cover experience for original female annuitants and male contingent annuitants, since there were very little data available for those classes. No attempt was made to study the experience under the lives of contingent annuitants prior to the death of the original annuitants, since notification of the dates of death of contingent annuitants is often not reported on such cases.

The mortality experience is compared with the *Ga*-1951 male and female tables (without projection). Results are shown in Tables 10 through 13.

Table 10 shows the experience during the full observation period for original male annuitants by attained five year age groups separately for categories (a) and (b). Table 11 shows similar experience for female contingent annuitants after the death of the original annuitant.

The figures in Table 10 indicate somewhat higher mortality ratios under contracts permitting the election less than five years prior to normal retirement date than under those where the election must be made at least five years prior. The difference is larger by amount of annual income than by number of lives, possibly indicating more antiselection by

TABLE 10

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEARS 1951-60 BY ATTAINED AGES
SPECIAL STUDY OF CONTINGENT ANNUITANT OPTIONS—RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

	ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
		Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
						Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
115 Original Male Annuitant— Contingent Annuitant Option Elected at least 5 Years Prior to Normal Retirement Date	60 and under	1,149.14	17	\$ 4,204,398	\$ 52,427	14.77	115%	\$ 54,080	97%
	61-65	12,742.10	386	22,070,061	577,356	300.18	129	507,339	114
	66-70	39,415.35	1,523	55,479,158	1,943,128	1,271.66	120	1,784,910	109
	71-75	17,333.05	954	22,320,000	1,232,747	877.28	109	1,126,675	109
	76-80	5,759.35	470	7,730,310	529,590	456.34	103	617,605	86
	81-85	1,256.75	145	2,290,616	297,173	153.23	95	278,263	107
	86 and over	256.75	43	465,631	80,235	45.39	95	81,021	99
	All ages	77,912.49	3,538	\$114,560,174	\$4,712,656	3,118.85	113%	\$4,449,893	106%
Original Male Annuitant— Contingent Annuitant Option Elected less than 5 Years Prior to Normal Retirement Date	60 and under	109.21	4	\$ 173,141	\$ 22,579	1.69	*	\$ 2,642	*
	61-65	3,477.61	124	6,046,533	204,555	82.64	150%	143,927	142%
	66-70	9,112.94	311	14,085,376	511,596	288.77	108	440,031	116
	71-75	3,088.49	193	3,796,123	192,237	156.59	123	193,824	99
	76-80	1,127.09	102	1,636,362	125,599	90.51	113	131,027	96
	81-85	333.92	29	513,144	32,653	41.01	71	62,736	52
	86 and over	86.00	12	113,812	13,216	15.39	78	20,555	64
	All ages	17,335.26	775	\$ 26,364,491	\$1,102,435	676.60	115%	\$ 994,742	111%

* Less than 10 deaths (actual or expected).

TABLE 11

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEARS 1951-60 BY ATTAINED AGES
SPECIAL STUDY OF CONTINGENT ANNUITANT OPTIONS—RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

	ATTAINED AGES	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH GA-1951 TABLE (WITHOUT PROJECTION)			
		Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
						Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
Female Contingent Annuitant after the Death of Original Annuitant—Original Annuitant Elected Contingent Annuitant option at least 5 Years Prior to Normal Retirement Date	60 and under	1,781.98	9	\$ 1,424,915	\$ 9,964	9.24	*	\$ 7,983	*
	61-65	2,799.13	53	2,258,871	32,691	32.01	166%	25,954	126%
	66-70	4,581.92	74	3,962,449	63,474	85.64	86	74,073	86
	71-75	3,704.07	129	3,600,978	119,973	126.58	102	123,689	97
	76-80	1,870.61	93	1,858,686	83,901	110.87	84	110,507	76
	81-85	548.41	58	542,525	44,548	50.52	115	50,336	89
	86 and over	138.00	24	155,994	32,045	20.18	119	21,877	146
	All ages	15,424.12	440	\$13,804,418	\$386,596	435.04	101%	\$414,419	93%
Female Contingent Annuitant after the Death of Original Annuitant—Original Annuitant Elected Contingent Annuitant Option Less than 5 Years Prior to Normal Retirement Date	60 and under	307.07	3	\$ 216,721	\$ 2,182	1.38	*	\$ 1,184	*
	61-65	470.23	4	399,310	2,851	5.29	*	4,558	*
	66-70	753.29	14	583,439	13,687	13.97	100%	10,774	127%
	71-75	690.26	20	608,525	11,656	24.00	83	21,441	54
	76-80	432.76	26	365,170	22,405	25.63	101	21,594	104
	81-85	134.34	9	144,223	7,914	12.52	*	13,536	*
	86 and over	38.50	9	49,918	10,058	5.41	*	6,873	*
	All ages	2,826.45	85	\$ 2,367,306	\$ 70,753	88.20	96%	\$ 79,960	88%

* Less than 10 deaths (actual or expected).

TABLE 12

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEARS 1951-60 BY YEARS OF EXPERIENCE
SPECIAL STUDY OF CONTINGENT ANNUITANT OPTIONS—RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

	CALENDAR YEARS OF EXPERIENCE	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH Ga-1951 TABLE (WITHOUT PROJECTION)			
		Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
						Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
Original Male Annuitant— Contingent Annuitant Op- tion Elected at Least 5 Years Prior to Normal Re- tirement Date	1951	3,730.77	146	\$ 5,356,930	\$ 199,107	139.41	105%	\$ 199,969	100%
	1952	4,326.90	211	6,208,629	264,069	164.53	128	234,276	113
	1953	4,968.68	229	7,124,317	309,109	191.98	119	272,491	113
	1954	5,820.49	267	8,283,626	374,264	227.11	118	319,634	117
	1955	6,812.49	318	9,597,874	448,275	268.71	118	373,800	120
	1956	7,865.83	403	11,255,658	590,449	314.61	128	438,262	135
	1957	8,921.18	459	12,866,703	606,233	360.57	127	505,469	120
	1958	10,193.64	435	15,004,102	498,248	414.63	105	587,640	85
	1959	11,918.21	497	18,120,408	699,099	485.35	102	706,192	99
	1960	13,354.30	573	20,741,927	723,803	551.95	104	812,160	89
	All years	77,912.49	3,538	\$114,560,174	\$4,712,656	3,118.85	113%	\$4,449,893	106%
Original Male Annuitant— Contingent Annuitant Op- tion Elected Less than 5 Years Prior to Normal Re- tirement Date	1951	701.50	26	\$ 919,314	\$ 42,653	29.54	88%	\$ 39,342	108%
	1952	793.29	45	1,043,056	54,692	33.77	133	44,902	122
	1953	865.98	42	1,104,037	56,255	37.09	113	48,119	117
	1954	972.70	46	1,198,729	67,021	41.82	110	52,770	127
	1955	1,197.29	76	1,463,021	83,307	50.03	152	62,867	133
	1956	1,540.55	79	2,085,473	77,655	61.06	129	82,083	95
	1957	1,961.31	103	2,968,823	148,046	75.06	137	109,326	135
	1958	2,472.63	102	4,002,960	161,228	92.93	110	142,686	113
	1959	3,068.58	112	5,053,768	156,020	115.05	97	180,416	86
	1960	3,761.43	144	6,525,310	255,558	140.25	103	232,231	110
	All years	17,335.26	775	\$ 26,364,491	\$1,102,435	676.60	115%	\$ 994,742	111%

TABLE 13

INTERCOMPANY GROUP ANNUITY MORTALITY—MATURED LIFE EXPERIENCE FOR THE YEARS 1951-60 BY YEARS OF EXPERIENCE
SPECIAL STUDY OF CONTINGENT ANNUITANT OPTIONS—RETIREMENT ON OR AFTER NORMAL RETIREMENT DATE

	CALENDAR YEARS OF EXPERIENCE	NUMBER OF LIVES		AMOUNT OF ANNUAL INCOME		COMPARISON WITH G2-1951 TABLE (WITHOUT PROJECTION)			
		Exposed	Actual Deaths	Exposed	Actual Deaths	By Number of Lives		By Amount of Annual Income	
						Expected Deaths	Ratio Act./Exp.	Expected Deaths	Ratio Act./Exp.
Female Contingent Annuitant after the Death of Original Annuitant— Original Annuitant Elected Con- tingent Annuitant Option at Least 5 Years Prior to Normal Retire- ment Date	1951	584.93	17	\$ 602,726	\$ 13,859	13.71	124%	\$ 14,332	97%
	1952	715.61	18	708,663	11,233	17.10	105	18,307	61
	1953	886.85	27	861,631	20,208	21.70	124	22,746	89
	1954	1,066.47	27	1,021,773	34,823	26.95	100	27,927	125
	1955	1,286.17	35	1,196,808	22,665	33.65	104	32,630	69
	1956	1,520.59	35	1,393,775	45,549	40.87	86	39,707	115
	1957	1,815.58	59	1,609,030	46,603	50.85	116	47,739	98
	1958	2,132.27	55	1,860,930	57,605	62.49	88	58,575	98
	1959	2,508.15	71	2,135,011	69,902	76.18	93	69,750	100
	1960	2,907.50	96	2,414,071	64,149	91.54	105	82,706	78
	All years	15,424.12	440	\$13,804,418	\$386,596	435.04	101%	\$414,419	93%
Female Contingent Annuitant after the Death of Original Annuitant— Original Annuitant Elected Con- tingent Annuitant Option Less than 5 Years Prior to Normal Re- tirement Date	1951	88.60	4	\$ 71,887	\$ 3,085	2.65	*	\$ 2,541	*
	1952	105.41	2	85,692	1,594	3.42	*	3,245	*
	1953	134.28	3	113,466	2,565	4.66	*	4,498	*
	1954	166.82	2	140,521	2,801	5.84	*	5,456	*
	1955	218.10	6	179,760	4,424	7.48	*	6,635	*
	1956	276.32	15	215,448	17,340	9.08	*	8,005	*
	1957	331.50	12	256,356	6,400	10.12	119%	8,626	74%
	1958	417.48	12	343,283	9,608	12.33	97	10,873	88
	1959	488.78	13	412,280	8,270	14.70	88	13,113	63
	1960	599.16	16	548,613	14,666	17.92	89	16,968	86
All years	2,826.45	85	\$ 2,367,306	\$ 70,753	88.20	96%	\$ 79,960	88%	

* Less than 10 deaths (actual or expected).

amount. The fact that the difference in ratio is less than might have been expected may be due to the inclusion in the second category of cases under which the election period, although less than five years, is long enough to eliminate some of the effects of antiselection. The data were not compiled in a form that would permit analysis by length of election period.

Table 11 is based on rather scanty data, but it does indicate mortality experience for female annuitants at a lower level than that expected on the *GA-1951* Table (without projection). This is consistent with the results of the studies of regular matured life experience for female lives.

Table 12 shows the experience by calendar year for original male annuitants under each of the election periods, and Table 13 shows similar experience for female contingent annuitants after the death of the original male annuitant. Table 12 indicates that there has been some improvement in the mortality experience of original male annuitants from 1951 through 1960, particularly in the case of those contracts under which the election was made at least five years prior to normal retirement date.

The following companies have contributed experience for the investigation covered by this report:

- Aetna Life Insurance Company
- Bankers Life Company
- Canada Life Assurance Company
- Confederation Life Association
- Connecticut General Life Insurance Company
- Equitable Life Assurance Society
- Great-West Life Assurance Company
- John Hancock Mutual Life Insurance Company
- Massachusetts Mutual Life Insurance Company
- Metropolitan Life Insurance Company
- North American Life Assurance Company
- Pacific Mutual Life Insurance Company
- Prudential Insurance Company of America
- Sun Life Assurance Company of Canada
- The Travelers Insurance Company