

CONTINUOUS MORTALITY INVESTIGATION

MORTALITY OF ASSURED LIVES: EXPERIENCE FOR 1959-62

The last report on the mortality experience of assured lives covered the years 1953-58 and was published in *T.F.A.* vol. 27, p. 153 and *J.I.A.* vol. 87, p. 84. The report given below covers the experience for 1959-62.

Table 1 compares the actual deaths in 1959-62 with the deaths expected by the A1949-52 table; to facilitate comparison, the ratio of actual to expected deaths for the earlier period 1953-58 is also shown.

The results again show appreciable reductions in mortality compared with the A1949-52 table; also there are further reductions compared with 1953-58. The following table shows for both periods the percentages of actual deaths to those expected by the A1949-52 table in broad groups :

	1959-62	1953-58
	%	%
Duration 0 : all ages	91	96
Duration 1 : all ages	x 93	92
Durations 2 and over :		
ages up to 44½	79	83
ages 45½ to 59½	86	93
ages 60½ to 74½	x 93	93
ages 75½ and over	93	96

In four out of these six groups there has been an appreciable fall in mortality between the two periods. The exceptions are duration 1 and the age group 60½ to 74½ for durations 2 and over. The latter group covers a range of ages where there has for many years been no decline in the mortality rates of male lives among the general population, so that the absence of a decline among assured lives should occasion no surprise.

In considering mortality rates for durations 2 and over, it should be remembered that the effect of selection does not cease at duration 2 and that the distribution of the data over durations of various length within this aggregate group will materially influence the emerging rates. Life assurance business has been increasing in recent years, and accordingly the data at shorter durations may have been increasing relatively to the longer durations. It is possible, therefore, that the mean duration of the "2 and over" group may have been slightly less for 1959-62 than it was for 1953-58.

In Table 2 the percentage ratios at durations 2 and over in quinary age groups have been re-calculated on the basis of the actual rates experienced in 1949-52 instead of the A1949-52 table. They are shown alongside the percentages obtained from the notes by L. V. Martin on *The Recent Trend of Mortality in Great Britain* published in *J.I.A.* vol. 86, p. 315, vol. 87, p. 384, vol. 88, p. 370, and vol. 89, p. 289, by averaging the respective male ratios for each of the four individual years. At most age groups the population percentages, using 1950-52 as a basis, were rather higher than the assured lives percentages using 1949-52 as a basis. In other words, there appears to have been a somewhat higher rate of decline in mortality among assured lives than among the male population—although the caveat made above about a possible shift in the mean duration within the “2 and over” group should again be borne in mind.

In the last report the following approximate relationship was given between 1953-58 mortality at durations 2 and over and the A1949-52 ultimate table :

$$q_x (1953-58) = .95q_x (A1949-52) - .0002$$

A similar relationship has been devised for the 1959-62 data, viz

$$q_x (1959-62) = .91q_x (A1949-52) - .0002$$

Expected deaths have been computed on the basis of the right-hand side of this equation and the resulting percentages of actual to expected deaths are as follows :

Age group	100 A/E
-19½	116
20½-24½	119
25½-29½	82
30½-34½	92
35½-39½	102
40½-44½	102
45½-49½	95
50½-54½	96
55½-59½	100
60½-64½	105
65½-69½	100
70½-74½	99
75½-79½	103
80½-84½	103
85½-89½	102
90½-94½	104
95½-99½	96
100½-	72
All ages	100

TABLE 1

*Assured lives 1959-62**Comparison of actual and expected deaths by the A1949-52 table (medical and non-medical combined)*

Age group	Duration 0				Duration 1				Duration 2 and over				Age group
	Actual deaths	Expected deaths	100 A/E	100 A/E 1953-58	Actual deaths	Expected deaths	100 A/E	100 A/E 1953-58	Actual deaths	Expected deaths	100 A/E	100 A/E 1953-58	
-19½	90	85	106	105	57	58	98	100	64	75	85	70	-19½
20½-24½	220	194	113	109	151	165	92	113	379	434	87	83	20½-24½
25½-29½	122	183	67	78	173	199	87	82	660	1,088	61	75	25½-29½
30½-34½	113	156	72	93	144	178	81	88	1,227	1,782	69	78	30½-34½
35½-39½	147	167	88	99	199	198	101	92	2,265	2,821	80	83	35½-39½
40½-44½	178	193	92	106	248	248	100	90	3,999	4,695	85	86	40½-44½
45½-49½	282	265	106	91	350	361	97	95	8,257	9,999	83	87	45½-49½
50½-54½	208	252	83	99	348	381	91	97	13,974	16,467	85	93	50½-54½
55½-59½	132	161	82	95	270	268	101	93	17,288	19,235	90	97	55½-59½
60½-64½	83	72	115	95	114	129	88	86	12,597	13,273	95	94	60½-64½
65½-69½	30	33	91	96	45	67	67	61	6,349	6,998	91	91	65½-69½
70½-74½	13	12	108	57	17	23	74	71	6,271	6,996	90	93	70½-74½
75½-79½									6,980	7,463	94	94	75½-79½
80½-84½									6,065	6,470	94	95	80½-84½
85½-89½									3,551	3,816	93	99	85½-89½
90½-94½	1,618	1,773	91	96	2,116	2,275	93	92	1,153	1,221	94	96	90½-94½
95½-99½									200	230	87	89	95½-99½
100½-									18	27	67	66	100½-
All ages	1,618	1,773	91	96	2,116	2,275	93	92	91,297	103,090	89	93	All ages

TABLE 2

*Ratios of actual to expected deaths for 1959-62**Assured lives experience (durations 2 and over) compared with male population experience*

Assured lives		Great Britain population (males)	
Age group	100 A/E	100 A/E	Age group
20½-24½	80	81	20-24
25½-29½	61	68	25-29
30½-34½	73	72	30-34
35½-39½	79	83	35-39
40½-44½	85	87	40-44
45½-49½	82	84	45-49
50½-54½	83	86	50-54
55½-59½	92	95	55-59
60½-64½	95	98	60-64
65½-69½	95	97	65-69
70½-74½	90	99	70-74
75½-79½	96	94	75-79
80½-84½	92	95	80-84
85½-	97	87	85-

Note Expected deaths for the assured lives are based on the actual C.M.I. rates experienced in 1949-52 and for the population on the actual rates experienced over the period 1950-52.