

MORTALITY OF IMMEDIATE ANNUITANTS

EXPERIENCE FOR 1967-70

THE last note on a four-year experience of the mortality of immediate annuitants related to 1963-66. That report, and the previous one relating to 1959-62, had indicated an apparent change since the Finance Act, 1956, in the class of life purchasing annuities and in order to pursue this further the offices submitted data for individual durations up to 1968 relating to the post-1956 purchases, and the results of this special investigation were published in *J.I.A.* 97, 337 and *T.F.A.* 32, 412; the general indications were that at durations 0 and 1 the mortality experienced had remained fairly level with the passage of time; mortality rose appreciably between durations 0 and 1, with smaller increases at durations 2 and 3, after which it remained fairly level up to duration 8 for males and duration 7 for females; thereafter there was a further significant, but unexplained rise.

The present note reverts to the previous pattern, with all durations of 5 and over combined, since data for individual durations beyond 4 are not available for the years 1969 and 1970. However, the ultimate data have been subdivided between annuities purchased before 1957 and those purchased after 1956, so that the experience of the new class of life can be investigated separately.

As in some instances the trend between 1959-62 and 1963-66 has been reversed, figures for both the earlier quadrennia are repeated in Table 1, which shows the comparison of actual and expected deaths based on the table of annuitant mortality for 1947 published on page xviii of the preface to *The a(55) Tables for Annuitants*. It will be seen that at duration 0 the level of mortality for both sexes has returned to approximately that of 1959-62 after a substantial rise in 1963-66, but at durations 1-4 there has been over the three quadrennia a gradual fall with the passage of time. At durations 5 and over (post-1956 annuities) the rise in male mortality from 1963-66 to 1967-70 can be explained by the increase in average duration, but the same does not apply to female mortality which has fallen over the range of ages 71-90; there is of course no experience for these durations in 1959-62, other than for pre-1957 annuities.

For the pre-1957 annuities, male mortality has been fairly stable, as has female mortality up to age 79; at the higher ages female mortality has fallen steadily.

Table 2 shows a similar comparison, for 1963-66 and 1967-70, based on the *a(55)* table. The male experience for post-1957 annuities was not very different from the *a(55)* table, except at durations 1-4 where mortality was appreciably lower than shown by the standard table. Female mortality was lower than *a(55)* at all durations, and all ages except the 41-60 group. The mortality experienced

Table 1. *Mortality of Annuity, 1959-70: actual deaths under immediate annuities and percentages of actual to expected deaths according to the table of annuity mortality for 1947, printed on page xviii of the preface to the a(55) tables for Annuity*

Duration	Age group (nearest ages)	Males						Females					
		1959-62		1963-66		1967-70		1959-62		1963-66		1967-70	
		Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E
0	41-70	51	63	78	75	75	61	45	42	72	53	47	37
	71-80	77	48	128	73	97	52	109	50	158	56	128	49
	81 and over	55	50	72	46	85	53	106	57	153	54	173	57
	All ages over 40	183	52	278	64	257	55	260	51	383	55	348	50
1-4	41-60	20	145	24	122	22	128	22	69	21	53	24	78
	61-65	33	76	77	100	63	67	64	72	108	86	86	66
	66-70	132	87	161	75	270	95	103	58	156	62	223	78
	71-75	158	83	207	74	213	69	210	69	260	63	304	65
	76-80	187	68	250	68	284	72	332	78	456	75	459	70
	81-85	188	69	275	72	263	63	326	80	466	74	510	68
	86-90	99	75	156	67	170	68	186	71	318	80	407	75
	91 and over	22	76	60	87	71	67	101	95	150	88	191	83
	All ages over 40	839	76	1210	74	1356	72	1344	75	1935	73	2204	71

Table 1 (cont.)

Age group (nearest ages)	Durations 5 and over (largely pre-1957)												Durations				
	Males				Females				Males					Females			
	1959-62		1959-62		1963-66		1967-70		1963-66		1967-70			1963-66		1967-70	
	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E		Actual deaths	100 A/E	Actual deaths	100 A/E
41-60					9	194	11	125	12	113	25	132					5 and over post-1956
61-65					14	88	32	83	35	112	48	65					
66-70					56	93	140	88	69	66	218	83					
71-75					111	73	361	92	146	77	416	74					
76-80					131	78	423	81	247	80	710	80					
81-85					185	85	447	80	318	87	869	73					
86-90					102	69	386	86	215	86	757	80					
91-95					36	87	201	92	87	79	347	84					
96 and over					2	120	16	68	25	112	96	91					
All ages over 40					646	80	2017	85	1154	83	3486	78					
41-60	13	103	25	59	12	151	5	114	13	54	10	101					5 and over pre-1957
61-65	25	94	105	101	26	133	17	182	68	105	25	82					
66-70	106	109	333	94	61	104	57	197	214	99	96	95					
71-75	410	121	883	94	194	94	79	103	599	91	339	102					
76-80	596	91	1993	98	425	91	226	96	1469	97	948	101					
81-85	888	99	3321	107	614	89	409	94	2572	97	1660	89					
86-90	688	94	3094	105	632	99	404	95	2707	100	2183	93					
91-95	304	103	1644	108	320	107	257	101	1670	103	1460	99					
96 and over	39	97	463	104	54	78	48	85	496	98	494	89					
All ages over 40	3069	99	11861	103	2338	95	1502	98	9808	98	7215	94					

Mortality of Immediate Annuity

Table 2. *Mortality of Annuity, 1963-70: actual deaths under immediate annuities and percentages of actual to expected deaths according to the a(55) tables (select for duration 0, ultimate for other durations)*

Durations	Age group (nearest ages)	Males				Females			
		1963-66		1967-70		1963-66		1967-70	
		Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E	Actual deaths	100 A/E
0	41-70	78	149	75	121	72	109	47	75
	71-80	128	140	97	99	158	106	128	91
	81 and over	72	77	85	88	153	92	173	96
	All ages over 40	278	117	257	100	383	100	348	91
1-4	41-60	24	143	22	149	21	70	24	103
	61-65	77	120	63	80	108	109	86	83
	66-70	161	89	270	114	156	74	223	94
	71-75	207	87	213	81	260	73	304	75
	76-80	250	78	284	83	456	85	459	80
	81-85	275	81	263	71	466	85	510	78
	86-90	156	74	170	74	318	91	407	86
	91 and over	60	95	71	73	150	97	191	91
All ages over 40	1210	84	1356	83	1935	85	2204	82	
5 and over post-1956	41-60	9	226	11	146	12	148	25	174
	61-65	14	105	32	100	35	141	48	82
	66-70	56	111	140	105	69	79	218	99
	71-75	111	86	361	109	146	89	416	86
	76-80	131	89	423	93	247	91	710	91
	81-85	185	96	447	90	318	101	869	84
	86-90	102	76	386	94	215	99	757	92
	91-95	36	95	201	100	87	87	347	92
	96 and over	2	127	16	73	25	119	96	97
	All ages over 40	646	91	2017	97	1154	95	3486	90
5 and over pre-1957	41-60	12	173	5	133	13	71	10	133
	61-65	26	159	17	219	68	133	25	104
	66-70	61	124	57	235	214	118	96	114
	71-75	194	111	79	121	599	105	339	117
	76-80	425	105	226	111	1469	110	948	115
	81-85	614	100	409	106	2572	111	1660	103
	86-90	632	109	404	104	2707	115	2183	107
	91-95	320	116	257	109	1670	113	1460	109
	96 and over	54	84	48	91	496	104	494	95
All ages over 40	2338	107	1502	110	9808	112	7215	107	

by the purchasers of pre-1957 annuities was consistently higher than $a(55)$, reflecting the fact that the data are now all at high durations.

It is desirable now to consider whether a new standard table should be prepared; the last such table was based on an experience which ended 19 years before the beginning of the quadrennium upon which this present report is based, with a projection to make it applicable to purchases 18 years ago. The forecast rates of improvement have not been realized.

The length of the experience since 1956 is scarcely sufficient to permit an extrapolation formula to be devised on a basis of anything but guesswork, whilst the recent changes in select mortality suggest that a 1967-70 experience table based on the post-1956 purchases would give as good a forecast as any other basis. It might be felt that the actual experience at durations 1 and over (the maximum possible curtate duration being 13) would allow for falling mortality for some years to come, when average durations in the experience are bound to increase.

It is the intention in future to prepare for the contributing offices an annual summary of the experience of all offices combined, similar to those already prepared in respect of life office pensioners. This up-to-date information may be some consolation, albeit small, for the fact that the data are not at present considered suitable for the preparation of the next standard table (which might possibly be compiled four or eight years hence).

It is also hoped that, starting with the year 1975, it will be possible to collect all data by individual ages (at present the data at many of the younger ages are combined in broad groups), and also for immediate annuitants' data to be submitted by amounts as well as by lives.