

THE RECENT TREND OF MORTALITY IN GREAT BRITAIN

By W. S. HOCKING, O.B.E., I.S.O., F.I.A.

of the Government Actuary's Department

IN continuation of the tables given in *J.I.A.* 82, 396-400, central death-rates in age-groups for males and females separately in the year 1956, and the ratios of these death-rates to the corresponding rates for the years 1950-52 taken as the standard, are shown in Table 1. The deaths are those recorded as occurring in Great Britain in the year in the specified age ranges, and the population used is the 'home' population, i.e. the total population, including British seamen on foreign-going ships and the armed forces in the country, but excluding British forces abroad, as estimated by the Registrars General of England and Wales and of Scotland respectively. The relatively high mortality rate of men in the age-groups 15-19 and 20-24 last birthday is to be attributed to the exclusion from the experience of part of the armed forces at those ages, with the result that the remaining population, including as it does all those unfit for military service, is somewhat under-average in health. This feature has, however, only a very minor effect on the broader age-group 15-44 last birthday, and its effect on the trend from year to year is negligible.

Table 1. Death-rates for age-groups in Great Britain in the year 1956 and ratios of these rates to the rates for 1950-52

Age-group	Death-rates in 1956		Ratios to 1950-52 rates	
	Males	Females	Males	Females
0	·02842	·02153	·83	·81
1-4	·00101	·00084	·72	·70
5-9	·00046	·00034	·68	·71
10-14	·00042	·00028	·76	·72
15-19	·00081	·00036	·84	·52
20-24	·00106	·00055	·76	·56
25-29	·00113	·00073	·75	·59
30-34	·00136	·00104	·78	·71
35-39	·00194	·00152	·83	·80
40-44	·00312	·00233	·88	·86
45-49	·00552	·00372	·88	·88
50-54	·00988	·00557	·89	·86
55-59	·01763	·00878	·97	·89
60-64	·02838	·01455	·97	·91
65-69	·0442	·0244	·98	·91
70-74	·0687	·0423	1·00	·92
75-79	·1083	·0734	·99	·92
80-84	·166	·1246	·97	·93
85 and over	·256	·225	·89	·96
All ages:				
Crude rates	·01249	·01098	·981	·985
Standardized*	·01199	·01002	·942	·899

* Standardized on 1951 Census age distribution.

The death-rates up to age 65 have been shown to five places of decimals; but because of the fall in the size of the population over that age (which is estimated by the Registrars General only to the nearer thousand) and the rapid increase in the death-rate itself, the reliability of the final places of decimals diminishes progressively. For ages 65-79, therefore, only four places of decimals have been tabulated, and at ages 80 and over for men and 85 and over for women the number of decimal places has been limited to three.

Table 2. Standardized death-rates for age-groups in Great Britain (standardized on 1951 Census age distribution)

Year	Age-group						All ages
	Under 1	1-4	5-14	15-44	45-64	65 and over	
Males							
1930-32	·07953	·00760	·00196	·00412	·01637	·0873	·01588
1946	·05788	·00230	·00096	·00279	·01466	·0749	·01285
1947	·04955	·00238	·00095	·00260	·01491	·0801	·01318
1948	·04006	·00183	·00080	·00228	·01393	·0711	·01175
1949	·03813	·00168	·00074	·00222	·01445	·0782	·01247
1950	·03511	·00146	·00067	·00206	·01448	·0796	·01246
1951	·03524	·00149	·00062	·00199	·01528	·0877	·01336
1952	·03293	·00134	·00055	·00184	·01404	·0787	·01211
1953	·03139	·00127	·00053	·00174	·01392	·0790	·01204
1954	·02992	·00108	·00046	·00170	·01382	·0787	·01192
1955	·02955	·00104	·00049	·00167	·01382	·0807	·01208
1956	·02842	·00099	·00044	·00161	·01375	·0804	·01199
Females							
1930-32	·05973	·00686	·00178	·00351	·01243	·0735	·01519
1946	·04416	·00191	·00074	·00223	·00934	·0607	·01161
1947	·03833	·00197	·00073	·00220	·00918	·0628	·01174
1948	·03057	·00154	·00062	·00199	·00860	·0555	·01046
1949	·02922	·00140	·00055	·00191	·00888	·0625	·01131
1950	·02681	·00128	·00047	·00169	·00874	·0617	·01104
1951	·02668	·00130	·00043	·00156	·00895	·0674	·01174
1952	·02556	·00106	·00039	·00136	·00822	·0584	·01032
1953	·02461	·00110	·00039	·00131	·00801	·0585	·01025
1954	·02272	·00083	·00034	·00127	·00794	·0572	·00999
1955	·02270	·00095	·00035	·00117	·00783	·0591	·01018
1956	·02153	·00082	·00031	·00112	·00770	·0585	·01002

In order that the trend of mortality rates may be conveniently studied, the group death-rates and the ratios to the 1950-52 standard since 1946 are set out in Tables 2 and 3 respectively, and the ratios of the 1950-52 standard are shown in graphical form in Figs. 1 and 2. In these tables and graphs the age-groups have been reduced to six, viz. under age 1 (infants), 1-4 (young children), 5-14 (children of school age), 15-44 (younger adults), 45-64 (older adults) and 65 and over (elderly). Further, so as to eliminate the effect of the considerable changes in the age distribution of the population that are taking place, the group death-rates and ratios have been standardized on the age distribution of Great Britain at the 1951 Census.

As a link with the earlier series of tables that appeared in the *Journal*, showing the trend of mortality in England and Wales since 1930-32, figures for Great Britain for the average of those three years have been included in Tables 2 and 3.

It will be seen that mortality in the year 1956 was somewhat lighter than in the preceding year, the standardized rate for all ages combined being about

Table 3. Ratios of standardized death-rates for age-groups in Great Britain to the rates for 1950-52 (standardized on 1951 Census age distribution)

Year	Age-group						All ages
	Under 1	1-4	5-14	15-44	45-64	65 and over	
Males							
1930-32	2.307	5.390	3.161	2.102	1.120	1.054	1.247
1946	1.679	1.631	1.548	1.423	1.003	.905	1.009
1947	1.437	1.688	1.532	1.327	1.020	.967	1.035
1948	1.162	1.298	1.290	1.163	.953	.859	.923
1949	1.106	1.191	1.194	1.133	.988	.944	.980
1950	1.018	1.035	1.081	1.051	.990	.961	.979
1951	1.022	1.057	1.000	1.015	1.045	1.059	1.049
1952	.955	.950	.887	.939	.960	.950	.951
1953	.910	.901	.855	.888	.952	.954	.946
1954	.868	.766	.742	.867	.945	.950	.936
1955	.857	.738	.790	.852	.945	.975	.949
1956	.824	.702	.710	.821	.940	.971	.942
Females							
1930-32	2.256	5.716	4.046	2.279	1.439	1.163	1.362
1946	1.668	1.592	1.682	1.448	1.081	.960	1.041
1947	1.447	1.642	1.659	1.429	1.062	.994	1.053
1948	1.154	1.283	1.409	1.292	.995	.878	.938
1949	1.103	1.167	1.250	1.240	1.028	.989	1.014
1950	1.012	1.067	1.068	1.097	1.012	.976	.990
1951	1.008	1.083	.977	1.013	1.036	1.066	1.053
1952	.965	.883	.886	.883	.951	.924	.926
1953	.929	.917	.886	.851	.927	.926	.919
1954	.858	.692	.773	.825	.919	.905	.896
1955	.857	.792	.796	.760	.906	.935	.913
1956	.813	.683	.705	.727	.891	.926	.899

$\frac{3}{4}$ % lower than that in 1955 for men and about $1\frac{1}{2}$ % lower for women. For both sexes and for all age-groups the rates for 1956 continue the general trend indicated by the rates for 1952 to 1955. There is little improvement during the past 5 years at ages over 45 in the case of men and over 65 in the case of women, but under these ages the rapid reduction in mortality rates continues, particularly among children and young women. Over the range of ages 1-34 last birthday, the death rates of females are no less than 30% below the level of 1950-52, and at ages 15-24 last birthday they have been almost halved during this short space of 5 years. The irregularities in the ratios for girls aged 1-4 last birthday are perhaps to be attributed to random fluctuations in the very low rates of mortality (less than 1 per 1000) now being experienced at these ages.

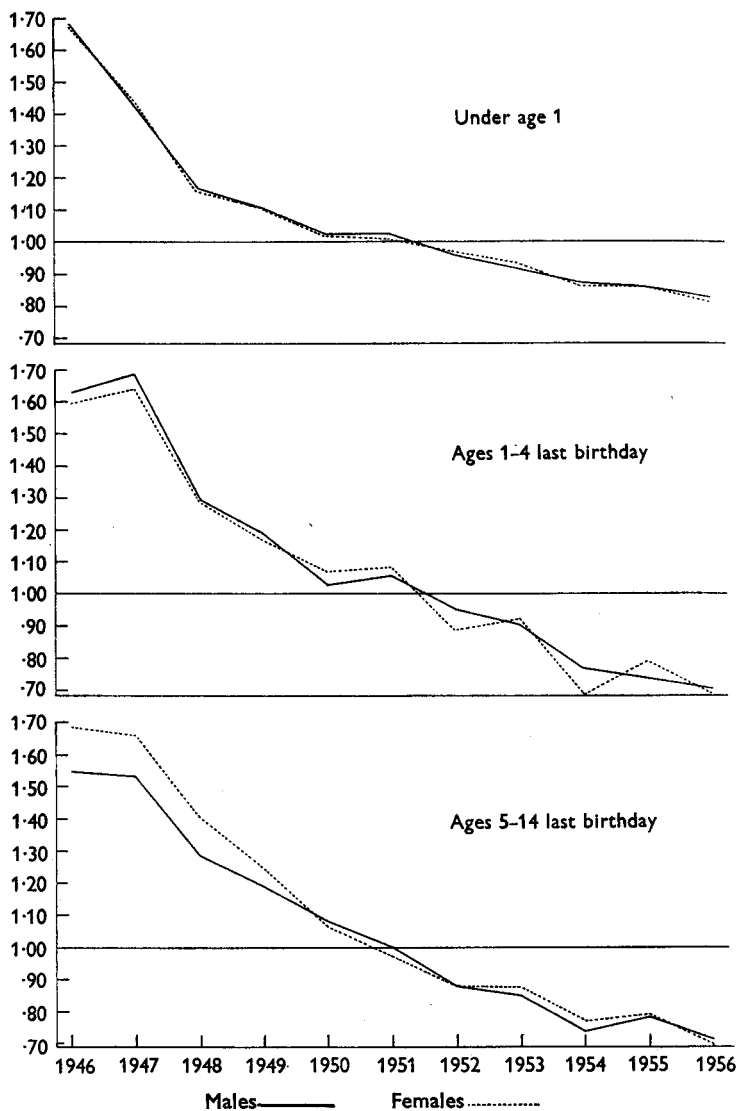
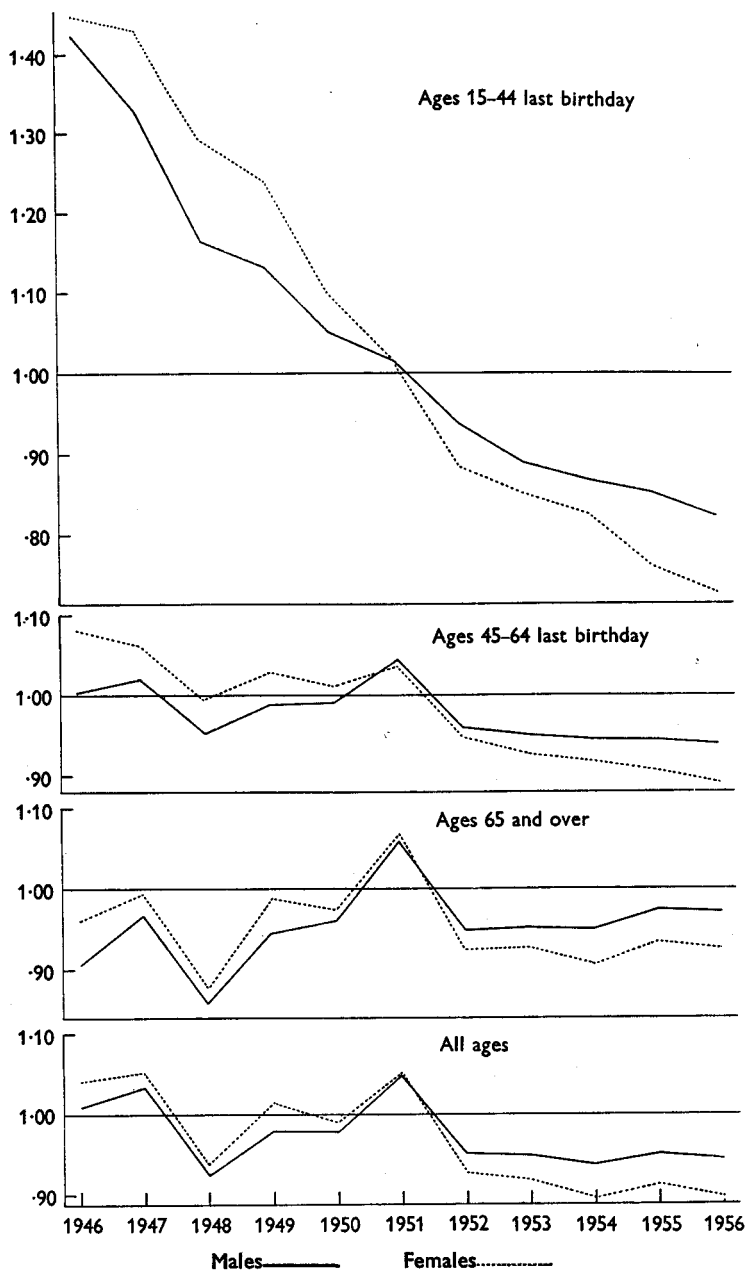


Fig. 1. Ratios of group death-rates (standardized) to 1950-52 rates for children.



Note: the scale on this page is two and a half times as large as that on the preceding page.

Fig. 2. Ratios of group death-rates (standardized) to 1950-52 rates for adults and for all ages.