

THE RECENT TREND OF MORTALITY IN GREAT BRITAIN

BY C. D. DAYKIN, M.A., F.I.A., F.S.S., A.S.A.

ABSTRACT

This note continues a regular series on mortality rates in Great Britain, showing the mortality experienced in each age-group in 1988 and comparing this for broad age-groups, on a standardised basis, with mortality in earlier years.

KEYWORD

Mortality

This note continues a regular series on mortality rates in Great Britain; the previous note in the series appeared in *J.I.A.* **116**, 745 and dealt with mortality in 1987.

Following the 1981 Census, estimates of the resident population have been produced on a new definition. This includes residents temporarily outside the country, but excludes foreign visitors. It includes members of both H.M. and foreign forces stationed in the United Kingdom, but excludes members of H.M. forces who are stationed abroad. The figures for deaths are not precisely consistent with the new definition of the population, since they do not necessarily include all deaths of residents temporarily absent from the U.K.

This note presents details of the mortality experience in 1988. The rates have been calculated using the deaths recorded as occurring in Great Britain each year and the resident population at 30 June of each year, as estimated by the Registrars General of England and Wales and of Scotland.

Table 1 shows central death rates for Great Britain for the year 1988, together with the ratios of these rates to the corresponding average rates for the three years 1980–82, which have been taken as a standard. Death rates in this form for the years 1971 to 1983 were published in *J.I.A.* **112**, 75 and for the years 1984 to 1987 in *J.I.A.* **116**, 745. To minimise the effect of changes in the age distribution of the population exposed-to-risk, the death rates for age-groups have been calculated, and the comparison with the 1980–82 mortality rates has been made, by standardising by individual ages on the age distribution of the Great Britain population at the 1981 Census.

The overall pattern of mortality changes over the last 50 years can be illustrated by reference to standardised group death rates for a few broad age-groups. These are set out in Table 2 for each year from 1971, as well as for three-year periods about the Census dates in 1931, 1951, 1961, 1971 and 1981. The ratios of these rates to the 1980–82 standard are given in Table 3 and are also

Table 1. *Death-rates for age-groups in Great Britain in the year 1988 and ratios of those rates to the rates for 1980-82*

Age groups	Death rates in 1988		Ratios to 1980-82 rates	
	Males	Females	Males	Females
Under 1	·01030	·00772	·798	·773
1-4	·00045	·00039	·820	·875
5-9	·00023	·00015	·833	·751
10-14	·00026	·00015	·930	·768
15-19	·00068	·00030	·834	·933
20-24	·00088	·00032	·999	·872
25-29	·00084	·00036	·971	·818
30-34	·00106	·00059	1·083	·957
35-39	·00134	·00089	·953	·925
40-44	·00214	·00146	·866	·888
45-49	·00380	·00244	·856	·852
50-54	·00655	·00388	·808	·804
55-59	·01153	·00677	·808	·868
60-64	·02008	·01135	·884	·941
65-69	·03293	·01827	·898	·962
70-74	·05242	·02908	·892	·934
75-79	·08120	·04671	·886	·891
80-84	·12267	·07870	·881	·874
85-89	·17811	·13165	·866	·868
90 & over	·24863	·22956	·868	·926
All ages:				
Crude	·01151	·01133	·952	·989
Standardised*	·01052	·01008	·878	·898

* Standardised on 1981 Census age distribution.

shown graphically in Figures 1 and 2. Six age-groups have been used: under age 1 (infants), 1-14 (children), 15-44 (younger adults), 45-64 (the middle-aged), 65-79 (the younger elderly) and 80 and over (the elderly). The group death rates and ratios have been standardised by single ages on the age distribution of the Great Britain population at the 1981 Census, so as to reduce the effect of changes in the age structure of the population.

Mortality overall (standardised by age-groups) was about 1% lower in 1988 than in 1987 and some 11% lower than in 1980-82. Mortality was higher than in 1987 in a number of age-groups. Male mortality improved by more than female mortality on an overall standardised basis but showed increases at most ages under 50. Between 1987 and 1988 male mortality increased by 5% at ages 25 to 29 and by nearly 3% across the age group 20 to 39, suggesting some evidence of increased mortality from AIDS. However, only part of this increase can be accounted for by the reported deaths from AIDS in these age-groups.

Table 2. *Standardised death-rates for age-groups in Great Britain (standardised on 1981 Census age distribution)*

Year	Under 1	1-14	15-44	45-64	65-79	80 and over	All ages
<i>Males</i>							
1930-32	·07953	·00337	·00390	·01738	·07192	·21402	·01827
1950-52	·03448	·00080	·00182	·01581	·06736	·20856	·01531
1960-62	·02596	·00058	·00147	·01473	·06585	·18979	·01431
1970-72	·02024	·00049	·00136	·01383	·06390	·17605	·01354
1980-82	·01289	·00035	·00118	·01206	·05620	·16728	·01199
1971	·02011	·00049	·00135	·01356	·06200	·17309	·01323
1972	·01924	·00048	·00134	·01387	·06486	·18009	·01369
1973	·01891	·00047	·00135	·01367	·06306	·17797	·01342
1974	·01894	·00044	·00132	·01350	·06219	·17714	·01326
1975	·01746	·00043	·00129	·01314	·06144	·17615	·01305
1976	·01629	·00041	·00128	·01323	·06208	·18174	·01320
1977	·01602	·00038	·00124	·01277	·05935	·16892	·01258
1978	·01545	·00039	·00128	·01296	·05981	·17138	·01272
1979	·01487	·00037	·00125	·01297	·05932	·17377	·01268
1980	·01366	·00036	·00120	·01242	·05703	·16733	·01218
1981	·01266	·00034	·00118	·01201	·05587	·16718	·01193
1982	·01236	·00033	·00115	·01172	·05581	·16632	·01183
1983	·01143	·00032	·00112	·01159	·05511	·16347	·01166
1984	·01090	·00032	·00110	·01112	·05300	·15708	·01121
1985	·01053	·00032	·00109	·01109	·05402	·16461	·01142
1986	·01096	·00028	·00110	·01085	·05278	·15921	·01115
1987	·01062	·00028	·00110	·01050	·05080	·14682	·01067
1988	·01030	·00030	·00110	·01018	·05011	·14625	·01052
<i>Females</i>							
1930-32	·05973	·00305	·00337	·01303	·05763	·18921	·02071
1950-52	·02648	·00062	·00143	·00911	·04750	·17426	·01624
1960-62	·01987	·00042	·00093	·00779	·04147	·15523	·01407
1970-72	·01552	·00035	·00083	·00747	·03654	·13749	·01253
1980-82	·00998	·00026	·00068	·00687	·03211	·12642	·01122
1971	·01536	·00035	·00082	·00736	·03546	·13498	·01226
1972	·01492	·00035	·00082	·00756	·03681	·13944	·01265
1973	·01453	·00033	·00081	·00739	·03607	·13899	·01248
1974	·01426	·00033	·00079	·00745	·03540	·13708	·01232
1975	·01377	·00029	·00079	·00726	·03446	·13545	·01207
1976	·01213	·00028	·00077	·00736	·03505	·14110	·01236
1977	·01241	·00028	·00074	·00712	·03346	·13107	·01170
1978	·01211	·00030	·00077	·00724	·03357	·13086	·01174
1979	·01155	·00027	·00072	·00731	·03357	·13220	·01178
1980	·01099	·00027	·00070	·00700	·03245	·12624	·01131
1981	·00947	·00026	·00067	·00682	·03192	·12567	·01115
1982	·00950	·00024	·00066	·00679	·03203	·12547	·01114
1983	·00893	·00024	·00064	·00668	·03136	·12310	·01092
1984	·00859	·00023	·00063	·00651	·03046	·11714	·01052
1985	·00836	·00025	·00062	·00656	·03127	·12293	·01086
1986	·00808	·00023	·00061	·00631	·03060	·11908	·01055
1987	·00804	·00022	·00061	·00624	·02974	·11115	·01011
1988	·00772	·00021	·00061	·00609	·02959	·11182	·01008

Table 3. Ratio of standardised death-rates for age-groups in Great Britain to the rates for 1980-82 (standardised on 1981 Census age distribution)

Year	Under 1	1-14	15-44	45-64	65-79	80 and over	All ages
<i>Males</i>							
1930-32	6.170	9.712	3.316	1.441	1.280	1.279	1.524
1950-52	2.675	2.305	1.548	1.311	1.199	1.247	1.277
1960-62	2.014	1.671	1.250	1.221	1.172	1.135	1.193
1970-72	1.570	1.412	1.156	1.147	1.137	1.052	1.129
1980-82	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1971	1.560	1.412	1.148	1.124	1.103	1.035	1.103
1972	1.493	1.383	1.139	1.150	1.154	1.077	1.142
1973	1.467	1.354	1.148	1.133	1.122	1.064	1.119
1974	1.469	1.268	1.122	1.119	1.107	1.059	1.106
1975	1.355	1.239	1.097	1.089	1.093	1.053	1.088
1976	1.264	1.182	1.088	1.097	1.105	1.086	1.101
1977	1.243	1.095	1.054	1.059	1.056	1.010	1.049
1978	1.199	1.124	1.088	1.075	1.064	1.025	1.061
1979	1.154	1.066	1.063	1.075	1.056	1.039	1.058
1980	1.060	1.037	1.020	1.030	1.015	1.000	1.016
1981	.982	.980	1.003	.996	.994	.999	.995
1982	.959	.951	.978	.972	.993	.994	.987
1983	.887	.922	.952	.961	.981	.977	.972
1984	.846	.928	.933	.922	.943	.939	.935
1985	.817	.918	.928	.919	.961	.984	.953
1986	.850	.806	.932	.899	.939	.952	.930
1987	.824	.807	.932	.871	.904	.878	.890
1988	.798	.860	.939	.844	.892	.874	.878
<i>Females</i>							
1930-32	5.985	11.961	4.963	1.896	1.795	1.497	1.846
1950-52	2.653	2.431	2.106	1.325	1.479	1.378	1.447
1960-62	1.991	1.647	1.370	1.133	1.292	1.228	1.254
1970-72	1.555	1.373	1.222	1.087	1.138	1.088	1.117
1980-82	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1971	1.539	1.373	1.208	1.071	1.104	1.068	1.093
1972	1.495	1.373	1.208	1.100	1.147	1.103	1.127
1973	1.456	1.294	1.193	1.075	1.123	1.099	1.112
1974	1.429	1.294	1.163	1.084	1.103	1.084	1.098
1975	1.380	1.137	1.163	1.056	1.073	1.071	1.076
1976	1.215	1.098	1.134	1.071	1.092	1.116	1.102
1977	1.243	1.098	1.090	1.036	1.042	1.037	1.043
1978	1.213	1.176	1.134	1.053	1.046	1.035	1.046
1979	1.157	1.059	1.060	1.063	1.046	1.046	1.050
1980	1.101	1.059	1.031	1.018	1.011	.999	1.008
1981	.949	1.020	.987	.992	.994	.994	.994
1982	.952	.941	.972	.988	.998	.992	.993
1983	.895	.941	.943	.972	.977	.974	.973
1984	.861	.911	.922	.948	.949	.927	.937
1985	.837	.959	.908	.955	.974	.972	.967
1986	.809	.880	.900	.918	.953	.942	.940
1987	.806	.859	.893	.907	.926	.879	.901
1988	.773	.810	.902	.886	.922	.885	.898

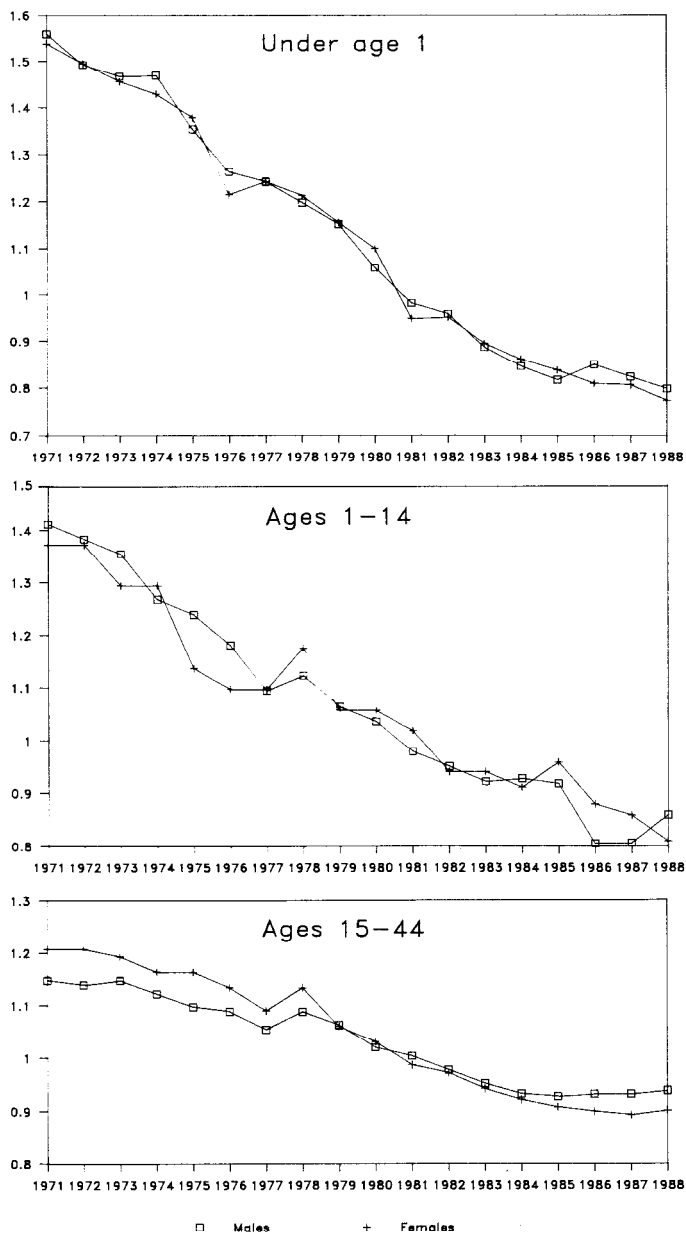


Figure 1. Ratios of standardised group death-rates to 1980-82 rates—children and young adults.

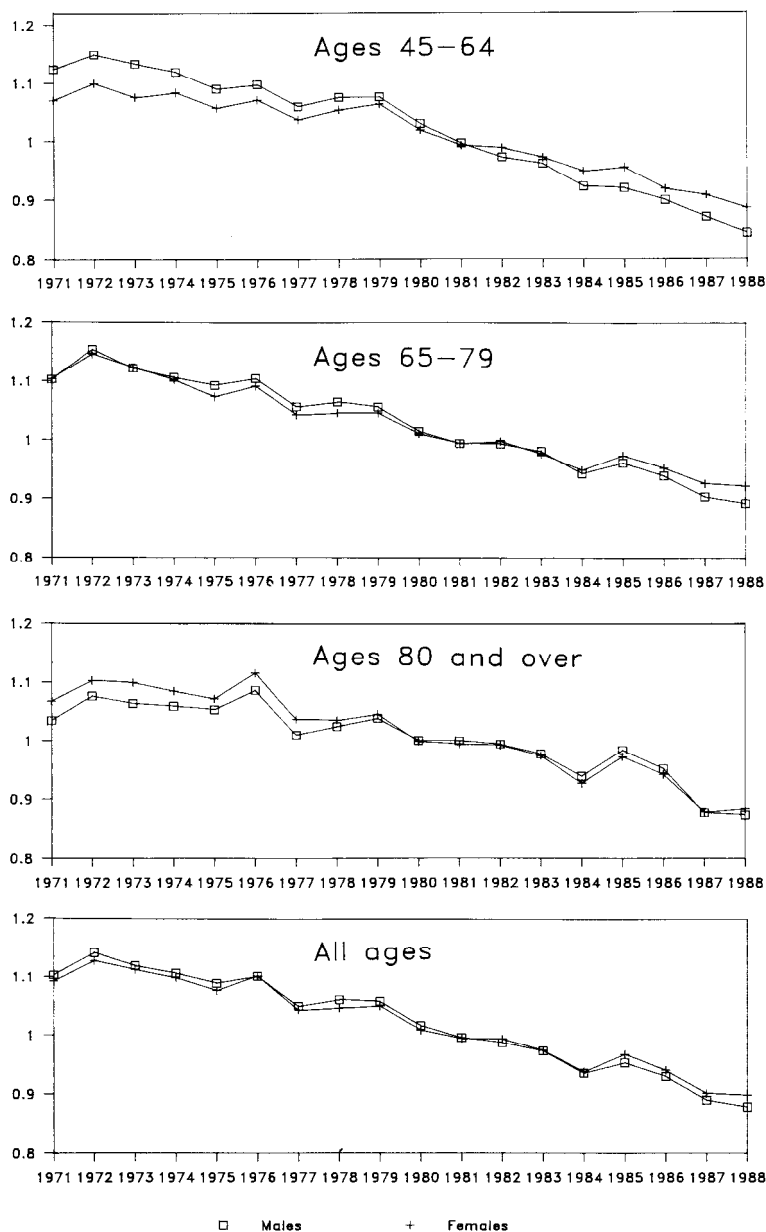


Figure 2. Ratios of standardised group death-rates to 1980-82 rates—older adults and all ages.

The average level of mortality in the years 1986–88 was about 10% lower than the average in the years 1980–82 for males and $8\frac{1}{2}\%$ lower for females. Infant mortality fell by some 19% between these two periods and the mortality of children between 1 and 15 years of age fell by about 16%. Mortality only failed to improve between 1980–82 and 1986–88 for males aged 30 to 34, for whom there was an increase of about 5%. At ages over 60 the fall in mortality from 1980–82 to 1986–88 averaged some 9% for males and some 5% for females.