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THE

REGISTRAR-GENERAL'S

STATISTICAL REVIEW

OF

ENGLAND AND WALES

FOR THE YEAR

1935

(New Annual Series, No. 15)

TEXT

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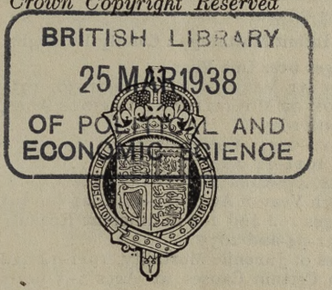

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YEAR 1934. TEXT.

Table LI (page 69).

Persons	1934	(last Col.).	
All Ages	Crude	76 should read	763
	Standardized	74 ,, ,,	740

YEAR 1935. PART I—MEDICAL.

Table 17 (page 90). Lincolnshire : Parts of Kesteven.

Grantham M.B. Comparability factor (col. 13). 0·9 should be 0·89.

YEAR 1935. PART II—CIVIL.

Table Q (page 71). Spain.

Birth-rate, 1934 should read 26·3.

STATISTICAL REVIEW, 1935.

Note.—Of the tables referred to below, those numbered in Arabic will be found in "Tables, Part I—Medical," and those lettered in "Tables, Part II — Civil," while those numbered in Roman numerals appear in the text of this volume.

DEATHS.

The deaths of 477,401 persons were registered in England and Wales during 1935, 243,458 of these being males and 233,943 females.

This number is 0·1 per cent. above that for 1934.

Deaths of non-civilians, which numbered only 318, are now allocated to their administrative area of residence, and are included in all 1935 tables.

Death-Rates.—The death-rates used in this Review are of several kinds. The *crude* death-rate of a given region or locality represents the number of deaths which were registered during the year as belonging to that locality, after correction for transfers to the place of residence of the deceased, per 1,000 or million of the corresponding estimated population at the middle of the year. In this rate are included deaths at all ages whatsoever. For England and Wales as a whole the crude death-rate in 1935 was 11·7 per 1,000.

Specific death-rates relate either to mortality assigned to specific causes by the processes outlined at the commencement of the section "Causes of Death" (p. 42), or else to the mortality amongst selected groups of persons specified according to their sex, age, civil condition or occupation. Specific rates of the latter type are, with certain exceptions, obtained by relating the numbers of deaths registered as being those of persons in the selected group to the estimated number of such persons alive at the mid-year. Exceptions to this are the rate of infant mortality which is based upon the number of live births registered during the year, and certain death-rates connected with childbearing which, for reasons explained in the section on maternal mortality, are based upon the number of live and still-births registered during the year.

Standardized death-rates are attempts to express the mortality of a population of changing or abnormal age distribution by a single figure calculated in such a way that the changes or abnormalities in constitution do not appreciably affect it. The standardized rates used in this Review for England and Wales as a whole, whether for all causes or specific causes, are the rates which would result if each sex and age group of the census population in 1901 was subject to the death-rate at that age during the year to which the rate

applies.* On this basis of standardization the rate from all causes in 1935 was 9·0 per 1,000 living, the lowest rate ever recorded.

As the population of this country in 1901 included relatively few infants and old people it forms a standard exceptionally favourable to low mortality. Its use for this purpose accordingly yields comparatively low standardized rates all round. In order to provide standardized rates for this country comparable with those of countries using the standard recommended by the International Statistical Institute (a composite population made up of those of a large number of European countries in 1900 or 1901), rates calculated upon the latter by the method suggested by the Institute† are shown in Table XXII, as well as those based on the 1901 English standard, which is that used elsewhere in this Review. It will be seen that use of the less favourable standard increases the rate from 9·0 to 10·1 per thousand.

Neither standard is satisfactory for the population as now constituted owing to the rapid changes in the proportionate age distribution which have occurred since 1901, but a change to some standard of more recent date would only temporarily remove this objection at the cost of grave disadvantages to the continuity of recorded death-rates. More complicated rates such as the life-table death-rate, whilst they would be free from some of the faults of the standardized rate as at present defined, suffer from the disadvantage that they postulate conditions which are hypothetical and their precise meaning is difficult to visualize.

The important effect of the rapid changes at present proceeding in the age-constitution of the population on the crude and standardized death-rates is evidenced by the fact that from 1901, when both rates were 16·9 per 1,000 persons living, the crude rate declined to 12·1 in 1921, but since then has shown no appreciable fall, the average rate in 1921–25 being 12·2, in 1926–30 12·1, and in 1931–35 12·0. The standardized rate however, which reached 11·3 in 1921, has continued to fall to its present low record of 9·0.

Another method of expressing mortality by a single figure which is not influenced by the proportions at risk at different ages is to calculate an " equivalent average death-rate,"‡ that is to say an arithmetic mean of the rates at quinquennial groups of ages up to some convenient limit of age such as 65, this being equivalent to calculating a standardized death-rate at ages under 65 based upon a population equally distributed over the 13 age groups.§ This has

* For a full description of the methods employed for this " standardization " *see* The Registrar-General's Decennial Supplement—1921, Part III (pages xxxiii—xlii). Standardized death-rates for the sexes separately quoted in this Review are based upon the age distribution of persons of undistinguished sex in the general population of England and Wales in 1901.

† Annuaire International de Statistique, 1917, p. viii.

‡ G. W. Yule; Journal of Royal Statistical Society, 1934. xcvii, Pt. I, 15.

§ If rates at all the quinquennial age groups are not available, twice the rate for the decennial group can be substituted without appreciable error.

the effect at present of giving too great weight to mortality at the higher ages 35–65, but the extent of that overweighting is rapidly diminishing year by year, whereas the underweighting of these ages by use of the 1901 standard population becomes continually more pronounced. This is made clear by the comparison of populations in Table I, the numbers in parentheses representing the standard population of persons at ages under 65 in 1901 if it were redistributed on the basis of equal weighting used in calculating the equivalent average death-rate.

Table I.—Population of Persons in England and Wales by Ages, per 10,000 at all ages, 1901, 1911, 1921, 1931 and 1935.

	1901		1911	1921	1931	1935
	Standard.	Uniform.	Census.	Census.	Census.	Estimated.
0– ..	1,143	(733)	1,069	877	749	697
5– ..	2,099	(1,467)	1,995	1,895	1,635	1,583
15– ..	1,958	(1,467)	1,805	1,756	1,734	1,600
25– ..	1,616	(1,467)	1,651	1,520	1,605	1,669
35– ..	1,228	(1,467)	1,344	1,411	1,368	1,404
45– ..	892	(1,467)	978	1,167	1,235	1,237
55– ..	597	(1,467)	637	769	932	997
65– ..	331	—	377	434	536	583
75– ..	121	—	126	151	182	204
85 and up.	15	—	18	20	24	26
All ages ..	10,000	—	10,000	10,000	10,000	10,000

The equivalent average death-rates at ages under 65 for each sex give a simple measure, unaffected by age distribution, of the mortality up to that age, but the information given by these two figures needs to be supplemented by rates at 65–75 and 75 and over in order to gain a fairly complete picture of mortality.

In Table II the trends for each sex, since 1901, of (*a*) the crude death-rate, (*b*) the standardized death-rate, (*c*) the equivalent average death-rate under 65, and (*d*) the life-table death-rate (1,000 divided by the complete expectation of life at birth) are compared. The proportionate fall in the equivalent average death-rate under 65 has been only slightly greater than that of the standardized rate at all ages, notwithstanding that the improvement at the excluded ages over 65 has been very much less than at the earlier ages. Their simple definition and ready calculation, and the fact that they are not dependent upon an arbitrary standard population out of relation to present-day conditions, give these equivalent rates certain advantages over the standardized rates for separate causes, and these alternative rates have been given in several tables of this Review.

Table II.—Trend of Crude and Corrected Death-Rates since 1901 by Sex; Rates per 1,000 living and per cent. of the rate in 1911.

	Crude all ages.		Standardized, all ages		Equivalent average rate under 65.		Life table death-rate, all ages	
	M.	F.	M.	F.	M.	F.	M.	F.
	Rates per 1,000 living.							
1901	18·1	15·8	18·5	15·5	16·2	13·2	—	—
1911	15·6	13·7	15·6	13·0	13·6	11·0	19·4	18·1
1921	13·0	11·3	12·5	10·2	10·5	8·5	18·0	16·8
1931	13·0	11·6	11·3	9·0	9·3	7·2	17·0	15·9
1932	12·7	11·4	10·9	8·7	8·9	6·9	—	—
1933	12·9	11·7	10·9	8·8	9·1	7·0	—	—
1934	12·5	11·1	10·4	8·3	8·8	6·7	—	—
1935	12·5	11·1	10·2	8·0	8·5	6·4	—	—
	Per cent. of rate in 1911.							
1901	116	115	119	119	119	120	—	—
1911	100	100	100	100	100	100	100	100
1921	83	82	80	78	77	77	92	93
1931	83	85	72	69	68	65	87	82
1934	80	81	67	64	65	61	—	—
1935	80	81	65	62	63	58	—	—

For most causes of death the standardized rates in Table 8 were below the average for the preceding five years, the comparison on this basis being specially favourable for measles, influenza, whooping cough, encephalitis lethargica, cerebro-spinal fever, tuberculosis, respiratory diseases, valvular disease of the heart, fatty heart, gangrene, and meningitis in both sexes, and for suicide, accident, cystitis and general paralysis in males. The causes which showed appreciable increases over the preceding five-year average were diphtheria, leukæmia, myocarditis, cardiovascular degeneration, disordered action of the heart and angina pectoris in both sexes and cancer and diseases of the prostate in males.

Adjusted Death-Rates for Local Areas. — In the Review for 1934 the history of the methods employed for correcting local death rates for peculiarities in the sex and age constitutions of their populations prior to the year 1911 was summarised.

In the Report for 1911 the indirect method of standardization was employed for every administrative area, a standardizing factor being calculated by applying the mean death rates in England and Wales during 1901–10 for each sex at separate ages to the local population as constituted in 1911 on the one hand and to the standard

population of England and Wales in 1901 on the other. These factors, by which the crude death-rates were to be multiplied, were employed throughout the ensuing decade until they were recalculated by applying the mean national death rates in 1920–22 to the local census population in 1921 and the standard population of England and Wales in 1901. The 1921 series was not published in the annual Reports but the appropriate factor was furnished to each local Medical Officer of Health.

The disadvantages of continuing to relate the death-rates of local areas to a standard population so different in age constitution from the present population of England and Wales are plain from the fact that a corresponding standardizing factor for England and Wales as a whole for the year 1931 calculated by applying 1930–32 rates would be ·82, compared with unity in 1901 and ·98 in 1911. In consequence, neither the standardizing factor nor the resulting standardized death-rate for a local area calculated on the 1901 standard now conveys any information in itself, without first comparing it with the corresponding factor or rate for the country as a whole.

What is needed is a simple ratio which immediately conveys to the mind, without further calculations, the extent to which a local death-rate in the present year is in excess or defect of the rate expected, after taking into account (1) the sex and age constitution of its population as determined at the most recent census, and (2) the mortality in the country as a whole during the present year. Whether the ratio be calculated by the direct or indirect method of standardization is of no practical importance provided that the standard rates used for the latter are those of a recent period of years.

This need has been met since 1934 by the calculation for every separate administrative area, county aggregate, county and region, as shown in Table 17, of an *areal comparability factor*, A.C.F. and a *ratio of adjusted death-rate to national rate* or *standardized ratio*.

The method of calculation is as follows:—Standard national death rates for the triennium 1930–32 at various sex and age groups are obtained by dividing the deaths registered in England and Wales in the three years by three times the census population. The standard rates are multiplied by the corresponding groups of the census population in 1931 of the area (as now defined). The groups employed may be conveniently reduced to 11 without seriously affecting the accuracy of the resulting factor, viz. persons under 5, persons aged 5–34, males aged 35–54, 55–64, 65–74, 75–84, females of the same ages, and persons aged 85 and over. In certain areas where the population at 5–34 is known to be abnormally distributed owing to the presence of large schools or institutions for young people this age group is further subdivided. The sum of the resulting products divided by the total population gives the expected mean local death-rate at all ages in 1930–32. The ratio of the

mean crude death-rate of England and Wales in 1930–32 to this local index rate is the "areal comparability factor," or "A.C.F." for the area as given in Column 13 of Table 17.

The "A.C.F." for 1935 relates to the population of the area as defined by boundaries during that year, but it is of course based upon the sex and age constitution of that area as it was determined at the last census of 1931. Provided that there have not been in the meantime changes in boundary important enough to disturb appreciably the relative age distribution of the population included, the same comparability factor may be applied also to the crude rates of the preceding years 1931 to 1934, or to the mean rate for a series of years around the census of 1931, and except where influenced by boundary changes in the future it will remain applicable until a new series of factors can be calculated on the basis of the next census.

The adjusted death rate for 1935 is obtained by multiplying the local crude death rate by the A.C.F. for that year, and the standardized ratio given in column 14 of Table 17 is the ratio of this adjusted death rate to the crude death rate of England and Wales in 1935. Adjusted local D.R. = A.C.F. × crude D.R.

If it is desired to calculate *standardized death rates* based on 1901 standard population and comparable with those given for separate areas in the Annual Reports for 1911–14, the adjusted death rate must be further multiplied by the time comparability factor (T.C.F.) or ratio of the standardized national rate (persons) to the crude national rate (persons) for the year in question. Standardized local D.R. = T.C.F. × A.C.F. × crude local D.R. The numerical values of the T.C.F. for the years 1931 to 1935 are:—1931, ·820; 1932, ·808; 1933, ·796; 1934, ·790; 1935, ·768.

The assumption here involved is that the distribution by sex and age of the local population has undergone since the 1931 Census the same proportionate changes as has the distribution of the national population (the age changes in the national population between census years having been calculated annually since 1915 by adding births and deducting the deaths at various ages). Although this assumption is not necessarily true in the case of certain rapidly growing areas, it is the best approximation which can be made and is more satisfactory than the assumption hitherto made in local standardization for inter-censal years, namely that the local sex and age distribution remained unchanged until it was again ascertained by the next Census.

The comparability factors in Table 17 can only be applied to mortality from all causes, although for specific causes of death whose incidence according to sex and age is similar to that for all causes combined the appropriate factor would be found to be very similar. For most causes, however, the specific factor, which can be calculated in the same manner by substituting death-rates from the specific cause in 1930–32 for the death-rates from all causes, differs from the factor tabulated. This is shown below by a few examples which

were calculated for the county boroughs of Bournemouth and St. Helens in 1934.

	Comparability factors, 1934, for—					
	All causes.	Cancer.	Measles.	Diabetes.	Heart disease.	Respiratory tuberculosis.
Bournemouth ..	0·75	0·70	1·39	0·68	0·65	1·01
St. Helens ..	1·23	1·32	0·80	1·34	1·46	0·97

Whilst the cancer, diabetes and heart disease factors tend to resemble the factors for all causes, those for measles and phthisis are widely different.

The effect of standardization of the death rates of the county boroughs upon the amount of variation met with in these rates is seen in Table III. Whilst the ratio of the crude death-rate in the quinquennium 1929–33 to the national rate ranged from 0·85 (Coventry) to 1·27 (Hastings), the corresponding standardized ratio ranged from 0·83 (Eastbourne) to 1·38 (Oldham), that is to say the range was increased by the process of standardization. The correction for differences in age distribution accentuates the contrasts between the mortalities of the northern industrial towns and the residential and agricultural towns instead of diminishing them. Of the 39 towns with crude mortality 8 or more per cent. in excess of that of England and Wales in 1929–33, standardization reduced the ratio for 12, the most remarkable reductions being for Hastings, 1·27 to 0·85, Bath, 1·15 to 0·84, and Bournemouth, 1·15 to 0·86. No change resulted for one town, but for the remaining 26 the adjusted death-rate was more in excess of the national rate than was the crude rate, 24 of these towns being in the North Region. Far from accounting for part of the wide differences in mortality rates between individual county boroughs, the peculiarities in age distribution tend in general to mask these differences, the more favourably circumstanced towns having larger proportions of old people. This is no new phenomenon, for in 1911, whereas the ratio of the crude death-rate to the national rate ranged from 0·72 (Eastbourne) to 1·38 (Liverpool and Middlesbrough), the ratio for standardized rates had a wider range from 0·75 (Eastbourne) to 1·50 (Middlesbrough). The changes which took place in the standardized death-rates of each separate county borough between 1911–14 and 1931–34 were dealt with in the section on "Standardized Mortality of the County Boroughs and Administrative Counties in 1931–34 compared with 1911–14", in the Review for 1934 (pp. 144–150).

In the Review for 1934 (pp. 150–155) it was shown that when the rates of standardized mortality in 1929–33 were correlated with three measures of environment and social conditions, namely, the zone of geographical latitude in which the town is situated, a housing index given by the mean number of persons per room, and a social index given by the proportion of males over 14 years of age whose occupation placed them in the unskilled or partly-skilled classes,

the resulting coefficients with mortality were each fairly high and for none of the factors did the correlation disappear when the effect of the other two had been eliminated by partial correlation. After correcting for the differences in the 3 factors by a statistical process it was found that towns in the eastern parts of England compared favourably as regards mortality with towns in the west.

In 1935 the ratios of the crude death rates of the county boroughs to that of England and Wales ranged from 0·83 for Coventry to 1·37 for Hastings, and the standardized ratios from 0·83 for Oxford and Croydon to 1·41 for Oldham and Merthyr Tydfil and 1·43 for Wigan (Table III).

Table III.—Distribution of Comparability Factors, Crude and Standardized Mortality Ratios of the County Boroughs, 1929-33 and 1935.

—	·63–	·68–	·73–	·78–	·83–	·88–	·93–	·98–	1·03–	1·08–	1·13–	1·18–	1·23–	1·28–	1·33–	1·38–	1·43–	Total
Ratio of crude death-rate to national rate 1929–33	—	—	—	—	2	3	10	13	16	15	18	3	3	—	—	—	—	83
Ratio of adjusted death rate to national rate 1929–33	—	—	—	—	4	6	9	8	7	13	8	10	7	7	3	1	—	83
Ratio of crude death rate to national rate, 1935	—	—	—	—	4	3	10	9	18	13	11	7	6	1	1	—	—	83
Ratio of adjusted death - rate to national rate, 1935	—	—	—	—	4	7	8	6	11	9	9	7	7	10	2	2	1	83
Comparability factor, 1935	1	—	2	2	4	5	6	11	13	19	12	7	1	—	—	—	—	83

Mortality at different portions of the year.—Table 4 indicates that the crude death-rate was below the corresponding rate in the preceding nine years for the March quarter but was higher than in the nine years for the September quarter, whilst for the June quarter it was higher than in eight of those years, and for the December quarter it was higher than in seven. Table 31 shows that the March and September quarters were unusually warm when judged by the mean air temperature at Greenwich.

The present stability of the death-rate in the last three quarters of the year is apparent from the experience during the last ten years. The average mortality in these quarters during the decennium ranged only from 10·7 to 11·4, being 11·3 in 1935, while the death-rate in the March quarter fluctuated between 13·2 in 1935, and 20·9 in 1929, an influenza year when the first quarter was exceptionally cold.

The contributions of the four quarters to the year's mortality in quinquennial periods since 1851, and in each year since 1931, are shown in Table IV. It should be noted, however, that the crude quarterly mortalities in Tables IV and 4 do not represent the full improvement which would be registered since 1901 if these rates were standardized.

The September quarter showed the lowest rate of the four quarters in each quinquennium except 1896–1900, when its mean rate was exceeded by those of the June and December quarters. The March quarter has registered the highest rate of the four quarters in each quinquennium, but the relative excess over the September quarter has varied greatly, and has been larger in the last four than in any preceding quinquennium.

The numbers of deaths from different causes which occurred in each of the first nine months of the year and in the last three months of 1934 are set out in Table 23.

Table IV.—Quarterly Death-rates in each quinquennium 1851–1930 and in 1931, 1932, 1933, 1934 and 1935 with ratio to yearly rate taken as 100.

	Death-rate per 1,000 living.				Ratio to yearly rate taken as 100.			
	March.	June.	September.	December.	March.	June.	September.	December.
1851–55	25·3	22·5	21·0	21·9	111	99	93	96
1856–60	24·1	21·6	19·6	21·9	111	99	90	100
1861–65	25·7	22·0	20·4	22·3	114	97	90	99
1866–70	24·7	21·6	21·5	22·0	110	96	96	98
1871–75	24·3	21·1	20·4	22·1	110	96	93	100
1876–80	23·2	20·7	18·8	20·6	112	100	90	99
1881–85	21·4	19·3	17·6	19·4	110	99	91	100
1886–90	21·7	18·0	17·0	18·9	115	95	90	100
1891–95	21·8	18·5	16·4	18·1	117	99	88	97
1896–1900	19·5	16·6	17·5	17·2	110	94	99	97
1901–05	17·9	15·2	14·9	16·1	112	95	93	101
1906–10	17·4	14·1	12·6	14·7	118	96	86	100
1911–15	16·9	13·7	12·7	14·0	118	96	89	98
1916–20	17·5	13·5	10·9	15·8	122	94	76	110
1921–25	15·1	11·9	9·6	12·0	124	98	79	98
1926–30	15·9	11·5	9·4	11·6	131	95	78	96
1931–35	15·4	11·5	9·6	11·7	128	96	80	98
1931	16·5	11·5	9·6	11·7	134	93	78	95
1932	15·4	11·6	9·7	11·5	128	97	81	96
1933	17·1	10·8	9·4	12·0	139	88	76	98
1934	14.6	11.8	9.6	11.2	124	100	81	95
1935	13·2	12·0	9·8	12·0	113	103	84	103

Mortality of each sex.—The excess of male over female standardized mortality in 1935 was 27 per cent., compared with 25 in 1934 and 24 in 1933. Comparing the sex rates for the quinquennium 1931–35, age by age, male excess occurred at each age group except 10–15 and was greatest at 45–55. The sex ratios recorded in Table V are derived from Table 5, with substitution for 1911–15 and 1916–20 of rates based on the total male population and all deaths registered

in this country for those in Table 5, which refer to civilian males only in those periods.

At ages under 5 male excess has increased continually from 15 per cent. in 1866–70 to 26 in 1931–35. At 5–10 a small female excess during 1891–1910 has given place to a male excess of 10 per cent. in the last two quinquennia. At 15–20 a similar reversal of the sex ratio took place at the end of last century. At 25–35, on the other hand, the male excess, after reaching a maximum in 1911–20, is declining.

Table V.—Mortality of Males per cent. of that of Females at Various Ages from 1841–45 onwards. (*See* **Table 5.**)

	All Ages Standardized.	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	85 and upwards
1841–45	109	117	102	92	88	105	95	101	114	111	111	109	106
1846–50	108	116	103	95	91	104	94	99	113	112	111	109	107
1851–55	110	116	104	98	90	103	97	102	118	114	112	110	106
1856–60	109	115	99	96	90	102	96	103	118	115	111	108	107
1861–65	111	115	102	98	93	105	100	109	122	118	112	109	110
1866–70	113	115	107	100	94	106	105	113	124	120	115	109	111
1871–75	115	117	108	100	97	109	109	119	128	121	114	111	110
1876–80	116	118	107	97	96	108	109	119	129	122	114	112	111
1881–85	115	118	102	97	96	102	104	117	127	122	116	113	112
1886–90	116	119	100	97	98	106	107	117	129	122	117	112	114
1891–95	116	119	98	96	100	108	108	118	128	121	115	111	110
1896–00	118	118	98	96	106	120	116	122	129	124	117	113	109
1901–05	119	119	97	95	107	119	118	121	130	128	119	115	110
1906–10	120	119	97	95	107	121	118	121	129	128	121	115	113
1911–15	122	120	100	95	111	122	124	126	132	133	124	118	115
1916–20	124	121	100	92	114	122	124	131	135	137	132	121	111
1921–25	122	124	104	100	100	113	114	130	132	133	127	119	110
1926–30	124	125	110	105	106	108	112	134	140	136	130	121	107
1931–35	124	126	110	100	109	114	106	126	142	139	132	123	113
1926 ..	123	124	109	100	104	107	112	133	135	134	129	123	111
1927 ..	123	125	109	107	104	110	112	135	137	134	129	120	108
1928 ..	125	126	109	113	108	103	112	130	138	136	130	123	110
1929 ..	122	122	113	100	108	110	111	139	143	134	126	117	103
1930 ..	127	128	110	104	109	112	111	133	144	139	133	121	103
1931 ..	126	128	115	100	108	114	106	129	140	135	132	121	111
1932 ..	125	125	116	108	114	114	110	123	135	137	134	123	110
1933 ..	124	126	110	107	113	114	109	124	141	137	129	122	110
1934 ..	125	124	104	100	109	115	107	124	142	142	132	124	111
1935 ..	127	126	111	100	105	112	107	125	146	143	134	126	112

At 35–45 male excess increased until 1926–30 but was smaller in 1931–35, and at 45–65 it reached maximal values in the last quinquennium, having increased from about 12 per cent. in 1846–50 to about 40 per cent. At ages over 65 the male excess has not greatly changed in the last 20 years.

The causes of death accounting for this large male excess may be gathered from Table 8, in which the mortality disadvantage of females arising from their greater average age is neutralized by reference of the rates for both sexes to a common population basis.

The causes chiefly accounting for male excess, with the contribution of each to its total of 2,131 per million, are seen to be respiratory diseases (394), heart disease (352), accident (283), digestive diseases (190), tuberculosis (164), and arterio-sclerosis (113), which jointly contribute 70 per cent. of the total male excess. The principal

causes common to both sexes in Table 8, for which female standardized mortality exceeds that of males, are, in order of numerical importance, mitral or unspecified valvular disease, diabetes, rheumatoid and osteo-arthritis, whooping cough, non-malignant tumours, gall stones, other diseases of the liver and gall bladder (not cirrhosis), pernicious anæmia, disordered action of the heart, peritonitis, and accidental burns.

Infant Mortality.

Of the 477,401 deaths registered during the year, 34,092, or 7·1 per cent., were those of infants under one year of age.

The rate of infant mortality resulting from these deaths is 57 per 1,000 live births; this rate is 2 per 1,000 below that of the previous year and establishes a new low record.

The rates in the four quarters of the year were 68, 56, 45 and 60 respectively, being lower in the March and September quarters but higher in the December quarter than in 1934.

Table VI traces the changes in the quarterly incidence of infantile mortality during the last 65 years, and shows, in conjunction with Table VII, that until 1901–05, and again, but to a very slight degree, in 1911–15, while the coldest months of the year yielded the highest general death-rate, the hot summer months levied the highest toll on infant life.

Table VI.—Average Rate of Infantile Mortality by Quarters in Quinquennia, 1871–1935, and in 1931, 1932, 1933, 1934 and 1935.

	Yearly Average.	Quarterly Averages.			
		March.	June.	September.	December.
1871–75	153	151	133	180	149
1876–80	145	147	128	161	143
1881–85	139	140	125	152	139
1886–90	145	146	125	163	147
1891–95	151	151	132	169	151
1896–1900	156	142	124	212	148
1901–05	138	137	113	162	140
1906–10	117	124	98	120	128
1911–15	110	119	91	120	109
1916–20	90	116	83	75	91
1921–25	76	94	70	62	77
1926–30	68	91	60	52	69
1931–35	62	82	57	47	63
1931	66	94	59	46	67
1932	65	88	59	50	65
1933	64	84	53	49	69
1934	59	78	56	46	55
1935	57	68	56	45	60

Since the beginning of the present century, this experience has undergone a remarkable change. In all four quarters, the infant death-rate has fallen in each successive quinquennium, but with great inequality. Comparing 1931–35 with 1896–1900, the fall ranges from 42 per cent. in the March quarter, 54 in the June, and 57 in the December, to 78 per cent. in the September quarter. The mortality in the third quarter has since 1916–20 yielded the lowest quarterly rate, while the March quarter has in each quinquennium yielded the highest.

The changes in the infant mortality rate from all causes and from diarrhœal diseases since 1861–65 are shown in Table VII. The diarrhœal rate has declined from 31 per 1,000 live births in 1896–1900 to 5 in 1931–35.

Table VII.—Infant Mortality, distinguishing Mortality from Diarrhœal Diseases, 1861–1935.

Deaths under 1 year of age per 1,000 Live Births.

Year.	Diarrhœal Diseases.	Other Causes.	All Causes.	Year.	Diarrhœal Diseases.	Other Causes.	All Causes.
1861–65	15	136	151	1921	14	69	83
1866–70	20	137	157	1922	6	71	77
1871–75	19	134	153	1923	7	62	69
1876–80	16	129	145	1924	6	69	75
1881–85	14	125	139	1925	7	68	75
1886–90	17	128	145				
1891–95	20	131	151	1926	8	62	70
1896–1900	31	125	156	1927	6	64	70
1901–05	23	115	138	1928	6	59	65
1906–10	18	99	117	1929	7	67	74
1911–15	19	91	110	1930	5	55	60
1916–20	9	81	90				
1921–25	8	68	76	1931	5	61	66
1926–30	6	62	68	1932	6	59	65
1931–35	5	57	62	1933	6	58	64
				1934	5	54	59
				1935	5	52	57

Table VIII shows that the fall during the six quinquennia for which detailed age distinction is available was continuous at every age period after the first week of life. On the first day of life the 1931–35 rate was slightly above that of the preceding quinquennium and at 1–7 days a further increase followed that recorded for 1926–30. For the first month of life the fall between 1906–10 and 1931–35 amounted to 22 per cent., whilst at 4–13 weeks it was 57 per cent. and at the later age groups 61 or 62 per cent.

The mortality rates at ages 0–1, 1–3, 3–6, 6–9 and 9–12 months in 1935 improved further upon those of recent years, being 4, 10, 11, 22 and 29 per cent. respectively below the average rates in 1931–34. The rates attained were the lowest ever recorded at 1–2

and 2–3 weeks and at 6–9 and 9–12 months. In the first week of life the rate, which tended to increase between 1923 and 1933, has fallen again during the last two years. It is apparent from Table VIII that whereas up to 1929 mortality at 1–6 months declined most rapidly, since that year a much more rapid improvement has set in towards the end of the first year of life.

Distribution of Infant Mortality.—Table IX shows how infant mortality was distributed in 1935 between the sexes and throughout the country

For convenience in the interpretation of this and similar tables where the regional subdivision is employed, the counties comprising each region are given below.*

The rates for the aggregates of different classes of area are, as usual, highest for the county boroughs and lowest for rural districts, London occupying an intermediate position together with the smaller towns. In London's outer ring, which now comprises a population greater than that of London itself, infant mortality was lower than in the aggregate of all the rural districts outside Greater London, and was 12·8 per 1,000 live births less than in the Administrative County.

North I had the highest regional infant mortality rate (33 per cent. in excess of the national rate compared with 32 in 1934), followed by North IV and North II, whilst the South East outside Greater London had the lowest (27 per cent. below the national rate compared with 24 in 1934). Greater London, the Remainder of the South East, South West and the East registered improvements of 6 to 13 per cent. on the rates of the preceding year, whereas North II and Midland II showed increases of 12 and 9 per cent. respectively.

In Table VII of the Review for 1932 it was shown that when the county boroughs and county aggregates of urban and

* *Regional Summary.*—The country was re-divided into regions in 1931, after consultation with other Government Departments, with a view to securing greater homogeneity in the character of the sectional populations than was provided by the old grouping into North, Midlands, South (including London) and Wales.
The counties in the various regions are as follow :—

South East.
Bedfordshire.
Berkshire.
Buckinghamshire.
Essex.
Hertfordshire.
Kent.
London.
Middlesex.
Oxfordshire.
Southampton.
Surrey.
Sussex, East.
,, West.
Wight, Isle of.

North I.
Durham.
Northumberland.

North II.
Cumberland.
Westmorland.
Yorkshire.
East Riding.
North Riding.

North III.
Yorkshire,
West Riding.
York C.B.

North IV.
Cheshire.
Lancashire.

Midland I.
Gloucestershire.
Herefordshire.
Shropshire.
Staffordshire.
Warwickshire.
Worcestershire.

Midland II.
Derbyshire.
Leicestershire.
Northamptonshire.
Nottinghamshire.
Peterborough,
Soke of.

East.
Cambridgeshire.
Ely, Isle of.
Huntingdonshire.
Lincolnshire—
Parts of Holland.
,, Kesteven.
,, Lindsey.
Norfolk.
Rutlandshire.
Suffolk, East.
,, West.

South West.
Cornwall.
Devonshire.
Dorsetshire.
Somersetshire.
Wiltshire.

Wales I.
Brecknockshire.
Carmarthenshire.
Glamorganshire.
Monmouthshire.

Wales II.
Anglesey.
Caernarvonshire.
Cardiganshire.
Denbighshire.
Flintshire.
Merionethshire.
Montgomeryshire.
Pembrokeshire.
Radnorshire.

For the constitution of Greater London, *see* pp. 63–65 of the Preliminary Report on the Census of England and Wales, 1931.

Table VIII.—Age Distribution of Infant Mortality, 1881–1935.

Rates per 1,000 (Live) Births.

Year.	Days.		Weeks.				Months.					Total under one year.
	0–1	1–7	0–1	1–2	2–3	3–4	Total under four weeks	Four weeks to 3 m'nths	3–6	6–9	9–12	
1881–1885 ..	—	—	—	—	—	—	67		28	44		139
1886–1890 ..	—	—	—	—	—	—	69		30	46		145
1891–1895 ..	—	—	—	—	—	—	74		31	46		151
1896–1900 ..	—	—	—	—	—	—	74		34	48		156
1901–1905 ..	—	—	—	—	—	—	70		28	40		138
1906–1910 ..	11·5	13·0	24·5	5·8	5·7	4·2	40·2	22·8	22·0	17·3	14·8	117·1
1911–1915 ..	11·4	12·7	24·1	5·7	5·3	3·9	39·0	20·2	19·6	15·9	14·1	108·7
1916–1920 ..	11·0	12·4	23·4	5·6	4·7	3·4	37·0	16·5	14·6	12·0	10·8	90·9
1921–1925 ..	10·4	11·3	21·7	5·0	3·9	2·8	33·4	12·8	11·3	9·2	8·3	74·9
1926–1930 ..	10·3	11·5	21·8	4·3	3·2	2·4	31·8	10·9	9·6	8·1	7·5	67·9
1931–1935 ..	10·7	11·7	22·4	3·9	2·9	2·2	31·4	9·9	8·5	6·6	5·7	62·2
1906 ..	11·8	13·2	25·0	6·1	6·2	4·6	41·9	25·7	27·0	20·7	17·2	132·5
1907 ..	11·3	13·1	24·4	6·0	5·9	4·5	40·7	23·3	21·3	17·3	15·1	117·6
1908 ..	11·5	12·8	24·3	5·9	5·8	4·3	40·3	24·2	23 6	17·7	14·6	120·4
1909 ..	11·6	13·2	24·7	5·7	5·3	4·0	39·8	20·4	19·2	15·6	13·8	108·7
1910 ..	11·5	12·5	24·1	5·4	5·1	3·8	38·5	20·0	18·8	15·0	13·2	105·4
1911 ..	11·6	12·7	24·3	6·0	6·0	4·5	40·6	24·7	25·9	20·6	17·4	129·2
1912 ..	11·3	12·9	24·2	5·6	5·0	3·7	38·4	17·7	14·9	12·5	11·4	94·7
1913 ..	11·8	12·7	24·5	5·8	5·4	3·9	39·5	20·3	19·8	15·7	13·6	108·9
1914 ..	11·4	12·7	24·1	5·5	5·0	3·9	38·5	19·3	18·7	15·0	13·0	104·4
1915 ..	10·9	12·5	23·4	5·7	5·0	3·7	37·7	18·6	18·2	16·0	15·2	105·8
1916 ..	10·9	12·3	23·2	5·6	4·9	3·4	36·9	16·9	15·2	11·7	10·3	91·1
1917 ..	11·0	12·4	23·4	5·6	4·8	3·4	37·1	16·9	15·0	11·6	10·6	91·1
1918 ..	11·1	12·1	23·2	5·5	4·6	3·4	36·6	17·1	16·1	14·4	13·7	97·9
1919 ..	12·2	13·7	25·9	6·1	4·9	3·6	40·4	16·4	14·4	11·8	10·3	93·2
1920 ..	10·4	11·5	21·9	5·3	4·6	3·3	35·0	15·5	13·0	11·0	10·0	84·5
1921 ..	10·8	11·6	22·4	5·4	4·5	3·0	35·2	14·7	13·7	9·7	7·8	81·2
1922 ..	10·4	11·6	22·0	5·2	4·1	2·8	33·9	12·4	10·6	9·2	8·6	74·7
1923 ..	10·2	10·9	21·1	4·6	3·6	2·6	31·9	11·4	10·0	8·3	7·6	69·2
1924 ..	10·6	11·2	21·8	4·8	3·8	2·6	33·0	12·4	10·8	9·3	8·8	74·2
1925 ..	10·1	11·1	21·2	4·7	3·7	2·7	32·3	12·5	11·2	9·4	9·0	74·5
1926 ..	10·0	11·3	21·3	4·6	3·6	2·5	31·9	11·6	10·4	8·6	7·7	70·2
1927 ..	10·6	11·6	22·2	4·3	3·4	2·5	32·3	10·7	9·7	8·7	8·2	69·7
1928 ..	10·4	11·2	21·6	4·1	3·0	2·4	31·1	10·7	9·2	7·4	6·8	65·1
1929 ..	10·4	11·9	22·3	4·6	3·3	2·6	32·8	11·6	10·7	9·9	9·4	74·4
1930 ..	10·4	11·6	22·0	3·8	2·9	2·2	30·9	9·6	7·8	6·1	5·5	60·0
1931 ..	10·4	11·7	22·1	4·0	3·1	2·4	31·6	10·9	9·3	7·8	6·8	66·4
1932 ..	10·6	11·8	22·4	3·8	3·0	2·4	31·6	10·8	9·1	7·2	6·3	65·0
1933 ..	11·1	11·8	22·9	4·0	3·1	2·2	32·2	9·9	8·8	6·8	6·0	63·7
1934 ..	10·9	11·7	22·6	3·9	2·8	2·0	31·3	8·8	7·5	5·8	5·1	58·6
1935 ..	10·8	11·3	22·0	3·7	2·7	2·0	30·4	9·1	7·7	5·4	4·3	56·9

Rates per 1,000 of those for 1906–10.

1906–1910 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1911–1915 ..	991	977	984	983	930	929	970	886	891	919	953	928
1916–1920 ..	957	954	955	966	825	810	920	724	664	694	730	776
1921–1925 ..	904	869	886	862	684	667	831	561	514	532	561	640
1926–1930 ..	896	885	890	741	561	571	791	478	436	468	507	580
1931–1935 ..	930	900	914	672	509	524	781	434	386	382	385	531
1926 ..	870	869	869	793	632	595	794	509	473	497	520	599
1927 ..	922	892	906	741	596	595	803	469	441	503	554	595
1928 ..	904	862	882	707	526	571	774	469	418	428	459	556
1929 ..	904	915	910	793	579	619	816	509	486	572	635	635
1930 ..	904	892	898	655	509	524	769	421	355	353	372	512
1931 ..	904	900	902	690	544	571	786	478	423	451	459	567
1932 ..	922	908	914	655	526	571	786	474	414	416	426	555
1933 ..	965	908	935	690	544	524	801	434	400	393	405	544
1934 ..	948	900	922	672	491	476	779	386	341	335	345	500
1935 ..	939	869	898	638	474	476	756	399	350	312	291	486

Table IX.—Distribution of Infant Mortality, 1935.

	Deaths per 1,000 (Live) Births.			Mortality per cent. of that in England and Wales.
	Males.	Females.	Both Sexes.	Both Sexes.
England and Wales	63·9	49·6	56·9	100
South East ..	53·6	41·0	47·5	83
Greater London	58·2	43·7	51·2	90
Remainder of South East ..	46·5	36·9	41·8	73
North	75·2	59·6	67·6	119
North I ..	84·5	66·7	75·7	133
„ II ..	76·9	59·3	68·4	120
„ III ..	65·3	50·9	58·3	102
„ IV ..	76·4	61·6	69·2	122
Midland	66·3	50·5	58·6	103
Midland I ..	66·1	50·5	58·5	103
„ II ..	66·7	50·5	58·8	103
East	49·8	38·2	44·2	78
South West	50·9	34·7	43·1	76
Wales	69·8	56·3	63·3	111
Wales I	69·4	57·1	63·4	111
„ II	71·0	54·0	62·8	110
County Boroughs* ..	74·0	58·0	66·2	116
Other Urban Districts*	62·1	48·5	55·5	98
Rural Districts* ..	54·9	42·5	48·9	86
Greater London { Admin. Co.	67·1	48·2	57·9	102
Greater London { Outer Ring	50·2	39·7	45·1	79

* Excluding Greater London.

rural districts were grouped according to their mean densities per room, the infant mortality rates in 1930–32 increased regularly with the density. Thus whilst county boroughs with mean densities less than 0·7 persons per room had an average rate of 57·6 per 1,000 births, those with densities exceeding 1·15 per room had an average rate of 92·7. A similar progression was evident for the county aggregates, but for the Metropolitan boroughs the increase was only noticeable for those with mean densities exceeding 1·3 persons per room. It must be remembered, however, that the mean density per room tends to increase from South to North, this being evident when the county boroughs are grouped according to the zones of latitude in which they are situated and also according to the percentage of the populations in private families who were living more than two per room in 1931 (*see* Table VII of the Review for 1933).

In Table X the trend of infant mortality attributed to the group of congenital causes (premature birth, debility, malformations, etc., Nos. 157–161 of the International List), and to all other causes, since 1930–32, is compared for (*a*) the group of 14 county boroughs* having densities of 1·00 or more persons per room, at the census of 1931, (*b*) the group of 6 county aggregates of urban districts† having average densities of 0·85 or more persons per room, (*c*) the group of 15 county aggregates of rural districts‡ having average densities

* Dewsbury, Dudley, Gateshead, Middlesbrough, Newcastle-on-Tyne, St. Helens, South Shields, Stoke-on-Trent, Sunderland, Tynemouth, West Ham, West Hartlepool, West Bromwich, Wigan.

† Durham, Northumberland, Staffordshire, Yorkshire West Riding, Glamorganshire, Monmouthshire.

‡ Buckinghamshire, Cambridgeshire, Cornwall, Devonshire, Huntingdonshire, Middlesex, Norfolk, Rutlandshire, Somersetshire, Surrey, Sussex East, Sussex West, Isle of Wight, Caernarvonshire, Cardiganshire.

below 0·70 persons per room, (*d*) all the county boroughs with densities below 1 per room, (*e*) London, with a density per room of 0·98, and (*f*) England and Wales as a whole, with an average density of 0·83.

Table X.—Infant Mortality from Congenital and Other Causes, in groups of areas of certain densities of persons per room in 1931:—1930-32, 1933, 1934 and 1935.

	Congenital Causes.						Other Causes.					
	County boroughs with 1 or more persons per room.	County aggregates of U.D.'s with ·85 or more persons per room.	County aggregates of R.D.'s with less than ·7 persons per room.	County boroughs with less than 1 per room.	London A.C. (·98 persons per room).	England and Wales.	County boroughs with 1 or more persons per room.	County aggregates of U.D.'s with ·85 or more persons per room.	County aggregates of R.D.'S with less than ·7 persons per room.	County boroughs with less than 1 per room.	London A.C. (·98 persons per room).	England and Wales.
	a	*b*	*c*	*d*	*e*		*a*	*b*	*c*	*d*	*e*	*f*
	Rates per 1,000 Live Births.											
1930–32	34·8	35·3	28·5	32·8	25·5	31·1	48·5	37·4	20·1	37·6	37·9	32·7
1933	38·6	37·5	29·7	35·0	27·1	33·1	47·2	37·7	17·9	36·6	32·4	30·6
1934	36·6	35·8	29·8	33·8	26·8	31·7	40·5	28·0	18·8	29·4	40·6	26·9
1935	36·3	35·0	27·9	33·3	25·7	31·1	43·6	30·7	14·7	29·1	32·2	25·8
	Rates per cent. of those in 1930–32.											
1933	111	106	104	107	106	106	97	101	89	97	85	94
1934	105	101	105	102	105	102	84	75	94	78	107	82
1935	104	99	98	102	101	100	90	82	73	77	85	79

No appreciable improvement has occurred in the rate from congenital causes in any of these groups of areas since 1930–32. The 1935 mortality rates from causes other than congenital show improvements of 10 and 18 per cent. respectively in the two groups of areas with least satisfactory housing indices, compared with 21 per cent. in the country as a whole and 27 and 23 per cent. respectively in the rural areas and county boroughs having lowest densities per room. The London rate is greatly influenced by the biennial periodicity of measles and the triennium 1930–32 included two measles years. The high rate of 43·6 per 1,000 live births for group (*a*) is in part attributable to the fact that 11 of the 14 county boroughs are situated in the north, and in part to the social conditions of which the average number of persons per room is an index, and the contrast between this rate and that of 29·1 for group (*d*) is indicative of the effect of these factors on infant mortality from causes other than congenital.

Adhering to the density classification previously used, it is seen from Table XI that the fall from 1911–15 to 1926–30 amounted to 41 per cent. in London, 37 per cent. in the county boroughs, 40 per

Table XI.—Infant Mortality at Various Stages of Infancy in different Classes of Area compared with that in 1911–15 and 1926–30.

	Under 4 Weeks.				4 Weeks to 3 Months.				3–6 Months.			
	Mortality (per 1,000 Live Births) compared with 1911–15 taken as 1,000.											
	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.
1911–15	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1916–20	949	943	940	971	834	810	790	834	793	739	691	726
1921–25	800	855	862	871	574	640	627	672	605	604	550	577
1926–30	728	812	823	841	505	548	507	582	539	516	430	480
	Mortality (per 1,000 Live Births) compared with 1926–30 taken as 1,000.											
	Greater London.	Outside Greater London.			Greater London.	Outside Greater London.			Greater London.	Outside Greater London.		
		County Boroughs.	Other Urban Districts.	Rural Districts.		County Boroughs.	Other Urban Districts.	Rural Districts.		County Boroughs.	Other Urban Districts.	Rural Districts.
1926–30	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1931–35	1,010	985	981	988	984	916	881	893	964	877	855	865
1931	1,017	981	989	1,010	1,075	993	1,003	937	1,037	980	946	910
1932	1,028	988	990	984	1,025	1,011	963	1,004	1,017	930	925	983
1933	1,041	1,007	1,003	1,016	869	938	906	927	891	956	905	854
1934	980	983	981	997	1,030	787	710	813	982	716	734	808
1935	982	969	944	928	916	845	827	768	886	794	768	761

	6–9 Months.				9–12 Months.				Total under 1 Year.			
	Mortality (per 1,000 Live Births) compared with 1911–15 taken as 1,000.											
	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.	London Admin. County.	County Boroughs.	Other Urban Districts.	Rural Districts.
1911–15	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1916–20	735	729	685	739	738	732	701	736	833	818	800	851
1921–25	578	604	568	583	592	643	573	602	655	700	683	721
1926–30	546	517	463	506	529	550	478	535	592	626	598	659
	Mortality (per 1,000 Live Births) compared with 1926–30 taken as 1,000.											
	Greater London.	Outside Greater London.			Greater London.	Outside Greater London.			Greater London.	Outside Greater London.		
		County Boroughs.	Other Urban Districts.	Rural Districts.		County Boroughs.	Other Urban Districts.	Rural Districts.		County Boroughs.	Other Urban Districts.	Rural Districts.
1926–30	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1931–35	828	834	764	822	762	761	735	796	945	911	899	925
1931	902	992	917	973	817	936	925	908	991	978	971	974
1932	915	897	824	925	937	791	795	910	1,000	947	938	974
1933	759	884	821	829	691	832	789	829	910	951	932	948
1934	878	702	615	719	855	644	591	715	960	833	825	893
1935	678	686	640	634	506	595	575	591	859	841	830	824

cent. in the small towns and 34 per cent. in the rural districts. The 1935 rates showed a further improvement on 1926–30 rates amounting to 16 per cent. in the county boroughs, 17 in the small towns and 8 per cent. in the rural districts, Greater London being excluded in each case.

Distribution of the Fall in Mortality at Various Stages of Infancy.—The reduction of mortality at various stages of infancy in different classes of area is outlined for the period during which the necessary detail of tabulation is available in Table XI.

Table XII.—Infant Mortality (per 1,000 Live Births) at Various Stages of Infancy in Different Regions of England and Wales, per 1,000 of that in 1916–20.

	Under 4 Weeks.				4 Weeks to 3 Months.				3–6 Months.			
	England and Wales.	North.	Rest of* England.	Wales.	England and Wales	North.	Rest of* England.	Wales.	England and Wales.	North.	Rest of* England.	Wales.
1911–15	1,053	1,032	1,074	1,051	1,232	1,194	1,262	1,310	1,370	1,322	1,425	1,540
1916–20	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1921–25	902	915	898	928	782	813	771	826	799	812	789	850
1926–30	859	871	855	952	660	687	650	699	665	673	657	695
1931–35	848	852	845	972	604	629	580	638	591	599	569	601
1931	853	854	854	971	660	696	632	709	647	672	621	642
1932	853	853	858	953	660	704	633	644	634	642	620	624
1933	870	865	873	1,003	604	640	581	716	609	658	555	670
1934	846	850	837	1,007	537	515	524	529	523	482	523	524
1935	820	839	807	925	555	583	529	587	534	537	519	545

	6–9 Months.				9–12 Months.				Total under 1 Year.			
	England and Wales.	North.	Rest of* England.	Wales.	England and Wales.	North.	Rest of* England.	Wales.	England and Wales.	North.	Rest of* England.	Wales.
1911–15	1,392	—	—	—	1,380	—	—	—	1,218	1,187	1,242	1,273
1916–20	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1921–25	818	834	798	862	842	876	798	909	846	864	836	886
1926–30	698	691	700	719	721	737	716	710	755	764	755	808
1931–35	568	564	559	578	548	560	540	588	691	695	689	759
1931	666	691	633	696	655	711	613	779	738	756	727	814
1932	619	596	635	600	602	581	613	596	723	723	729	759
1933	584	594	578	658	573	593	577	650	708	720	705	814
1934	500	466	492	445	489	478	479	444	651	632	654	708
1935	466	464	454	481	414	429	417	457	633	642	630	694

* Excluding London Administrative County.

In that table the comparison with 1911–15 is shown up to 1926–30 on the basis of the division previously used, that is to say, the aggregates referred to, other than the Administrative County of London, include in each instance some districts comprising London's outer ring, but from 1926–30 onwards the new density summary is used. It was pointed out in the Review for 1931 (p. 10) that the effect of the change on infant mortality rates is only of importance for the " other urban districts," the new aggregate having rates higher than the old, in 1931, by 5 per cent. for the first 4 weeks of life, 3 per

cent. at 1–6 months, 8 per cent. at 6–9 months, 7 per cent. at 9–12 months and 5 per cent. for the first year as a whole. This effect, however, is eliminated in Table XI by the change of datum line at 1926–30.

The percentage improvement in 1935 compared with 1926–30 rates is shown below to increase progressively for each of the four aggregates throughout the first year of life from about 5 per cent. at ages under 4 weeks to 40 per cent. or more at 9–12 months. At ages under 9 months the relative decline has been greatest in the rural districts and least in Greater London, decreasing in amount with increasing degree of urbanization. At ages over 9 months Greater London has registered most improvement, but it must be remembered that in London 1935 was not an epidemic year for measles.

	Under 4 weeks.	4–13 weeks.	3–6 months.	6–9 months.	9–12 months.
	—	—	—	—	—
Greater London	— 2	— 8	— 11	— 32	— 49
County Boroughs ..	— 3	— 15	— 21	— 31	— 40
Other Urban Districts ..	— 6	— 17	— 23	— 36	— 43
Rural Districts	— 7	— 23	— 24	— 37	— 41

Table XII compares the extent of decline since 1916–20 at different stages of infancy in the North and in Wales with that in the rest of England, excluding London Administrative County. Mortality during the first 4 weeks declined between 1916–20 and 1931–35 to almost the same extent in the North as in the rest of England, by 15 per cent., but in Wales the improvement amounted to only 3 per cent.

At 1–3 months both Wales and the North showed a fall of 37 compared with 42 per cent. in the rest of England, and at 3–6 months they registered an improvement of 40 compared with 43 per cent. At 6–9 months the fall in these three areas was respectively 42, 44 and 44 per cent. and at 9–12 months 41, 44 and 46 per cent.

From the same table may be deduced the rates of decline in recent years, from 1926–30 to 1935, similar to those given above for the density aggregates.

	Under 4 weeks.	4–13 weeks.	3–6 months.	6–9 months.	9–12 months.
	—	—	—	—	—
Wales	— 3	— 16	— 22	— 33	— 36
North	— 4	— 15	— 20	— 33	— 42
Rest of England	— 6	— 19	— 21	— 35	— 42

The analysis of infant deaths by detail of age, initiated in 1905 with distinction of registration counties mainly urban and mainly rural in character, and expanded in 1917 and again in 1931, is given for each region and class of area in Table 13. Distinctions of sex and legitimacy are shown only for England and Wales as a whole, but are available for each of the populations dealt with. Some of the facts and rates applying to the illegitimate will be found in Table 14. The rates per 1,000 live births appear in Table XIII, and as percentages of the England and Wales rate in Table XIV.

Table XIII.—Infant Mortality at Various Ages, 1935.

Rates per 1,000 Live Births.

		Total under one Year.	Under 30 Minutes.	30 Minutes and under 1 Day.	Total under 1 Day.	Days. 1	2	3	4	5	6	1 Day and under 1 Week.	Weeks. 0	1	2	3	Total under 4 Weeks.	4 Weeks to 3 Months.	Months. 3–6	6–9	9–12
England and Wales.																					
All Infants ..	M.	63·9	1·7	10·3	12·0	3·8	3·4	2·6	1·4	1·0	0·7	12·9	24·9	4·0	3·0	2·3	34·1	10·5	8·6	6·0	4·7
	F.	49·6	1·5	7·9	9·5	3·0	2·4	1·7	1·0	0·7	0·7	9·5	19·0	3·3	2·4	1·8	26·4	7·6	6·8	4·8	3·9
	P.	56·9	1·6	9·1	10·8	3·4	2·9	2·2	1·2	0·9	0·7	11·3	22·0	3·7	2·7	2·0	30·4	9·1	7·7	5·4	4·3
Legitimate ..	M.	62·3	1·4	10·0	11·4	3·8	3·4	2·6	1·4	1·0	0·7	12·8	24·2	3·9	3·0	2·2	33·3	10·1	8·3	6·0	4·6
	F.	48·3	1·3	7·8	9·1	2·9	2·4	1·7	1·0	0·7	0·6	9·4	18·5	3·3	2·3	1·7	25·8	7·3	6·6	4·7	3·9
	P.	55·5	1·3	9·0	10·3	3·4	2·9	2·1	1·2	0·8	0·7	11·1	21·4	3·6	2·7	2·0	29·6	8·8	7·4	5·4	4·3
Illegitimate ..	M.	100·7	8·2	16·0	24·2	5·3	3·7	3·2	1·6	1·1	0·9	15·8	40·0	6·0	3·6	2·9	52·4	20·1	14·7	8·2	5·3
	F.	77·8	7·8	10·1	17·9	3·7	2·9	3·3	1·1	0·9	1·1	13·0	31·0	4·3	3·4	2·9	41·6	14·4	11·9	5·9	4·0
	P	89·5	8·0	13·1	21·1	4·5	3·3	3·3	1·4	1·0	1·0	14·5	35·6	5·2	3·5	2·9	47·2	17·3	13·3	7·1	4·7
South-East		47·5	1·7	8·0	9·7	2·9	2·1	1·8	1·0	0·6	0·5	8·8	18·5	2·7	2·0	1·4	24·7	7·9	7·2	4·6	3·1
Greater London ..		51·2	1·7	8·2	9·9	3·0	1·9	1·6	1·0	0·5	0·5	8·5	18·4	2·7	2·1	1·5	24·7	8·8	8·6	5·4	3·5
Remainder of South-East		41·8	1·7	7·7	9·4	2·7	2·4	2·0	1·0	0·6	0·6	9·3	18·7	2·6	1·9	1·4	24·5	6·4	4·9	3·4	2·5
North		67·6	1·6	10·0	11·6	3·6	3·5	2·4	1·5	1·1	0·8	12·9	24·6	4·5	3·5	2·5	35·1	11·0	9·2	6·7	5·6
North I		75·7	1·6	9·8	11·4	3·8	3·4	2·4	1·6	1·4	0·8	13·4	24·8	6·1	5·7	3·3	39·8	10·8	10·7	7·8	6·7
„ II		68·4	1·4	9·9	11·3	3·7	3·5	2·7	1·4	0·9	0·7	12·9	24·2	4·5	2·9	2·5	34·2	11·8	9·5	6·9	6·0
„ III		51·3	1·6	10·6	12·2	3·8	3·7	2·6	1·4	0·9	0·7	13·2	25·4	3·4	2·7	2·2	33·7	8·7	7·2	5·0	3·8
„ IV		69·2	1·7	9·7	11·4	3·4	3·5	2·3	1·5	1·1	0·7	12·6	24·1	4·5	3·1	2·3	34·1	12·1	9·7	7·3	6·0
Midland		58·6	1·6	9·6	11·3	3·7	3·4	2·2	1·2	0·9	0·8	12·3	23·5	3·7	2·7	2·1	32·1	9·0	7·2	5·4	4·8
Midland I		58·5	1·6	9·5	11·1	3·7	3·1	2·1	1·2	0·8	0·8	11·8	22·9	3·9	2·9	1·9	31·6	8·8	7·4	5·5	5·2
„ II		58·8	1·8	9·9	11·6	3·7	3·8	2·6	1·3	1·0	0·7	13·2	24·8	3·4	2·5	2·5	33·1	9·6	7·0	5·3	3·8
East		44·2	1·4	7·8	9·3	3·2	2·2	2·0	1·1	0·9	0·5	9·9	19·1	3·1	1·6	2·1	25·9	6·3	4·8	3·9	3·3
South-West		43·1	1·4	8·0	9·4	3·7	2·6	2·3	1·0	0·5	0·8	10·9	20·3	3·6	2·3	0·9	27·2	6·0	4·6	2·9	2·5
Wales		63·3	1·4	10·7	12·1	3·9	3·5	2·6	1·2	1·0	0·9	13·2	25·4	4·2	2·9	2·8	35·2	10·2	7·8	5·5	4·6
Wales I		63·4	1·6	10·8	12·4	3·6	3·2	2·4	1·4	1·1	1·0	12·7	25·1	4·0	3·1	2·6	34·8	10·1	7·6	5·5	5·3
„ II		62·8	0·9	10·5	11·4	4·7	4·4	3·4	0·6	1·0	0·7	14·7	26·1	4·7	2·4	3·2	36·4	10·3	8·2	5·4	2·6
County Boroughs* ..		66·2	1·6	9·8	11·3	3·6	3·1	2·2	1·3	1·0	0·8	12·0	23·4	4·3	3·2	2·4	33·3	10·8	9·5	6·9	5·7
Other Urban Districts* ..		55·5	1·7	9·1	10·8	3·3	3·4	2·4	1·3	0·9	0·8	12·1	22·8	3·7	2·7	2·2	31·5	8·6	6·5	4·9	4·0
Rural Districts*		48·9	1·5	9·1	10·6	3·6	3·0	2·4	1·2	0·8	0·6	11·5	22·2	3·3	2·3	1·7	29·5	7·2	5·3	3·7	3·2

* Excluding Greater London.

Table XIV.—Infant Mortality at various Ages, in different parts of the Country, per cent. of that of all Infants of the same Age in England and Wales, 1935.

		Total under one Year.	Under 30 Minutes.	30 Minutes and under 1 Day.	Total under 1 Day.	Days. 1	2	3	4	5	6	1 Day and under 1 Week.	Weeks. 0	1	2	3	Total under 4 Weeks.	4 Weeks to 3 Months.	Months. 3–6	6–9	9–12
England and Wales	P.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	M.	112	106	113	111	112	117	118	117	111	100	114	113	108	111	115	112	115	112	111	109
	F.	87	94	87	88	88	83	77	83	78	100	84	86	89	89	90	87	84	88	89	91
South-East		83	106	88	90	85	72	82	83	67	71	78	84	73	74	70	81	87	94	85	72
Greater London ..		90	106	90	92	88	66	73	83	56	71	75	84	73	78	75	81	97	112	100	81
Remainder of South-East		73	106	85	87	79	83	91	83	67	86	82	85	70	70	70	81	70	64	63	58
North		119	100	110	107	106	121	109	125	122	114	114	112	122	130	125	115	121	119	124	130
North I		133	100	108	106	112	117	109	133	156	114	119	113	165	211	165	131	119	139	144	156
„ II		120	88	109	105	109	121	123	117	100	100	114	110	122	107	125	113	130	123	128	140
„ III		102	100	116	113	112	128	118	117	100	100	117	115	92	100	110	111	96	94	93	88
„ IV		122	106	107	106	100	121	105	125	122	100	112	110	122	115	115	112	133	126	135	140
Midland		103	100	105	105	109	117	100	100	100	114	109	107	100	100	105	106	99	94	100	112
Midland I		103	100	104	103	109	107	95	100	89	114	104	104	105	107	95	104	97	96	102	121
„ II		103	113	109	107	109	131	118	108	111	100	117	113	92	93	125	109	105	91	98	88
East		78	88	86	86	94	76	91	92	100	71	88	87	84	59	105	85	69	62	72	77
South-West		76	88	88	87	109	90	105	83	56	114	96	92	97	85	45	89	66	60	54	58
Wales		111	88	118	112	115	121	118	100	111	129	117	115	114	107	140	116	112	101	102	107
Wales I		111	100	119	115	106	110	109	117	122	143	112	114	108	115	130	114	111	99	102	123
„ II		110	56	115	106	138	152	155	50	111	100	130	119	127	89	160	120	113	106	100	60
County Boroughs* ..		116	100	108	105	106	107	100	108	111	114	106	106	116	119	120	110	119	123	128	133
Other Urban Districts* ..		98	106	100	100	97	117	109	108	100	114	107	104	100	100	110	104	95	84	91	93
Rural Districts*		86	94	100	98	106	103	109	100	89	86	102	101	89	85	85	97	79	69	69	74

* Excluding Greater London.

The chance of dying within half an hour of birth ranged from 0·9 per 1,000 in Wales II to 1·8 in Midland II. This measure is very dependent upon accuracy of certification, which in turn may be correlated with the frequency of the presence of a medical attendant at the birth. When the mortality within the first day as a whole is examined, Wales gives, as in each year since 1927, the highest rate of any of the large regions, the sequence being then as usual from North to South. For the combined mortality from the second to the seventh day Wales II shows the highest rate, whilst Greater London gives the lowest ratio. North I gives the highest rates from the 2nd week onwards except at 4–13 weeks. The South-West gives the lowest rates from the 4th week onwards, the South-East outside Greater London having an equally low rate at 9–12 months.

Urban mortality excess is not, as a rule, present from birth, but tends to increase throughout the later months of infancy. This is shown in 1935 by the fact that the divergence between the county boroughs and rural districts increases from 13 per cent. of the rate for England and Wales at 0–4 weeks to 40 at 1–3 months, 54 at 3–6 months, and 59 per cent. at 6–12 months.

Comparison of Table XIII with 1934 reveals increases in the rates in Midland II at ages up to 9 months, North II at 0–6 and 9–12 months, Wales I at ages over 3 months, North IV and Wales II at 1–9 months, North III at 1–6 months, North I at 3–6 months, East at 6–9 months and Midland I at 9–12 months.

Causes of Infant Mortality.—The causes of infant mortality are set forth in Tables 11–15, which compare the records of 1935 with those of previous years, and show the incidence of mortality from each cause upon infants distinguished by sex, age, legitimacy, class of area, and section of the country. From these tables have been prepared the analysis of mortality during the first half-hour of life in Table XV and the comparisons in Table XVI between the mortality from the chief causes distinguished at various ages in 1935 and 1930–34, and from all causes in 1935 and 1934.

Table XV reveals no important changes from the corresponding tables of recent years. A satisfactory fall in mortality from violence and lack of care occurred, particularly amongst illegitimate infants. The mean rates in 1931–34 from this combination of causes were 74 per 100,000 live births for the legitimate and 6,490 for the illegitimate. Of the 141 deaths of illegitimate infants from these causes in 1935, 85, or 60 per cent., relate to abandoned infants of unknown parentage.

Table XVI shows that the percentage decline in infant mortality in 1935 compared with the average of the preceding 5 years was greatest for measles, influenza and tuberculosis, but a decline was evident for nearly all the causes distinguished and at each age period, the only increases of any significance being for injury at birth and congenital defects.

Table XV.—Mortality of the first 30 Minutes of Life, 1935.

International List Numbers.	Cause of Death.	All Infants.	Under 30 Minutes.					
			Legitimate.			Illegitimate.		
			Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
		Deaths.						
86	Convulsions	1	—	1	1	—	—	—
157	Congenital malformations	85	38	37	75	5	5	10
158	Congenital debility	41	14	25	39	1	1	2
159	Premature birth	388	199	158	357	14	17	31
160	Injury at birth	159	82	69	151	4	4	8
161 (*a*)	Atelectasis	98	58	39	97	—	1	1
161 (*b* & *c*)	Other diseases peculiar to early infancy	1	—	1	1	—	—	—
172–175	Homicide	14	—	—	—	5	9	14
182	Accidental suffocation	3	—	2	2	—	1	1
194 : 1	Lack of care	137	17	19	36	58	43	101
	Other forms of violence	25	—	—	—	12	13	25
	Violence and lack of care	*179*	*17*	*21*	*38*	*75*	*66*	*141*
	Other Causes	18	7	3	10	6	2	8
	All Causes	970	415	354	769	105	96	201
		Mortality per Million Live Births.						
86	Convulsions	2	—	4	2	—	—	—
157	Congenital malformations	142	129	133	131	390	407	398
158	Congenital debility	68	48	90	68	78	81	80
159	Premature birth	648	675	566	622	1,091	1,385	1,235
160	Injury at birth	266	278	247	263	312	326	319
161 (*a*)	Atelectasis	164	197	140	169	—	81	40
161 (*b* & *c*)	Other diseases peculiar to early infancy	2	—	4	2	—	—	—
172–175	Homicide	23	—	—	—	390	733	558
182	Accidental suffocation	5	—	7	3	—	81	40
194 : 1	Lack of care	229	58	68	63	4,519	3,504	4,023
	Other forms of violence	42	—	—	—	935	1,059	996
	Violence and lack of care	*299*	*58*	*75*	*66*	*5,843*	*5,379*	*5,616*
	Other causes	30	24	11	17	467	163	319
	All Causes	1,620	1,408	1,269	1,341	8,181	7,824	8,006
		Percentage of Total under 24 Hours.						
86	Convulsions	3	—	5	3	—	—	—
157	Congenital malformations	19	18	18	18	42	45	43
158	Congenital debility	17	12	22	17	25	17	20
159	Premature birth	9	9	9	9	8	17	12
160	Injury at birth	29	25	33	28	31	67	42
161 (*a*)	Atelectasis	17	18	18	18	—	8	4
161 (*b* & *c*)	Other diseases peculiar to early infancy	2	—	5	3	—	—	—
172–175	Homicide	78	—	—	—	71	82	78
182	Accidental suffocation	23	—	33	20	—	50	33
194 : 1	Lack of care	90	89	95	92	91	88	89
	Other forms of violence	68	—	—	—	71	81	76
	Violence and lack of care	*81*	*68*	*75*	*72*	*84*	*85*	*84*
	Other causes	30	21	20	21	67	67	67
	All Causes	15	12	14	13	34	44	38

Deaths attributed to injury at birth per 1,000 live births have progressively increased since 1923, the rate in 1935 again being the highest recorded in Table 12.

The rates for measles, whooping cough, tuberculosis, syphilis, convulsions, bronchitis, congenital debility, premature birth, icterus neonatorum, inattention at birth and suffocation in bed established new low records in 1935, whilst those for diphtheria,

meningitis and inflammation of the stomach were equal to the lowest previously recorded.

Table XVI.—Comparison of Infant Mortality Rates (per 100,000 Live Births) in 1935 with those of immediately preceding years.

	Under 4 Weeks.	4 Weeks to 3 Months.	3–6 Months.	6–9 Months.	9–12 Months.	Under 1 Year.	Under 4 Weeks.	4 Weeks to 3 Months.	3–6 Months.	6–9 Months.	9–12 Months.	Under 1 Year.
	Increase or Decrease from Various Causes as compared with 1930–34.						Percentage Increase or Decrease as compared with 1930-34.					
Measles (7)	—	− 1	− 4	−17	− 38	− 60	—	−33	−50	−52	−60	−56
Whooping cough (9)	− 1	− 6	− 6	−10	− 17	− 40	−20	−16	−15	−22	−35	−23
Influenza (11)	− 4	− 4	− 6	− 7	− 3	− 23	−67	−36	−43	−50	−25	−40
Tuberculosis, all forms (23–32)	—	− 3	− 8	−12	− 11	− 34	—	−50	−35	−40	−35	−38
Convulsions (86)	−17	− 7	− 1	− 4	− 3	− 33	−16	−19	− 4	−21	−25	−16
Bronchitis and pneumonia (106–109)	− 2	−33	−35	−52	− 60	−180	− 2	−12	−11	−19	−24	−15
Diarrhœa and enteritis (119)	− 2	−19	− 5	−11	− 7	− 43	− 4	−13	− 3	−11	−11	− 8
Developmental and wasting diseases (157–159, 161 *a*, *b*)	−74	−16	−12	− 3	− 3	−108	− 3	− 5	−11	− 9	−16	− 4
Congenital defects (malformations and atelectasis) (157, 161a)	*+19*	*+15*	*− 2*	*+ 3*	—	*+35*	*+ 4*	*+11*	*− 4*	*+14*	—	*+ 5*
Congenital debility and icterus (158, 161b)	*−31*	*−12*	*− 9*	*− 5*	*− 2*	*− 60*	*−14*	*−15*	*−22*	*−50*	*−40*	*−17*
Premature birth (159)	*−63*	*−19*	—	—	*− 1*	*− 83*	*− 4*	*−14*	—	—	*	*− 5*
Injury at birth (160)	+14	+ 1	—	—	—	+ 15	+ 6	+25	—	*	*	+ 7
Suffocation—in bed or not stated how (182 part)	− 8	− 1	− 2	+ 2	—	− 10	−42	− 7	−18	+67	—	−21
Other causes	−20	− 3	− 4	−16	− 21	− 63	− 9	− 3	− 3	−14	−21	− 9
All Causes	−113	−91	−83	−131	−163	−579	− 4	− 9	−10	−19	−27	− 9
	Increase or Decrease of Mortality in 1935 as compared with 1934.						Increase or Decrease of Mortality in 1935 per cent. of that in 1934.					
All Causes	−93	+30	+15	−40	− 78	−165	− 3	+ 3	+ 2	− 7	−15	− 3

Note.—The percentages in this Table being based on rates per 100,000 live births may differ on this account from those derivable from the rates in Table VIII.

* Numbers too small to provide significant comparison.

Table XVII contrasts the mortality of male with that of female, and of legitimate with that of illegitimate, infants. The sex ratio of mortality was 129, a maximal ratio of 133 having been reached in 1930, followed by a decline in each year to 127 in 1934. This ratio ranged from 77 for whooping cough to 150 for congenital debility. The percentage ratio of illegitimate to legitimate infant mortality was, as usual, highest for syphilis and diarrhœa.

Distribution throughout the country of Infant Mortality from various causes.—Table XVIII, which is derived from Table 15, furnishes an analysis by cause of the differences in total mortality under one year of age shown in Table XIII.

Apart from the usual large annual variations in regional mortality from measles and whooping cough, and fluctuations due to the small number of deaths from tuberculosis, syphilis and suffocation, this table shows contrasts in the regional distribution of the main causes of mortality similar to those of recent years.

Appendix A tabulates infant mortality at five periods of the first year of life during the quinquennium 1931–35 by cause, sex

and legitimacy in Greater London and the aggregates of county boroughs, urban and rural districts outside Greater London, and also in all urban areas combined. The Reviews for 1925 and 1930, Appendix A, contained similar Tables for 1921–25 and 1926–30, the divisions consisting of London Administrative County, aggregates of all county boroughs, urban and rural districts, and all urban

Table XVII.—Infant Mortality by Cause, Sex and Legitimacy, 1935.

		Deaths per 1,000 Live Births.						Mortality per cent.				
		All Infants.		Legitimate Infants.		Illegitimate Infants.		Male of Female Infants.			Illegitimate of Legitimate Infants.	
		Male.	Female.	Male.	Female.	Male.	Female.	All Infants.	Legitimate.	Illegitimate.	Male.	Female.
All Causes.	Under four weeks	34·11	26·45	33·31	25·78	52·43	41·65	129	129	126	157	162
	4 weeks–3 months	10·52	7·64	10·10	7·34	20·10	14·43	138	138	139	199	197
	3–6 months	8·56	6·78	8·29	6·55	14·73	11·90	126	127	124	178	182
	6–9 ,,	6·04	4·77	5·95	4·72	8·18	5·87	127	126	139	137	124
	9–12 ,,	4·67	3·95	4·65	3·94	5·30	3·99	118	118	133	114	101
	Total under 1 year	63·90	49·58	62·30	48·34	100·74	77·83	129	129	129	162	161
Ages under one Year.	Measles (7)	0·54	0·42	0·53	0·43	0·62	0·08	129	123	775	117	19
	Whooping cough (9)	1·19	1·54	1·19	1·55	1·17	1·30	77	77	90	98	84
	Tuberculosis, all forms (23–32)	0·62	0·49	0·61	0·50	0·86	0·24	127	122	358	141	48
	Syphilis (34)	0·33	0·25	0·30	0·23	0·93	0·81	132	130	115	310	352
	Convulsions (86)	2·02	1·39	2·02	1·35	2·03	2·20	145	150	92	101	163
	Bronchitis and pneumonia (106–109)	11·58	9·13	11·40	8·99	15·74	12·30	127	127	128	138	137
	Diarrhœa and enteritis (119)	5·88	4·20	5·61	3·94	12·00	10·02	140	142	120	214	254
	Developmental and wasting diseases (157–159, 161*a* & *b*)	31·26	24·62	30·60	24·10	46·36	36·43	127	127	127	152	151
	Congenital defects (malformations and atelectasis) (157, 161a)	*8·57*	*6·95*	*8·57*	*6·96*	*8·57*	*6·77*	*123*	*123*	*127*	*100*	*97*
	Congenital debility, sclerema and icterus (158, 161b)	*3·61*	*2·40*	*3·48*	*2·35*	*6·54*	*3·50*	*150*	*148*	*187*	*188*	*149*
	Premature birth (159)	*19·08*	*15·27*	*18·55*	*14·79*	*31·24*	*26·16*	*125*	*125*	*119*	*168*	*177*
	Other causes	10·48	7·54	10·04	7·25	21·03	14·45	139	139	146	209	199
	All causes	63·90	49·58	62·30	48·34	100·74	77·83	129	129	129	162	161

areas combined. It was shown on page 10 of the Review for 1931 (Text) that infant mortality rates at the five periods of the first year of life in 1931 calculated for the old aggregates, which included districts within London's outer ring, required the following percentage additions or subtractions to make them comparable with rates for the new aggregates.

	Total under 1 year.	Under 4 weeks.	4 weeks to 3 months.	3–6 months.	6–9 months.	9–12 months.
County Boroughs	+ 1	+ 1	*	*	+ 1	+ 2
Other Urban Districts	+ 5	+ 4	+ 4	+ 3	+ 8	+ 7
Rural Districts	*	*	*	*	*	*

* Less than one per cent.

The group of "all urban districts" comprised in 1921–25 and 1926–30 London County and every county borough and urban district, with the addition in 1931–35 of the few small rural districts included within the boundary of Greater London since the outer ring as a whole is generally treated as urban. This slight difference has no sensible effect on death rates and the groups are therefore comparable without need of correction. The rates for 1921–25 or 1926–30 may, consequently, be compared with those for 1931–35 without correction for any of the following lines in the Tables:—county boroughs, rural districts, all urban districts.

Table XVIII.—Comparison of Infant Mortality from the Principal Causes in Geographical Regions, 1935.

	Measles (7).	Whooping cough (9).	Tuberculosis, all forms (23–32).	Syphilis (34).	Convulsions (86).	Bronchitis and pneumonia (106–109).	Diarrhoea and enteritis (119).	Congenital malformations (157).	Congenital debility (158).	Premature birth (159).	Injury at birth (160).	Suffocation—in bed, or not stated how (182 pt.).	Other Causes.	All Causes.
Differences from Rates for England and Wales per 100,000 Live Births.														
South-East	−40	− 29	− 3	− 7	−114	−248	+104	− 71	− 70	−338	−25	− 6	−102	− 949
Greater London ..	−40	− 14	− 2	− 4	−130	−125	+317	− 63	− 83	−348	−31	− 7	− 49	− 579
Remainder of South-East	−40	− 53	− 4	−12	− 89	−436	−221	− 84	− 50	−324	−17	− 4	−179	− 1,513
North	+42	+ 39	− 1	+11	+ 81	+328	+ 41	+ 54	+ 88	+238	+18	+ 7	+120	+ 1,066
North I	+56	+ 85	+12	+18	+209	+437	+250	+ 20	+159	+395	− 2	+ 6	+236	+ 1,881
„ II	+31	+ 74	+19	+22	+ 62	+399	+ 26	+ 44	+ 59	+279	−12	+13	+128	+ 1,144
„ III	− 9	+ 23	− 7	—	+ 5	+ 45	−116	− 9	+ 1	+185	+ 7	+13	+ 3	+ 141
„ IV	+66	+ 20	− 7	+12	+ 74	+425	+ 44	+106	+114	+192	+40	+ 1	+135	+ 1,222
Midland	+ 2	+ 4	+ 8	− 3	− 22	+ 6	− 55	+ 22	− 37	+179	+25	− 1	+ 35	+ 163
Midland I	+ 6	+ 14	+15	− 5	− 53	− 13	+ 3	− 4	− 65	+124	+45	− 2	+ 87	+ 152
„ II	− 6	− 15	− 5	+ 2	+ 39	+ 44	−172	+ 74	+ 18	+289	−14	+ 1	− 70	+ 185
East	−37	− 51	+ 7	+15	− 60	−335	−333	− 82	− 25	−226	−55	+ 3	− 96	− 1,275
South-West	−30	− 74	−20	−11	+ 6	−506	−318	− 12	− 69	−170	+ 3	+ 9	−194	− 1,386
Wales	+26	+ 17	+ 3	−16	+253	+112	−121	+ 83	+ 62	+234	+ 4	− 5	− 20	+ 632
Wales I	+52	+ 29	− 5	−19	+241	+176	− 97	+ 30	+ 93	+231	−20	− 4	− 60	+ 647
„ II	—	− 17	+24	− 9	+286	− 74	−188	+234	− 25	+245	+72	− 8	+ 48	+ 588
Rates per cent. of those for England and Wales.														
South-East	17	79	95	76	33	76	121	88	72	80	89	84	88	83
Greater London ..	17	90	96	86	24	88	163	89	67	80	87	82	94	90
Remainder of South-East	17	61	93	59	48	58	56	86	80	81	93	89	79	73
North	188	129	98	138	147	132	108	109	135	114	108	118	114	119
North I	217	163	121	162	222	142	149	103	163	123	99	116	127	133
„ II	165	154	134	176	136	138	105	107	123	116	95	134	115	120
„ III	81	117	88	100	103	104	77	98	100	111	103	134	100	102
„ IV	238	115	88	141	143	141	109	118	145	111	117	103	116	121
Midland	104	103	114	90	87	101	89	104	85	110	111	97	104	103
Midland I	113	110	127	53	69	99	101	99	74	107	119	95	110	103
„ II	88	89	91	107	123	104	66	113	107	117	94	103	92	103
East	23	63	113	152	65	68	34	86	90	87	77	108	89	78
South-West	38	46	64	62	104	51	37	98	73	90	101	124	78	76
Wales	154	113	105	45	248	111	76	114	124	114	102	87	98	111
Wales I	208	121	91	34	241	117	81	105	137	113	92	89	93	111
„ II	—	88	143	69	267	93	63	140	90	114	131	79	106	110

Table XIX expresses the rates, as shown in Appendix A for 1931–35, and also the rates for the preceding quinquennium 1926–30, as percentages of the corresponding rates in 1921–25 for all causes and for 11 principal causes of infant mortality in the aggregates

of all urban areas (including London) and of all rural districts. For the first year of life as a whole corresponding ratios are also given for the county borough aggregate and for England and Wales.

The percentage decline in total mortality between 1921–25 and 1931–35 ranged from about 5 per cent. at ages under 4 weeks to over 30 at the end of the first year, being appreciably greater in urban than rural areas at 9–12 months. Measles and whooping cough rates declined by 35 or 40 per cent. at each age period in urban and rural areas alike, but tuberculosis mortality at ages between 6 and

Table XIX.—Infant Mortality, 1926–30 and 1931–35 per cent. of that in 1921–25, by cause and age in Urban and Rural aggregates, and by cause in England and Wales and the aggregate of County Boroughs.

		Total under 1 year.				Under 4 weeks.		4 weeks to 3 months.		3–6 months.		6–9 months.		9–12 months.	
		England and Wales.	County Boroughs.	All Urban Areas.*	Rural Districts.	All Urban Areas.*	Rural Districts.	All Urban Areas.*	Rural Districts.	All Urban Areas.*	Rural Districts.	All Urban Areas.*	Rural Districts.	All Urban Areas.*	Rural Districts.
All Causes	1926–30	89	89	89	91	95	97	84	87	83	83	85	87	85	89
	1931–35	82	82	81	85	94	96	77	78	74	72	69	72	64	71
Measles and Whooping Cough	1926–30	89	88	89	90	†	†	83	84	87	86	92	92	91	97
	1931–35	62	68	62	62	†	†	63	66	65	62	62	64	60	62
Tuberculosis, all forms ..	1926–30	77	79	76	82	†	†	75	78	76	72	71	82	78	97
	1931–35	60	57	57	70	†	†	42	44	62	55	60	71	58	84
Syphilis	1926–30	66	61	64	74	70	77	60	71	59	†	†	†	†	†
	1931–35	37	33	36	50	39	59	33	43	41	†	†	†	†	†
Convulsions	1926–30	64	64	63	66	71	71	60	68	58	64	52	59	49	52
	1931–35	44	45	42	50	50	56	36	43	39	49	37	49	29	42
Bronchitis and pneumonia	1926–30	88	88	88	92	90	93	85	91	89	92	89	91	88	95
	1931–35	75	78	75	78	86	92	82	80	82	83	68	70	64	72
Diarrhoea and enteritis ..	1926–30	79	86	80	74	78	95	84	78	80	69	81	69	74	68
	1931–35	67	66	67	60	64	82	72	65	67	53	66	52	60	60
Congenital malformations	1926–30	117	118	117	120	116	123	124	121	115	112	112	105	100	93
	1931–35	139	141	138	141	134	142	153	159	138	123	135	140	118	100
Congenital debility ..	1926–30	67	67	66	69	67	69	67	73	66	59	59	50	53	†
	1931–35	47	47	46	50	47	52	49	50	45	46	31	40	33	†
Premature birth ..	1926–30	97	97	97	99	97	99	94	98	85	83	†	†	†	†
	1931–35	98	100	97	98	99	99	89	91	65	44	†	†	†	†
Injury at birth	1926–30	135	140	136	134	136	134	†	†	†	†	†	†	†	†
	1931–35	161	172	164	155	163	156	†	†	†	†	†	†	†	†
Atelectasis	1926–30	101	99	102	95	103	94	†	†	†	†	†	†	†	†
	1931–35	114	117	115	109	116	109	†	†	†	†	†	†	†	†

* Including Greater London in 1931–35 and London in 1926–30 (*see* text).
† Rates too small for ratio to be informative.

12 months and syphilis at ages under 3 months declined to a greater extent in urban than rural areas. Convulsions as a registered cause of death also declined more rapidly in urban areas at each age period, and the same was true of congenital debility. Diarrhœa and enteritis

during the first month of life fell by 36 per cent. in urban and 18 per cent. in rural areas, but between 1 and 9 months of age the relative improvement was greater in the rural districts. The increase in the registered death rates from congenital malformations was 41 per cent., both in the county boroughs and rural districts but rather less in urban areas as a whole, whereas injury at birth and atelectasis increased to a greater extent in urban than rural areas.

Comparison between the rates of decline in the successive 5-year intervals from 1921–25 to 1926–30 and from 1926–30 to 1931–35 is made in Table XX at ages under 3 months and at 9–12 months for the causes which have shown any considerable improvement. For all causes combined the rate of improvement during the first interval was not maintained during the second interval at ages under 3 months, but on the other hand the rate of fall at ages 9–12 months was greatly accelerated. For measles and whooping cough the rates of decline were greater in the second interval, and this was also true of tuberculosis at ages 9–12 months, syphilis at 1–3 months and bronchitis and pneumonia at 9–12 months. Diarrhœa and enteritis did not decline so rapidly in the second interval at ages 9–12 months, but in early infancy the rate of fall was maintained.

Table XX.—Infant Mortality at ages under 3 months and at 9–12 months from certain causes; percentage rates of decline from 1921–25 to 1926–30 and from 1926–30 to 1931–35 in Urban and Rural Areas.

		Under 4 weeks.		4 weeks to 3 months.		9–12 months.	
		1st interval.	2nd interval.	1st interval.	2nd interval.	1st interval.	2nd interval.
All Causes ..	Urban	5	1	16	8	15	25
	Rural	3	1	13	10	11	20
Measles and whooping cough	Urban	*	*	17	24	9	34
	Rural	*	*	16	22	3	36
Tuberculosis ..	Urban	*	*	*	*	22	26
	Rural	*	*	*	*	3	13
Syphilis ..	Urban	30	45	40	46	*	*
	Rural	23	24	29	40	*	*
Convulsions ..	Urban	29	30	40	40	51	41
	Rural	29	21	32	36	48	19
Bronchitis and pneumonia ..	Urban	10	5	15	3	12	27
	Rural	7	1	9	12	5	24
Diarrhoea and enteritis ..	Urban	22	19	16	14	26	19
	Rural	5	13	22	18	32	12
Congenital debility	Urban	33	30	33	27	*	*
	Rural	31	24	27	32	*	*

* Rates too small for informative comparison.

Causes of High Infant Mortality in the County Boroughs.

Table 10 shows that notwithstanding the fall in recent years in the infant death-rates of the large towns, great contrasts remain between the rates in individual towns. In 1935 the low rate of 31 per 1,000 live births was registered in Oxford and Ipswich, and the high rates of 94 and 98 in St. Helens and Wigan. The average rates for these four towns in the 5 years 1931–35 were :—Oxford 43, Ipswich 46, St. Helens 90, Wigan 94. It is interesting to notice that 6 county boroughs achieved rates below 40 in 1935, whereas in 1930, also a very healthy year in which the general county borough rate was 68, compared with 65 in 1935, no county borough registered a rate below 40. In the endeavour to ascertain what causes of death contributed most to the high rates in some of the towns and what causes were most reduced in those towns which achieved low rates, Table XXI has been constructed, comparing the 1935 rates for various causes in 4 aggregates of county boroughs, namely (1) those with infant mortality rates between 30 and 40 (Bath, Eastbourne, Exeter, Great Yarmouth, Ipswich, Oxford); (2) those with rates between 40 and 50; (3) those with rates between 80 and 90; (4) those with rates of 90 and over (Bootle, Gateshead, St. Helens, Sunderland, Wigan). The numbers of live births in these aggregates were respectively 5,866, 34,038, 41,545 and 10,978. Corresponding rates are shown for all county boroughs, London Administrative County and England and Wales.

Congenital malformations and diseases of early infancy, the "congenital causes" group of Table XXI and Table X, of which more than half consists of deaths attributed to prematurity, produced rates of 20, 27, 36 and 42 in the four aggregates, and the contrast between these rates suggests that large numbers of these deaths are due to remediable causes and that considerable improvement in the death-rate from this group of causes is possible of achievement in many large towns. A rate of 20 in the county boroughs as a whole would have been equivalent to only 4,135 deaths from these causes instead of the 6,979 which were registered. These deaths formed about 60 per cent. of all infant deaths in the towns with low mortality compared with about 45 per cent. in the towns with high mortality.

Pneumonia, the next most important cause of infant deaths in the county boroughs, gave rates of 4, 6, 18 and 17 per 1,000 births in the four aggregates, and deaths attributed to this cause account for a large part of the excess mortality in the northern industrial towns. An average rate of 4 in the county boroughs as a whole would have been equivalent to 827 deaths instead of the 2,266 which were registered. Pneumonia deaths formed about 13 per cent. of all infant deaths in the towns with low total mortality compared with about 20 per cent. in those with high mortality.

Diarrhœa rates were 2 or 3 per 1,000 live births in the aggregates of towns with low infant mortality (6 to 8 per cent. of all deaths)

Table XXI.—Deaths under 1 year of age from Various Causes, with rates per 1,000 live births and per 1,000 deaths from all causes, in aggregates of County Boroughs of high and low infant mortality, compared with London and England and Wales, 1935.

		Measles.	Whooping Cough.	Influenza.	Tuber-culosis (all forms).	Syphilis.	Bronchitis.	Pneu-monia.	Diarrhœa.	Other digestive diseases (Nos. 24–27).	Congenital Causes (Nos. 157–161).	Violence.	Other Causes.	All Causes.
ENGLAND AND WALES ..	Deaths	287	812	205	335	174	1,202	5,018	3,031	641	18,626	636	3,125	34,092
	Per mille	8	24	6	10	5	35	147	89	19	546	19	92	1,000
	Rate	0·48	1·36	0·34	0·56	0·29	2·01	8·38	5·06	1·07	31·12	1·06	5·22	56·94
LONDON ..	Deaths	4	99	10	31	20	106	546	592	73	1,435	93	220	3,229
	Per mille	1	31	3	10	6	33	169	183	23	444	29	68	1,000
	Rate	0·07	1·77	0·18	0·56	0·36	1·90	9·79	10·61	1·31	25·72	1·67	3·94	57·90
ALL COUNTY BOROUGHS ..	Deaths	185	338	78	121	85	451	2,266	1,282	230	6,979	207	1,253	13,475
	Per mille	14	25	6	9	6	33	168	95	17	518	15	93	1,000
	Rate	0·89	1·64	0·38	0·59	0·41	2·18	10·96	6·20	1·11	33·76	1·00	6·06	65·20
County Boroughs with rates of 30–39*	Deaths	—	4	1	3	2	6	24	11	2	115	5	21	194
	Per mille	—	21	5	15	10	31	124	57	10	593	26	108	1,000
	Rate	—	0·68	0·17	0·51	0·34	1·02	4·09	1·88	0·34	19·60	0·85	3·58	33·07
County Boroughs with rates of 40–49†	Deaths	8	19	10	16	11	30	200	117	31	933	25	133	1,533
	Per mille	5	12	7	10	7	20	130	76	20	609	16	87	1,000
	Rate	0·24	0·56	0·29	0·47	0·32	0·88	5·88	3·44	0·91	27·41	0·73	3·91	45·08
County Boroughs with rates of 80–89‡	Deaths	63	78	27	35	24	146	746	404	59	1,514	37	341	3,474
	Per mille	18	22	8	10	7	42	215	116	17	436	11	98	1,000
	Rate	1·52	1·88	0·65	0·84	0·58	3·51	17·96	9·72	1·42	36·44	0·89	8·21	83·72
County Boroughs with rates of 90 upwards§ ..	Deaths	30	45	5	6	7	53	184	114	19	460	13	82	1,018
	Per mille	29	44	5	6	7	52	181	112	19	452	13	80	1,000
	Rate	2·73	4·10	0·46	0·55	0·64	4·83	16·76	10·38	1·73	41·90	1·18	7·47	92·72

NOTES:—

* Bath, Eastbourne, Exeter, Great Yarmouth, Ipswich, Oxford.

† Blackpool, Bournemouth, Bristol, Canterbury, Coventry, Croydon, East Ham, Huddersfield, Lincoln, Norwich, Portsmouth, Southampton, Southend, Wallasey, West Ham.

‡ Liverpool, Middlesbrough, Newcastle-on-Tyne, Nottingham, Preston, Rochdale, South Shields, Stoke-on-Trent, West Bromwich, West Hartlepool.

§ Bootle, Gateshead, St. Helens, Sunderland, Wigan.

compared with 10 in the aggregates with high mortality (11 to 12 per cent. of all deaths), and bronchitis rates were 1 per 1,000 live births (2 to 3 per cent. of all deaths) compared with 3 and 5 (4 to 5 per cent. of all deaths). Measles and whooping cough showed great contrasts between the groups of towns, the combined rate being less than 1 in the aggregates with low mortality, compared with 7 in the aggregate with highest infant mortality. An average rate of 1 in the county boroughs as a whole would have produced 207 deaths instead of the 523 which were registered. Digestive diseases other than diarrhœa, and the group of " other causes," also showed large relative excess in the towns of high infant mortality, but for influenza, tuberculosis and syphilis the excess was not so pronounced.

Death-rates from violence did not vary to any important extent.

This analysis shows that whilst nearly all the natural causes of death were increased in the county boroughs having high total rates of infant mortality, the relative excess was greatest for measles, whooping cough, bronchitis, pneumonia and diarrhœa, with a combined rate of 8 per 1,000 live births in the towns having infant mortality rates below 40 compared with 39 in the towns having rates of 90 upwards.

The infant mortality rates of 35 or less, recorded by several southern towns which are partly industrial, and the rate of 45 recorded by Huddersfield, a northern industrial town, suggest that it ought to be possible for every northern town to achieve a rate below 50 and for every other town to achieve a rate below 40. The realization of such rates would mean an annual saving of more than 4,000 infant lives in the county boroughs alone.

Mortality at Ages over One Year.

Table XXII states the crude and standardized death-rates at all ages for sexes and persons for the whole country, as well as the mortality per million living at different ages, for 1934 and 1935, and in order to provide means of comparison with experience of some ten years back, for 1921–30.

The mortality of each sex at ages 75 and over was higher than in 1934, but at all other ages distinguished in Table XXII it was lower. At every age-group for each sex mortality was lower than in 1921–30.

The extent of the fall at the various ages can be better appreciated from Table XXIII, in which the mortality in 1933, 1934 and 1935 is expressed as a percentage of the rate in the decennium 1921–30. At " all ages " the standardized rates according to the English standard have declined since 1921–30 by 14 per cent. for males and 15 per cent. for females. The fall is much greater at 0–5 than at any higher age, amounting to about 30 per cent.

At 5–10 mortality was much lower than in 1933 or 1934, both for boys and girls, an improvement of about 16 per cent. being evident over the rates for 1921–30. At 10–20 the decline amounted

Table XXII.—Mortality from all Causes per Million Population, 1921–30, 1934 and 1935.

	Males.			Females.			Persons.		
	1921–30.	1934.	1935.	1921–30.	1934.	1935.	1921–30.	1934.	1935.
All Ages.									
Crude	12,927	12,511	12,485	11,401	11,112	11,064	12,131	11,783	11,746
Standardized A ..	11,826	10,428	10,167	9,602	8,328	8,036	10,644	9,305	9,026
Standardized B ..	12,774	11,364	11,034	10,953	9,600	9,271	11,827	10,438	10,106
0–	25,345	19,344	17,894	20,386	15,612	14,227	22,896	17,504	16,088
5–	2,513	2,477	2,128	2,327	2,379	1,935	2,420	2,428	2,032
10–	1,658	1,443	1,342	1,637	1,397	1,289	1,648	1,420	1,316
15–	2,602	2,369	2,133	2,483	2,186	1,993	2,543	2,278	2,064
20–	3,335	3,084	2,899	3,030	2,659	2,596	3,178	2,868	2,745
25–	3,890	3,212	3,131	3,458	3,031	2,893	3,656	3,119	3,009
35–	6,379	5,113	4,984	4,830	4,111	4,008	5,544	4,571	4,459
45–	11,615	10,946	10,766	8,554	7,659	7,443	10,006	9,175	8,972
55–	24,363	23,340	23,226	18,124	16,403	16,247	21,086	19,656	19,505
65–	59,152	55,605	55,466	46,014	42,046	41,542	51,907	48,126	47,797
75–	136,934	129,319	131,750	114,049	103,918	104,903	123,108	114,001	115,560
85 and upwards	283,060	256,366	269,166	261,506	230,629	239,291	268,676	238,925	248,985

A. English Standard (Population of England and Wales, 1901). B. International Standard.
(*See* page 2.)

to about 20 per cent., at 20–25 it was 14 per cent. and between 25 and 45 about 20 per cent., being rather greater for males at the last-mentioned ages. At 45 upwards the improvement was greatest for females, ranging from 8 to 13 per cent. compared with 4 to 7 per cent. for males.

Table XXIII.—Mortality at various ages from all causes in 1933, 1934 and 1935 per cent. of that for the same sex and age in 1921–30.

	Males.			Females.			Persons.		
	Per cent. of 1921–30.			Per cent. of 1921–30.			Per cent. of 1921–30.		
	1933.	1934.	1935.	1933.	1934.	1935.	1933.	1934.	1935.
All Ages—									
Crude	100·2	96·8	96·6	102·7	97·5	97·0	101·4	97·1	96·8
Standardized A	92·3	88·2	86·0	91·7	86·7	83·7	92·0	87·4	84·8
Standardized B	93·0	89·0	86·4	92·8	87·6	84·6	92·8	88·3	85·4
0–	78	76	71	78	77	70	78	76	70
5–	90	99	85	91	102	83	91	100	84
10–	89	87	81	84	85	79	87	86	80
15–	98	91	82	91	88	80	95	90	81
20–	99	92	87	96	88	86	98	90	86
25–	90	83	80	93	88	84	92	85	82
35–	90	80	78	96	85	83	93	82	80
45–	101	94	93	97	90	87	99	92	90
55–	97	96	95	95	91	90	96	93	93
65–	96	94	94	96	91	90	96	93	92
75–	102	94	96	100	91	92	101	93	94
85 and upwards	101	91	95	99	88	92	100	89	93

A. English Standard (Population of England and Wales 1901).
B. International Standard. (*See* page 2.)

Table XXIV measures the effect of changes in the birth-rate upon the mortality rate at 0–5 years in 1911–14 and from 1917 onwards, by comparison with the trend of rates which have been standardized by reference to the 1901 Census population at individual years of age up to 5. It shows that in all these years the fall of the birth-rate has caused some under-statement of crude mortality at 0–5 for each sex except during the three years 1920–22, when its temporary rise after the war reversed the process.

Both the crude and standardized rates at these ages in 1935 were the lowest ever recorded.

Table XXIV.—Comparison of Crude and Standardized Death-Rates per 1,000 living at Age 0–5, 1911–14 and 1917–35.

	Males.		Females.		Persons.	
	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.
1911–14 ..	40·6	40·8	33·9	34·2	37·3	37·5
1917	31·8	34·3	26·3	28·4	29·1	31·4
1918	38·9	43·1	34·1	37·5	36·5	40·3
1919	32·8	36·6	26·4	29·5	29·6	33·1
1920	36·2	31·8	28·9	26·0	32·5	29·0
1921	32·3	29·2	25·8	23·6	29·1	26·4
1922	30·2	28·5	24·5	23·1	27·4	25·8
1923	24·3	25·0	19·6	20·1	22·0	22·5
1924	25·1	27·3	20·2	21·8	22·6	24·6
1925	25·3	27·1	20·7	22·1	23·0	24·6
1926	23·3	24·9	18·8	20·0	21·1	22·4
1927	23·7	25·2	18·9	20·0	21·3	22·6
1928	21·9	23·3	17·4	18·5	19·7	20·9
1929	26·3	27·7	21·6	22·7	24·0	25·2
1930	20·5	21·4	16·0	16·7	18·3	19·1
1931	22·4	23·1	17·4	18·0	19·9	20·6
1932	21·0	22·0	16·8	17·6	19·0	19·8
1933	19·9	21·2	15·8	16·9	17·9	19·1
1934	19·3	20·7	15·6	16·7	17·5	18·7
1935	17·9	18·8	14·2	15·0	16·1	16·9

Mortality at 1–5.—Table XXV shows that mortality has fallen more rapidly for the years immediately following infancy than for the first year of life itself. The standardized rate at ages 1–5 in 1935 was only 55 per cent. of that in 1921–30, 73 per cent. of the mean rate in 1931–33 and 77 per cent. of that in 1934. Compared with 1921–30 the decline has been least in the first year and greatest in the second, then decreasing continuously to the fifth year of life. The second year of life usually manifests the greatest degree of annual variation and would seem to be the age of greatest susceptibility to disturbing factors. That the death-rates of children aged 1–5 are more

sensitive than those of infants or older children to environmental factors such as are indicated by urbanization or density of persons per room was shown in the Review for 1932 (Table XXVIII).

Compared with the preceding year an improvement of 25 per cent. was registered in the second year of life, 22 per cent. in the third, 24 per cent. in the fourth, and 17 per cent. in the fifth.

Table XXV.—Mortality per 1,000 living (both sexes), in each of the first Five Years of Life, 1911–14, 1921–30, 1931–33, 1934 and 1935.

Year of Life.	1911–14.	1921–30.	1931–33.	1934.	1935.	1935 per cent. of 1921–30.
0–1	118·16	75·51	66·91	63·12	60·16	79·7
1–2	34·06	19·88	14·27	12·75	9·59	48·2
2–3	13·68	8·51	6·19	5·92	4·63	54·4
3–4	8·32	5·23	4·21	4·47	3·38	64·6
4–5	6·14	3·90	3·40	3·56	2·97	76·2
0–5 Crude ..	37·27	22·90	18·93	17·50	16·09	70·3
0–5 Standard ..	37·52	23·52	19·83	18·74	16·90	71·9
1–5 Crude ..	15·62	9·47	7·01	6·59	5·08	53·6
1–5 Standard ..	15·54	9·37	7·01	6·67	5·14	54·9

The distribution throughout the country of mortality at 1–2 and 2–5 is shown in Table XXVI, which may be compared with Table XIV (Infant Mortality). The greatest excess over the general average recorded in the table at ages 1–2 is for North I, which shows a rate more than twice the corresponding rates for the South-West, the South-East and Wales II. Next in order comes North IV, followed by Wales I. Wales II, which is of course mainly rural, has, as in the 4 preceding years, a mortality for the second year of life much below the general average, whereas Wales I shows a rate 35 per cent. above. The East has also a low rate as in previous years. At 2–5 North I again shows the highest rate, followed by the other North regions, and the South-East and South-West occupy the lowest places in the order of mortality at both ages.

The sensitiveness of mortality at age 1–2 to the general healthiness of the year has been pointed out in previous Reviews. It is to be expected that the most susceptible age would also exhibit the greatest range of regional variation. When the regional rates are expressed as percentages of the rate for England and Wales, their range tends to increase during the first two years of life. In 1935 the range was 54–144 at 6–9 months, 58–156 at 9–12 months, 55–157 in the second year, and 69–151 at ages 2–5 (Tables XIV and XXVI), being maximal at 1–2 years.

The association with urbanization at these four age periods is reflected in the differences between the percentage rates for the

county boroughs and rural districts outside Greater London, amounting to 59 at 6–9 months and at 9–12 months, 61 at 1–2 years and 54 at 2–5, the range being maximal at 1–2 years.

Comparison of 1935 mortality with the mean rates in 1931–34 (Table XXVI) shows at ages 1–2 a decline of 31 per cent. in England and Wales, but in Greater London this amounted to 50 per cent. (measles not being epidemic in 1935) and in the South-West to 41 per cent., whilst on the other hand the East and Wales I registered less

Table XXVI.—Mortality in Early Childhood: distribution at ages 1–2 and 2–5 in 1931–34 and 1935.

	Deaths per 1,000 Living (both sexes).				Mortality in 1935 per cent. of 1931–34.		Mortality in 1935 per cent. of that in England and Wales.	
	1–2 years.		2–5 years.					
	1931–34.	1935.	1931–34.	1935.	1–2.	2–5.	1–2.	2–5.
England and Wales	13·93	9·59	4·61	3·64	69	79	100	100
South-East	10·94	6·12	3·80	2·58	56	68	64	71
Greater London	12·55	6·31	4·25	2·62	50	62	66	72
Remainder of South-East..	8·40	5·82	3·10	2·51	69	81	61	69
North	18·65	13·18	6·01	4·88	71	81	137	134
North I	22·05	15·03	6·57	5·49	68	84	157	151
„ II	17·75	11·64	5·60	4·70	66	84	121	129
„ III	15·54	11·05	5·87	4·55	71	78	115	125
„ IV	19·12	13·95	5·93	4·84	73	82	145	133
Midland	12·96	10·09	4·02	3·55	78	88	105	98
Midland I	13·04	10·43	4·09	3·68	80	90	109	101
„ II	12·78	9·42	3·90	3·29	74	84	98	90
East	9·01	7·62	3·29	2·81	85	85	79	77
South-West	8·98	5·27	3·17	2·67	59	84	55	73
Wales	14·14	11·39	5·02	4·10	81	82	119	113
Wales I	15·44	12·91	5·34	4·32	84	81	135	119
„ II	10·12	6·81	4·08	3·43	67	84	71	94
County Boroughs*	18·02	13·08	5·55	4·63	73	83	136	127
Other Urban Districts* ..	12·84	9·48	4·58	3·92	74	86	99	108
Rural Districts*	10·11	7·15	3·51	2·64	71	75	75	73
Greater London—								
Administrative County ..	15·56	6·93	4·98	2·48	45	50	72	68
Outer Ring	9·42	5·71	3·54	2·78	61	79	60	76

* Outside Greater London.

than 20 per cent. improvement. At 2–5 the fall in the national rate was 21 per cent., and amongst the regional rates ranged from 38 per cent. for Greater London to 10 per cent. for Midland I. The rural district rate improved by 25 per cent. compared with 17 per cent. for the county boroughs.

The principal *causes of death* at ages 1–5 in 1935 were pneumonia, diphtheria, tuberculosis, measles, whooping cough and violence.

Table XXVII provides a comparison of death-rates at 1–5 years of age from an extended list of causes in England and Wales during 1935 with the corresponding rates in 1911–14 and 1921–30.

Mortality from all causes combined at these ages was 32 per cent. of the rate in 1911–14 and 54 per cent. of that in 1921–30. The causes showing an increase over 1921–30 were congenital malformations and violence other than burns and scalds, whilst diphtheria

showed no appreciable change. On the other hand, whooping cough, each form of tuberculosis, meningitis, convulsions, bronchitis, pneumonia and diarrhœa all established new low records.

Table XXVII.—Deaths from Various Causes per Million living at Ages 1–5 Years in 1911–14, 1921–30 and 1935. (Both Sexes.)

Cause of Death.	Death-rate.			Cause of Death.	Death-rate.		
	1911–14.	1921–30.	1935.		1911–14.	1921–30.	1935.
7. Measles	2,673	1,104	392	105: 2. Laryngitis	152	51	23
8. Scarlet fever	373	143	94	106. Bronchitis	872	448	129
9. Whooping cough	1,216	864	307	107. Broncho-pneumonia	2,170	2,120	952
10. Diphtheria	781	535	531	108 & 109. Pneumonia (Lobar and not otherwise defined).	866	536	292
11. Influenza	60	270	75				
23. Tuberculosis of Respiratory System.	237	136	59	Other Respiratory Diseases	140	80	53
24. Tuberculosis of Nervous System.	705	445	294	118: 1. Inflammation of the Stomach.	94	43	16
25. Tuberculosis of Intestines and Peritoneum.	391	157	43	119 & 120. Diarrhœa and enteritis	1,639	468	200
26–32. Other Tuberculous Diseases.	288	155	76	130. Acute nephritis	89	43	31
63: 1. Rickets	172	93	38	157. Congenital malformations.	85	79	85
79. Meningitis	451	188	80	181. Burns and scalds	360	247	183
86. Convulsions	460	179	60	Other Violence	274	239	250
				Other Causes	1,071	847	814
				All Causes	15,619	9,470	5,075

The decline in mortality assigned to various infective and respiratory diseases and to meningitis, convulsions and rickets since 1921 is revealed by the annual rates in Table XXVIII.

Table XXVIII.—Death-Rates from Various Causes per Million living at Ages 1–5 Years in each year 1921–1935.

	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Bronchitis and Pneumonia.	Diarrhœa and Enteritis.	Meningitis.	Convulsions.	Rickets.
1921	603	198	853	778	3,305	990	288	321	109
1922	1,530	229	1,838	723	4,461	403	263	268	86
1923	1,332	169	745	464	2,700	479	233	219	98
1924	1,155	149	716	438	3,368	424	205	189	94
1925	1,326	172	1,108	473	3,033	466	188	191	102
1926	848	105	749	474	2,784	502	165	153	86
1927	950	90	743	448	3,339	358	157	133	80
1928	1,122	92	572	504	2,250	368	120	99	102
1929	965	102	1,411	533	3,940	419	138	117	89
1930	1,142	116	401	552	1,792	276	111	89	78
1931	923	87	540	427	2,487	271	114	87	80
1932	988	92	602	387	1,929	266	126	85	66
1933	571	129	494	394	1,986	300	106	77	41
1934	1,117	166	446	607	1,761	213	97	66	35
1935	392	94	307	531	1,373	200	80	60	38

Comparing the simple averages of the annual rates in 5 successive triennial periods from 1921–23 to 1933–35 the rapid decline for whooping cough is shown by the series 1145, 858, 909, 514, 416, and for bronchitis and pneumonia by the series 3489, 3062, 3176, 2069 1707. These may well cease to be important causes of death amongst young children within another 15 years, and the same may be said of diarrhœa with 624, 464, 382, 271, 238 as successive triennial

average rates. Diphtheria with 655, 462, 495, 455, 511 and scarlet fever with 199, 142, 95, 98, 130 as average rates in the 5 periods do not show such rapid improvement in recent years. Measles gave an average rate of 1,189 in the 5 years 1921–25 and 798 in the 5 years 1931–35. Meningitis, other than cerebro-spinal or tuberculous, and convulsions are rapidly disappearing as certified causes of death.

London mortality at 1–2 years from all causes fell in 1935 to the lowest level yet recorded, 693 per 100,000 living, and the rate at 2–5 also fell to the record low level of 248, the previous lowest rate being 415 in 1931. Whereas London death-rates at these two ages were 51 and 27 per cent. in excess of the national rates in 1934, they were 28 and 32 per cent. respectively below the corresponding national rates in 1935. The London experience for each year from 1922 to 1935 is shown in Table XXIX. Measles, whooping cough, pneumonia, and diphtheria have been chiefly responsible for the large fluctuations in mortality during the second year of life, and when these causes together with influenza are omitted, the residual death-rates have followed a declining course with relatively slight fluctuations.

Table XXIX.—Mortality from Various Causes at 1–2 and all causes at 2–5 Years of Age in London Administrative County in each year 1922 to 1935.

	1–2 years.								2–5 years.	
	Death-rate per 1,000 Living.							Death-rate per cent. of England and Wales.	Death-rate from all causes.	
	Diphtheria.	Measles.	Whooping Cough.	Influenza.	Pneumonia.	Other Causes.	All Causes.		Per 1,000 Living.	Per cent. of England and Wales.
1922	2·22	8·08	5·16	1·25	12·81	7·25	36·77	148	12·03	155
1923	0·84	1·87	1·47	0·09	4·51	6·47	15·25	81	5·26	93
1924	0·73	6·93	2·12	0·50	9·05	5·91	25·24	115	6·84	117
1925	0·59	1·87	3·42	0·21	5·99	5·62	17·70	82	5·30	87
1926	0·97	5·55	0·99	0·09	6·15	5·36	19·11	104	5·19	99
1927	0·71	1·04	2·38	0·38	6·15	5·24	15·90	81	4·81	83
1928	1·07	8·33	2·01	0·25	5·64	5·25	22·55	139	5·71	114
1929	0·64	1·44	6·19	1·06	9·75	5·55	24·63	105	5·68	86
1930	0·95	7·55	0·61	0·05	4·35	5·02	18·53	135	4·70	101
1931	0·52	0·76	1·59	0·34	5·13	4·94	13·28	85	4·15	86
1932	0·62	6·38	1·78	0·15	3·87	5·36	18·16	128	5·62	124
1933	0·47	0·68	1·89	0·28	4·27	4·31	11·91	91	4·33	98
1934	0·88	7·13	1·75	0·09	4·93	4·50	19·29	151	5·87	127
1935	0·36	0·09	0·84	0·08	2·18	3·38	6·93	72	2·48	68

Table XXX gives the mean annual death-rates at 1–5 from the chief causes during 1931–35 in each region and density aggregate, pneumonia being combined with bronchitis owing to regional peculiarities in the certification of these two diseases as causes of death amongst young children.

The diphtheria rate was below 30 per 100,000 in the East, South-East outside Greater London and Midland II, but was over 60 in

North II, III, IV and Wales I, and increased with urbanization from 25 in the rural districts to 59 in the county boroughs. Measles mortality was below 40 in the East, South-West, South-East outside Greater London and Wales II, but over 100 in North I and North IV, and increased with urbanization from 34 in the rural districts to 118 in the county boroughs. Pneumonia and bronchitis mortality was about twice as great in the northern regions and Wales I as in the southern regions, and in the county boroughs compared with the rural districts. The combined rate for measles, whooping cough, pneumonia and bronchitis was 524 per 100,000 in North I, 475 in North IV, 413 in North II, 376 in North III, 354 in Wales I, 303 in

Table XXX.—Mortality from Various Causes at 1–5 years in Geographical Regions and Density Aggregates, 1931–35.

	Mean Annual Death-rate per 100,000 Living.						
	Diphtheria.	Measles.	Whooping Cough.	Pneumonia and Bronchitis	Tuberculosis.	Violent Causes.	All Causes.
ENGLAND AND WALES ..	47	80	48	191	60	44	656
Greater London ..	55	88	50	145	49	35	579
Remainder of South-East ..	26	30	29	108	55	33	419
North I	42	141	60	323	87	54	985
„ II	70	87	48	278	78	54	818
„ III	68	84	53	239	68	51	784
„ IV	66	132	67	276	66	55	879
Midland I	30	69	51	183	56	46	609
„ II	27	57	39	177	59	43	582
East	23	34	39	117	57	38	455
South-West	29	32	31	102	50	36	433
Wales I	64	88	41	225	55	61	755
„ II	48	38	29	129	46	45	527
*County Boroughs	59	118	63	258	72	48	826
*Urban Districts	43	65	41	189	62	44	635
*Rural Districts	25	34	31	132	49	49	484

* Excluding Greater London.

Midland I, 283 in Greater London, 273 in Midland II, 196 in Wales II, 190 in the East, 167 in the South-East excluding Greater London and 165 in the South-West. This combined death-rate, although it fluctuates greatly from year to year according to the epidemic prevalence of measles and whooping cough, is a peculiarly sensitive index of an unsatisfactory environment when averaged over a series of years, and it was shown in the Review for 1932 (Table XXVII) that mortality rates of young children from these causes in the county boroughs were more highly associated with the proportions of the populations living under overcrowded conditions than with the geographical situations of the towns. The great contrasts between the combined rates given above for the northern and southern regions are only in part attributable to the less remediable factors such as lower temperature and deficiency of sunshine arising from cloud and smoke, and it ought to be possible to reduce the death-rate from these causes at 1–5 years very substantially by

continued attention to the more remediable factors such as housing and nutrition in the areas where the rate is at present excessive.

Tuberculosis mortality showed less regional variation, but exceeded 75 per 100,000 in North I and North II, compared with 55 or less in the southern regions and Wales, and increased with urbanization from 49 in the rural districts to 72 in the county boroughs. The death-rate due to violent causes was about 35 in the southern regions and Greater London, about 45 in the Midlands and Wales II, 51–55 in the northern regions and 61 in Wales I. Table 25 shows that the deaths due to violence at 1–5 numbered 982 in 1935, of which 956 were attributed to accidents, the main causes being burns and scalds (416), road traffic accidents (293), and drowning (99). The low death-rate amongst young children in Greater London from all violent causes during 1931–35, 35 compared with 47 per 100,000 in the rest of England and Wales, is worthy of note.

Mortality at 5–15.—The increase which occurred in 1934 in the death-rate of children aged 5–10, due in the main to diphtheria, was followed by a fall in 1935, the rate for that year being the lowest yet recorded. For diphtheria the rate declined from the high level of 610 reached in the previous year to 517 per million living, this being higher than in any of the years 1922–33. Table XXXI shows that the residual rate from all causes except diphtheria fell to 1·97 per 1,000 in 1923, fluctuated slightly until 1929, declined again to 1·77 by 1932, remained at 1·82 in 1933 and 1934, and fell to 1·52 in 1935. The measles rate has not manifested any consistent change at this age during the last 14 years, but the pneumonia rate has tended to decline. Mortality from diseases of the ear and mastoid which increased considerably from 41 per million in 1922 to 89 in 1934, fell to 62. The risk of death from violence continued to fall from the high levels reached about 1929. The tuberculosis rate also continued its steady decline.

Table XXXI.—Death-Rates at Ages 5-10 per Million Living from Various Causes, 1921-35.

	All Causes.	Diphtheria.	All except Diphtheria.	Measles.	Tuberculosis, all forms.	Diseases of Ear and Mastoid.	Pneumonia.	Violence.
1921 ..	2,759	542	2,217	47	408	51	285	255
1922 ..	2,562	411	2,152	111	388	41	260	244
1923 ..	2,252	282	1,971	99	391	44	243	239
1924 ..	2,302	253	2,049	98	367	47	259	261
1925 ..	2,470	308	2,161	129	354	42	294	264
1926 ..	2,427	374	2,053	87	341	57	267	276
1927 ..	2,332	309	2,023	81	332	56	303	299
1928 ..	2,329	372	1,957	117	318	54	242	307
1929 ..	2,461	392	2,069	77	297	57	297	328
1930 ..	2,282	410	1,872	116	286	61	215	307
1931 ..	2,144	320	1,824	90	263	59	229	296
1932 ..	2,070	298	1,773	103	243	63	212	294
1933 ..	2,194	377	1,817	61	224	73	228	302
1934 ..	2,428	610	1,819	133	225	89	196	272
1935 ..	2,032	517	1,515	47	195	62	156	264

Table XXXII compares the death-rates during 1931–35 from several important causes at the ages of school life, 5–15, in the regions and density aggregates. The diphtheria rate was 25 per 100,000 in England and Wales, but exceeded 35 in North II, III and IV, and was 15 or less in Midland II and the South-West. It increased with urbanization from 17 in the rural districts to 32 in the county boroughs. Tuberculosis mortality was 48 per 100,000 in North I compared with a national rate of 23, and 16 to 18 in the southern regions, and the rate also increased with urbanization from 19 in the rural districts to 29 in the county boroughs.

Table XXXII.—Mortality from Various Causes at 5–15 years in Geographical Regions and Density Aggregates, 1931–35.

	Mean Annual Death-rate per 100,000 Living.					
	Diphtheria.	Tuber-culosis (all forms).	Heart Disease.	Digestive Diseases.	Violent Causes.	All Causes.
ENGLAND AND WALES	25	23	11	16	22	177
Greater London	24	18	11	15	23	163
Remainder of South-East	18	16	6	15	20	144
North I	20	48	12	19	23	226
„ II	42	33	12	17	21	211
„ III	46	22	14	18	23	214
„ IV	36	25	14	18	23	208
Midland I	18	20	10	16	24	166
„ II	12	21	11	15	21	153
East	17	22	6	18	16	147
South-West	15	17	7	15	17	138
Wales I	29	30	19	18	22	195
„ II	31	25	9	21	17	170
*County Boroughs	32	29	13	17	22	200
*Urban Districts	24	23	11	17	21	177
*Rural Districts	17	19	8	17	22	154

* Excluding Greater London.

Heart disease deaths at 5–15 totalled 3,672 in England and Wales during the quinquennium, and rheumatic fever deaths 2,045. The deaths comprising the former group at this age are mainly from heart disease of rheumatic origin but exclude those heart cases in which acute or subacute rheumatism was stated or presumed to be present at the time of death, which are included under the rheumatic fever heading. The latter group has not been separated in the short list of causes of death since 1931 and regional rates at 5–15 are not therefore ascertainable. The heart disease rate shown in Table XXXII is therefore an index of the damage done by rheumatic fever to the hearts of young children some years before 1931–35. It was highest in Wales I and lowest in the East and the southern regions outside Greater London, and the rate increased with urbanization from 8 in the rural districts to 13 in the county boroughs.

Mortality from the digestive diseases, due chiefly to appendicitis at this age, shows no important regional variation and is unaffected by urbanization. Deaths from violent causes in 1935 at 5–15 totalled

1,365, of which 757 were due to road transport accidents (Table 25). The death-rate in 1931–35 from all violent causes was lowest in the East, South-West and Wales II, but elsewhere was remarkably constant, and was not appreciably greater in Greater London and the large towns than in the rural districts.

Mortality of the Aged.—Persons over 70 years of age numbered 297 per 10,000 total population in 1911, 344 in 1921, and 426 in 1931, and were estimated as forming 467 per 10,000 in 1935.

The causes of death at ages over 70 are grouped, as in previous years, in Table XXXIII.

Table XXXIII.—Mortality over 70 Years of Age in 1911–20, 1921–30, 1933, 1934 and 1935, from the chief Causes of Death.

	Deaths from each Cause per 1,000 Total Deaths.					Mortality per 1,000 Living.				
	1911–20.	1921–30.	1933.	1934.	1935.	1911–20.	1921–30.	1933.	1934.	1935.
MALES.										
Influenza (11)	20	26	37	9	11	2·3	2·8	4·1	0·9	1·2
Cancer (45–53)	81	107	116	125	126	9·4	11·8	12·8	13·0	13·3
Heart Diseases (90–95)	148	205	317	335	339	17·1	22·7	34·9	34·8	35·8
Disease of Blood Vessels, including Cerebral Hæmorrhage (82, 96, 97, 99 and 100)	163	195	166	169	165	18·8	21·6	18·3	17·6	17·4
Bronchitis (106)	137	110	63	54	49	15·9	12·1	7·0	5·6	5·2
Pneumonia (107–109)	34	35	31	31	30	4·0	3·9	3·4	3·3	3·2
Chronic Nephritis (131 and 132)	29	29	32	34	34	3·3	3·2	3·5	3·6	3·6
Old Age (162)	222	140	79	76	79	25·7	15·5	8·7	8·0	8·3
Other Causes	166	153	158	167	167	19·0	17·2	17·4	17·4	17·7
All Causes	1,000	1,000	1,000	1,000	1,000	115·5	110·8	110·1	104·2	105·7
FEMALES.										
Influenza (11)	24	31	50	11	14	2·3	3·0	4·8	1·0	1·2
Cancer (45–53)	87	105	108	118	116	8·7	10·2	10·4	10·4	10·3
Heart Diseases (90–95) ..	153	223	329	347	360	15·2	21·6	31·6	30·6	32·0
Disease of Blood Vessels, including Cerebral Hæmorrhage (82, 96, 97, 99 and 100)	157	181	159	170	170	15·5	17·6	15·2	15·0	15·2
Bronchitis (106)	149	117	70	56	48	14·8	11·4	6·7	4·9	4·3
Pneumonia (107–109)	32	34	32	32	29	3·2	3·3	3·1	2·8	2·6
Chronic Nephritis (131 and 132)	21	23	27	29	30	2·1	2·2	2·6	2·6	2·7
Old Age (162)	248	165	100	99	100	24·6	16·0	9·6	8·7	8·9
Other Causes	129	121	124	138	133	12·7	11·7	11·9	12·2	11·8
All Causes	1,000	1,000	1,000	1,000	1,000	99·0	97·0	96·1	88·3	88·9
PERSONS.										
Influenza (11)	22	29	44	10	13	2·3	3·0	4·5	0·9	1·2
Cancer (45–53)	85	106	112	121	120	9·0	10·8	11·4	11·5	11·5
Heart Diseases (90–95)	151	215	324	341	350	16·0	22·0	33·0	32·4	33·6
Disease of Blood Vessels, including Cerebral Hæmorrhage (82, 96, 97, 99 and 100)	159	187	162	169	168	16·9	19·2	16·5	16·1	16·1
Bronchitis (106)	144	114	67	55	49	15·2	11·7	6·8	5·2	4·7
Pneumonia (107–109)	33	34	32	32	30	3·5	3·5	3·2	3·0	2·9
Chronic Nephritis (131 and 132)	24	26	29	32	32	2·6	2·6	3·0	3·0	3·1
Old Age (162)	237	154	91	89	90	25·0	15·8	9·3	8·4	8·7
Other Causes	145	135	139	151	148	15·3	14·0	14·2	14·3	14·2
All Causes	1,000	1,000	1,000	1,000	1,000	105·8	102·7	101·9	94·9	95·8

The outstanding changes in the proportionate distribution of certified causes which have occurred between 1921–30 and 1935 are seen to be a decline in the deaths classed to bronchitis and old age and a corresponding rise in those classed to heart diseases. Cancer now accounts for 12 per cent. of these deaths.

Centenarians.—Among the deaths registered during the year there were 95 of reputed centenarians, 29 of whom were males and 66 females. In the preceding three years the numbers were 109, 110 and 76 respectively. Particulars of the ages returned and of the regions concerned are given in Table XXXIV.

Table XXXIV.—Age at Death of Centenarians, 1935.

	Males.							Females								
	100 and over	100	101	102	103	104	105	100 and over	100	101	102	103	104	105	108	109
Greater London ..	2	—	—	1	—	1	—	15	8	1	1	1	—	2	1	1
Remainder of South-East	11	6	4	—	—	—	1	14	3	6	2	2	—	1	—	—
North	4	—	1	2	1	—	—	9	3	5	—	1	—	—	—	—
Midlands	2	—	—	2	—	—	—	9	4	4	1	—	—	—	—	—
East	5	2	1	1	1	—	—	6	1	1	1	3	—	—	—	—
South-West	3	3	—	—	—	—	—	8	1	3	2	1	1	—	—	—
Wales	2	2	—	—	—	—	—	5	4	—	—	—	—	1	—	—
England and Wales ..	29	13	6	6	2	1	1	66	24	20	7	8	1	4	1	1

CAUSES OF DEATH.

The causes of death of males and females at 18 groups of ages are stated in Table 21 for the whole country, and in Table 22 further detail of age is shown for all causes of significance at ages 0–5. In Table 23 deaths from each cause distinguished are tabulated by month of occurrence and by sex (but not by age). Table 23 differs from all others in referring to date of occurrence and not of registration. Table 21 includes the full International List of causes of death, as revised in 1929. Certain of the numbered items in it are subdivided, and where this occurs the letters (*a*), (*b*), &c., indicate subdivisions in international use, and numbers (1), (2), &c., subdivisions made without international agreement. All other abstracts of the causes of death are arranged in the form of the short list of causes adopted by the Registrar-General in consultation with the Ministry of Health for use during 1931–40. The relation of this list to the detailed International List, as revised by the International Commission in 1929, is shown at the head of Table 24.

The contents of every heading in both the short and the detailed list now in use are defined in the Registrar-General's " Manual of the International List of Causes of Death " (1929 Revision),* which should be consulted in all cases where it is desired to ascertain the precise significance of any heading in the lists.

* Copies may be obtained from H.M. Stationery Office. Price 3*s.* net.

Where two or more causes of death are jointly stated, the classification of the death to one or other of the causes in the International List is carried out in conformity with rules of selection, whose general principles are laid down in the Manual. Thus, with certain exceptions, deaths from violence associated with disease are classed to the appropriate violent cause, and deaths from an infectious disease associated with a local disorder such as a cardiac or renal lesion are classed to the infectious disease. Deaths are therefore not always classed to the immediate cause, but in some instances to a more remote one leading up to it. These rules for selection have not been seriously modified since 1901, so that continuity in the resulting tabulation has been maintained. Sufficient understanding and experience of the new form of certificate, introduced in 1927, has first to be gained before replacing the code of selective rules by the expressed opinion of the certifier. However desirable it may seem to make the change at once for certain combinations of causes, the importance of safeguarding the continuity of the statistics of causes of death must outweigh such considerations until the quality of certification is such as to justify reliance upon the order of statement for all combinations of causes. Sample studies of death certificates during 1935 indicated that such a position would shortly be reached. An unselected sample consisting of every fifth death registered during March furnished the information given in Table XXXV, where the 10,739 deaths are classified according to area of registration, occurrence in institutions or elsewhere, and whether certified by medical practitioners or coroners. The group of deaths certified on the ordinary form by medical practitioners is further analysed into (1) certificates with entry of a single cause, (2) certificates with entry of more than one cause in the same space (" double entry "), (3) certificates with entry of two or more causes in different spaces but in an order which was manifestly the reverse of that intended by the certifier (" inverted entry ") and (4) certificates with two or more causes regarding which there was no reason to doubt that the order correctly represented the views of the certifier (" apparently satisfactory multiple entry ").

In this sample of 9,892 certificates given by medical practitioners, 43 per cent. named more than one cause of death, these being entered in the same space in 1·5 per cent., and in separate spaces but in a clearly impossible order in 1·1 per cent. The group with " apparently satisfactory " multiple entry included some combinations of causes, such as chronic bronchitis with myocardial degeneration, for which it would not be possible to say whether the order of statement was the one intended by the certifier or not, that is to say, an inverted entry could not be detected. Such reversible combinations of causes form a minority of the combinations met with on death certificates, and even if they comprised as many as one-third of all certificates with multiple causes and were subject to the same proportion of errors as the irreversible combinations, this would

only raise the true proportion of " inverted entry " certificates to about 1½ per cent. of the total. The proportion of death certificates to which rules of selection would still have to be applied in order to obtain a satisfactory statistical classification has fallen, therefore, to about 3 per cent., and Table XXXV shows that this proportion of unsatisfactory certificates was higher in London than in the rest of England and Wales as a whole, and was lowest in North IV and Wales I. It was also rather lower amongst deaths certified in institutions than amongst other deaths. For deaths certified by

Table XXXV.—Classification of a sample of 10,739 Death Certificates in 1935 into those with single and multiple causes and mode of entry, in England and Wales, London and separate Regions.

—	Certificates on usual form.									Coroner's Certificates Total.
	Total.	Single cause.		Multiple causes						
				"Double entry."		"Inverted entry."		Apparently satisfactory.		
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
England & Wales — Institutions	3,493	2,060	59·0	36	1·0	36	1·0	1,361	39·0	
England & Wales — Other	6,399	3,577	55·9	111	1·7	71	1·1	2,640	41·3	
England & Wales — Total	9,892	5,637	57·0	147	1·5	107	1·1	4,001	40·4	847
London — Institutions	670	369	55·1	7	1·0	14	2·1	280	41·8	
London — Other	412	203	49·3	12	2·9	4	1·0	193	46·8	
London — Total	1,082	572	52·8	19	1·8	18	1·7	473	43·7	119
South-East (except London) Total	1,980	1,105	55·8	30	1·5	22	1·1	823	41·6	193
North I	518	306	59·1	10	1·9	2	0·4	200	38·6	33
North II	360	218	60·6	8	2·2	5	1·4	129	35·8	30
North III	793	436	55·0	10	1·3	9	1·1	338	42·6	74
North IV	1,618	938	57·9	14	0·9	14	0·9	652	40·3	118
Midland I	1,125	607	54·0	18	1·6	8	0·7	492	43·7	96
Midland II	542	337	62·1	15	2·8	9	1·7	181	33·4	47
East	516	308	59·8	11	2·1	10	1·9	187	36·2	32
South-West	649	390	60·1	8	1·2	4	0·6	247	38·1	50
Wales I	465	268	57·5	3	0·7	3	0·7	191	41·1	42
Wales II	244	152	62·3	1	0·4	3	1·2	88	36·1	13

coroners, which formed 8 per cent. of the sample, different forms of medical certificate are used, and the classification of such deaths, mainly due to or contributed to by some form of external violence, forms a special problem from which the use of certain rules of selection could not be entirely eliminated.

The sample study showed also that the change in the system of selecting the essential cause from two or more causes of death, when it is made, will involve important increases in the numbers of deaths classified to certain causal groups in the International List and important decreases for other groups. One of the headings to be very seriously affected will be bronchitis which is frequently certified in conjunction with heart diseases to which the selective rules give higher preference over bronchitis than do the certifiers. There were 434 deaths in the sample of 9,892 which were assigned by the operation of the rules to bronchitis and of these 10 would

be transferred to other causes by substituting a classification according to the order of statement on the certificate. The remaining 9,458 certificates contained 398 on which bronchitis was preferred by the certifier but which were assigned by the selective rules to other causes, and the change in system of selection would result in these being added to the bronchitis heading, that is to say the total bronchitis deaths would be raised from 434 to 434−10+398= 822, an increase of 89 per cent. It is clear from this example that if statistical continuity is to be maintained between the periods before and after the change in the system of selection is made, the extent of the transfer of deaths from every cause to every other which will be occasioned by the change must first be carefully evaluated. For this purpose during the quinquennium 1936–1940 a dual tabulation of deaths will be prepared according to cause as determined by (1) the code of selective rules as now used and (2) the order of preference stated on the medical certificate of death (supplemented by the rules in cases where the preference is not clearly stated). By means of this dual tabulation the precise effects on statistical continuity of the change in the system of selection when this is carried out in a subsequent year will be measured and the necessary steps to allow of correction for the change will be taken.

Special secondary tabulations according to the associated cause are made for deaths connected with anæsthetics, alcoholism and childbearing, and are included in this Review.

In Table 24 deaths are shown for the several geographical regions of the country, for urban and rural portions of administrative counties, and for county and metropolitan boroughs, arranged by sex, age, and the short list of causes as set out at the head of the table. The same information, though not by age, is also available for each individual administrative area.

In addition to the above tables, which relate exclusively to the year 1935, Table 6 contains a statement of the number of deaths registered in each year 1925–35 from each cause distinguished in Table 21 so far as available, with distinction of sex but not of age; while Table 7 states the corresponding crude death-rates per million living for persons, males and females, so far as these can be regarded as of any significance, no rates being shown for causes which give a rate of less than five per million population. But the crude rates in Table 7 are liable to be misleading as indices of the progress of mortality even where their numerical basis is adequate. Owing to the rapid ageing of the population at the present time as a result of simultaneous fall in birth and death-rates the rates shown in Table 7 for causes mainly affecting old people tend automatically to increase, and thus to overstate mortality from such causes as cancer, cerebral hæmorrhage and heart disease. As this overstatement had become seriously misleading in many cases, Table 8 is inserted to correct it by showing the course of mortality from each cause dealt with

when allowance is made for such population changes by standardization (*see* page 1). Owing to the clerical labour involved in the preparation of these rates the list of causes in Table 8 is much shorter than that in Table 7, and rates are shown only for males and females separately. Standardized rates for both sexes jointly are given for a few causes in Table 9. Tables Nos. 11 and 12 state the mortality during the eleven years 1925–35 of infants under one year of age from the causes of chief importance at that age, but without distinction of sex.

1, 2. **Typhoid and Paratyphoid Fevers.**—The number of deaths classified to this heading during 1935 was 174. Of these, 25 were ascribed to paratyphoid infection, forming 14 per cent. of the total compared with 19 per cent. in the preceding period of 5 years.

The standardized rate corresponding to these deaths, 4 per million persons living (Table 9), is the same as in 1934, which was the lowest recorded. This rate is quite trifling compared with those of earlier years, the rate for 1871–75 for instance, having been 371 per million, or over 90 times that for 1935.

The distribution of this mortality throughout the country is outlined in Table XXXVI.

The highest mortality rate in 1935 for any region was that for North I. North III, Wales I and Midland I show the lowest rates. Excess of mortality in the small towns had been the general rule during the twenty years preceding 1933, but in 1934 and 1935 the rural districts outside Greater London registered the highest rate.

The highest mortality rate recorded in Table 10 is, for counties of over 100,000 population, 20 per million in Cumberland and 18 in Berkshire. The county boroughs with highest rates are Sunderland (32), Dewsbury (19), Gloucester (18) and Bury (17).

The fatality rate of 99 per 1,000 notified cases was the lowest recorded (Table XXXVII). Its variation throughout the various regions in 1935 is shown in Table XXXVI.

Prevalence was highest in the East and lowest in North II. The proportion of paratyphoid to total notifications ranged from 21·9 in Wales to 24·7 in the South West, 32·2 in the Midlands, 37·5 per cent. in the North, 47·1 in the South-East and 85·8 in the East. During the quinquennium 1931–35, 194 deaths were assigned to paratyphoid fever and of these 9 were described as paratyhpoid A, 95 as paratyphoid B, 5 as paratyphoid C and 85 were undefined as to type. At ages under 15 the numbers were 0, 13, 0, 5, respectively, at 15–45 they were 5, 40, 2, 36 and at 45 and over, 4, 42, 3 and 44.

6. **Small-pox.**—No deaths were allocated to this cause during 1935, this being the first year in which no death was recorded. The mortality record for this disease is contained in Table 9, which shows that the standardized rate was less than 0·5 per million, indicated by 0 in the table, in eighteen other years since the 1901–05

epidemic. In the remaining eleven of these years the rate has been one per million.

One case of small-pox was notified (at King's Lynn) compared with 179 in 1934, 631 in 1933 and 2,039 in 1932.

Table XXXVI.—Typhoid and Paratyphoid Fevers; Mortality, Prevalence and Fatality at all ages. Measles and Whooping Cough; Mortality at ages under five years, and Proportion of Deaths occurring in the First One or Two Years of Life, 1935.

——	Typhoid and Paratyphoid Fevers.			Measles.		Whooping Cough.	
	Deaths per million living.	Cases† per million living.	Deaths per 1,000 cases notified.	Deaths per 100,000 living at 0–5.	Deaths at 0–2 per cent. of those at all ages.	Deaths per 100,000 living at 0–5.	Deaths at 0–1 per cent. of those at all ages.
England and Wales	4	43	99	41	60	53	51
South-East	5	48	95	7	44	38	56
Greater London ..	5	51	98	6	50	44	56
Remainder of South-East ..	4	44	90	10	39	29	56
North	4	37	115	76	63	71	50
North I	7	87	77	81	63	88	49
,, II	5	22	214	46	50	85	50
,, III ..	3	24	108	24	63	64	51
,, IV ..	4	30	141	111	64	64	50
Midland	4	28	131	44	57	56	50
Midland I ..	3	24	147	53	57	63	48
,, II ..	4	37	111	26	58	43	55
East	5	130	38	5	78	34	50
South-West ..	5	37	132	16	48	28	44
Wales	4	29	122	71	59	59	52
Wales I	3	31	103	91	61	62	53
,, II	4	23	188	8	29	51	46
County boroughs* ..	3	31	100	82	63	73	47
Other urban districts*	4	49	82	39	55	48	54
Rural districts* ..	6	46	130	14	51	35	54
Greater London :—							
Admin. County ..	4	48	85	6	47	57	60
Outer Ring ..	6	53	110	5	52	31	48

* Excluding Greater London. † Including cases in Port Sanitary Districts.

7. **Measles.**—The deaths registered from this cause numbered 1,346 corresponding to a mortality of 33 per million population. But allowance for decreased proportion of children in the present population increases the rate on standardization from 36 to 54 for males and from 31 to 52 for females. The death-rate for children under 15 years of age, 143 per million, is seen from Table 9 to be the

lowest ever recorded, next above it being a rate of 201 in 1933 and 212 in 1921.

The distribution throughout the country of mortality from measles is stated in Table XXXVI in the form of death-rates per 100,000 living at ages 0–5. Deaths at these ages in 1935 formed 87 per cent. of the total, and statement in this form prevents the comparison being prejudiced by varying proportions of children in the populations compared. The regions showing the highest rates were North IV and Wales I.

The Table also demonstrates to what an extent measles mortality is enhanced by urban conditions, the county borough rate of 82 being nearly 6 times that in the rural districts, a similar gradation

Table XXXVII.—Fatality of certain Infectious Diseases (Deaths per 1,000 Notified Cases), 1911–35.*

Year.	1. Enteric (typhoid and para-typhoid) fever.	6. Small-pox.	8. Scarlet fever.	10. Diphtheria.	15. Erysipelas.	16. Poliomyelitis (including polioencepha-litis).	17. Encephalitis lethargica.	18. Cerebro-spinal fever (meningo-coccal meningitis).
1911	174	78·0	18·1	103	39	?	?	?
1912	191	73·2	18·6	96	39	?	?	?
1913	182	87·0	16·1	88	35	283	?	1,089
1914	194	61·5	17·2	99	42	348	?	1,257
1915	199	141·3	18·6	107	46	331	?	630
1916	174	113·2	17·8	101	39	270	?	656
1917	205	333·3	15·3	100	43	469	?	663
1918	201	30·8	20·5	106	47	1,004	?	673
1919	147	77·6	14·7	90	42	297	533	727
1920	171	114·1	12·0	81	52	404	539	911
1921	158	15·9	9·5	72	55	314	493	1,007
1922	191	27·7	12·7	78	53	352	742	1,047
1923	140	2·8	11·6	68	50	185	517	934
1924	120	3·5	10·5	60	52	183	279	746
1925	139	1·7	10·8	58	57	370	520	876
1926	133	1·8	8·3	59	55	181	583	926
1927	103	3·2	6·8	52	56	203	713	911
1928	124	4·3	5·7	52	55	306	819	1,061
1929	133	3·6	6·0	55	58	263	999	882
1930	106	2·4	6·7	47	56	212	1,241	938
1931	110	1·6	6·6	53	66	247	1,471	650
1932	101	1·5	6·2	54	68	237	1,463	568
1933	126	3·2	5·6	56	66	253	1,887	556
1934	131	33·5	6·3	59	71	201	1,917	666
1935	99	—	4·8	54	63	229	2,195	699

* The rates in this table are given with reserve, being in some respects unsatisfactory. For the years 1911–13 cases of disease among non-civilians have been excluded from the notification returns, but it has not been possible to distinguish their deaths; for the years 1920–1925 inclusive both cases and deaths relate to civilians only; for all other years the figures relate to the total population.

The numbers relating to small-pox in some years are too small to yield significant rates, but their basis of fact can be ascertained from Tables 6 and 28, and the rates quoted serve to bring out the extremely mild type of disease prevalent in 1921–33. The rates for poliomyelitis include polioencephalitis, which was not distinguished in the notification returns until 1919. The extraordinary rise in 1918 is partly ascribable to certification of a number of deaths from the then "new disease," encephalitis lethargica, as polioencephalitis, but mainly to a reduction in notifications unaccompanied by significant change in the number of deaths (*see* Report for 1918). The rates from this disease will be found to differ from some of those published in the Annual Reports of the Chief Medical Officer of the Ministry of Health, partly because polioencephalitis is included throughout and partly because special inquiries made by the Ministry in certain years have led to revision of the returns for those years, which is not embodied in Table XXXVII. The cases there referred to are similar for each year dealt with, being in all cases derived from the published notification returns. The latter source of discrepancy applies also to cerebro-spinal fever, and in this case there is a possibility that some cases of posterior basal meningitis may not have been notified as cerebro-spinal fever though all such deaths are included in the table.

with urbanisation having been evident in each of the 25 years for which the facts are available. The proportion of deaths which occurred at ages under 2 years was 51 per cent. in the rural districts and 63 per cent. in the county boroughs, being lowest in Wales II and the South-east outside Greater London.

The relations of measles mortality at ages under 5 to latitude and to overcrowding were demonstrated in the Review for 1934 (Table XXXVII), where the averages of the annual death-rates from measles per million children living at ages under 5 during the 14 years 1921–34 were given for groups of towns classified according to their latitude and the proportion of their populations living at densities of 2 per room or over in 1931. The resulting rates were found to increase very greatly with the overcrowding rate in each zone of latitude, but were not greatly affected by northerliness of situation when towns with similar indices of overcrowding were compared.

Table 10 shows that, of administrative counties with over 100,000 population, Monmouth returned the highest death-rate at all ages in 1935, 83 per million, Staffordshire with 63 coming next. The highest county borough rates were—Wigan 544, Chester 370 and Bootle 340.

8. **Scarlet Fever.**—Deaths registered from this cause numbered 573 compared with 963 in 1934, smaller numbers having been recorded only in 1931 and 1932. The rate at ages under 15, 47 per million living, was also the lowest, save in those years.

The progress of the decline from the maximum decennial rate of 1861–70 (Table 9) may be traced in the following statement of proportionate figures for subsequent periods, taking the rate of 2,617 in that decade as 1,000—1871–80, 729; 1881–90, 345; 1891–1900, 168; 1901–10, 119; 1911–20, 54; 1921–30, 28; 1931–35, 22. The records of individual years since 1881 indicate that, ignoring increases which were not maintained over at least two years, the downward trend has been interrupted by short periods of rising rates, such periods being 1888–90, 1891–93, 1898–1902, 1911–14, 1917–20, 1928–30 and 1932–34. Save in 1934 each successive maximum has been lower than the preceding one. It is noteworthy that several of the periods of increase were coincident with similar periods of rise in the diphtheria death-rate (1891–93, 1912–14, 1917–20, 1928–30, 1932–34). Prevalence decreased by 21 per cent. in 1935 compared with the preceding year, whereas mortality per million children under 15 decreased by 43 per cent.

Table XXXVII shows that the fatality ratio of deaths to notified cases was 4·8 in 1935 compared with a mean rate of 6·3 per 1,000 cases notified in the preceding five years. This rate is little more than a quarter of that at the commencement of the record in 1911, when the notifications were first tabulated, scarlet fever and small-pox showing much the greatest declines of fatality in the Table.

The distribution of the disease according to urbanisation and geographical location is given in Table XXXVIII. Decreased prevalence compared with 1934 is recorded in every region except Midland II and Wales II. The death-rate fell in every region except Midland II, South-West and Wales II.

The notification rate was greatest in North I, followed by North III, and lowest in the South-West, and showed as usual an increase with urbanisation from 259 in the rural districts to 343 in the county boroughs, but the London rate was low. The fatality ratios were lowest in Greater London, and highest in Wales II.

Table XXXVIII.—Scarlet Fever and Diphtheria, 1935 : Mortality at Ages under 15 Years, Prevalence and Fatality at All Ages.

—	Scarlet Fever.				Diphtheria.		
	Deaths per million living at 0–15.	Cases per 100,000 living at all ages.	Deaths per 1,000 cases notified.	Deaths at 0–5 per 100 at all ages.	Deaths per million living at 0–15.	Cases per 100,000 living at all ages.	Deaths per 1,000 cases notified.
England and Wales ..	47	296†	4·8	41	351	160	54
South-East	30	257	3·7	29	283	152	42
Greater London ..	27	281	2·8	33	293	181	36
Remainder of South-East	35	222	5·4	24	269	108	58
North	68	384	5·2	47	509	210	61
North I	112	547	6·7	49	573	249	66
„ II	47	254	6·1	45	389	158	67
„ III	71	455	4·8	41	582	247	57
„ IV	51	312	4·4	51	465	185	59
Midland	46	302	4·8	42	277	129	57
Midland I	46	287	5·3	41	309	145	55
„ II	45	329	4·0	44	214	100	60
East	21	209	4·9	16	157	68	58
South-West	41	155	7·2	35	193	88	49
Wales	49	219	6·5	56	339	158	58
Wales I	41	225	5·3	68	368	167	61
„ II	76	202	10·1	36	247	132	50
County boroughs* ..	49	343	4·3	44	441	201	54
Other urban districts*	56	280	5·9	47	374	138	66
Rural districts* ..	49	259	6·2	31	227	101	60
Greater London :—							
Admin. County ..	19	264	2·2	42	295	225	29
Outer Ring ..	33	297	3·3	29	290	138	49

* Excluding Greater London. † Including Port Sanitary Districts.

Children under 5 provided 41·0 per cent. of the deaths, compared with 42·3 in 1934, 44·2 in 1933 and 45·7 in 1932. The death-rates per million living at ages 0–5, 5–10, 10–15 and 15–20 respectively in 1931–35 were 98, 60, 19, 10, compared with 87, 59, 19, 8 in 1926–30 and 154, 93, 30, 15 in 1921–25. The rate of fall in mortality risk

has been greater for younger than for older children, the 1931–35 mortality rates at the four ages being 2·1, 2·7, 3·7 and 6·5 per cent. respectively of the corresponding rates in 1861–70. The death-rates in the first 4 quinquennia of life were in the ratio 100 : 42 : 10 : 4 in 1891–1900, and by 1931–35 this had changed to 100 : 61 : 19 : 10. (See Review for 1933, p. 50.)

Table 10 shows that, amongst counties with over 100,000 population, mortality was highest in Durham (42 deaths per million) and Northumberland (37).

The highest rates amongst the county boroughs (average 15) were those of West Hartlepool (70) and Great Yarmouth (54).

9. **Whooping Cough.**—The deaths allocated to this heading numbered 1,584 (689 males and 895 females). The excess for females is shown by Table 6 to be a constant feature of this disease, and it tends to increase with age. The percentage ratios of the numbers of female deaths to male deaths in 1935 are 103 at 0–3 months, 125 at 3–6 months, 133 at 6–12 months, and 142, 133 and 162 in the second, third and fourth years of life respectively, the ratios between the death-rates being slightly higher owing to the excess of males at risk at these ages. An increasing female excess after 3–6 months has been a constant feature of the records of the last four decades.

The standardized death-rates, 54 for males and 73 for females (Table 8), are the lowest recorded. The death-rate per million living at ages under 15 reached a maximum of 1,511 for the five years 1866–70, after which, with a single exception, the quinquennial rates have progressively declined to 239 in 1931–35. In 1935 the rate was 170 (Table 9).

The distribution of mortality at ages under 5 and the proportion of deaths under 1 year of age are given in Table XXXVI. The average rates during the quinquennial periods 1926–30 and 1931–35 and the annual rates since 1931 at ages under 5 are :—

	London.	County boroughs.	Urban districts.	Rural districts.
1926–30 ..	130	133	106	90
1931–35 ..	97	93	65	56
1931 ..	99	105	71	52
1932 ..	116	121	88	72
1933 ..	111	79	64	68
1934 ..	102	85	54	51
1935 ..	57	73	48	35

North I registered the highest mortality and the South-West and remainder of South-East the lowest.

The proportion of deaths at ages under 1 year was 51 per cent. compared with 45, 48, 44 and 44 in the preceding four years.

It was shown in the Review for 1934 (Table XXXIX) that when the county boroughs were grouped according to the zone of latitude in which they are situated and the rate of overcrowding, as recorded at 1931 census, the average mortality at ages under 5 during the 14 years 1921–34 increased step by step with the overcrowding rate in the southern towns (50°–52°), and a similar increase was noticeable amongst towns in the most northerly counties (54°–55°), and it was concluded that overcrowding or the unsatisfactory social and economic conditions which are responsible for it, are in general more important in their effects on urban mortality from whooping cough than is northerliness of situation in England and Wales.

10. **Diphtheria.**—The 3,488 deaths in 1935 include 1,715 males and 1,773 females. A female excess is shown also by the standardized death-rates (Table 8), as in each year since 1919 except 1922 and 1931, though the crude death-rate (Table 7) is generally higher for males. For 1935 the crude rates were 88 per million for males and 84 for females, and the standardized rates 120 for males and 123 for females.

The history of diphtheria mortality is best expressed by the death-rate from diphtheria and croup at ages under 15 in Table 9, for during last century much diphtheria was evidently returned as croup, and the larger proportional child population in itself tended to produce a higher crude death-rate at all ages. In 1861–65 this rate was 1,422 per million, but fell to 891 in the next quinquennium, and the 5-yearly rates then showed only slight fluctuations until the end of the century, when a decline again set in to 310 in 1921–25. This has been followed by another stationary period, the rate in 1926–30 being 302 and in 1931–35 300. The rate in 1935, 351 per million living under 15, is below that of 1934, but above the rates of the eleven preceding years. (Table 9.)

The quinquennial death rates from 1906 to 1920 and annual rates in each year since 1921 at different ages are shown in Table XXXIX, and rates for each separate year since 1901 were given in Table XL of the Review for 1934. These rates show a much greater proportionate decline in infancy and the pre-school ages than in later childhood. The rates of 1935 expressed as percentages of the rates in 1906–10 were 40, 35, 52, 59 and 69 for the first 5 years of life, and 100 at ages 5–10. The mortality amongst infants under 1 year reached the low rate of 12 per 100,000 live births in 1932 and has remained at that level since. In the second year of life the 1935 rate was lower than in any year except 1932 and 1933 and for the third year of life lower rates than in 1935 were registered in 1923–28 and 1931–33. At ages 3–4 mortality rose from 43 per 100,000 living in 1933 to 80 in 1934, and at 4–5 it rose to 75, these being the highest levels since 1921, but in 1935 the rates at these ages fell to 63 and 71 respectively.

At ages 5–10 the rates during the 7 quinquennial periods from 1901–35 have been 62, 52, 51, 53, 37, 37 and 42. The excessive rate of 61 recorded at this age in 1934 declined to 52 in 1935. At 10–15 there has been no consistent change since 1901, the successive quinquennial rates being 10, 8, 10, 11, 8, 9 and 10.

Table XXXIX.—Diphtheria and Croup Mortality—1906–1935.

Year.	Deaths per 100,000 live births.	Deaths per 100,000 living.							
	Age 0–	1–	2–	3–	4–	5–	10–	15–	25 and up.
1906–10 ..	30	84	90	106	103	52	8	1	1
1911–15 ..	25	69	76	91	91	51	10	1	0
1916–20 ..	24	67	79	93	95	53	11	2	0
1921 ..	23	62	73	96	89	54	13	2	1
1922 ..	25	68	70	78	75	41	11	1	0
1923 ..	16	39	46	51	51	28	7	1	0
1924 ..	15	36	44	49	47	25	5	1	0
1925 ..	17	40	41	50	59	31	6	1	0
1926 ..	18	43	44	48	54	37	6	1	0
1927 ..	17	40	42	47	51	31	7	1	0
1928 ..	21	47	46	49	59	37	8	1	1
1929 ..	22	44	53	58	58	39	10	2	1
1930 ..	19	49	53	58	61	41	12	1	1
1931 ..	16	32	38	51	49	32	9	1	1
1932 ..	12	25	35	44	51	30	7	1	0
1933 ..	12	23	37	43	55	38	9	1	0
1934 ..	12	35	51	80	75	61	13	2	1
1935 ..	12	29	47	63	71	52	13	2	1
	Rates per cent. of that at 5–10 years								
1906–10 ..	—	162	173	204	198	100	15	2	1
1911–15 ..	—	135	149	178	178	100	20	2	1
1916–20 ..	—	126	149	175	179	100	21	4	1
1921–25 ..	—	135	146	168	170	100	22	3	1
1926–30 ..	—	119	127	141	154	100	24	3	1
1931–35 ..	—	69	98	133	143	100	24	2	1

The changes which have taken place in the relative incidence of diphtheria mortality at the various ages as a result of the more rapid fall in mortality risk at the earlier ages are considerable. There has been a progressive shifting of mortality risks towards the school age, so that whereas 30 years ago the danger at ages 1–5 was double that at 5–10, the rates in terms of that at 5–10 were in 1931–35 only 69 per cent. at 1–2, 98 at 2–3, 133 at 3–4 and 143 at 4–5.

Table XL.—Diphtheria prevalence and fatality rates in Certain Large Towns and Regions, 1927 to 1935.

		Notified Cases per 100,000 living.									Deaths per 1,000 Notified Cases.								
		1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
England and Wales		133	155	159	184	126	108	118	170	160	52	52	55	47	53	54	56	59	54
South-East :—	London Admin. County ..	271	275	268	303	195	188	225	281	225	32	33	30	34	31	38	37	40	29
	Croydon C.B.	122	223	194	169	90	48	91	181	128	39	66	53	39	(24)	96	78	57	39
	Portsmouth C.B.	310	360	317	255	151	97	77	136	169	65	61	33	27	35	(8)	(46)	86	92
	Southampton C.B.	150	194	214	232	122	119	161	419	444	39	58	68	69	60	(9)	(31)	28	47
	West Ham C.B.	302	342	265	282	120	105	182	291	285	42	32	48	40	31	40	105	61	51
	Remainder of South-East ..	124	161	156	168	102	65	74	124	108	52	57	59	47	50	51	56	59	53
North I :—	Newcastle-on-Tyne C.B. ..	78	96	95	78	42	55	33	137	236	67	(30)	48	(18)	(51)	(32)	(96)	61	48
	Sunderland C.B.	72	104	79	144	90	61	39	82	181	128	(11)	(62)	49	65	(44)	(41)	78	96
	Remainder of North I ..	84	132	121	119	65	49	81	172	259	79	62	63	56	63	42	51	69	67
North II :—	Kingston-upon-Hull C.B. ..	253	225	279	280	361	534	473	333	300	43	31	44	54	82	78	60	60	34
	Remainder of North II ..	74	82	64	80	69	42	63	151	111	58	42	75	62	69	83	96	109	96
North III :—	Bradford C.B.	116	97	139	117	82	106	129	288	318	103	68	122	55	(36)	45	39	52	62
	Leeds C.B.	91	133	110	207	203	183	216	455	278	64	33	47	54	88	54	83	70	44
	Sheffield C.B.	164	159	146	134	80	79	189	272	338	38	40	45	29	(14)	(15)	20	30	42
	Remainder of North III ..	74	98	99	116	115	136	150	234	208	73	65	68	71	90	75	78	79	67
North IV :—	Birkenhead C.B.	105	90	67	167	152	172	241	472	288	(48)	(42)	(29)	103	102	39	41	38	33
	Bolton C.B.	79	61	40	45	25	24	60	54	57	71	153	(110)	(37)	(45)	(71)	(56)	116	(50)
	Liverpool C.B.	191	218	267	462	375	384	340	338	314	52	52	58	59	59	56	60	61	55
	Manchester C.B.	175	158	120	137	95	140	134	169	174	69	79	63	55	82	76	85	65	46
	Salford C.B.	204	173	288	317	257	329	350	414	329	46	24	56	41	53	30	30	30	51
	Remainder of North IV ..	97	99	113	124	98	91	96	155	155	63	68	67	63	68	77	69	74	66
Midland I :—	Birmingham C.B.	211	218	238	235	178	117	83	156	165	31	33	36	37	35	30	38	53	50
	Bristol C.B.	169	153	289	369	207	134	157	182	153	49	28	57	27	37	41	34	23	17
	Coventry C.B.	144	162	265	293	114	64	81	108	132	113	168	88	85	57	(27)	74	65	52
	Stoke-on-Trent C.B.	83	111	97	91	75	59	85	104	144	48	(19)	40	39	81	(31)	(30)	(21)	33
	Remainder of Midland I ..	95	112	126	148	101	64	61	116	137	78	71	61	49	57	62	55	63	67
Midland II :—	Leicester C.B.	127	188	104	83	47	32	140	192	166	35	41	51	(30)	(53)	(92)	38	43	(19)
	Nottingham C.B.	355	346	259	255	99	51	56	76	107	66	47	83	50	(15)	(66)	(38)	(28)	47
	Remainder of Midland II ..	94	115	116	155	80	59	58	72	90	70	65	74	50	58	65	54	56	73
East		61	133	126	107	86	78	69	66	68	65	51	64	59	67	64	65	72	58
South-West :—	Plymouth C.B.	197	217	264	318	191	212	165	186	238	62	76	48	37	46	45	53	45	48
	Remainder of South-West ..	46	81	113	159	82	66	63	70	72	63	59	69	56	51	52	61	55	50
Wales I :—	Cardiff C.B.	179	248	328	321	264	221	215	235	158	37	28	41	40	41	20	40	40	54
	Swansea C.B.	122	239	266	290	289	190	172	200	220	70	41	39	23	23	(29)	(32)	(24)	(22)
	Remainder of Wales I ..	123	163	179	238	163	136	144	215	163	64	70	71	52	57	62	72	82	67
Wales II		115	93	107	234	229	165	153	165	132	48	74	70	54	51	56	59	57	50

NOTE.—In London, notifications are transferred to the area of residence, but this is not the case in other towns.

NOTE.—Rates in parentheses are founded upon less than 10 deaths.

Table XXXVIII shows that diphtheria mortality was highest in North III and North I, and lowest in the East and South-West. For the country as a whole, outside London, the rate increased regularly with urbanisation, but the London rate was comparatively low. It seems probable that diphtheria is still much more freely notified in some sections of the population than in others. Thus the frequency of its notification has been greater in London than in any of the regions or density aggregates separated in this table or its predecessors in each of the years 1916–34, with the exception of 1931 when the London rate was exceeded in Wales II and 1935 when it was exceeded in North I and North III.

A contrast between North I and the other Northern regions, both as regards the trend of prevalence and of mortality, has been evident in the years 1931 to 1935 as shown below :—

	Notifications per 100,000 living.					Deaths per million living at ages 0–15.					Deaths per 1,000 notified
	1931.	1932.	1933.	1934.	1935.	1931.	1932.	1933.	1934.	1935.	1931–35
North I ..	64	51	72	160	249	136	67	128	357	573	63
North II ..	142	163	165	196	158	409	488	427	645	389	77
North III ..	119	131	163	276	247	371	330	447	756	582	66
North IV ..	141	147	147	196	185	372	379	380	521	465	63

Recent bacteriological research suggests that under present conditions the fatality rate of an outbreak of diphtheria is largely dependent upon the proportion of cases infected by particular strains of C. diphtheriæ which may have a localised distribution. Table XL is therefore introduced to show the trend, over a series of years, of prevalence and fatality indices in London, each county borough having a population exceeding 150,000 in 1931, and in the residue of each region surrounding these towns. Although local differences in the standard of notification of diphtheria may affect comparison of local rates in a given year, this factor is not likely to affect comparisons of the trend of prevalence or fatality in one town with the corresponding trend during the same period in another town. There are wide differences, both as regards prevalence and fatality, between towns of similar size and situation, such as Manchester and Liverpool, or Leeds and Sheffield.

The rate of prevalence, as measured by notified cases, was lower in 1935 than in the preceding year in London and the South-East, Leeds, Birkenhead, Liverpool, Salford, Kingston-upon-Hull, Bristol, Leicester and Cardiff, but an upward trend continued in Portsmouth, Southampton, Plymouth, Newcastle, Sunderland, Bradford, Sheffield, Manchester, Birmingham, Coventry, Stoke, Nottingham and Swansea.

A tabular analysis of the distribution of the fatality ratio in successive years since 1926 was made in the Review for 1933 (p. 54).

Table 10 shows that the counties, with over 100,000 population, with highest mortality in 1935 were Durham (229 per million), and Worcestershire (176). The highest rates among county boroughs (average 108) were those for Warrington (336) and Worcester (323).

11. **Influenza.**—The deaths assigned to this cause numbered 7,382, 3,758 of males and 3,624 of females. The resultant crude mortality rate of 182 per million is reduced on standardization, by allowance for the increased age of the population, to 135, lower standardized rates than this having been recorded only in the years 1896, 1911, 1930 and 1934 (Table 9).

Table XLI.—Influenza Mortality per million Population during the first 3 and last 9 months of each Year, 1921-35.

	January–March.	April–December.
1921	356	198
1922	1,854	133
1923	240	214
1924	1,322	213
1925	783	175
1926	298	206
1927	1,827	147
1928	332	152
1929	2,450	173
1930	225	94
1931	958	167
1932	926	133
1933	1,995	97
1934	271	96
1935	285	148

Mortality in the March quarter of 1935 was 285 per million, this being a crude rate. As Table XLI indicates, mortality in the latter nine months of the year has been subject to much slighter annual fluctuation than that in the first quarter.

The distribution of influenza mortality throughout the country is indicated in Table XLII.

The highest regional rate is that for Wales II, as was the case in 1934, and the lowest rate is that of Greater London. Mortality generally was highest in the rural districts, decreasing with urbanisation. In these respects the behaviour of influenza contrasts with the incidence of the epidemic diseases of childhood which follow an almost constant rule of increase with urbanisation. In 19 of the 25 years, 1911–35, for which comparison is possible, the highest mortality from influenza has been recorded in the rural districts.

Table XLII.—Influenza; Mortality. Encephalitis Lethargica and Cerebro-spinal Fever; Mortality, Prevalence and Fatality, 1935.

——	Influenza.	Encephalitis Lethargica.			Cerebro-spinal Fever.		
	Deaths per Million Living.	Deaths per Million Living.	Cases per Million Living.	Deaths per 100 Cases Notified	Deaths per Million Living.	Cases per Million Living.	Deaths per 100 Cases Notified
England and Wales ..	182	18	8†	219	15	22†	70
South-East	125	12	4	265	11	16	70
Greater London ..	110	10	4	265	13	20	67
Remainder of South-East	149	15	6	265	8	11	78
North	233	26	10	254	22	33	65
North I	216	33	10	326	24	38	63
,, II	203	19	6	300	15	26	61
,, III	185	17	5	347	27	36	75
,, IV	272	30	14	213	19	31	60
Midland	181	17	10	171	17	22	75
Midland I	191	17	12	146	17	22	79
,, II ..	161	17	7	256	16	24	67
East	195	16	12	136	8	9	94
South-West	158	16	11	148	5	6	77
Wales	242	13	7	194	12	13	97
Wales I	203	11	8	150	14	16	90
,, II	347	17	4	400	7	4	167
County boroughs* ..	186	22	12	187	21	35	62
Other urban districts*	205	18	8	237	13	16	83
Rural districts* ..	217	19	8	257	9	10	91
Greater London { Admin. Co.	113	8	4	213	16	25	65
Greater London { Outer Ring	107	11	3	320	10	15	71

* Excluding Greater London. † Including Port Sanitary Districts.

15. **Erysipelas.**—Deaths attributed to erysipelas numbered 1,060, 579 of males and 481 of females, corresponding to standardized death-rates of 25 per million for males and 19 for females. These rates attained their lowest level in 1923, 15 and 14 respectively, and then increased slowly to 25 and 20 in 1930–31, but in 1933 the rates rose sharply to 30 and 25, and again in 1934 to the high levels of 34 and 27, this being followed by a considerable fall in 1935, as shown in Table XLIII. It may be noted that a similar course has been followed by the standardized rates for carbuncle and boil (No. 151), which were higher in 1932–34 than in any of the preceding 14 years, but the male rate declined in 1935. The standardized rates for cellulitis (No. 152 : 1) also increased for males from 13 in 1932 to 18 in 1934, and for females from 9 to 13, but fell to 14 and 10 respectively in 1935. The rates for diseases of the ear and mastoid, fatal cases of which are almost entirely infective, also

increased from 35 for males and 26 for females in 1924 to 57 and 42 in 1934, but fell to 50 and 34 respectively in 1935.

At ages under 5 the erysipelas death-rate per 100,000 living was 9 in 1896–1900, 8 in 1901–5, 6 in 1906–10, 4 in 1915–20, and 3 in 1923, but then rose to 10 in 1933, followed by a fall to 8 in 1934 and 6 in 1935. In infants under 1 year the rate per 100,000 births fell from 33 in 1896–1900 to 11 in 1923, and then rose to 26 in 1932 and 40 in 1933, falling to 32 in 1934 and 23 in 1935.

Table XLIII.—Erysipelas, Carbuncle and Boil, Cellulitis, Ear and Mastoid Disease—Standardized death rates per million living in each year 1923 to 1935.

		1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
15. Erysipelas ..	M.	15	17	21	20	19	22	24	25	25	23	30	34	25
	F.	14	14	17	15	16	16	19	20	20	21	25	27	19
151. Carbuncle and Boil... ..	M.	11	10	11	12	12	14	13	15	15	16	16	16	14
	F.	5	4	5	6	6	7	7	7	6	8	9	8	9
152(1). Cellulitis ..	M.	13	13	15	15	12	16	16	14	13	13	15	18	14
	F.	9	9	10	11	9	10	10	9	12	9	10	13	10
89. Diseases of Ear & Mastoid.	M.	38	35	38	41	42	43	49	45	47	49	50	57	50
	F.	28	26	29	27	31	33	34	35	32	34	38	42	34

The notification rate, which rose from 32 per 100,000 in 1923 to 45 in 1929 and 1930 and then declined to 36 in 1932, reached the high level of 51 in 1934, but fell again to 42 in 1935 (Table 26). It was highest in the English county boroughs (54) and lowest in the Welsh rural districts (22). The mean annual rates of prevalence, as measured by notifications, in each county during the two periods 1921–24 and 1931–34 were compared in Table XLVI of the Review for 1934.

16. **Acute Poliomyelitis.**—Deaths, including those from acute polioencephalitis, numbered 145, compared with 135 in the preceding year. The standardized death rate was 5 per million for each sex. The cases notified were 633 of poliomyelitis and 67 of polioencephalitis.

The death-rate at ages under 15 was 10 per million compared with 9 in the previous year. This rate ranged from 9 to 16 in each of the periods 1911–20 and 1921–30, and was 13 per million in 1932 and 1933. The distributions of deaths according to age are compared in 1926–30 and in each of the last five years, in Table XLIV.

The decrease since 1931 in the proportion of deaths at ages under 5 and the corresponding increase at ages over 25 is greater than can be accounted for by the changing age distribution of the population.

It was pointed out in the Review for 1934 (p. 66) that, although there has been no recent change of any significance in the age-distribution of notified cases in London, yet in Denmark where major epidemics of the disease have occurred recently, there has

been a fall in the proportion of notified cases at ages under 5 and a corresponding increase at the later ages, and that a similar phenomenon has been noticed in New York. This may be due to increased recognition during epidemics of the numerous slight or aparalytic cases of the disease, especially amongst older children, which are almost impossible to identify at other times.

Table XLIV.—Acute Poliomyelitis and Polioencephalitis deaths at various ages per cent. of all ages, 1926–1935.

Year.	Rate per million at 0–15.	No. of deaths (all ages).	Percentage at different ages.							
			0–	1–	5–	10–	15–	25–	45 & up.	All ages.
1926–30	12	888	8	32	17	11	18	9	5	100
1931	7	98	21	28	9	12	18	10	2	100
1932	13	178	6	27	20	15	16	11	5	100
1933	13	202	6	26	16	15	17	15	5	100
1934	9	135	4	21	19	16	15	15	10	100
1935	10	145	3	30	17	17	15	12	7	100

For this reason also fatality ratios of deaths to notified cases, without distinction of age, tend to have an inverse relation to morbidity rates, and similar considerations may perhaps account for the regular seasonal fluctuation of the fatality ratio in England and Wales, shown in Table XLV.

Table XLV.—Acute Poliomyelitis and Polioencephalitis. Cases per day and deaths per 100 cases notified in each month, 1921–25, 1926–30, 1931–35. Ratio of Polioencephalitis to Poliomyelitis cases in each month, 1921–30.

		Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
		Notifications per day.											
Acute poliomyelitis and polioencephalitis	1921–25	·86	·76	·71	·60	·83	·79	1·60	2·66	3·51	3·03	2·05	1·06
	1926–30	1·31	1·36	·99	·89	·82	·86	1·82	3·30	4·78	4·85	3·04	1·67
	1931–35	1·05	·86	·66	·73	·85	1·34	1·63	3·22	4·00	3·86	2·08	1·15
		Deaths per 100 notifications.											
	1921–25	40	42	58	57	37	46	24	16	15	20	21	36
	1926–30	31	29	40	40	43	40	21	18	16	17	19	29
	1931–35	31	44	39	43	35	28	22	19	18	14	18	35
Poliomyelitis alone.	1921–25	36	36	54	57	30	42	19	10	13	17	17	30
	1926–30	27	21	26	33	34	33	15	13	12	14	15	23
	1931–35	19	30	34	33	21	20	18	12	16	9	11	31
		Ratio of polioencephalitis to poliomyelitis cases.											
	1921–30	·18	·15	·17	·28	·25	·20	·13	·10	·08	·12	·10	·16
	1931–35	·19	·19	·26	·29	·27	·16	·10	·07	·12	·10	·13	·14

The morbidity rate, as measured by the average number of cases notified per day in each month, rises sharply from about 0·8 in May to about 3 in August and 4 in September, and begins to fall again sharply in November (*see also* Table 27). The fatality ratio, which ranges about 40 per cent. during the first four months, falls to its lowest level in the autumn. There is at the same time a considerable decline in the ratio of cases described as polioencephalitis to those described as poliomyelitis, from about a quarter in the second quarter of the year to one-tenth or less. When poliomyelitis cases and deaths are analysed with exclusion of polioencephalitis, the fatality ratio manifests an even more pronounced fall in the summer and autumn than does the combined rate.

17. **Encephalitis Lethargica.**—Deaths attributed to this disease numbered 722, 350 of males and 372 of females, yielding standardized death-rates of 15 per million for males and 14 for females. Both rates are the lowest since 1923 (Table 8). Of the 4,112 deaths classed to this heading in the quinquennium 1931–35, 3,874 were certified as due to encephalitis lethargica, 221 as Parkinsonism, 16 as epidemic encephalitis and 1 as sleepy sickness. The 329 notifications (Table 28) show a decline for the eleventh year in succession, and are considerably less than deaths, yielding a fatality ratio of 2,195 deaths per 1,000 notifications, compared with 1,917 in 1934 and 1,887 in 1933. This ratio was 279 in 1924, and then rose in each successive year to 1,471 in 1931.

Table XLII shows that mortality was highest in North I and North IV whereas in London mortality and prevalence were, as usual, below the general average.

18. **Cerebro-spinal Fever** (*Meningococcal Meningitis*).—Deaths from this cause numbered 617. Of these 349 were of males and 268 of females, corresponding to standardized rates of 23 and 19 per million. These rates show a further decline from the high rates reached in 1931, the rates being below those of 1934 at each age distinguished in Table XLVI, except for females aged 15–25.

The various descriptions used for this disease on death certificates are shown by the analysis for the year 1932 given below :—

	All ages.	0–	15–	45 and up.
Meningococcal meningitis ..	498	320	150	28
*Cerebro-spinal meningitis ..	261	157	89	15
Cerebro-spinal fever	237	142	79	16
Epidemic cerebro - spinal meningitis	116	62	43	11
Meningococcal meningitis with further description ..	52	45	4	3

* Classed to this group after enquiry as to cause.

	All ages.	0–	15–	45 and up.
Meningococcal cerebro-spinal meningitis	25	17	8	—
*Posterior basal meningitis ..	11	11	—	—
Meningococcal cerebro-spinal fever	7	3	3	1
*Post-basic meningitis ..	3	3	—	—
Sporadic cerebro-spinal fever..	3	2	—	1
Total	1,213	762	376	75

* Classed to this group after enquiry as to cause.

Notifications in 1935 numbered 883 (Table 28). The numbers in the preceding 5 years were 674, 2,216, 2,136, 1,695 and 1,094. The fatality ratio was 70 per 100 cases, the ratios in the 5 years preceding being 94, 65, 57, 56 and 67. In times of high prevalence, when attention is directed to the disease, notification statistics probably furnish a more complete record of the total number of persons attacked than at other times.

Prevalence was greatest in March and April (Table 27), mortality being highest in April (Table 23).

Table XLVI.—Cerebro-spinal Fever, 1911–35: Mortality at Various Ages per Million Living and per cent. of that in 1915–17.

Year.	Males.					Females.				
	All Ages*	0–5	5–15	15–25	25 and up*	All Ages*	0–5	5–15	15–25	25 and up*
	Mortality rate per million.									
1915–17†	69·8	148·2	45·3	135·3	35·2	31·6	122·7	36·5	24·8	10·5
1931	54·7	218·7	51·2	54·1	17·5	37·2	172·6	45·8	17·4	9·3
1932	46·4	209·6	36·0	42·6	13·6	31·8	153·0	31·5	16·3	9·5
1933	35·2	172·9	26·7	28·5	8·8	27·3	139·5	27·6	12·9	6·4
1934	28·5	135·3	23·8	22·0	7·8	19·8	107·3	17·9	7·7	4·7
1935	23·4	118·8	18·5	14·2	6·6	18·6	104·6	16·0	8·6	3·3
	Mortality rate per cent. of that in 1915–17.†									
1911–14†	17	43	26	4	5	31	45	24	16	14
1915–17†	100	100	100	100	100	100	100	100	100	100
1918	55	57	54	59	48	55	56	63	49	46
1919	39	64	49	28	24	51	56	52	46	39
1920	27	60	47	10	9	46	56	39	51	25
1921	21	52	28	5	11	36	50	28	28	21
1922	18	44	25	7	5	32	49	23	20	9
1923	13	31	19	3	6	27	32	27	29	11
1924	15	34	21	6	6	24	31	21	16	15
1925	18	44	29	6	4	29	39	26	19	14
1926	19	50	27	5	5	30	45	14	24	19
1927	24	63	30	6	8	34	44	37	19	18
1928	23	60	28	6	10	39	54	30	27	22
1929	33	83	38	14	11	50	71	45	27	18
1930	34	76	52	13	15	58	86	46	25	27
1931	78	148	113	40	50	118	141	125	70	89
1932	66	141	79	31	39	101	125	86	66	90
1933	50	117	59	21	25	86	114	76	52	61
1934	41	91	53	16	22	63	87	49	31	45
1935	34	80	41	10	19	59	85	44	35	31

* Standardized. † The rates used for 1911–14 and 1915–17 are mean annual rates for those years.

The mortality distribution manifested, as in 1934, a higher rate in the towns than the rural districts, and in London than in the Outer Ring. Table XLII also shows that, as in the two preceding years, both mortality and prevalence increased in general from South to North, mortality being highest in North III, followed by North I and North IV, and lowest in the South West and Wales II.

23–32. **Tuberculosis.**—The deaths assigned to tuberculous affections in the aggregate numbered 29,201—16,543 of males and 12,658 of females—1,681 less than those so classified in the previous year.

The standardized death-rate resulting from these figures, 687 per million persons (males 774, females 610), is the lowest yet recorded (Table 9), being 53 per million below the previous lowest rate recorded in 1934, the male rate being 58 per million lower and the female rate 47 per million lower than in that year.

Table XLVII.—Mortality from Tuberculosis (All Forms) per Million Population, 1922–24, 1933, 1934 and 1935.

	Males.				Females.				Persons.			
	1922–24	1933	1934	1935	1922–24	1933	1934	1935	1922–24	1933	1934	1935
All Ages Crude	1,229	968	899	848	945	692	638	599	1,081	824	763	718
All Ages Standardized	1,192	901	832	774	953	707	657	610	1,066	799	740	687
0–	1,181	701	642	539	977	584	555	451	1,080	643	599	496
5–	372	236	219	197	392	211	231	193	382	224	225	195
10–	337	188	184	151	530	288	232	231	433	237	208	190
15–	856	675	603	551	1,282	1,020	955	857	1,070	847	779	703
20–	1,568	1,189	1,094	993	1,523	1,313	1,253	1,211	1,544	1,252	1,175	1,104
25–	1,536	1,150	1,043	991	1,283	1,065	982	924	1,398	1,107	1,012	957
35–	1,736	1,308	1,150	1,129	1,033	764	664	630	1,359	1,014	887	861
45–	1,740	1,529	1,461	1,330	804	539	520	471	1,253	997	954	867
55–	1,505	1,320	1,250	1,234	683	457	423	428	1,073	863	811	805
65–	1,032	794	841	832	585	397	359	350	784	575	575	566
75 and up ..	403	331	391	353	353	221	221	228	372	263	287	276

An improvement on the preceding year was recorded, as Table XLVII shows, at all ages for males, and at ages under 55 and 65–75 for females.

In Table XLVIII the mortality at each age in the year under review is expressed as a percentage of the corresponding mean annual rates in 1922–24 and 1932–34, and the percentage changes during the ten-year intervals from 1912–14 to 1922–24 and from 1922–24 to 1932–34 are also shown. If we use the mean rates of 1912–14, 1922–24 and 1932–34 as measures of the mortalities in 1913, 1923 and 1933 respectively and suppose that during each of the intervals 1913 to 1923, 1923 to 1933, 1933 to 1935, mortality at a given age was falling by a constant proportion each year, that is to say the mortality rate changed in each year during the interval by a constant proportion of that in the preceding year, the rates

Table XLVIII.—Mortality from Tuberculosis in 1935, per cent. of that in 1922–24 and 1932–34.

	1922–24 per cent. of 1912–14.		1932–34 per cent. of 1922–24.		1935 per cent. of 1922–24.		1935 per cent. of 1932–34.	
	Males	Females	Males	Females	Males	Females	Males	Females
All Ages Crude	78	81	77	72	69	63	90	88
All Ages Standardized.	77	81	74	73	68	64	88	88
0–	57	57	61	62	46	46	74	75
5–	65	68	62	59	53	49	85	84
10–	75	77	58	50	45	44	77	87
15–	91	105	78	80	64	67	82	84
20–	104	110	74	86	63	80	85	93
25–	85	91	72	80	65	72	90	90
35–	79	75	72	70	65	61	91	87
45–	73	68	86	68	76	59	89	87
55–	68	71	86	67	82	63	98	93
65–	75	78	79	66	81	60	101	91
75 and up ...	69	80	89	68	88	65	98	95

of *annual* percentage change necessary to produce the results in Table XLVIII were as follows :—

	Males.			Females.		
	1913 to 1923.	1923 to 1933.	1933 to 1935.	1913 to 1923.	1923 to 1933.	1933 to 1935.
All ages ..	−2·5	−2·6	−5·1	−2·1	−3·2	−6·2
0–	−5·5	−4·8	−14·0	−5·5	−4·7	−13·4
5–	−4·2	−4·7	−7·8	−3·8	−5·1	−8·3
10–	−2·8	−5·3	−12·2	−2·6	−6·7	−6·7
15–	−0·9	−2·5	−9·5	+0·5	−2·2	−8·3
20–	+0·4	−3·0	−7·8	+0·9	−1·5	−3·6
25–	−1·6	−3·2	−5·1	−0·9	−2·2	−5·1
35–	−2·3	−3·2	−4·6	−2·8	−3·5	−6·7
45–	−3·1	−1·5	−5·7	−3·8	−3·8	−6·7
55–	−3·8	−1·5	−1·0	−3·4	−3·9	−3·6
65–	−2·8	−2·3	+0·5	−2·5	−4·1	−4·6
75 and up ..	−3·6	−1·2	−1·0	−2·2	−3·8	−2·6

The crude death rate at all ages for males declined by $2\frac{1}{2}$ per cent. annually during the periods between 1913 and 1933, and in more recent years by 5 per cent. annually, whilst for females the rate of fall increased from 2 per cent. annually in the first period to 6 per cent. in the third. For children under 5 the annual rate of fall of about 5 per cent. between 1913 and 1933 has increased to about 14 per cent. in recent years, and for children aged 5–10 it has increased from 4 or 5 per cent. to 8 per cent. For children aged 10–15 mortality has fallen at an increasing rate, reaching 12 per cent. annually for boys since 1932–34. At ages 15–20 the first period registered no substantial changes but the second period showed an annual fall of about 2 per cent. for each sex, increasing to

8 or 9 per cent. in recent years. At 20–25 a rise in mortality rate occurred between 1913 and 1923, amounting to about one half per cent. annually for males and 1 per cent. for females, giving place in the next 10 years to an annual fall of about 3 per cent. for males and 1½ per cent. for females, and in recent years to a more rapid fall of 8 and 4 per cent. per annum respectively. The rise or arrested fall of mortality at ages between 15 and 25 from 1913 to 1923 can be attributed to the immediate effects of food shortage on young adults.

Table XLIX.—Standardized Mortality from Tuberculosis, Respiratory and Non-Respiratory, and Mortality at Ages 0–5, 5–10 and 10–15 from Non-respiratory Tuberculosis, per million living, 1851–1935. Percentage change during each decade.

	All forms. All ages (stand.)		Respiratory. All ages (stand.)		Non-respiratory.				
					0–5	5–10	10–15	All ages (stand.)	
	M.	F.	M.	F.	P.	P.	P.	M	F.
	Death rates per million living.								
1851–60	3,477	3,483	2,694	2,854	4,470	640	319	783	629
1861–70	3,357	3,177	2,612	2,578	4,496	528	270	745	599
1871–80	3,080	2,701	2,359	2,119	4,460	505	257	721	582
1881–90	2,656	2,251	1,966	1,672	3,959	555	307	690	579
1891–1900 ..	2,285	1,780	1,633	1,226	3,517	518	301	652	554
1901–10	1,891	1,424	1,358	951	2,556	501	303	533	473
1911–20	1,705	1,210	1,306	868	1,544	444	303	399	342
1921–30	1,109	888	868	677	836	265	182	241	211
1931	976	772	780	601	651	211	148	196	171
1932	913	727	718	562	656	195	135	195	165
1933	901	707	729	559	563	183	118	172	148
1934	832	657	669	512	528	183	120	163	145
1935	774	610	627	486	432	160	103	147	124
1931–35	*879*	*695*	*704*	*544*	*568*	*187*	*125*	*175*	*151*
	Percentage change from previous decade.								
1861–70	− 3	− 9	− 3	−10	+ 1	−17	−15	− 5	− 5
1871–80	− 8	−15	−10	−18	− 1	− 4	− 5	− 3	− 3
1881–90	−14	−17	−17	−21	−11	+10	+19	− 4	− 1
1891–1900 ..	−14	−21	−17	−27	−11	− 7	− 2	− 5	− 4
1901–10	−17	−20	−17	−22	−27	− 3	+ 1	−18	−15
1911–20	−10	−15	− 4	− 9	−40	−11	0	−25	−28
1921–30	−35	−27	−34	−22	−46	−40	−40	−40	−38
1935	−30	−31	−28	−28	−48	−37	−43	−39	−41

At ages 25–35, as at 20–25, the rate of decline of female mortality was less rapid than for males between 1913 and 1933, but both have fallen by 5 per cent. annually in more recent years. At 35–55 the female rate has fallen more rapidly than that of males ever since 1912–14. At every age between 5 and 45 the rate of decline was more rapid between 1923 and 1933 than during the preceding 10 years, and at every age up to 55 the annual rate of decline was greater between 1933 and 1935 than during the preceding 10 years. At ages over 55 male mortality has not fallen since 1923 as rapidly as that of females.

The percentage changes in the standardized rate at all ages in successive decades since 1851–60 are shown in Table XLIX; the decennial rate of fall ranged from 14 to 21 per cent. between 1871–80 and 1911–20, but has increased since then to about 30 per cent.

Table L gives, at separate ages, the rates per million living from tuberculosis of all forms in decennial periods from 1851–60

Table L.—Tuberculosis, All Forms and Respiratory: Mean Annual Mortality per Million living at Various Ages, in Decennial periods 1851–1910 and Quinquennial periods 1911–1935.

Tuberculosis, all forms.

Periods.		All ages (Standardized).	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and upwards.
Males ..	1851–60	3,477	6,323	1,225	1,102	2,636	4,245	4,163	4,119	3,957	3,479	2,573	1,061
	1861–70	3,357	6,018	1,029	899	2,382	4,031	4,206	4,244	3,969	3,433	2,174	740
	1871–80	3,080	5,798	900	748	1,857	3,219	3,785	4,198	3,928	3,285	2,025	650
	1881–90	2,656	5,004	817	630	1,510	2,516	3,164	3,685	3,611	3,027	1,913	732
	1891–1900	2,285	4,347	705	521	1,234	2,102	2,541	3,251	3,296	2,768	1,706	629
	1901–10	1,891	3,129	636	463	997	1,744	2,158	2,622	2,934	2,574	1,686	668
	1911–15	1,584	2,171	591	466	977	1,529	1,852	2,253	2,434	2,250	1,412	586
	1916–20	1,511	1,684	588	531	1,159	1,589	1,827	2,157	2,247	2,033	1,370	583
	1921–25	1,186	1,165	376	335	879	1,534	1,517	1,738	1,760	1,538	1,013	409
	1926–30	1,032	941	313	260	790	1,254	1,293	1,534	1,692	1,376	908	382
	1931–35	879	710	234	190	673	1,143	1,099	1,258	1,490	1,295	830	358
Females	1851–60	3,483	5,232	1,201	1,595	3,731	4,430	4,690	4,293	3,236	2,523	1,783	834
	1861–70	3,177	4,917	939	1,300	3,300	4,087	4,482	3,988	2,954	2,178	1,354	528
	1871–80	2,701	4,663	830	1,099	2,577	3,253	3,631	3,475	2,535	1,866	1,193	452
	1881–90	2,251	3,987	874	1,030	2,052	2,495	2,932	2,846	2,146	1,597	1,058	452
	1891–1900	1,780	3,516	744	818	1,555	1,788	2,086	2,264	1,753	1,344	906	427
	1901–10	1,424	2,636	698	710	1,250	1,425	1,651	1,710	1,449	1,186	894	494
	1911–15	1,211	1,808	607	706	1,269	1,403	1,438	1,416	1,209	996	782	445
	1916–20	1,223	1,407	629	788	1,558	1,647	1,529	1,387	1,109	896	721	430
	1921–25	954	967	390	523	1,301	1,525	1,284	1,034	804	689	560	351
	1926–30	821	771	317	391	1,174	1,412	1,174	848	669	566	444	289
	1931–35	695	589	227	270	1,015	1,295	1,026	726	544	466	388	247

Respiratory Tuberculosis.

Periods.		All ages (Standardized).	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and upwards.
Males ..	1851–60	2,694	1,333	526	764	2,398	4,054	4,028	4,016	3,840	3,346	2,394	927
	1861–70	2,612	994	433	608	2,196	3,894	4,111	4,170	3,880	3,312	2,037	663
	1871–80	2,359	787	342	483	1,685	3,109	3,713	4,137	3,865	3,206	1,928	604
	1881–90	1,966	553	254	344	1,293	2,341	3,037	3,577	3,505	2,920	1,823	690
	1891–1900	1,633	441	174	234	995	1,887	2,369	3,095	3,144	2,618	1,584	556
	1901–10	1,358	351	137	171	756	1,521	1,966	2,446	2,753	2,379	1,521	567
	1911–15	1,176	266	131	184	741	1,342	1,700	2,113	2,288	2,092	1,267	477
	1916–20	1,139	233	145	213	850	1,366	1,659	2,010	2,101	1,877	1,214	456
	1921–25	920	157	74	134	657	1,343	1,381	1,627	1,650	1,425	901	323
	1926–30	817	143	68	102	617	1,091	1,179	1 436	1,600	1,281	808	306
	1931–35	704	88	43	66	506	1,001	1,000	1,175	1,417	1,216	750	284
Females	1851–60	2,854	1,287	621	1,294	3,523	4,302	4,583	1,497	3,134	2,394	1,640	717
	1861–70	2,578	951	479	1,050	3,121	3,972	4,395	3,909	2,867	2,075	1,246	448
	1871–80	2,119	753	377	851	2,409	3,154	3,556	3,412	2,468	1,786	1,097	407
	1881–90	1,672	518	328	702	1,809	2,326	2,801	2,740	2,062	1,515	980	398
	1891–1900	1,226	385	239	502	1,290	1,591	1,923	2,121	1,642	1,239	807	352
	1901–10	951	304	194	396	988	1,235	1,475	1,551	1,310	1,047	756	357
	1911–15	853	236	169	409	1,018	1,234	1,304	1,293	1,096	869	655	321
	1916–20	894	207	197	473	1,264	1,450	1,384	1,259	983	767	574	272
	1921–25	722	134	112	317	1,088	1,366	1,166	941	717	582	448	230
	1926–30	634	116	78	236	998	1,279	1,077	771	597	486	360	195
	1931–35	544	76	44	147	865	1,176	939	662	487	403	316	177

to 1901–10 and in quinquennial periods from 1911–15 to 1931–35. Comparing 1931–35 with 1851–60 the mortality of children under 5 has fallen during the 80 years to about one ninth of its value in the middle of last century, and of children aged 5–15 to less than one-fifth. At 15–25, male rates have declined to one-quarter and female rates to less than a third, and at 25–35 the rates for each sex have fallen to a quarter of those in 1851–60. At 35–65 male rates have fallen to a third, or almost to a third, and female rates to less than a fifth, whilst at ages over 65 mortality of each sex has declined to a third or less of the 1851–60 levels.

Respiratory tuberculosis.—The deaths from tuberculosis of the respiratory system in 1935 numbered 24,603, compared with 25,682 in 1934. This number is 5·2 per cent. of all deaths compared with 6·8 in 1925 and 7·3 in 1915. The trend of the standardized death rates since 1851–60, and the percentage decline in successive decades, is shown in Table XLIX, from which it is seen that 1935 rates registered for each sex a decline of 28 per cent. from the mean annual rates of 1921–30, compared with about 40 per cent. for non-respiratory tuberculosis.

Table L gives the death rates per million at various ages in each decade from 1851–60 to 1901–10 and in each quinquennium from 1911–15 to 1931–35, and Table LI compares the trend of

Table LI.—Phthisis Mortality Rates per 100,000 living at ages 15–20, 20–25, 25–35 and Equivalent Average Rates at all ages under 65; 1851–1935.

	Males.				Females.			
	15–20	20–25	25–35	0–65 Equivalent average rates.*	15–20	20–25	25–35	0–65 Equivalent average rates.*
1851–60 ..	240	405	403	304	352	430	458	263
1861–70 ..	220	389	411	300	312	397	439	277
1871–80 ..	168	311	371	279	241	315	356	231
1881–90 ..	129	234	304	237	181	233	280	184
1891–1900	99	189	237	201	129	159	192	137
1901–10 ..	76	152	197	169	99	123	147	107
1911–20 ..	80	135	168	143	114	134	134	94
1921 ..	71	136	139	115	114	141	121	80
1922 ..	67	146	143	117	106	143	117	78
1923 ..	63	133	140	108	130	129	117	74
1924 ..	62	133	136	109	107	136	115	74
1925 ..	64	117	135	109	107	134	112	72
1921–25 ..	*66*	*133*	*139*	*112*	*109*	*137*	*117*	*76*
1926 ..	59	109	126	101	97	131	107	66
1927 ..	61	108	123	102	103	130	112	69
1928 ..	62	105	118	98	101	126	106	64
1929 ..	63	107	119	104	100	134	109	66
1930 ..	61	101	112	95	98	123	105	63
1926–30 ..	*61*	*106*	*119*	*100*	*100*	*129*	*108*	*66*
1931 ..	61	108	111	96	98	123	103	63
1932 ..	54	105	101	89	92	121	95	58
1933 ..	50	106	105	90	88	120	97	58
1934 ..	46	95	94	83	81	113	91	53
1935 ..	40	87	89	78	72	110	85	50
1931–35 ..	*51*	*100*	*100*	*87*	*86*	*118*	*94*	*56*

* Rates in a population containing equal numbers at each age.

mortality per 100,000 for young adults at ages 15–20, 20–25 and 25–35 with that of the equivalent average death rate at all ages under 65 by decennial periods up to 1920 and in each separate year since.

During the 60 years between 1851–60 and 1911–20 phthisis mortality at 15–20 declined by 67 per cent. for males and 68 per cent. for females; at 20–25 it fell by 67 per cent. for males and 69 per cent. for females, and at 25–35 by 58 per cent. for males and 71 per cent. for females. The corresponding decline in the equivalent average rates under 65 was 53 per cent. for males and 64 per cent. for females. During the 10 years between 1921–25 and 1931–35 phthisis mortality at 15–20 fell by 23 per cent. for males and 21 for females; at 20–25 it fell by 25 per cent. for males and 14 per cent. for females, and at 25–35 by 28 per cent. for males and 20 per cent. for females. The corresponding decline in the equivalent average rates at all ages under 65 was 22 per cent. for males and 26 per cent. for females.

Stationary periods of arrested fall occurred both for male and female rates at ages 15–20 between the years 1926 and 1931, and it may be significant that the persons concerned had been children between the ages of 0 and 12 during the period of food shortage in 1916–18. Similar stationary or rising periods occurred in the rates at ages 20–25 between the years 1930 and 1933, the persons comprising these groups of the population having been children of ages 3 to 12 during the 1916–18 period. It may be, as was suggested in the Review for 1934 (p. 71) that these temporary arrests in the decline of phthisis mortality of young adults were delayed results of the effects of the food shortage of 1916–18 upon children, producing in them a lowered average resistance to active tuberculosis of the lungs as they reached the dangerous period for the development of this disease.

Mortality statistics of different regions and of groups of towns, classified according to different social indices, clearly show that the arrest which was evident about 1931 was most pronounced in the industrial areas and in the towns where social conditions, as evidenced by a high average of persons per room, were least satisfactory. Thus it was found (Table XLII of 1932 Review) that when the areas with over 1 per room average density were grouped together, phthisis mortality of females aged 15–25 had increased from 1911 to 1930–32 by 25 per cent. in the county boroughs and 21 per cent. in the counties, whilst in London with a mean density about 1 per room it increased by 16 per cent. At densities of ·85–1 per room the towns showed no change and the counties an increase of 15 per cent., but at densities below ·85 per room both showed improvement of the order of 20 per cent. On the other hand, at ages 25–45 the fall in mortality was not confined to the better-housed areas, but occurred almost irrespective of density.

The distribution of phthisis mortality in 1935, by regions and by class of area as well as by sex and age is shown in Table LII.

The relation of phthisis mortality to urbanisation is manifested by the contrast between the standardized rates for males of 79 per 100,000 in the county boroughs outside Greater London and 75 in London itself, and that of 44 in the rural districts. For females the effect of urbanisation is not so great, the rates being 58 in the county boroughs, 46 in London, and 42 in the rural districts.

Table LII.—Tuberculosis of Respiratory System: Mortality per 100,000 Living at different Ages in different Areas, 1935.

	England and Wales.	Greater London.	London Administrative County.	South-East, excluding Greater London.	North.	Midland.	East.	South-West.	Wales.	County Boroughs outside Greater London.	Other Urban Districts outside Greater London.	Rural Districts outside Greater London.
MALES.												
All Ages—												
Crude ..	72	78	90	63	76	71	54	55	84	91	63	49
Standardized..	63	65	75	54	67	62	48	46	77	79	55	44
0— ..	6	5	7	5	8	5	6	—	4	8	6	3
5— ..	4	4	4	3	6	5	1	3	4	5	4	4
15— ..	64	62	68	49	72	65	51	35	97	86	54	47
25— ..	89	90	98	84	90	87	65	80	127	105	87	66
35— ..	105	103	110	105	111	104	93	81	117	135	94	76
45— ..	126	138	165	110	134	124	109	98	123	165	106	79
55— ..	117	140	176	90	123	117	66	90	130	146	97	77
65— ..	76	105	132	54	83	74	47	55	68	93	63	49
75 & up ..	27	49	69	19	29	26	12	11	23	37	11	22
FEMALES.												
All Ages—												
Crude ..	50	47	49	42	52	53	44	44	67	59	47	41
Standardized..	49	44	46	40	51	52	44	42	69	58	46	42
0— ..	7	7	6	4	7	10	5	9	5	11	5	4
5— ..	8	6	7	4	11	9	9	3	12	12	7	6
15— ..	93	82	89	65	102	95	77	71	161	111	88	79
25— ..	85	78	73	79	87	89	81	82	105	97	81	77
35— ..	57	52	55	52	58	66	56	41	69	65	57	47
45— ..	42	34	39	41	42	51	40	49	51	51	42	37
55— ..	37	38	39	32	36	40	30	40	49	44	31	34
65— ..	29	29	37	31	25	26	37	32	42	36	24	27
75 & up ..	18	24	28	22	13	12	3	22	24	19	15	12

The regional distribution indicates that for males the standardized rate is highest in Wales, the North and Greater London, whilst for females it is much higher in Wales than elsewhere, and below the general average in Greater London. For males this rate is lowest in the South-West and for females in the South-East outside Greater London. The Welsh rates show the greatest excess over the England and Wales rate at ages 15–25, amounting to 52 per cent. for males and 73 per cent. for females, and at ages 25–35, amounting to 43 for males and 24 for females. Regional differences in mortality are

greatest at 15–25, but the effects of urbanisation are most pronounced amongst males over 45, the London rates being more than double those in the rural districts at those ages.

Table LIII indicates the change since 1931 in phthisis mortality rates at 15–25 and 25–35, and in the equivalent average rates under 65, in each region and class of area. The recent decline in the young adult rates has been almost as great in the towns as in the country districts, and has occurred in every region.

The distribution of mortality at ages 15–35 and higher ages in separate counties and county boroughs during 1931–35 is described on pages 71–73.

Table LIII.—Phthisis Mortality at certain ages in 1935 per cent. of 1931—Regions and Density aggregates.

	MALES.			FEMALES.		
	15–25.	25–35.	0–65*.	15–25.	25–35.	0–65*.
ENGLAND AND WALES ..	76	80	81	85	83	79
Greater London	70	76	78	82	84	76
Remainder of South-East ..	80	87	86	84	88	82
North	78	80	81	83	86	80
Midland	82	79	82	91	84	85
East	75	69	83	75	72	75
South-West	49	82	79	70	73	79
Wales	86	96	92	91	69	81
County Boroughs Outside	82	82	80	85	84	80
Urban Districts Greater	70	83	82	85	82	81
Rural Districts.. London	80	79	87	82	79	78

* Equivalent average death rate in 1935 per cent. of 1931.

Tuberculosis of Other Organs.—Table XLIX shows that the standardized death-rate from non-respiratory tuberculosis fell very slowly between 1851 and 1900, but between 1891–1900 and 1911–20 the decline amounted to about 20 per cent. in each decade. Since 1911–20 mortality has been falling at the rate of 40 per cent. in each decade. Amongst children under 5 the rate began to improve about 1880 and has fallen by 40 per cent. or more in each decade since 1901–10; at 5–10 improvement was slight up to 1901–10 but the rate has fallen by 40 per cent. in each decade since 1911–20; at 10–15 no improvement was seen between 1861–70 and 1911–20 but a 40 per cent. decline has occurred in each decade since, as at earlier ages.

Table LIV gives the death rates at successive ages due to tuberculous meningitis and peritonitis in each decennium from 1861–70 to 1901–10 and in each quinquennium since. Meningitis mortality

at ages under 5 has fallen rapidly and continuously since 1861–70 and has also declined continuously at 5–10 since 1881–90. At 10–15 the fall only began in 1921–25, and at ages 15–25 no important improvement has yet taken place. At ages over 25, mortality declined between 1901–10 and 1926–30, but the last quinquennium registered little or no further improvement. Peritonitis rates at

Table LIV.—Tuberculous Meningitis and Peritonitis. Mean Annual Mortality per Million living at Various Ages in Decennial periods from 1861 to 1910 and Quinquennial periods from 1911 to 1935.

Tuberculous Meningitis.

	Periods.	All ages (Standardized).	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and upwards
Males	1861–70	345	2,589	328	93	20	9	5	3	2	2	3	2
	1871–80	318	2,251	333	120	48	26	17	12	6	4	2	1
	1881–90	254	1,688	319	115	55	33	21	12	10	4	2	2
	1891–1900	228	1,481	283	110	60	37	25	18	11	7	3	1
	1901–10	189	1,134	268	114	64	39	27	20	14	8	5	1
	1911–15	155	872	248	115	66	35	21	17	13	7	3	1
	1916–20	140	726	230	124	86	38	22	17	12	8	3	—
	1921–25	104	551	168	84	64	34	18	13	9	3	3	2
	1926–30	91	470	151	71	54	30	18	11	8	3	1	—
	1931–35	79	400	119	63	62	32	21	11	7	4	1	—
Females	1861–70	253	1,855	257	86	22	8	4	3	2	2	2	1
	1871–80	232	1,565	273	117	49	23	15	10	5	4	3	1
	1881–90	199	1,225	295	128	61	31	19	12	6	3	2	—
	1891–1900	191	1,161	269	120	63	37	24	14	9	5	3	0
	1901–10	172	991	266	125	68	38	23	17	11	6	2	2
	1911–15	141	751	238	123	75	36	20	13	11	5	3	1
	1916–20	129	637	229	132	83	43	20	13	8	5	1	1
	1921–25	94	479	159	91	57	33	18	10	7	3	2	1
	1926–30	83	410	144	75	64	30	13	7	5	3	2	2
	1931–35	73	347	122	71	60	35	16	8	5	3	1	1

Tuberculous Peritonitis.

	Periods.	All ages (Standardized).	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and upwards.
Males	1861–70	271	2,001	155	80	49	34	19	16	20	26	19	6
	1871–80	293	2,207	142	77	52	32	18	19	18	21	22	8
	1881–90	267	2,005	121	67	47	33	23	20	19	24	21	10
	1891–1900	223	1,613	102	62	49	38	30	26	29	27	22	12
	1901–10	160	1,034	101	66	48	41	33	33	34	38	26	10
	1911–15	110	647	87	57	50	35	27	26	29	29	17	17
	1916–20	90	441	89	68	64	39	30	27	27	25	24	10
	1921–25	56	253	52	39	45	31	24	20	21	20	16	5
	1926–30	39	160	34	30	36	29	18	16	15	14	15	5
	1931–35	27	97	25	18	27	24	15	14	14	12	10	7
Females	1861–70	243	1,725	125	82	70	43	34	25	26	28	21	6
	1871–80	258	1,865	117	80	68	42	33	25	25	26	26	9
	1881–90	231	1,612	122	84	64	45	35	29	26	24	25	12
	1891–1900	197	1,304	104	74	66	53	45	41	31	26	20	8
	1901–10	145	826	110	75	66	50	51	44	37	30	21	12
	1911–15	101	509	89	69	58	45	39	35	29	27	21	10
	1916–20	88	345	95	69	81	55	46	38	35	25	20	9
	1921–25	54	189	53	43	56	41	36	28	23	23	13	9
	1926–30	38	113	39	30	39	31	29	25	17	17	12	5
	1931–35	26	60	19	18	36	28	25	19	13	16	14	6

ages under 10 have fallen very rapidly since 1881–90, but at later ages the decline did not commence until the present century. The quinquennium 1931–35 showed a fall at ages 10–15 from 30 to 18 per million, and at all age periods between 15 and 65 each quinquennium since 1920 has registered a decline in mortality.

Deaths assigned to No. 31 (1), tuberculosis of the adrenals, numbered 19 in 1935. "Addison's disease," if not specified as tuberculous, is classed to No. 68, Diseases of the adrenals, and the numbers of deaths allocated to each of these groups since 1921 have been as follows :—

		1921–25. All ages.	1926–30. All ages.	1931–35. All ages.	0–	15–	45 and up.
No. 31 (1) Tuberculosis of adrenals.	M	19	21	56	2	31	23
	F	8	16	44	—	27	17
No. 68 (part) "Addison's disease" (unqualified).	M	439	435	345	6	123	216
	F	623	705	658	4	240	414

Local Distribution of Respiratory and Other Tuberculosis in 1931–35.

Table XCVII on page 143 gives the mean annual number of deaths from respiratory tuberculosis during the period 1931–35, and a standardized mortality ratio, at ages 15–35 and 35 upwards for each sex, in every county borough and county aggregate of urban or rural districts. The standardized mortality ratio is the percentage ratio of the number of deaths registered at the specified ages during the five years to the calculated number obtained by multiplying five times the estimated mean annual local population at ages 15–, 25–, 35–, 45–, 55–, 65–, 75 and over by the mean annual death rates during 1931–35 from respiratory tuberculosis in England and Wales at the corresponding ages. The figures therefore represent the phthisis mortality at the specified ages in terms of that in England and Wales as a whole taken as 100, after correcting for the effects of peculiarities in the local age distribution. The columns showing the mean annual number of registered deaths afford a guide to the amount of significance which may be attached to the deviations of the ratios from one another.*

For young adult males aged 15–35 the county boroughs show mortality figures ranging from 56 in Southport to 280 in South Shields, and for females of the same ages ranging from 50 in Burton-on-Trent to 240 in Merthyr Tydfil, and a classification of the county boroughs giving ratios below 90 or above 130 for either

* The standard error of a percentage ratio can be calculated approximately by dividing the ratio by the square root of 5 times the mean annual number of deaths, *e.g.* for a town returning 5 annual deaths a ratio of 150 would have a standard error of the order 30, whereas for an area with 180 annual deaths the same ratio would have a standard error about 5.

sex is given below. The towns printed in italics also had ratios of 130 or over at ages 35 upwards, both for males and females.

Mortality at ages 15–35 (standardized percentage ratio to that in England and Wales) in 1931–35 from Respiratory Tuberculosis.

County boroughs with high mortality (130 or more) for both sexes.

	M.	F.
South Shields	280	206
Gateshead	188	210
Middlesbrough	186	186
Bootle	200	161
Sunderland	192	145
Liverpool	171	154
Gloucester	171	133
Newcastle-on-Tyne	163	139
Dudley	156	140
Salford	153	136
Leicester	150	137
Darlington	150	133
West Ham	153	131
Tynemouth	144	145
Worcester	143	144
Manchester	131	138
Cardiff	197	136
Merthyr Tydfil	160	240
Newport	138	180
Swansea	146	150

County boroughs with low mortality (under 90) for both sexes.

	M.	F.
Rochdale	85	75
York	85	73
Blackpool	85	67
Stockport	83	77
Bolton	80	77
Burton-on-Trent	86	50
Derby	80	75
Halifax	77	81
Bury	75	80
Smethwick	77	73
Doncaster	60	64
Southport	56	54

County boroughs with high mortality (130 or more) for one sex.

	M.	F.
Kingston-on-Hull	143	126
Southampton	138	129
Canterbury	133	75
Reading	131	94
Great Yarmouth	129	156
Wigan	100	147
Walsall	113	144
St. Helens	94	135
Grimsby	123	133
Nottingham	100	133
Barrow-in-Furness	130	111

County boroughs with low mortality (under 90) for one sex.

	M.	F.
Wakefield	89	90
Brighton	89	96
Exeter	78	100
Dewsbury	71	111
Oxford	60	93
Wolverhampton	100	87
Hastings	114	80
Huddersfield	100	80
Wallasey	100	75
Eastbourne	117	70
Bournemouth	92	65
Bath	100	55
Sheffield	105	89

Surprising features of this classification are the high phthisis mortality in Gloucester, Worcester, Dudley and Leicester, and the low mortality in Doncaster, Smethwick, Bury, Halifax, Bolton and Stockport.

For the English county aggregates of urban districts (excluding the county boroughs) the mortality ratios for young adult males aged 15–35 range from 31 in Cambridge to 150 in Cumberland, the ten counties with highest mortality being, in descending order, Cumberland, Durham, Lindsey division of Lincolnshire, Gloucester,

Cornwall, Hereford, Northampton, Northumberland, Suffolk East, Devon, and the ten counties with lowest mortality, also in descending order, North Riding of Yorkshire, West Riding, Dorset, Derbyshire, Peterborough, Southampton, Cheshire, Holland division of Lincolnshire, Ely, Cambridge. For females aged 15–35 the range for urban district aggregates is from 50 in the Isle of Wight to 187 in Cumberland, the ten counties with highest mortality being, in descending order, Cumberland, Durham, Northumberland, Kesteven division of Lincolnshire, Leicester, Stafford, Gloucester, Lindsey division of Lincolnshire, Worcester, Bedford, and with lowest mortality, also in descending order, Cheshire, Wiltshire, Oxford, Surrey, Norfolk, Holland division of Lincolnshire, Sussex East and West, Cambridge, Peterborough, Isle of Wight. Of the Welsh county aggregates of urban districts Anglesey, Caernarvon, Cardigan and Merioneth give ratios in excess of 130 in three of the four sex and age groups in the Table.

Table XCVII also gives standardized mortality ratios relating to persons of all ages for non-respiratory tuberculosis during the period 1931–35. The county borough figures ranged from 67 in Canterbury, Smethwick and West Bromwich to 300 in South Shields, the 10 county boroughs with highest rates being, in descending order, South Shields, West Hartlepool, Gateshead, Tynemouth, Middlesbrough, Merthyr Tydfil, Newcastle-on-Tyne, Sunderland, Cardiff, Grimsby, and the 12 with lowest rates, also in descending order, Croydon, Blackpool, Norwich, Hastings, Southend-on-Sea, Rochdale, Derby, East Ham, Birmingham, Canterbury, Smethwick, West Bromwich. For the English county aggregates of other urban districts the ratios ranged from 25 in Oxfordshire to 173 in Cumberland, the 10 with highest rates being Cumberland, Northumberland, Durham, Lindsey division of Lincolnshire, Norfolk, Cornwall, Huntingdon, North Riding of Yorkshire, Holland division of Lincolnshire and Hereford, and the 8 with lowest rates being Buckingham, Hertford, Essex, Middlesex, Somerset, Surrey, Cambridge and Oxford. Amongst the Welsh county aggregates of urban districts Anglesey, Pembroke, Brecon, Cardigan, Denbigh, Glamorgan and Merioneth show ratios above 130.

For the English county aggregates of rural districts Durham shows the highest mortality figures for respiratory tuberculosis in young adult males (108) and for non-respiratory tuberculosis (137), and Hereford gives the highest figure for respiratory tuberculosis in young adult females (144), but several of the Welsh county aggregates have figures in excess of these, Caernarvonshire rural districts giving ratios of 200 or more in all three instances.

34. **Syphilis.**—Deaths assigned to this cause numbered 1,242, 879 of males and 363 of females. In the five years 1931–35 the deaths classed to congenital syphilis have totalled 412, 365, 296, 261 and 239, and those classed to acquired or unspecified syphilis have numbered 1,034, 938, 1,025, 973 and 1,003. Standardized mortality

of males declined from 77 per million in 1871–80 to 58 in 1901–10, increased to 74 in 1917 and 1920, declined again to 39 in 1925, rose to 50 in 1928 and has again fallen to 36 in 1934 and 37 in 1935. Female mortality followed a similar course, from 70 in 1871–80 to 45 in 1901–10, rising to 56 in 1920 and falling to 25 in 1925, followed by a temporary increase to 29 in 1927 and subsequent fall to 16 in 1935.

Standardized death-rates for syphilis, tabes dorsalis, general paralysis of the insane and aneurysm from 1911 to 1928 were set out in the Review for 1928 (Table XLIX) and this series is continued in Table LV for 1911–20 and each year since.

Since no significance can be attached to the mention of or omission of mention of syphilis on certificates of death from the last 3 causes, such deaths are all classed to the latter causes and not to syphilis. The combined rate from the 4 causes has declined since 1911–20 by 47 per cent. for males and 46 per cent. for females.

Table LV.—Standardized Mortality per million living from Syphilis and Diseases of Syphilitic Origin, 1911–35.

	1911–20.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
MALES.																
34. Syphilis	68	64	50	48	42	39	43	45	50	45	45	45	39	39	36	37
80. Tabes Dorsalis	29	26	29	26	26	25	26	26	25	29	22	20	23	21	17	19
83. General Paralysis of Insane	86	59	65	64	55	56	51	54	49	42	40	40	35	31	32	28
96. Aneurysm	42	35	36	34	35	34	32	36	37	37	38	38	36	35	36	36
Total	225	184	180	172	158	154	152	161	161	153	145	143	133	126	121	120
FEMALES.																
34. Syphilis	48	48	37	30	28	25	26	29	28	26	25	24	23	21	18	16
80. Tabes Dorsalis	5	5	5	5	4	5	4	5	4	5	4	4	5	4	3	4
83. General Paralysis of Insane	17	12	13	12	12	11	11	11	10	10	8	10	9	9	8	9
96. Aneurysm..	9	8	8	8	7	9	9	9	9	10	10	10	11	13	13	14
Total	79	73	63	55	51	50	50	54	51	51	47	48	48	47	42	43

The increase in female mortality from aneurysm contrasts with the favourable trend for the other syphilitic diseases.

38, 39 (part). **Malaria, Kala-azar and Trypanosomiasis.**—Deaths classed to malaria, which numbered about 60 annually in 1914–16, and increased to 268 in 1919 and 250 in 1920, have declined in recent years, the annual average being 102 in 1921–25, 46 in 1926–30 and 23 in 1931–35. In 1935 only 11 deaths were registered from this cause. Table LVI shows the sex and age distribution of the deaths during 1931–35, less than one-tenth of the total being those of females. Kala-azar was the cause of 6 deaths during the quinquennium, trypanosomiasis of 3 and " tropical spleen " of 1.

39 (part). **Weil's Disease.**—Deaths attributed to this disease and its synonyms have increased in recent years, numbering 34 in the quinquennium 1931–35. Of these 15 were described as spirochætosis ictero-hæmorrhagica, 12 as Weil's disease, 5 as

spirochætal jaundice and 2 as leptospira ictero-hæmorrhagica. Table LVI shows that 29 were males and 5 females.

41, 42. **Hydatid cysts and other diseases due to Helminths.**—Deaths classed to hydatid cysts numbered 126 in 1921–25, 159 in 1926–30 and 138 in 1931–35, of which totals 97, 125 and 96 respectively were due to hydatid of the liver. Table LVI shows that in the last quinquennium male deaths from hydatid disease of organs other than the liver (28) were in excess of female deaths (14). No such excess was noticed during 1921–30 when the decennial totals were 31 deaths of males and 32 of females.

Table LVI.—Deaths from Malaria, Weil's disease, Kala-azar, Trypanosomiasis and diseases due to Helminths, 1931–1935.

International No.	Cause.	Sex.	All ages.	0–	15–	45 and up.
38	Malaria	M.	104	1	49	54
		F.	11	1	7	3
39 (pt.)	Weil's disease	M.	29	—	13	16
		F.	5	1	3	1
39 (pt.)	Trypanosomiasis	M.	3	—	2	1
	Kala-azar	M.	6	1	4	1
	" Tropical spleen "	M.	1	—	—	1
41a	Hydatid cysts of liver	M.	49	1	16	32
		F.	47	2	14	31
41b	Hydatid cysts of other organs	M.	28	1	13	14
		F.	14	1	8	5
42	Other diseases due to Helminths—	M.	23	15	2	6
		F.	28	20	4	4
	Nematodes, round worms	*M.*	*11*	*10*	*1*	—
		F.	*18*	*15*	*2*	*1*
	Cestodes, tape worms	*M.*	*3*	*1*	*1*	*1*
		F.	*6*	*1*	*2*	*3*
	Trematodes, thread worms	*M.*	*6*	*2*	—	*4*
		F.	*2*	*2*	—	—
	Unclassified	*M.*	*3*	*2*	—	*1*
		F.	*2*	*2*	—	—

Deaths classed to other diseases attributed to helminths numbered 58 in 1921–25 (26 of males, 32 of females), 89 in 1926–30 (41 of males, 48 of females) and 51 in 1931–35 (23 of males, 28 of females). A classification of the deaths in 1931–35 according to sex, age and the type of worm causing the disease is given in Table LVI.

43. **Mycotic diseases and Sprue.**—The quinquennial totals of deaths classed to actinomycosis, other mycoses and sprue since 1921 are shown below :—

	Males.			Females.		
	1921–25.	1926–30.	1931–35.	1921–25.	1926–30.	1931–35.
Actinomycosis ..	134	157	208	70	83	105
Other mycoses	206	128	95	148	88	65
Sprue			40			22
Total (No. 43) ..	340	285	343	218	171	192

There has been an increase in the deaths attributed to actinomycosis and a corresponding decrease in those attributed to other mycoses and sprue, the totals showing little change compared with 10 years

previously for males and a slight fall for females. There was an excess of male over female deaths of 56 per cent. in 1921–25, 67 per cent. in 1926–30 and 79 per cent. in 1931–35.

Table LVII analyses the deaths during 1931–35 according to sex, age and description of the disease on the death certificate. In the case of such diseases as ringworm (tinea tonsurans) it should be remembered that an accidental fatality resulting from treatment applied for a minor ailment is classed to that ailment as the initial cause of the death, and this fact accounts for some of the deaths appearing in the table.

Sprue, which was classed amongst the mycoses at the 1920 and 1929 revisions of the International List, was the certified cause of 62 deaths, 56 being at ages over 45.

Table LVII.—Deaths from Mycotic diseases and Sprue, 1931–1935.

	All ages.		0–		15–		45 and up.	
	M.	F.	M.	F.	M.	F.	M.	F.
Actinomycosis	208	105	17	7	124	66	67	32
Thrush	31	24	30	24	—	—	1	—
Oidium albicans	3	2	2	—	—	1	1	1
Aphthous stomatitis, &c. ..	18	12	16	10	1	—	1	2
Parasitic stomatitis	3	—	3	—	—	—	—	—
Vesicular stomatitis ..	2	—	2	—	—	—	—	—
Mycosis fungoides	25	21	—	—	3	5	22	16
Mycotic aneurysm	2	3	—	2	2	1	—	—
Aspergillosis	2	1	—	—	—	—	2	1
Blastomycosis	4	1	—	—	2	1	2	—
Dhobie Itch	1	—	—	—	—	—	1	—
Favus	1	—	1	—	—	—	—	—
Tinea tonsurans	3	—	1	—	1	—	1	—
Monilia Infection	—	1	—	—	—	1	—	—
Sprue	40	22	—	—	2	4	38	18

44 (1 and 2). **Vaccinia and Sequelæ of Vaccination.**—Four deaths have been assigned to the heading of vaccinia in 1935, from the following causes. A female aged 1 month with " bronchopneumonia and vaccinia," a male aged 2 months with " cardiac failure due to toxæmia due to vaccinia," a female aged 4 months with " inanition due to vaccinia," and a female aged 50 with " hypostatic pneumonia due to vaccinia."

Four deaths following vaccination against smallpox have been classed to the group " other sequelæ of vaccination," the details being as follows. A female aged 1 month with gastro-enteritis following vaccinia, a male aged 3 weeks with " vaccination followed by generalised erythema and convulsions," a male aged 7 months with erysipelas due to vaccination with contributory whooping cough, and a female aged 17 with septicæmia, pyæmia and septic cellulitis of the arm due to vaccination.

Two other deaths have been classed to the group " other sequelæ of vaccination," which did not follow vaccination against smallpox. In the title of this group " Vaccination " is interpreted in its widest

sense to include the administration of vaccines or sera for the prevention of diseases other than smallpox, the disease, in such cases, being specified by a footnote in all tables where such deaths appear under this heading. One of these two deaths was that of a female aged 18 months attributed to " anaphylactic shock following an injection of antitoxic serum into the thigh, such injection having been properly and necessarily performed as a precautionary measure against scarlet fever infection." The other death, of a female aged 51, was attributed to " anaphylactic shock following injection of antitetanic serum following a wound in finger while gardening."

In all of the above cases the vaccination or protective treatment included under that term was mentioned in the death certificate.

44 (part of 6). **"Pink Disease."**—The 71 deaths classed to the group of " other infectious or parasitic diseases " in 1935 consisted of 7 attributed to glandular fever, 3 to blackwater fever, 4 to acrodynia, 7 to erythrœdema or erythrœdema polyneuritica, 49 to " pink disease," and 1 to " bacterial poisoning " of undetermined origin. The disease of infancy and early childhood described by the synonyms pink disease, erythrœdema, erythrœdema polyneuritica, dermato-neuritis or polyneuritis, or acrodynia, was included from 1931 onwards in this group by a decision of the International Conference of 1929, although its ætiology was at that time, and still is, obscure. In 1927 it had been included in the group of other general diseases (No. 69 : 3) in the Annual Reviews, and in the " Nomenclature of Diseases, 1931," it was likewise placed amongst the group of " diseases due to disorders of nutrition or of metabolism." In 1923 a death was attributed to acrodynia and during the next 7 years 16 deaths were so described, but this name has rarely been seen on death certificates of recent years. Dermato-polyneuritis (or dermato-neuritis) under which synonym 9 deaths were described during 1925–30, has also ceased to appear. In 1924, 2 deaths were ascribed to " erythrœdema polyneuritis " (with mention also of " pink disease " on one) and erythrœdema polyneuritica has continued in use since, " erythrœdema " being a more usual description since 1926. Deaths attributed to " pink disease " have steadily increased since 1927, as indicated in Table LVIII and when all forms of description are combined the annual deaths have risen continuously from 1 in 1923 to 60 in 1935.

Table LVIII.—Deaths from Pink Disease, and its Synonyms, 1923–35.

	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
Acrodynia	1	2	1	5	2	1	4	1	—	—	1	—	4
Dermato-polyneuritis or neuritis	—	—	1	1	2	2	2	1	—	—	—	—	—
Erythrœdema polyneuritica or polyneuritis ..	—	2	2	3	4	1	2	8	2	—	1	4	3
Erythrœdema	—	—	—	6	8	9	9	3	6	7	7	10	4
Pink disease	—	—	4	5	4	8	11	20	25	36	45	45	49
Total	1	4	8	20	20	21	28	33	33	43	54	59	60

45–53. **Cancer.**—The deaths ascribed to cancer during 1935 numbered 64,507—30,780 of males and 33,727 of females. For both sexes these numbers are the highest yet recorded.

Of these deaths 56,676 were referred to carcinoma, 2,723 to sarcoma, and 5,108 to "cancer" not otherwise defined. These are the largest numbers yet recorded for carcinoma, but not for sarcoma, which of late years has accounted for a somewhat smaller proportion, now 42 per 1,000, of the total cancer deaths than heretofore. The number in the undefined group continues to fall year by year.

The standardized death-rate for males in 1935 amounts to 1,058 per million, and that for females to 959. The male rate is the highest yet recorded. In 1928 the increase in female mortality was arrested and the rate decreased each year to 966 in 1932, increased slightly in 1933–34 but declined in 1935 to the lowest level recorded since 1920. Table XLI,* in the 1927 volume, shows that the standardized rate for males first exceeded that for females in 1924, and since that date the excess has been maintained, increasing to 99 per million in 1935.

Table 9 shows that the standardized rate in the population regardless of sex has fluctuated around 1,000 during the last 10 years, the 1935 rate of 1,001 having been exceeded in 1925, 1928–30 and 1934. The crude rate however has continued to increase steadily, from 1,336 in 1925 to 1,587 in 1935, owing to the increasing proportion of persons of advanced age in the population (Table 7). Owing to the greater average age of the female population the crude death rate for females continues to exceed that for males, to the extent of 17 per million living in 1935, compared with 87 ten years earlier.

The necessity for taking into account the differing age distributions of populations when comparing cancer death rates may be seen by applying the England and Wales rates in 1931–35 at ages 0–, 25–, 35–, 45–, 55– and 65 upwards for each sex to the census populations of India and of Bombay in 1931, and thus calculating the crude cancer death rates which would be expected if those populations suffered the same cancer mortality, age by age, as in England and Wales. The expected death rate would be 661 per million in India, and 606 in Bombay, compared with the 1931–35 rate of 1,534 in England and Wales, that is to say the differences in average age of the populations would suffice to account for a rate in Bombay only two-fifths of that in England and Wales. The combined effects of the age factor and of less complete recognition of cancer as a cause of death need to be carefully evaluated before valid conclusions can be drawn that cancer is less prevalent at a given age in one country than in another.

* This table gives standardized death-rates from Cancer by Sex for each year 1851–1927.

The mortality from cancer as a whole in 1935 is compared by sex and age in Table LIX for England and Wales, with record of the degree of difference in sex mortality at the various ages.

At ages from 25 years up to 55 the female exceeds the male rate but from 55 years to the end of life the male rates are in excess. This female excess in middle age, greatest at 35–45, is associated with, and largely explained by, the special frequency at this age of cancer of the uterus and of the female breast, which together account for a larger proportion of the total deaths of women from cancer at each age between 25 and 65 than at all ages jointly (*see* "Text" Volume of the Review for 1929, page 57).

Table LIX.—Mortality from Cancer (All Sites), 1935.

	Mortality per Million.			Sex Ratio.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
All Ages { Crude ..	1,578	1,595	1,587	994	1,005	1,000
All Ages { Standardized	1,058	959	1,001	1,057	958	1,000
0—	34	37	36	944	1,028	1,000
5—	23	19	21	1,095	905	1,000
15—	45	40	43	1,047	930	1,000
25—	121	159	140	864	1,136	1,000
35—	466	722	604	772	1,195	1,000
45—	1,631	2,013	1,837	888	1,096	1,000
55—	4,730	4,070	4,378	1,080	930	1,000
65—	10,207	7,521	8,728	1,169	862	1,000
75—	14,596	11,641	12,789	1,141	910	1,000

The percentage share of the breast and uterus in the total cancer mortality of females, in 1935, was :—

	All ages.	0–	25–	35–	45–	55–	65–	75 up.
Breast ..	20·1	1·7	18·5	26·6	26·7	22·4	15·6	16·8
Uterus ..	13·3	1·2	15·0	24·7	20·4	14·4	10·3	6·7

The mortality attributed to sarcoma, carcinoma and cancer undefined is distinguished in Table LX, other details of the deaths being shown in Tables LXII and LXIII. The rates for cancer undefined are lower than the average of the seven preceding years at every age over 35, indicating increased precision in the statement of the type of cancer. Sarcoma rates are lower than in 1928–34 at all ages except 25–35 for males, and at 25–35 and 45 and over for females. Carcinoma rates show an increase at all ages over 15 for males, but no important changes for females.

Table LX also shows the trend of cancer mortality by sex and age since 1901–10.

The crude death-rate at all ages for males in 1935 is 104 per cent. and the female rate 55 per cent. higher than the respective rates in 1901–10, but if standardized rates are compared these excesses are reduced to 35 and 2 per cent. respectively. These great differences in the rate of increase as shown by comparing crude and standardized rates again emphasize the desirability of restricting comparison to rates corrected for the changing age of the population. The standardized figures take into account the rapidly increasing proportion of elderly persons in the population and attempt to correct, though

TABLE LX.—Cancer Mortality in 1911–20, 1921–30, 1934 and 1935 per cent. of that in 1901–10. Sarcoma, Carcinoma and Undefined: rates per million in 1928–34 and 1935.

—	Mortality per cent. of the rate in 1901–10.*				Mortality per million living.					
					Sarcoma.		Carcinoma.		Cancer undefined.	
	1911–20	1921–30	1934	1935	1928–34	1935	1928–34	1935	1928–34	1935
MALES.										
All ages—										
Crude	128	167	198	204	80	78	1,222	1,377	148	124
Standardized ..	114	128	133	135	65	62	867	914	105	82
0–	96	100	121	109	23	22	2	2	1	2
15–	107	112	112	110	32	29	12	14	3	2
25–	101	106	116	111	36	38	74	77	8	6
35–	102	101	105	113	67	62	330	370	36	33
45–	108	105	107	105	128	124	1,342	1,390	151	116
55–	114	121	120	121	212	197	3,986	4,171	465	362
65–	120	143	151	153	284	262	8,718	9,109	1,084	835
75 and up ..	124	162	180	185	307	251	12,157	13,123	1,574	1,223
FEMALES.										
All ages—										
Crude	114	135	155	155	58	57	1,310	1,411	151	128
Standardized ..	102	105	103	102	45	43	840	841	96	76
0–	100	111	121	126	19	20	2	3	1	1
15–	103	106	112	121	21	22	15	14	2	4
25–	92	94	91	94	25	22	120	126	11	11
35–	93	90	87	85	42	43	637	631	64	48
45–	98	92	90	87	87	83	1,815	1,770	194	159
55–	99	96	94	92	142	119	3,573	3,623	405	327
65–	107	116	114	113	188	180	6,705	6,731	808	610
75 and up ..	116	143	149	147	221	196	10,428	10,468	1,286	977

* The rates per 100,000 at 1901–10, 1911–20, 1921–30 and 1931 were given in Table XLII of the Review for 1931. The percentage ratios in this table are based upon rates per million, that is to say, upon an additional significant figure, and therefore differ slightly from those given in previous years.

imperfectly owing to the wide divergence of the age constitution of the present population from that of the 1901 standard, the exaggerated impression conveyed when crude rates are compared. The equivalent average death-rates (E.D.R.) for each sex at ages under 65, that is to say the rates which would occur in populations consisting of equal numbers at each year of age up to 65, together with the rates at 65–75 and 75 and over, provide a more complete picture of cancer mortality, unaffected by differences in age constitution

between the populations which have to be compared. These equivalent average death-rates are readily calculated by finding the arithmetic mean of the death-rates at the 13 quinquennial age groups between 0 and 65. (*See* p. 2.)

The recent trend of the sex death-rates at the several age-groups over 25 and of the equivalent average rates is indicated below, the rates per million being expressed as percentages of the 1901–10 rate in each instance.

Males	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
25—	108	108	113	111	102	107	106	106	116	111
35—	96	102	103	104	107	102	102	109	105	113
45—	106	104	105	102	106	106	101	106	107	105
55—	122	120	121	119	116	119	123	118	120	121
65—	145	149	149	149	152	153	155	148	151	153
75 and up	164	167	172	181	178	173	179	183	180	185
E.D.R. 0–65	116	114	116	113	112	114	116	114	115	116
Females										
25—	96	95	98	93	90	89	94	89	91	94
35—	88	90	93	87	88	87	86	86	87	85
45—	91	90	93	89	88	92	90	89	90	87
55—	97	94	94	93	94	93	93	94	94	92
65—	120	116	118	122	117	114	112	114	114	113
75 and up	142	148	152	156	157	149	148	148	149	147
E.D.R. 0–65	95	93	94	92	92	92	92	92	92	90

Comparison of the last few years with the preceding years indicates that for males the equivalent rate at ages under 65 has not shown any consistent change in the last ten years, and for females, after a decline to 92 per cent. of the 1901–10 level by 1929, it has remained almost stationary. At ages over 65 the average male rates in the last triennium were slightly above those in the preceding one, whilst the female rates at these ages have remained almost stationary since 1931.

Cancer mortality is analysed according to sex, age, region and class of area in Table LXI. The standardized rate for each sex declines, as noticed in previous years, from a maximum in the county boroughs to a minimum in the rural districts, the range according to urbanization, as thus measured, being much greater for males, 117 to 89 per 100,000, than for females, 100 to 91 per 100,000. The average standardized male rates in the five years 1931–35 were 122 in London, 114 in the county boroughs, 101 in the urban districts and 89 in the rural districts, the corresponding averages for females being 100, 101, 97 and 92.

Apart from Greater London, the North gives the highest standardized mortality for each sex, but if Wales is divided into its sub regions Wales II has a higher ratio than the North notwithstanding its rural character, 117 for males and 110 for females (Wales I giving rates of 104 and 96 respectively). The South-East excluding Greater London shows the lowest standardized rates for each sex. The regional dispersion thus indicated is greater for males than for females.

Table LXI.—Cancer (All Sites) : Mortality per 100,000 Living in different Areas and at different Ages, 1935.

	England and Wales.	Greater London.	London Admin. County.	South-East, excluding Greater London.	North.	Midland.	East.	South-West.	Wales.	County Boroughs outside Greater London.	Other Urban Districts outside Greater London.	Rural Districts outside Greater London.
MALES.												
All Ages— Crude	158	156	178	162	158	146	172	182	156	165	156	151
Standardized..	106	111	123	95	112	100	96	99	108	117	103	89
0– ..	3	4	5	5	2	2	5	7	2	3	3	4
5– ..	2	2	2	1	2	2	1	3	3	3	2	2
15– ..	5	4	3	4	5	4	3	6	6	6	4	4
25– ..	12	14	17	11	13	11	9	11	11	14	10	11
35– ..	47	48	50	35	50	47	41	38	55	51	44	42
45– ..	163	176	202	140	169	157	141	131	197	188	148	130
55– ..	473	483	555	423	522	442	414	419	477	536	460	383
65– ..	1,021	1,076	1,199	906	1,105	971	936	975	1,001	1,143	1,031	809
75 and up ..	1,460	1,572	1,575	1,417	1,440	1,375	1,498	1,581	1,372	1,504	1,402	1,404
FEMALES.												
All Ages— Crude	160	151	162	176	157	151	178	187	154	158	164	165
Standardized..	96	93	97	90	102	95	94	91	101	100	97	91
0– ..	4	4	4	2	4	3	3	3	7	3	4	5
5– ..	2	2	1	2	2	1	2	—	1	2	2	2
15– ..	4	3	3	4	4	3	8	6	6	4	4	6
25– ..	16	16	19	15	17	14	12	20	16	17	15	15
35– ..	72	67	68	67	77	79	67	58	71	78	76	61
45– ..	201	196	208	176	218	200	180	205	207	216	199	186
55– ..	407	401	420	372	428	400	419	364	457	419	410	389
65– ..	752	722	749	719	809	729	708	714	814	792	759	713
75 and up ..	1,164	1,116	1,190	1,185	1,201	1,159	1,224	1,129	1,104	1,180	1,198	1,144

Cancer by Site.—The parts of the body affected by fatal cancer in 1935 are shown in Tables LXII and LXIII in greater detail than that provided by the international classification, six out of its nine headings (Nos. 45–53) being sub-divided. Fuller details with regard to cancer of the uterus and of the skin than those shown in the Table are also available. The cancer mortality distribution is shown by sex, age and site as well as by the nature of the growth to which the deaths were attributed, under the headings carcinoma, sarcoma and "cancer" not otherwise defined. Continuing the practice of many years past, every practicable effort is made, with the co-operation of certifying practitioners, to assign the deaths to the organs primarily affected, in order to obtain as true indications as possible of the incidence of the disease. It is well recognized, however, that for certain organs, especially the liver and lung, commonly affected secondarily to such a degree that the symptoms dominate any that may arise from the primarily affected organ, ascertainment of the latter may prove impracticable. Such exceptions are becoming more rare, due no doubt to improvement in diagnostic methods, an encouraging sign justifying the inclusion, in the notes to certifying

Table LXII.—Sites and Forms of Fatal Cancer by Sex and Age, 1935.

		All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF MALES.															
	All Sites	**30,780**	**49**	**74**	**146**	**401**	**489**	**737**	**1,398**	**2,376**	**3,760**	**5,188**	**5,748**	**5,114**	**3,361**	**1,458**	**481**
	Carcinoma	**26,850**	**5**	**4**	**46**	**255**	**371**	**603**	**1,188**	**2,029**	**3,310**	**4,580**	**5,131**	**4,563**	**3,016**	**1,313**	**436**
	Sarcoma	**1,520**	**40**	**65**	**94**	**126**	**81**	**83**	**119**	**169**	**179**	**194**	**172**	**107**	**63**	**19**	**9**
	Cancer, N.S. ..	**2,410**	**4**	**5**	**6**	**20**	**37**	**51**	**91**	**178**	**271**	**414**	**445**	**444**	**282**	**126**	**36**
45	Lip	293	—	—	—	2	1	2	4	9	25	31	42	58	53	40	26
	Tongue	1,049	—	—	—	1	6	8	17	55	127	229	242	185	117	48	14
	Mouth	369	—	—	—	—	1	1	7	18	51	61	84	68	52	22	4
	Tonsil	249	—	4	1	2	4	1	5	13	26	57	60	38	28	6	4
	Jaw	401	—	1	2	5	3	5	13	26	55	67	89	66	38	22	9
	Pharynx	401	1	3	7	1	2	4	12	31	69	77	97	51	34	9	3
	Others (1)	210	—	—	—	—	2	3	5	9	24	31	48	50	24	11	3
	Total	2,972	1	8	10	11	19	24	63	161	377	553	662	516	346	158	63
46	Œsophagus	1,779	—	—	2	6	9	23	47	96	212	404	386	289	191	94	20
	Stomach	6,926	1	1	5	59	108	232	400	599	911	1,175	1,306	1,133	656	273	67
	Small intestine.. ..	111	1	—	2	1	1	5	7	7	11	23	16	19	12	5	1
	Cæcum	255	—	1	2	6	5	5	17	16	27	37	54	39	28	12	6
	Hepatic flexure.. ..	34	—	—	—	1	—	—	2	3	1	5	7	4	8	2	1
	Splenic flexure	87	1	—	—	1	2	4	2	8	13	16	18	13	6	2	1
	Sigmoid flexure ..	651	—	—	1	4	8	19	20	45	67	112	117	133	82	29	14
	Large intestine (colon)	2,518	—	—	5	22	21	40	81	165	241	396	469	526	355	152	45
	Rectum (excluding anus)	3,305	—	—	6	46	48	51	90	197	389	561	694	630	381	154	58
	Liver	1,177	5	2	2	11	10	26	41	98	127	204	216	201	151	63	20
	Gall bladder	274	—	—	—	1	5	3	10	15	36	39	48	55	45	11	6
	Pancreas	1,006	—	—	1	5	12	20	53	113	143	166	164	151	106	53	19
	Others (2)	518	6	1	4	21	9	16	17	35	55	74	87	85	67	32	9
	Total	18,641	14	5	30	184	238	444	787	1,397	2,233	3,212	3,582	3,278	2,088	882	267
47	Larynx	898	—	—	—	4	9	11	19	64	133	195	205	144	77	31	6
	Lung (3)..	2,345	—	2	9	44	94	124	265	365	463	398	295	185	71	24	6
	Others (4)	248	—	2	3	8	12	12	18	26	35	48	35	28	16	5	—
	Total	3,491	—	4	12	56	115	147	302	455	631	641	535	357	164	60	12
50	Breast	77	—	—	—	—	2	1	5	7	8	11	13	13	8	5	4
51	Kidney, Suprarenal ..	361	17	7	3	12	13	19	32	37	48	70	43	35	15	10	—
	Bladder, Urethra, Ureter	976	1	—	—	6	9	12	41	65	119	162	185	172	134	56	14
	Prostate .. .	1,856	—	—	1	1	2	3	21	52	112	247	402	449	369	148	49
	Testis	143	—	1	15	34	18	17	9	10	6	7	12	6	4	2	2
	Penis	174	—	—	—	—	3	5	8	10	20	26	29	25	29	13	6
	Scrotum	62	—	—	—	—	1	1	2	5	7	13	14	12	6	1	—
	Total	3,572	18	8	19	53	46	57	113	179	312	525	685	699	557	230	71
52	Skin	606	—	1	1	11	8	6	21	21	46	50	82	105	119	86	49
53	Brain, Meninges ..	165	4	14	10	20	19	16	20	22	24	7	9	—	—	—	—
	Thyroid	69	—	1	1	2	—	1	4	9	9	14	15	11	2	—	—
	Bones (jaw excepted) ..	442	6	18	48	30	14	14	37	49	39	54	60	46	17	8	2
	Others (5) and unspecified	745	6	15	15	34	28	27	46	76	81	121	105	89	60	29	13
	Total	1,421	16	48	74	86	61	58	107	156	153	196	189	146	79	37	15

(1) Includes Palate, Cheek (internal surface), Salivary Glands, Gums.
(2) ,, Intestine undefined, Peritoneum, Omentum, Mesentery, Anus.
(3) ,, Pleura.
(4) Mediastinum.
(5) Includes Lymphatic Glands, Abdomen ,Eye, Muscle, etc.

Table LXII.—*continued.*

	All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
							DEATHS OF FEMALES.									
All Sites	**33,727**	**52**	**59**	**131**	**552**	**749**	**1,469**	**2,276**	**3,190**	**4,044**	**4,745**	**5,004**	**4,808**	**3,632**	**2,016**	**1000**
Carcinoma	**29,826**	**6**	**7**	**46**	**437**	**649**	**1,291**	**1,985**	**2,822**	**3,619**	**4,205**	**4,459**	**4,322**	**3,265**	**1,815**	**898**
Sarcoma	**1,203**	**43**	**49**	**71**	**78**	**53**	**78**	**95**	**131**	**124**	**134**	**136**	**99**	**61**	**34**	**17**
Cancer, N.S. ..	**2,698**	**3**	**3**	**14**	**37**	**47**	**100**	**196**	**237**	**301**	**406**	**409**	**387**	**306**	**167**	**85**
45 Lip	15	—	—	—	—	—	—	1	2	—	—	2	3	4	2	1
Tongue	122	—	—	—	2	1	3	2	11	11	26	14	10	25	11	6
Mouth	41	—	—	—	—	—	2	1	4	4	8	8	6	5	1	2
Tonsil	44	—	1	1	—	—	3	2	5	7	5	7	4	4	3	2
Jaw	159	—	—	3	4	6	5	6	11	24	23	29	20	18	9	1
Pharynx	114	—	1	1	2	3	7	13	16	19	17	13	6	9	3	4
Others (1)	42	—	—	1	—	1	3	2	4	5	9	6	6	3	2	—
Total	537	—	2	6	8	11	23	27	53	70	88	79	55	68	31	16
46 Œsophagus	705	—	—	1	3	10	13	38	64	81	119	120	116	77	41	22
Stomach	5,604	—	—	10	71	69	152	227	371	579	775	956	1,043	801	392	158
Small intestine	86	—	—	1	2	2	1	5	10	9	17	13	8	8	6	4
Cæcum	373	—	—	1	10	3	5	11	15	41	41	63	66	61	36	20
Hepatic flexure	59	—	—	—	—	—	—	2	6	5	8	10	9	12	6	1
Splenic flexure	106	—	—	1	3	—	5	6	8	13	19	12	19	9	6	5
Sigmoid flexure	752	—	—	1	8	14	19	39	50	88	113	118	119	103	58	22
Large intestine (colon)	3,212	1	—	5	27	47	69	112	204	282	397	575	574	487	299	133
Rectum (excluding anus)	2,001	—	—	7	44	38	58	97	135	215	283	308	361	243	142	70
Liver	1,200	2	2	1	6	12	28	42	80	107	184	193	217	187	101	38
Gall bladder	629	—	1	—	1	4	8	19	35	49	87	134	119	94	51	27
Pancreas	901	—	2	—	6	11	20	42	66	106	148	173	158	91	58	20
Others (2)	743	6	4	4	9	7	16	33	70	67	114	98	123	107	59	26
Total	16,371	9	9	32	190	217	394	673	1,114	1,642	2,305	2,773	2,932	2,280	1,255	546
47 Larynx	235	—	—	—	4	5	12	25	33	46	37	24	26	11	8	4
Lung (3)	755	—	1	3	20	26	48	72	97	112	124	116	64	46	17	9
Others (4)	117	1	1	2	2	2	4	12	10	15	19	16	18	8	7	—
Total	1,107	1	2	5	26	33	64	109	140	173	180	156	108	65	32	13
48 Uterus	4,470	—	—	3	83	180	367	520	597	664	602	575	436	257	141	45
49 Ovary and Fallopian Tube	1,563	1	3	19	53	66	116	176	221	237	242	179	141	69	28	12
Vulva and Vagina ..	418	2	—	—	4	5	6	19	31	35	65	63	75	58	32	23
Others	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—
Total	1,983	3	3	19	57	71	122	195	254	272	307	242	216	127	60	35
50 Breast	6,768	1	—	3	102	187	402	617	842	968	1,000	822	710	564	334	216
52 Skin	483	2	1	3	8	9	10	17	18	24	40	48	68	87	70	78
53 Brain, Meninges ..	142	3	12	8	21	6	13	25	15	16	8	6	3	3	1	2
Thyroid	193	1	—	—	4	3	4	8	21	27	29	30	28	24	11	3
Kidney, suprarenal ..	292	19	4	—	10	3	8	18	26	40	34	56	36	25	10	3
Bladder, Urethra ..	419	—	—	—	1	2	8	10	24	46	49	82	89	61	28	19
Bones (jaw excepted) ..	411	8	18	37	21	16	30	26	40	37	39	58	39	28	11	3
Others (5) and unspecified	551	5	8	15	21	11	24	31	46	65	64	77	88	43	32	21
Total	2,008	36	42	60	78	41	87	118	172	231	223	309	283	184	93	51

(1) Includes Palate, Cheek (internal surface), Salivary Glands, Gums.
(2) ,, Intestine undefined, Peritoneum, Omentum, Mesentery, Anus.
(3) ,, Pleura.
(4) Mediastinum.
(5) Includes Lymphatic Glands, Abdomen, Eye, Muscle, etc.

Table LXIII.—Forms of Fatal Cancer of each Site—1935.

	Males. Number of Deaths.			Males. Percentage of all Cancers.			Females. Number of Deaths.			Females. Percentage of all Cancers.		
	Carcinoma.	Sarcoma.	"Cancer" not otherwise defined.	Carcinoma.	Sarcoma.	"Cancer" not otherwise defined.	Carcinoma.	Sarcoma.	"Cancer" not otherwise defined.	Carcinoma.	Sarcoma.	"Cancer" not otherwise defined.
All Sites	**26,850**	**1,520**	**2,410**	**87**	**5**	**8**	**29,826**	**1,203**	**2,698**	**89**	**4**	**7**
45 Lip	287	—	6	98	—	2	15	—	—	100	—	—
Tongue	963	1	85	92	0	8	109	—	13	89	—	11
Mouth	349	1	19	95	0	5	39	—	2	95	—	5
Tonsil	205	30	14	82	12	6	34	6	4	77	14	9
Jaw	294	75	32	73	19	8	107	42	10	68	26	6
Pharynx	355	14	32	89	3	8	97	9	8	85	8	7
Others	196	5	9	94	2	4	38	3	1	91	7	2
Total	2,649	126	197	89	4	7	439	60	38	82	11	7
46 Œsophagus	1,644	—	135	92	—	8	624	—	81	89	—	11
Stomach	6,474	8	444	94	0	6	5,222	—	382	93	—	7
Small intestine	94	8	9	85	7	8	65	7	14	76	8	16
Cæcum	237	1	17	93	0	7	345	3	25	92	1	7
Hepatic flexure ..	33	—	1	97	—	3	59	—	—	100	—	—
Splenic flexure	84	—	3	97	—	3	103	—	3	97	—	3
Sigmoid flexure	607	—	44	93	—	7	709	1	42	94	0	6
Large intestine (colon)	2,373	5	140	94	0	6	3,012	5	195	94	0	6
Rectum (excluding anus)	3,099	2	204	94	0	6	1,863	3	135	92	1	7
Liver	1,004	13	160	85	1	14	1,032	7	161	86	1	13
Gall bladder	251	—	23	92	—	8	576	—	53	92	—	8
Pancreas	916	5	85	92	0	8	842	—	59	93	—	7
Others	365	73	80	71	14	15	545	68	130	74	9	17
Total	17,181	115	1,345	92	1	7	14,997	94	1,280	91	1	8
47 Larynx	840	2	56	94	0	6	216	1	18	92	0	8
Lung	2,057	96	192	88	4	8	647	28	80	85	4	11
Others	130	60	58	53	24	23	57	22	38	49	19	32
Total	3,027	158	306	86	5	9	920	51	136	83	5	12
48 Uterus	—	—	—	—	—	—	4,073	60	337	91	1	8
49 Ovary	—	—	—	—	—	—	1,331	42	190	85	3	12
Vulva	—	—	—	—	—	—	387	10	21	93	2	5
Others	—	—	—	—	—	—	1	—	1	50	—	50
Total	—	—	—	—	—	—	1,719	52	212	86	3	11
50 Breast	68	4	5	89	5	6	6,232	26	510	88	4	8
51 Kidney, suprarenal ..	145	179	37	40	50	10	—	—	—	—	—	—
Bladder, urethra, ureter	871	3	102	90	0	10	—	—	—	—	—	—
Prostate	1,600	4	252	86	0	14	—	—	—	—	—	—
Testis	76	45	22	54	31	15	—	—	—	—	—	—
Penis	169	—	5	97	—	3	—	—	—	—	—	—
Scrotum	60	—	2	97	—	3	—	—	—	—	—	—
Total	2,921	231	420	82	6	12	—	—	—	—	—	—
52 Skin	551	38	17	91	6	3	417	56	10	86	12	2
53 Brain, meninges ..	21	128	16	13	77	10	20	109	13	14	77	9
Thyroid	66	3	—	96	4	—	187	5	1	96	3	1
Kidney, suprarenal ..	—	—	—	—	—	—	117	145	30	40	50	10
Bladder, urethra, ureter	—	—	—	—	—	—	376	3	40	89	1	10
Bones (jaw excepted) ..	61	361	20	14	81	5	64	325	22	15	80	5
Others	305	356	84	41	48	11	265	217	69	48	39	13
Total	453	848	120	32	60	8	1,029	804	175	51	40	9

medical practitioners which accompanies the book of death certificates, of the request that "the seat of primary occurrence should be returned in all cases where known."

The distribution of cancers of each individual site, according to the nature of the growth, is given in Table LXIII. The percentage of cancers with nature undefined is, amongst the organs distinguished, highest for the liver, testis, prostate, ovary, small intestine and brain. The percentage of all cancers defined as sarcoma ranges from 80 for the bones, 77 for the brain, 50 for kidney or suprarenal and 31 for the testis to 1 per cent. or less for the digestive tract, uterus and urinary organs other than the kidney.

The table below shows, for all deaths from cancer of the lung, ovary, breast and kidney during 1931–34 for which the information was given, the side of the body affected :—

		R. only.	L. only.	Both sides.	Not stated.
Lung	M.	842	777	312	4,895
	F.	340	274	129	1,606
Ovary	F.	310	315	540	4,364
Breast	M.	30	33	—	7
	F.	2,623	2,995	643	269
Kidney	M.	255	286	31	880
	F.	241	179	19	735

The excess of cancer of the right lung, noticed for each sex, may be of significance. Cancer of the left breast in females was more frequently certified than cancer of the right breast to the extent of 14 per cent.

The facts as to cancer mortality distribution by sex, age and site contained in Table LXII are summarized for each site in Table LXIV, which compares standardized rates in 1935 with the rates for other recent periods for the same sex and site. In this table the tendency to increase of mortality merely in consequence of increase in the proportion of persons at risk falling within those ages at which cancer chiefly occurs, as well as the tendency to female excess for the same reason, has been allowed for by standardization, so that all the rates quoted may be compared with one another.

The chief increases in 1935 over the previous year are, for males—lung 6·9 per million, stomach 6·2, prostate 5·9, rectum 1·5 and pancreas 1·4, and for females—bones 2·5, lung 1·9 and pancreas 1·1.

The sites showing an increase in standardized mortality from 1921–30 to 1935 are, for males, the lung (226 per cent. increase), breast (50), pancreas (31), prostate (30), kidney and suprarenal (16), testis (10), intestine (9), pharynx and bladder (8), stomach and rectum (7), gall bladder (6), bones (3), and for females, the lung (131 per cent. increase), ovary and Fallopian tube (34), pancreas (26), pharynx (13), bones (9), œsophagus and intestine (7), breast

(4), kidney and suprarenal (3), mouth and tonsil, etc. (3). The standardized rates for the quinquennium 1931–35 for each site are given in Table LXV.

Table LXIV.—Cancer Mortality: Rates per Million Population (Standardized) for the more important Sites for each Sex 1901–10, 1911–20, 1921–30, 1931, 1932, 1933, 1934 and 1935.

	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
	All Sites.		Lip.		Tongue.		Mouth and Tonsil, etc.*		Jaw.	
1901–10	784	942	12·8	0·8	43·1	4·4	?	?	22·6	6·9
1911–20	897	959	12·6	0·7	50·8	4·3	23·5	3·0	25·1	7·2
1921–30	1,004	986	11·5	0·7	46·1	3·8	28·3	3·6	20·8	6·4
1931	1,034	974	10·7	0·5	38·1	3·6	29·4	3·5	16·5	5·1
1932	1,052	966	10·3	0·6	37·6	3·4	29·4	3·7	16·6	5·2
1933	1,035	973	8·7	0·7	35·7	3·6	26·4	3·6	15·2	4·8
1934	1,046	974	10·5	0·8	37·4	3·7	26·7	3·3	14·4	5·3
1935	1,058	959	10·2	0·4	34·7	3·3	27·6	3·7	13·6	4·6
	Pharynx.		Œsophagus.		Stomach.		Liver.		Gall-bladder.	
1901–10	?	?	51·2	14·6	167·2	133·0	?	?	?	?
1911–20	10·8	3·0	60·6	16·5	186·4	139·0	87·1	98·0	6·0	11·6
1921–30	12·6	3·0	64·2	18·1	221·1	155·5	61·0	60·9	8·8	16·6
1931	13·0	3·1	62·8	18·7	231·3	155·5	47·0	42·7	9·2	16·9
1932	14·7	3·4	62·5	19·5	233·3	153·8	45·7	38·9	10·8	16·9
1933	12·8	3·4	57·8	18·3	229·2	156·7	45·5	36·8	9·6	16·5
1934	13·9	2·8	59·4	19·4	230·3	157·1	40·6	34·3	8·5	17·0
1935	13·6	3·4	59·2	19·3	236·5	152·8	40·3	32·4	9·3	16·6
	Mesentery and Peritoneum.		Intestine.		Rectum and Anus.		Ovary and Fallopian Tube.		Uterus.	
1901–10	8·2	15·8	63·5	72·3	79·8	55·9	—	19·2	—	?
1911–20	6·0	12·0	96·8	109·2	93·6	59·3	—	24·3	—	174·4
1921–30	5·4	8·1	125·4	129·9	105·5	59·8	—	36·0	—	157·9
1931	5·3	6·6	136·1	136·3	109·1	59·5	—	42·7	—	139·9
1932	4·6	6·3	136·8	133·9	113·5	59·8	—	43·3	—	137·8
1933	3·9	6·0	139·4	140·5	111·1	56·5	—	44·9	—	134·5
1934	4·2	5·5	138·9	141·5	111·3	59·0	—	47·5	—	135·8
1935	4·8	5·6	136·8	138·4	112·8	56·3	—	48·3	—	133·9
	Breast.		Rodent Ulcer.		Penis.		Scrotum.		Other Skin.	
1901–10	1·5	158·4	?	?	?	—	?	—	?	?
1911–20	1·6	170·8	6·7	4·3	6·6	—	2·4	—	17·6	10·9
1921–30	1·8	189·1	8·4	4·9	6·4	—	2·7	—	17·6	10·2
1931	2·3	200·2	9·0	4·7	6·5	—	2·6	—	17·5	9·2
1932	1·8	196·6	8·0	4·2	6·0	—	2·8	—	16·1	11·0
1933	2·0	197·9	7·2	3·9	5·7	—	2·3	—	15·6	9·9
1934	1·9	197·9	7·9	4·1	6·8	—	2·3	—	15·0	8·4
1935	2·7	196·0	7·2	4·0	6·0	—	2·1	—	14·3	8·9
	Larynx.		Lung.		Pancreas.		Kidney and Suprarenals.		Bladder.	
1901–10	?	?	10·2	7·0	14·5	11·8	8·4	7·6	?	?
1911–20	23·9	6·0	12·7	7·0	16·7	13·1	9·1	7·2	28·2	9·7
1921–30	31·3	7·1	25·2	9·6	26·3	19·5	11·7	8·9	30·5	11·4
1931	31·7	7·9	51·2	16·3	28·8	21·6	13·9	9·5	34·2	11·0
1932	30·7	7·2	57·0	17·2	32·0	23·1	13·7	10·1	32·0	11·2
1933	30·8	7·1	66·8	17·6	32·4	24·7	14·1	10·3	32·5	12·0
1934	30·7	7·3	75·3	20·3	33·0	23·5	15·8	10·2	33·6	10·5
1935	29·5	6·8	82·2	22·2	34·4	24·6	13·6	9·2	32·9	10·8
	Prostate.		Testis.		Bones.		Mediastinum.			
1901–10	11·8	—	?	—	?	?	8·1	4·3		
1911–20	26·5	—	4·9	—	15·7	12·0	9·2	4·6		
1921–30	47·7	—	5·8	—	17·6	13·5	12·6	5·8		
1931	56·4	—	5·9	—	16·5	11·7	11·4	4·6		
1932	58·5	—	6·8	—	16·8	13·3	9·8	4·0		
1933	57·4	—	6·6	—	16·4	13·0	9·8	4·1		
1934	56·2	—	6·5	—	17·6	12 2	8·8	4·1		
1935	62·1	—	6·4	—	18·1	14·7	8·9	3·5		

* Includes palate, cheek (internal surface), salivary glands, gums (see Table LXII, note (1)).

Standardized rates for all ages combined such as those shown in Table LXIV might fail to give any indication either of progressive changes in the ages of incidence of cancer of certain sites or of prolongation of life as distinct from permanent cure by improving resort to or results of treatment. For this reason a Table (LXIV) was included in the Review for 1934 to compare the actual registered

deaths in successive age groups during the two years 1933–34 from cancer of each site with the number which would have occurred if the estimated population at risk at each age during 1933–34 had been subjected to the mean mortality rate of the decade 1911–20 at that age, the actual deaths being expressed as percentages of the calculated deaths. The mean ages at death in 1933–34 were also given (Table LXV of 1934 Review) together with the excess or defect from the mean age expected if 1911–20 rates of mortality at the several ages had continued to be operative.

A decrease in the intensity of external causes productive of malignant change in an organ might result in a general delay in the appearance of cancers of that site, and consequently in postponement of death from those particular forms of cancer, and this might be reflected in decreases in the death rates at earlier ages with increases at later ages, or in decreases at all ages. Other factors which may affect the death rates at different ages in different ways are earlier and increasing resort to treatment at certain periods of life, more complete recognition of cancer of some organs or more complete and accurate certification of the primary site of growth. The combined effects of these factors may be seen in Table LXV where the death rates at separate ages during 1931–35 are compared with those in 1911–20 and 1921–30 for each site and sex for which there is a considerable mortality.

Table LXV.—Cancer Mortality : Rates per Million Population for the more important Sites by Sex and Age, 1911–20, 1921–30 and 1931–35.

			0–	25–	35–	45–	55–	65–	75–	85 up	All Ages. (Standardized).
All Sites	M.	1911–20	**31**	**110**	**422**	**1,680**	**4,439**	**8,002**	**9,893**	**8,350**	**897**
		1921–30	**33**	**115**	**416**	**1,629**	**4,768**	**9,405**	**12,677**	**12,300**	**1,004**
		1931–35	**35**	**119**	**440**	**1,628**	**4,693**	**10,144**	**14,266**	**13,619**	**1,045**
	F.	1911–20	**24**	**156**	**790**	**2,266**	**4,380**	**7,114**	**9,215**	**9,026**	**959**
		1921–30	**27**	**159**	**762**	**2,150**	**4,281**	**7,548**	**10,877**	**12,016**	**986**
		1931–35	**29**	**155**	**731**	**2,081**	**4,107**	**7,545**	**11,453**	**13,407**	**969**
Lip	M.	1911–20	0	0	2	11	42	118	328	688	12·6
		1921–30	0	0	1	8	39	114	288	663	11·5
		1931–35	0	0	1	7	29	99	283	543	10·1
Tongue	M.	1911–20	0	1	20	128	293	415	419	249	50·8
		1921–30	0	1	9	85	279	431	458	386	46·1
		1931–35	—	0	4	42	204	419	471	370	36·7
Mouth and tonsil, etc.*	M.	1911–20	1	1	10	54	132	186	212	219	23·5
		1921–30	0	1	7	50	164	264	294	270	28·3
		1931–35	1	2	4	31	150	302	384	309	27·9
Jaw	M.	1911–20	1	3	10	54	131	214	237	262	25·1
		1921–30	1	2	6	35	109	185	252	258	20·8
		1931–35	1	1	6	20	68	156	211	248	15·3
Pharynx	M.	1911–20	0	1	4	26	62	86	77	80	10·8
		1921–30	1	1	4	23	71	117	111	79	12·6
		1931–35	1	1	3	20	74	144	148	62	13·6
Lip, tongue, mouth and tonsil, pharynx*	F.	1911–20	1	3	10	25	48	69	121	172	11·0
		1921–30	1	2	8	23	48	80	129	198	11·1
		1931–35	1	1	7	22	50	79	142	177	10·9

* Includes palate, cheek (internal surface), salivary glands, gums (*see* Table LXII, note (1)).

Table LXV.—*continued.*

			0–	25–	35–	45–	55–	65–	75–	85 up	All Ages. (Standardized).
Œsophagus	M.	1911–20	0	1	18	142	364	520	499	270	60·6
		1921–30	0	1	10	116	391	612	648	536	64·2
		1931–35	0	1	9	72	347	653	769	586	60·3
	F.	1911–20	0	3	19	43	72	107	147	146	16·5
		1921–30	0	2	13	46	82	136	189	221	18·1
		1931–35	0	1	9	42	95	157	230	244	19·1
Stomach	M.	1911–20	1	18	98	367	967	1,737	1,795	1,017	186·4
		1921–30	1	22	116	413	1,087	2,074	2,407	1,708	221·1
		1931–35	1	22	118	432	1,092	2,234	2,731	2,055	232·1
	F.	1911–20	1	15	76	261	678	1,296	1,542	1,146	139·0
		1921–30	1	15	75	259	696	1,522	2,027	1,786	155·5
		1931–35	1	18	73	238	657	1,555	2,303	2,120	155·2
Liver	M.	1911–20	1	7	34	149	433	848	1,058	684	87·1
		1921–30	1	5	20	87	271	629	903	801	61·0
		1931–35	1	3	16	57	187	465	681	611	43·7
	F.	1911–20	1	7	40	166	491	955	1,187	872	98·0
		1921–30	1	4	21	85	266	618	936	888	60·9
		1931–35	1	2	14	51	145	381	633	685	36·9
Gall-bladder	M.	1911–20	0	0	2	10	27	61	89	59	6·0
		1921–30	—	0	3	10	36	92	158	172	8·8
		1931–35	0	0	2	11	42	98	178	197	9·5
	F.	1911–20	0	1	3	20	60	117	141	115	11·6
		1921–30	0	1	4	23	77	172	253	247	16·6
		1931–35	0	0	4	21	74	183	269	290	16·8
Mesentery and peritoneum.	M.	1911–20	1	3	5	12	26	42	37	38	6·0
		1921–30	1	3	6	10	22	31	30	19	5·4
		1931–35	1	3	5	10	16	22	19	25	4·5
	F.	1911–20	1	2	10	28	58	85	104	84	12·0
		1921–30	1	2	7	19	40	52	54	51	8·1
		1931–35	1	2	5	14	26	37	33	15	6·0
Intestine	M.	1911–20	1	11	46	154	448	954	1,262	890	96·8
		1921–30	2	11	47	162	538	1,310	1,989	1,569	125·4
		1931–35	2	13	47	170	550	1,470	2,396	2,252	137·6
	F.	1911–20	1	14	53	188	494	1,034	1,452	1,274	109·2
		1921–30	1	14	54	190	533	1,261	2,098	2,200	129·9
		1931–35	1	16	62	194	522	1,339	2,491	2,904	138·2
Rectum and anus	M.	1911–20	1	11	38	147	459	923	1,179	878	93·6
		1921–30	1	11	32	147	498	1,090	1,490	1,228	105·5
		1931–35	1	12	36	140	499	1,214	1,665	1,388	111·6
	F.	1911–20	1	11	37	114	268	525	673	629	59·3
		1921–30	1	10	33	101	261	529	819	691	59·8
		1931–35	1	11	32	90	249	536	823	929	58·2
Ovary and Fallopian tube.	F.	1911–20	2	10	32	80	106	101	84	38	24·3
		1921–30	2	12	44	115	160	174	143	91	36·0
		1931–35	3	14	54	146	198	227	192	137	45·4
Uterus	F.	1911–20	1	37	225	574	817	890	832	572	174·4
		1921–30	1	38	207	488	705	858	874	684	157·9
		1931–35	1	27	176	426	602	771	804	584	136·3
Breast	F.	1911–20	0	23	187	504	740	1,006	1,508	2,199	170·8
		1921–30	0	26	199	540	831	1,118	1,727	2,686	189·1
		1931–35	0	28	200	561	888	1,173	1,844	2,910	197·7
Penis and scrotum	M.	1911–20	—	1	5	16	44	69	127	186	9·0
		1921–30	0	0	4	16	38	84	140	221	9·1
		1931–35	0	0	3	13	36	78	160	222	8·6
Other skin (including rodent ulcer).	M.	1911–20	1	2	8	26	75	193	613	1,405	24·3
		1921–30	1	3	7	23	77	210	663	1,704	26·0
		1931–35	0	3	7	21	58	203	615	1,697	23·5
	F.	1911–20	1	2	5	17	47	124	365	751	15·2
		1921–30	0	2	8	15	41	114	363	918	15·1
		1931–35	1	3	5	15	35	94	341	1,019	13·6

Table LXV.—*continued.*

			0–	25–	35–	45–	55–	65–	75–	85 up	All ages. Standardized).
Larynx	M.	1911–20	0	1	10	61	142	194	170	80	23·9
		1921–30	0	1	8	65	189	291	254	187	31·3
		1931–35	0	1	7	50	178	302	344	210	30·7
	F.	1911–20	0	2	8	20	25	25	31	18	6·0
		1921–30	0	1	7	23	36	39	37	47	7·1
		1931–35	0	1	7	23	34	43	49	46	7·3
Lung	M.	1911–20	1	5	13	33	62	73	43	17	12·7
		1921–30	1	7	28	73	126	135	96	30	25·2
		1931–35	2	14	69	218	351	349	247	167	66·7
	F.	1911–20	1	2	8	19	33	40	28	15	7·0
		1921–30	1	3	10	24	49	59	50	51	9·6
		1931–35	1	5	18	47	93	125	112	67	18·8
Pancreas	M.	1911–20	0	3	11	37	90	130	136	68	16·7
		1921–30	0	3	15	54	135	227	260	228	26·3
		1931–35	0	2	14	63	151	306	387	389	32·2
	F.	1911–20	0	2	8	27	69	111	118	77	13·1
		1921–30	0	2	9	35	102	174	224	181	19·5
		1931–35	0	2	10	38	115	229	299	290	23·5
Kidney and suprarenals	M.	1911–20	3	2	7	20	37	47	47	30	9·1
		1921–30	5	3	8	23	51	61	58	34	11·7
		1931–35	4	3	12	29	63	79	79	37	14·2
	F.	1911–20	3	2	5	13	28	38	43	29	7·2
		1921–30	4	2	5	15	32	48	57	61	8·9
		1931–35	4	2	6	18	37	63	66	58	9·8
Bladder	M.	1911–20	0	1	9	37	129	309	405	380	28·2
		1921–30	0	1	9	39	135	322	487	491	30·5
		1931–35	0	1	9	49	144	345	555	450	33·0
	F.	1911–20	0	1	4	15	45	94	140	135	9·7
		1921–30	0	1	4	17	49	112	180	181	11·4
		1931–35	0	1	4	14	44	116	194	238	11·1
Prostate	M.	1911–20	0	1	2	17	103	342	549	367	26·5
		1921–30	0	0	2	23	165	616	1,070	1,124	47·7
		1931–35	0	0	2	27	182	764	1,422	1,277	58·2
Testis	M.	1911–20	1	7	8	8	9	16	31	25	4·9
		1921–30	1	9	11	8	9	16	29	37	5·8
		1931–35	2	10	13	11	9	16	22	49	6·4
Bones	M.	1911–20	6	8	12	26	54	82	97	59	15·7
		1921–30	8	8	14	28	59	86	115	101	17·6
		1931–35	8	8	11	33	54	85	88	80	17·1
	F.	1911–20	5	6	9	23	41	59	85	82	12·0
		1921–30	6	6	11	24	41	68	92	75	13·5
		1931–35	6	6	12	24	39	64	72	70	13·0
Mediastinum	M.	1911–20	1	3	10	22	46	54	37	21	9·2
		1921–30	1	3	11	33	64	83	59	30	12·6
		1931–35	1	2	9	24	46	68	62	25	9·7
	F.	1911–20	0	1	5	12	22	27	24	15	4·6
		1921–30	0	2	5	13	28	41	38	23	5·8
		1931–35	1	1	3	8	19	26	33	15	4·0
Thyroid	F.	1911–20	0	1	3	9	21	35	36	16	4·3
		1921–30	0	1	3	10	24	43	59	61	5·1
		1931–35	0	1	3	11	24	46	58	41	5·3
Other sites	M.	1911–20	9	17	40	124	265	389	445	380	57·7
		1921–30	8	16	37	99	217	323	419	423	49·4
		1931–35	9	16	34	79	164	272	350	376	42·1
	F.	1911–20	7	14	43	107	217	377	555	644	53·8
		1921–30	6	14	35	86	179	329	528	674	46·4
		1931–35	7	12	27	78	160	302	464	566	42·0

The following classification of sites is based upon the changes in death rates which have occurred in the most recent period, from 1921–30 to 1931–35.

Trend of mortality at separate ages, 1921–30 to 1931–35.	Trend of total mortality (standardized) from 1921–30 to 1931–35.					
	Declining		No considerable change		Increasing	
	Males.	Females.	Males.	Females.	Males.	Females.
Declining at almost every age.	Lip Jaw Liver Skin Peritoneum Mediastinum	Uterus Skin Liver Peritoneum Mediastinum				
Declining at some ages; no considerable change at others.	Tongue Bones	Bones				
Declining at earlier ages; increasing at later ages.	Œsophagus		Mouth and tonsil Larynx	Stomach Rectum	Pharynx	Œsophagus
No considerable change at any age.			Penis and scrotum	Lip, tongue, mouth and pharynx (combined)		
No considerable change at earlier ages; increasing at later ages.				Larynx Gall bladder Bladder	Rectum	
Increasing at earlier ages; no consistent change later.					Testis	
Increasing at almost every age.					Intestine Pancreas Gall bladder Lung Kidney and Suprarenal Bladder Prostate Stomach	Intestine Pancreas Lung Kidney and Suprarenal Ovary and Fallopian Tube Breast

The somewhat similar analysis in the Review for 1934 (pp. 88–96) dealt with changes, measured by comparing registered with "expected" deaths, over a longer period since 1911–20. The sites which have shown since 1921–30 a fall in cancer mortality at all or at certain ages not compensated by a rise at later ages are the liver, mesentery and peritoneum, mediastinum, skin and bones for both sexes and the tongue for males. The decline for some of these sites may be attributed to more accurate certification of the primary site of the growth, but for the bones and tongue a declining incidence of cancer seems to be indicated.

The sites for which mortality continued to increase at advanced ages although it was stationary or declining in middle age are the œsophagus, larynx and rectum for both sexes, the mouth, tonsil and pharynx for males, and the stomach, bladder and gall bladder for females. For some of these sites, notably the œsophagus, for which the effect of the other factors must be slight, it seems necessary

to conclude that the average age of incidence of cancer is becoming later, due perhaps to a reduction in certain irritant causes and consequent prolongation of the period of years required to produce cancer.

The sites for which cancer mortality increased at almost every age were the intestine, pancreas, lung, kidney and suprarenal for both sexes, the stomach, bladder, prostate and gall bladder for males, and the breast, ovary and Fallopian tube for females. In the case of many of these sites, more complete diagnosis or more accurate statement of the primary site may be held responsible for the increases, but in the case of the breast and lung this explanation will scarcely suffice and real increases in incidence have probably been in progress as well.

54, 55.—**Tumours not returned as malignant.**—Table LXVI analyses according to sex, age, and site of the tumour all deaths from new growths not definitely stated to be malignant which were assigned to No. 54, Non-malignant tumours, and to No. 55, Tumours of undetermined nature, during 1935, the criterion of malignancy being that defined in the Manual of the International List of Causes of Death (1929 Revision). The non-malignant group numbered 1545, the pathological variety of the tumour being specified in 1508 instances (" classified tumours "), and the growth merely described as benign in 37 (" benign, unclassified "). Table C shows that inquiries concerning tumours of unstated nature resulted in 579 being assigned to cancer and 74 to glioma, but for 1,240 deaths the malignant or non-malignant nature of the growth could not be ascertained by inquiry and these were assigned to No. 55 and are analysed under the description " nature unstated " in Table LXVI. The arrangement of the latter table differs slightly from that used in the corresponding tables in 1931–34 where " other benign " or " non-malignant " tumours included types of classified tumours for which the deaths during the year numbered less than 3. Full details of the classified tumours are now shown for the uterus, brain, pituitary and spinal cord, and are available for these and all other sites in detail for each year since 1921.

Adenoma, myo-adenoma, fibro-adenoma and fibroid of the prostate are classed to No. 137, Diseases of the prostate, because these conditions seem to be scarcely distinguishable from that described as prostatic hypertrophy (*see* p. 117). Other non-malignant or undefined tumours of the prostate are included in Table LXVI. Adenoma of the thyroid is also not included in this table, but is assigned to No. 66 (*a*), Simple goitre.

Table LXVII brings together all deaths from tumours of the brain (or meninges), whether classed to No. 53, Cancer, No. 54, Non-malignant tumours or No. 55, Tumours of undetermined nature, in each year 1921 to 1935. During this period the annual

Table LXVI.—Deaths attributed to Tumours not returned as Malignant, and classed to No. 54 Non-malignant tumours and No. 55 Tumours of undetermined nature, 1935.

List No.			All Ages.		0–		15–		35–		45–		55–		65–		75 and up	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
54*a*	Ovary	Cyst, cystic tumour	—	236	—	—	—	27	—	24	—	41	—	56	—	39	—	49
,,		Fibroid, Fibroma	—	5	—	—	—	1	—	1	—	—	—	1	—	2	—	—
,,		Other classified tumours	—	11	—	—	—	1	—	1	—	4	—	1	—	1	—	3
,,		Benign (unclassified)	—	3	—	—	—	—	—	—	—	—	—	—	—	1	—	2
55*a*		*Nature unstated*	—	5	—	—	—	—	—	—	—	—	—	2	—	2	—	1
54*a*	Uterus	Fibroid*	—	373	—	—	—	28	—	106	—	158	—	30	—	31	—	20
,,		Fibro adenoma	—	2	—	—	—	—	—	1	—	—	—	—	—	1	—	—
,,		Myoma	—	10	—	—	—	3	—	2	—	4	—	1	—	—	—	—
,,		Polypus	—	15	—	—	—	—	—	3	—	8	—	4	—	—	—	—
,,		Endometrioma	—	4	—	—	—	—	—	1	—	2	—	—	—	1	—	—
55*a*		*Nature unstated*	—	2	—	—	—	—	—	—	—	—	—	1	—	—	—	1
54*a*	Broad ligament	Cyst	—	4	—	—	—	2	—	1	—	1	—	—	—	—	—	—
,,		Fibroma	—	2	—	—	—	1	—	—	—	—	—	1	—	—	—	—
54*a*	"Pelvis"	Classified tumours	—	4	—	—	—	1	—	1	—	1	—	—	—	—	—	1
,,		Benign (unclassified)	—	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—
55*a*		*Nature unstated*	—	2	—	—	—	—	—	—	—	—	—	—	—	1	—	1
54*a*	Vagina	Cyst	—	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—
54*b*	Brain	Angioma Hæmangioma	10	1	1	—	1	—	2	—	4	—	1	1	1	—	—	—
,,		Cyst, cystic tumour	11	12	4	2	2	1	1	4	2	3	1	1	1	1	—	—
,,		Astrocytoma	10	7	2	2	—	—	4	1	4	1	—	3	—	—	—	—
,,		Cystic glioma	3	1	—	—	2	—	1	—	—	1	—	—	—	—	—	—
,,		Glioma (undifferentiated)†	163	137	11	11	37	27	34	31	45	44	23	18	9	6	4	—
,,		Oligodendroglioma	1	2	1	1	—	1	—	—	—	—	—	—	—	—	—	—
,,		Meningioma	5	3	—	—	—	1	1	—	3	2	—	—	1	—	—	—
,,		Other classified tumours‡	11	6	3	1	2	1	—	—	3	—	1	2	2	2	—	—
,,		Benign (unclassified)	6	8	2	1	1	2	1	2	1	—	1	2	—	1	—	—
55*b*		*Nature unstated*	430	427	47	45	93	65	59	74	90	80	99	103	34	51	8	9
54*b*	Pituitary gland	Classified tumours§	3	18	—	3	2	4	1	3	—	2	—	4	—	2	—	—
,,		Benign (unclassified)	1	2	—	—	—	1	—	1	1	—	—	—	—	—	—	—
55*b*		*Nature unstated*	7	13	1	1	2	6	1	2	2	1	—	3	1	—	—	—
54*b*	Thyroid	Classified tumours	1	2	—	—	—	—	—	—	—	—	—	1	1	—	—	1
,,		Benign (unclassified)	—	2	—	—	—	—	—	1	—	—	—	—	—	—	—	1
55*b*		*Nature unstated*	—	2	—	—	—	—	—	—	—	—	—	—	—	1	—	1
54*b*	Spinal cord	Glioma	3	4	—	—	—	—	—	1	2	2	1	—	—	1	—	—
,,		Other classified tumours‖	5	4	—	—	—	2	2	—	1	1	1	—	—	1	1	—
,,		Benign (unclassified)	3	1	—	—	1	—	—	—	—	—	2	1	—	—	—	—
55*b*		*Nature unstated*	8	4	—	—	1	—	—	—	1	—	4	2	1	2	1	—
54*b*	Eye	Glioma	4	5	2	4	—	—	—	—	1	—	1	—	—	—	—	1
,,		Neurofibroma	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
55*b*		*Nature unstated*	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
54*b*	Nose	Polypus	12	12	—	—	5	—	1	2	1	3	4	3	1	4	—	—
54*b*	Larynx	Classified tumours	5	3	2	1	1	—	—	1	1	—	1	1	—	—	—	—
,,		Benign (unclassified)	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
55*b*		*Nature unstated*	2	1	—	—	—	—	—	—	—	—	—	—	1	1	1	—
54*b*	Mediastinum	Classified tumours	3	1	—	—	—	—	1	—	2	1	—	—	—	—	—	—
,,		Benign (unclassified)	1	1	—	—	—	—	—	—	—	—	1	—	—	—	—	1
55*b*		*Nature unstated*	41	33	2	—	2	4	4	2	7	2	13	7	10	9	3	9
55*a*	Lung	Classified tumours	3	3	—	—	—	1	1	1	1	—	1	1	—	—	—	—
55*b*		*Nature unstated*	60	18	1	—	3	—	5	1	12	3	17	5	17	5	5	4
55*a*	Parotid	Classified tumours	4	6	—	—	—	—	—	—	1	2	1	1	2	2	—	1
55*b*		*Nature unstated*	3	—	—	—	—	—	1	—	—	—	—	—	1	—	1	—

* Includes Fibroma, Fibromyoma. † In the corresponding tables in 1934 and previous years " glioma " included cystic glioma, oligodendroglioma, ependymoma. ‡ Adenoma, M. 55–; Angioblastoma, M. 50–; Blastocystoma, M. 10–; Cholesteatoma, M. 30–; Endothelioma (non-malignant), M. 15–; Ependymoma, F. 5–, F. 25–; Fibroma, F. 60–, F. 65–; Granuloma, M. 65–; Neurofibroma, M. 10–, M. 50–, F. 60–, F. 65–; Neuroma, M. 65–; Psammoma, M. 0–, M. 45–. § Adenoma, 2 M. 15–, 2. F. 0–, 3 F. 25–, 2. F 35–, 1 F. 55–, 2 F. 65–; Cystadenoma, F. 45–; Cyst, M. 35–, F. 0–, F. 25–, F. 35–, F. 45–. ‖ Cholesteatoma, F. 45–; Chordoma, F. 15; Cyst, F. 25–; Ependymoma, M. 35–; Fibroma, M. 75–; Granuloma, M. 35–; Lipoma, M. 45–; Neurofibroma, M. 55–; Psammoma, F. 65–.

Table LXVI.—*continued.*

List No.			All Ages.		0–		15–		35–		45–		55–		65–		75 and up	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
55*b*	Œsophagus ..	*Nature unstated*	3	3	—	—	—	—	—	—	—	—	1	1	—	1	2	1
55*a*	Stomach	Classified tumours.. ..	2	3	—	—	—	—	—	1	—	1	2	—	—	—	—	1
55*b*		*Nature unstated*	10	7	—	1	—	—	—	—	2	1	4	1	1	2	3	2
55*a*	Intestine	Classified tumours.. ..	8	7	—	1	1	2	2	1	1	1	2	1	1	—	1	1
,,		Benign (unclassified) ..	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
55*b*		*Nature unstated*	11	22	—	—	—	—	1	—	1	2	2	5	6	6	1	9
55*a*	Rectum	Classified tumours.. ..	4	7	—	—	—	—	—	—	—	—	1	3	2	2	1	2
55*b*		*Nature unstated*	1	3	—	—	—	1	—	—	—	—	—	1	—	—	1	1
55*a*	Liver	Classified tumours.. ..	2	1	—	—	—	—	—	—	—	—	1	—	1	1	—	—
55*b*		*Nature unstated*	5	6	—	—	1	—	—	—	1	1	1	—	2	2	—	3
55*a*	Pancreas	Classified tumours.. ..	6	10	—	—	—	1	1	1	—	3	4	1	1	4	—	—
55*b*		*Nature unstated*	4	1	—	—	—	—	1	—	1	1	1	—	1	—	—	—
55*a*	Kidney	Classified tumours.. ..	6	4	1	—	1	1	—	1	—	—	1	1	1	1	2	—
55*b*		*Nature unstated*	8	11	1	—	—	—	—	1	1	2	4	2	2	3	—	3
55*a*	Bladder	Classified tumours.. ..	131	42	—	—	3	—	3	—	11	2	22	6	50	13	42	21
55*b*		*Nature unstated*	6	5	—	—	—	—	—	—	—	—	—	—	3	1	3	4
55*a*	Breast	Classified tumours.. ..	—	6	—	—	—	—	—	—	—	2	—	—	—	—	—	4
,,		Benign (unclassified) ..	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
55*a*	Spine	Classified tumours.. ..	3	1	—	—	1	—	—	—	2	—	—	—	—	—	—	1
55*b*		*Nature unstated*	5	9	—	—	1	1	—	—	2	5	1	1	1	2	—	—
55*a*	Sacrum	Classified tumours.. ..	1	3	—	—	—	—	1	—	—	1	—	1	—	1	—	—
55*b*		*Nature unstated*	2	1	—	—	—	—	—	1	—	—	—	—	2	—	—	—
55*a*	Neck	Classified tumours.. ..	4	2	3	1	1	—	—	—	—	1	—	—	—	—	—	—
55*b*		*Nature unstated*	1	1	—	—	—	—	—	—	—	—	—	1	1	—	—	—
55*a*	Thorax	Classified tumours.. ..	—	2	—	—	—	1	—	—	—	—	—	1	—	—	—	—
55*b*		*Nature unstated*	2	2	—	—	—	—	—	—	1	—	1	—	—	2	—	—
55*a*	Abdomen	Classified tumours.. ..	—	2	—	—	—	1	—	—	—	—	—	—	—	1	—	—
,,		Benign (unclassified) ..	2	1	1	—	—	—	—	—	—	—	—	—	1	1	—	—
55*b*		*Nature unstated*	7	21	—	1	—	—	—	1	—	—	—	3	4	6	3	10
55*a*	Other sites ..	Classified tumours.. ..	42	49	4	6	10	7	5	8	7	8	11	10	3	3	2	7
,,		Benign (unclassified) ..	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
55*b*		*Nature unstated*	13	9	—	1	1	—	2	—	2	1	4	3	2	1	2	3
55*a*	Site not stated ..	Classified tumours.. ..	2	5	—	—	1	1	—	1	—	—	1	1	—	2	—	—
55*b*		*Nature unstated*	1	1	—	—	—	—	—	—	1	—	—	—	—	1	—	—
54, 55	Total (54 and 55)		1,114	1,671	89	83	177	196	136	285	219	401	237	302	169	225	87	179
	Total classified benign tumours ..		469	1,039	34	33	71	116	61	199	92	301	81	155	77	122	53	113
	,, unclassified ,, ,, ...		15	22	3	1	2	3	1	4	3	—	4	6	2	4	—	4
54	,, benign ,, ,, ...		484	1,061	37	34	73	119	62	203	95	301	85	161	79	126	53	117
55	,, nature unstated		630	610	52	49	104	77	74	82	124	100	152	141	90	99	34	62

number of deaths from tumours in the last group has remained almost unchanged, but those attributed to cancer, glioma, and other classified tumours have rapidly increased. The combined crude death rate at all ages from all tumours of the brain has risen from 32 to 42 per million for males and from 28 to 35 for females.

Deaths ascribed to pituitary tumour other than cancer have increased from 16 in 1921 to 44 in 1935. Deaths from tumour of the lung not described as malignant increased from numbers ranging between 11 and 21 during 1912–19 to 97 in 1934 and 84 in 1935. Like lung cancer, which has also increased rapidly (Table LXIV), they affect males much more than females. The ratios of malignant

to benign tumours of the mediastinum, lung, and abdominal organs suggest that large proportions of those returned as of unknown nature were probably malignant.

Table LXVII.—Deaths classed to Cancer, Glioma and Other Tumours of the Brain and Mortality per Million living from all tumours of the Brain, 1921–35.

	No. of Deaths.										Rate per million (all ages).	
	Classed to Cancer (No. 53).		Glioma* (No. 54*b*).		Other classified† or "Benign" tumours (No. 54*b*).		Nature unstated (No. 55*b*).		All Tumours.		All Tumours.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1921	52	44	89	57	24	15	408	437	573	553	32	28
1922	66	45	72	73	15	18	429	421	582	557	32	28
1923	77	52	100	71	17	8	424	445	618	576	34	29
1924	77	51	94	84	29	14	430	400	630	549	34	27
1925	65	55	105	80	24	14	389	423	583	572	31	28
1926	51	56	110	93	18	21	447	445	626	615	33	30
1927	82	72	146	104	16	22	420	450	664	648	35	32
1928	91	63	181	131	27	30	434	427	733	651	39	32
1929	81	79	154	138	29	34	443	441	707	692	37	34
1930	90	70	206	131	33	23	427	453	756	677	40	33
1931	103	76	193	139	43	34	417	420	756	669	39	32
1932	120	96	206	130	49	43	395	426	770	695	40	33
1933	155	117	149	142	47	49	441	409	792	717	41	34
1934	141	120	163	129	54	55	439	446	797	750	41	36
1935	165	142	167	140	53	37	430	427	815	746	42	35

* Includes glioma, cystic glioma, oligodendroglioma, ependymoma.
† Includes angioma, cyst, astrocytoma, meningioma, blastocystoma, fibroma, adenoma, neuroma, psammoma, cholesteatoma, non malignant endothelioma, etc.

59. **Diabetes.**—The deaths allocated to this disease numbered 6,681, 2,531 of males and 4,150 of females, corresponding to standardized death-rates of 89 for males and 117 for females. This rate has been in excess for females in each year from 1923 onwards, whereas before that date excess for males was an invariable rule, though its amount had long been decreasing.

The trend of diabetes mortality since 1861–70 was discussed in the Review for 1933. At ages under 45 male standardized mortality increased until 1891–1900, remained stationary until 1912, and then rapidly increased to 1915. The rates of the next 5 years, relating to civilians only, were greatly influenced by selection, but from 1920 to 1922 the rate was again rising. The introduction of insulin in 1923 was accompanied by a drop from 41 per million in 1922 to 26 in 1924 and a further gradual fall has occurred to 17 in 1935. At ages 45–55 male mortality behaved similarly; it remained stationary, about 160 per million, from 1891–1900 to 1913, fluctuated during 1914–20 and had not quite regained its former level by 1922. The following years witnessed a drop from 143 to a mean level of 88 in 1926–28 and 90 in 1931–35 (Table LXVIII).

Mortality of females at ages under 45, steadily increased until 1901–10, when the standardized rate was 32 per million, and fluctuated about that level during the next decade. With the use of insulin the rate fell from 34 in 1922 to 25 in 1924, and has fluctuated between 21 and 25 since being 21 in 1935. At ages 45–55 the rate

Table LXVIII.—Mortality from Diabetes in 1920–22 and in subsequent years.

	Standardized Rates.			0–	15–	25–	35–	45–	55–	65–	75 and up
	All ages	0–55	55 and up								
	DEATH-RATES PER MILLION LIVING.										
Males :—											
1920–22 ..	93·7	47·9	477·5	14	42	60	69	133	309	661	772
1931 ..	88·1	29·5	580·3	12	22	30	38	97	315	821	1,161
1932 ..	92·4	28·9	625·6	10	21	30	45	93	320	897	1,310
1933 ..	92·3	28·5	628·2	13	26	30	36	80	325	888	1,326
1934 ..	91·0	27·2	627·0	10	22	27	32	94	331	889	1,292
1935 ..	89·5	24·2	637·4	10	16	24	30	87	321	919	1,344
Females :—											
1920–22 ..	90·1	43·1	483·9	16	35	48	62	124	355	656	632
1931 ..	110·9	33·4	762·0	11	26	31	45	121	473	1,097	1,218
1932 ..	112·4	32·5	783·3	13	20	29	46	118	485	1,143	1,219
1933 ..	114·3	33·5	793·0	12	25	30	48	118	470	1,178	1,275
1934 ..	114·9	30·7	821·4	10	18	28	44	123	490	1,204	1,344
1935 ..	117·0	30·4	844·3	9	21	29	39	120	499	1,236	1,410
	MORTALITY OF LATER YEARS PER CENT. OF THAT IN 1920–22.										
Males :—											
1923 ..	96	79	110	79	79	80	87	74	104	113	114
1924 ..	92	72	108	64	69	63	75	83	104	105	122
1925 ..	87	67	104	79	52	72	62	70	93	106	120
1926 ..	92	68	112	93	67	60	70	68	105	112	124
1927 ..	94	67	116	79	74	68	58	63	107	116	133
1928 ..	97	63	126	93	60	55	55	68	107	136	140
1929 ..	101	73	125	86	60	60	90	79	106	130	150
1930 ..	99	65	128	71	57	63	59	74	109	130	154
1931 ..	94	62	122	86	52	50	55	73	102	124	150
1932 ..	99	60	131	71	50	50	65	70	104	136	170
1933 ..	99	59	132	93	62	50	52	60	105	134	172
1934 ..	97	57	131	71	52	45	46	71	107	134	167
1935 ..	96	51	133	71	38	40	43	65	104	139	174
Females :—											
1923 ..	104	95	112	69	86	92	95	115	110	112	116
1924 ..	98	75	116	69	80	67	76	80	110	118	116
1925 ..	104	80	122	69	86	67	85	90	111	131	128
1926 ..	101	74	121	56	71	73	82	80	113	127	128
1927 ..	112	76	139	69	71	67	73	91	131	135	173
1928 ..	112	79	138	69	74	69	66	102	118	147	163
1929 ..	123	81	155	69	63	65	84	106	135	157	196
1930 ..	119	72	155	69	51	56	71	99	131	165	193
1931 ..	123	77	157	69	74	65	73	98	133	167	193
1932 ..	125	75	162	81	57	60	74	95	137	174	193
1933 ..	127	78	164	75	71	63	77	95	132	180	202
1934 ..	128	71	170	63	51	58	71	99	138	184	213
1935 ..	130	71	174	56	60	60	63	97	141	188	223

was steadily rising up to 1913, then rapidly declined during 1915–18 but increased again almost as quickly in the succeeding years to 1923. The fall which then occurred has not been so well maintained as at the earlier ages; the introduction of insulin interrupted for

several years the upward trend of registered mortality at this age period, just as food restriction and other factors had done in 1915–18.

There is no reason to suppose from the behaviour of the death-rates in the pre-insulin period or from other evidence that the rate of incidence of new cases of diabetes at ages under 55 has undergone any diminution during the past 10 years. On the contrary there is reason to believe that it has increased to some extent. Assuming a constant incidence rate, the deaths which would have occurred at ages under 55, had no change in therapy taken place, may be calculated by applying the 1920–22 death-rates to the population at the corresponding ages in the year in question. These expected deaths of both sexes in the years 1931 to 1935 are compared below with the actual deaths registered.

		Under 45	45–55	Under 55	Deficiency under 55
1931	Expected ..	1,112	630	1,742	
	Actual	702	540	1,242	500
1932	Expected ..	1,116	634	1,750	
	Actual	691	527	1,218	532
1933	Expected ..	1,117	637	1,754	
	Actual	723	501	1,224	530
1934	Expected ..	1,118	641	1,759	
	Actual	626	549	1,175	584
1935	Expected ..	1,127	645	1,772	
	Actual	586	527	1,113	659

There has been an annual deficiency of deaths from the calculated number, increasing from 500 in 1931 to 659 in 1935, and it is reasonable to conclude that these represent minimal estimates of the deaths which would have occurred at ages under 55 under pre-insulin conditions but which were postponed by insulin either (*a*) to some age over 55, or (*b*) to some age under 55 with assignment of death to some cause other than diabetes. With regard to the latter eventuality, the death of a diabetic who has been receiving insulin will usually have mention of diabetes as a contributory cause and will be assigned to diabetes in classification except when the associated cause is an infective condition, acute intercurrent disease or general disease such as cancer. Prolongation of life of young adults means a greater risk of dying before 55 from those causes which take precedence over diabetes in classification, and some fraction of the 500–659 deaths must be so accounted for, but these are probably more than offset by an increased incidence which the basis of calculation has not allowed for.

If this is so, the number of deaths in defect, 659 in 1935, can be regarded as the excess of deaths postponed from the age group 45–55 to the group 10 years older over the deaths postponed from the group 10 years younger to the group 45–55. The expected

deaths at 45–55 numbered 645 and on the above assumption about the same number, 659, were postponed to an age group 10 years older, from which it follows that the average lengthening of life of the diabetics who in the pre-insulin period would have died before 55 has been about 10 years. This estimate is an average for all diabetics in the population who would have died before 55, whether insulin treated or not.

At ages 55–65 mortality steadily increased up to 1915 for both sexes, declined abruptly in the period of food restriction, and was again rising from 1920 to 1922 (Review for 1933, Diagram 4). From 1923 onwards the male rate at 55–65 has not appreciably changed whilst the female rate increased by 35 per cent. in excess of 1920–22 by 1929, and has fluctuated about that level since. Male mortality at ages over 65, which had not regained the 1911–14 level by 1922, remained stationary until 1925 and then rose rapidly to 1928, with a further increase since at ages over 75. The rise in the female rates at these ages has been sustained with few interruptions since 1918.

The reasons for the continuous increase in death-rates attributed to the senile form of diabetes, due in part to rising incidence perhaps but in greater part to increasing recognition of the condition and mention of it on death certificates, have been frequently commented upon. It was shown in the Review for 1933 that, if the death-rates at 55–65, 65–75 and 75 upwards had increased year by year since 1920–22 by the same mean annual increments as were operative during the undisturbed period from 1901–10 to 1915, the expected deaths at ages over 55 in 1933 would have been 4,487. The actual deaths registered in that year numbered 5,054, an excess of 567 which was approximately equal to the deficiency calculated above at ages under 55. The recent trend of the mortality rates could therefore be adequately explained by a transfer of deaths up the age scale (sufficient to postpone 500 to 650 deaths in each year from before 55 to after that age), superimposed upon a resumption since 1921 of the pre-1915 trend of mortality rates at the various ages.

65. **Diseases of the Pituitary Gland.**—During 1921–25 108 deaths were classed to this group of diseases (55 males, 53 females); in the next quinquennium 1926–30 the total increased to 191 (77 males, 114 females), and in 1931–35 to 252 (106 males, 146 females). Table LXIX classifies the deaths in 1931–35 by sex and age according to the disease certified as cause of death.

66 (*b*). **Exophthalmic Goitre.**—The deaths assigned to this cause in 1935 numbered 1,561, 183 of males and 1,378 of females. The crude death rates have steadily increased from 2 per million males and 21 per million females in 1911–20 to 9 and 65 respectively in 1935. The female death rates at various ages are compared

Table LXIX.—Deaths from Diseases of the Pituitary Gland, 1931–35.

		Males.				Females.			
		All ages.	0–	15–	45 and up.	All ages.	0–	15–	45 and up.
65 (1)	Infantilism	13	2	11	—	15	5	8	2
65 (2)	Acromegaly	64	—	12	52	78	—	17	61
,,	" Hyperpituitarism " ..	1	—	1	—	4	—	3	1
,,	" Gigantism "	—	—	—	—	1	—	—	1
,,	Dystrophia adiposo-genitalis, pituitary obesity	10	—	9	1	9	1	5	3
,,	" Hypopituitarism " ..	4	—	4	—	9	—	7	2
,,	" Dwarfism "	2	1	—	1	8	1	5	2
,,	Dyspituitarism	7	1	3	3	17	1	6	10
,,	Pituitary basophilism ..	—	—	—	—	3	—	1	2
,,	Abscess, hæmorrhage, infarction, etc.	5	2	2	1	2	—	—	2
	Total	106	6	42	58	146	8	52	86

below with those in 1925 and 1911–20, the equivalent average death rates at ages under 65 being also shown.

	Death rates of females per million living at ages.									*E.D.R.*
	0–	5–	15–	25–	35–	45–	55–	65–	75 up	0–65
1911–20	0	1	13	22	34	50	49	30	12	26
1925	—	1	21	28	46	77	77	52	16	38
1935	—	1	17	34	69	133	173	174	53	66
1935 per cent. of 1911–20	—	—	131	155	203	266	353	580	442	254

Although mortality has increased considerably at every age over 15 the amount of relative increase has been greatest at ages over 55, and the age of maximal mortality was in the neighbourhood of 60 in 1935 compared with 50 in 1911–20 and 1925.

67. **Diseases of the Thymus, Status Lymphaticus.**—The number of deaths annually attributed to status lymphaticus and abnormalities or diseases of the thymus has not changed considerably during the last 20 years, the annual averages during the periods 1916–20, 1921–25, 1926–30 and 1931–35 being 146, 167, 166 and 146 respectively. Table LXX analyses the deaths in 1931–35 according to sex, age and the description of the abnormality given on the death certificate, and at the foot of the table are added the deaths under anæsthesia with mention of status lymphaticus, which were classed to the condition occasioning the administration of the anæsthetic.

The deaths primarily classified to No. 67, diseases of the thymus, reached a maximum of 202 in 1929 but then fell suddenly to 138

in 1930, and in the last 5 years have numbered 143, 154, 153, 133 and 148. Details of the 42 deaths under anæsthetics classed to other causes during 1935 are given on p. 157.

Table LXX.—Deaths attributed to, and deaths under Anæsthesia with mention of, diseases of the Thymus, 1931–35.

	Males.				Females.			
	All ages.	0–	15–	45 and up.	All ages.	0–	15–	45 and up.
Classed to No. 67, Diseases of the Thymus.								
"Enlarged thymus"	189	172	16	1	134	125	9	—
"Hypertrophy or hyperplasia of thymus"	7	7	—	—	2	2	—	—
"Status lymphaticus" (or "status thymo-lymphaticus" or "status thymicus")	212	183	27	2	117	97	18	2
"Persistent thymus"	21	16	5	—	13	11	2	—
"Hyperthymism," "thymo-toxicosis" or "thymic convulsions"	4	4	—	—	1	1	—	—
"Lymphatism"	6	4	2	—	1	1	—	—
"Thymic asthma"	6	6	—	—	8	6	2	—
Abscess of thymus	3	3	—	—	3	3	—	—
Acute or hæmorrhagic thymitis	4	4	—	—	—	—	—	—
Total classes to No. 67 ..	452	399	50	3	279	246	31	2
Deaths under anæsthesia with mention of status lymphaticus, classed to the disease requiring operation	153	114	39	—	90	59	31	—

70. **Purpura and Hæmophilia.**—Deaths classified to purpura in 1935 numbered 284, and to hæmophilia 118. The death rates from these causes at various ages in the quinquennium 1931–35 are compared below with the corresponding rates in 1911–20.

		Mean annual death rates per million living at ages								
		All ages.	0–	5–	15–	25–	35–	45–	55–	65 and up
Purpura.										
Males	1911–20	9	25	7	5	4	4	5	11	20
	1931–35	7	26	6	4	2	3	5	7	15
Females	1911–20	8	25	7	5	4	4	5	8	18
	1931–35	7	24	4	5	4	4	5	10	14
Hæmophilia.										
Males	1911–20	4	17	3	3	3	2	1	1	1
	1931–35	4	38	2	1	2	2	1	1	1
Females	1911–20	2	11	1	1	1	0	0	1	1
	1931–35	2	20	0	0	0	0	0	0	1

Purpura mortality is unaffected by sex whereas the hæmophilia rate is twice as great amongst males as females. Amongst children under 5 years the mortality attributed to purpura has remained unchanged at 25 per million, but the death rates attributed to hæmophilia have doubled since 1921–30 for each sex. At 5–15 both the purpura and hæmophilia rates have declined for each sex. At ages over 15 purpura mortality has declined at most age periods amongst males but shows no change except at advanced ages amongst females. Hæmophilia has almost ceased to be certified as a cause of death of females after the age of 5 years.

71(*a*). **Pernicious Anæmia.**—The progress of mortality since 1927, when a new and effective treatment came into use for this disease is revealed in Table LXXI, where annual rates at various ages are expressed in terms of the corresponding rates in the triennium preceding 1927. The actual rates in greater detail of age in each year from 1922 to 1931 were shown in the Review for 1931, Table XLVIII. The standardized rates, which increased after the sudden fall registered in 1928, began to decline again in 1933 and have continued to fall each year since. The greatest relative decline in mortality has occurred at ages 25–45 for both males and females.

Table LXXI.—Mortality from Pernicious Anæmia per Million living in 1931, 1932, 1933, 1934, and 1935 and per cent. of the rate for 1924–26 in each year 1927 to 1935.

	MALES.						FEMALES.					
	All Ages*	0–	25–	45–	65–	75 and up	All Ages*	0–	25–	45–	65–	75 and up
MORTALITY PER MILLION LIVING.												
1931 ..	34	3	13	98	311	301	43	5	27	134	328	231
1932 ..	39	5	13	111	368	339	49	5	29	149	379	235
1933 ..	35	3	13	104	317	322	46	4	30	130	367	326
1934 ..	34	5	12	94	306	325	44	5	26	126	349	371
1935 ..	32	5	10	82	329	339	43	5	25	114	353	387
MORTALITY PER CENT. OF THAT IN 1924–26.												
1927 ..	98	84	91	96	106	114	97	86	90	98	98	109
1928 ..	65	102	59	55	77	92	67	77	56	64	78	91
1929 ..	70	78	59	58	86	133	67	66	53	64	84	109
1930 ..	76	74	69	71	85	121	72	45	63	68	84	138
1931 ..	74	70	54	64	89	149	74	58	58	74	91	112
1932 ..	85	106	53	72	106	167	84	56	61	83	106	162
1933 ..	76	69	56	68	91	159	79	47	64	72	102	158
1934 ..	74	98	49	61	88	161	76	59	55	70	97	180
1935 ..	70	96	44	54	94	167	74	67	53	63	98	188

* Standardized.

As in the case of diabetes, remedies are in general only effective in prolonging life so long as treatment is continued, and unless the patient eventually dies of some acute or general disease to which precedence is given in the classification of deaths due to joint causes, or without mention being made on the certificate of the pernicious anæmia, the expected effect on the mortality statistics would be a temporary reduction in annual deaths at each age, followed by a gradual return to the original total with a higher average age distribution. This assumes a constant incidence of new cases, whereas there is reason to believe that the number of recognised cases of pernicious anæmia and other blood diseases is increasing. The total deaths registered in the 10 years 1926 to 1935 have numbered 2,780, 2,655, 1,854, 1,955, 2,150, 2,226, 2,591, 2,428, 2,385, 2,360, which indicates a return by 1932 almost to the 1927 level, and this suggests that any absolute reduction in the fatality of pernicious anæmia brought about by the new remedies was being balanced by an increased incidence or recognition of the disease. Since 1932, however, there has been a slight decline in the total deaths.

Comparison of the age distribution of the 2,585 deaths in 1925 with that of the 2,591 deaths in 1932 revealed a transfer of deaths up the age scale during the interval, resulting in a decrease of 318 deaths at ages under 55 and an increase of 331 at ages over 65. The average lengthening of life of which this is a sign can be estimated by applying the 1921–26 death-rates to the population at each age

Table LXXII.—Pernicious Anæmia—Actual and Calculated Mean Ages at Death, 1921 to 1935.

	Males.			Females.		
	Actual.	Calculated.	Difference.	Actual.	Calculated.	Difference.
1921	55·9	56·2	−0·3	53·5	54·3	−0·8
1922	55·6	56·2	−0·6	54·7	54·4	+0·3
1923	55·9	56·3	−0·4	54·2	54·5	−0·3
1924	57·4	56·4	+1·0	54·8	54·6	+0·2
1925	57·0	56·5	+0·5	55·2	54·6	+0·6
1926	56·9	56·7	+0·2	55·5	54·9	+0·6
1927	58·5	56·8	+1·7	55·9	54·9	+1·0
1928	58·0	57·0	+1·0	57·1	55·1	+2·0
1929	59·8	57·1	+2·7	58·1	55·2	+2·9
1930	59·4	57·2	+2·2	58·6	55·9	+2·7
1931	60·9	57·4	+3·5	58·7	55·7	+3·0
1932	60·8	57·5	+3·3	59·8	55·8	+4·0
1933	61·1	57·6	+3·5	60·0	55·9	+4·1
1934	61·0	57·7	+3·3	60·6	56·0	+4·6
1935	62·1	57·8	+4·3	60·9	56·2	+4·7

in each of the following years, finding from the resulting calculated deaths the expected mean age at death, and comparing these values with the actual mean ages at death from pernicious anæmia in the corresponding years.

Table LXXII indicates that from 1926 to 1935 the rise in actual mean age was greater than the expected rise by 4·1 years for both sexes. Provided, therefore, that the age-distribution of incidence has not changed in the interval there has been a mean lengthening of life since 1926 for the whole population of pernicious anæmia cases, however treated, and of all ages amounting to about 4 years. The international group No. 71a, with heading "Pernicious Anæmia," on which all these statistics are based, includes also aplastic, essential or hæmolytic anæmias, Addison's anæmia and "progressive" or "profound" anæmias whose cause cannot be ascertained. At ages under 10 true pernicious anæmia is unusual and almost all the deaths belong to one or other of the alternative varieties mentioned above. In a sample of 16 consecutive deaths at ages under 5 classed to No. 71 (*a*) during 1935, 7 were attributed to aplastic and 9 to hæmolytic anæmia; out of 10 consecutive deaths at 5–15, 5 were attributed to aplastic, 4 to pernicious and 1 to primary anæmia; and out of 13 consecutive deaths at 15–20, 8 were attributed to aplastic, 2 to hæmolytic and 3 to pernicious anæmia.

71 (*b*). **Other Anæmias.**—Deaths classed to splenic anæmia numbered 724 in 1921–25, 724 in 1926–30 and 909 in 1931–35, and those classed to anæmias other than splenic or the "pernicious"

Table LXXIII.—Splenic and Other Anæmias classed to No. 71 *b*; Deaths in 1931–35 at Various Ages.

	All ages.		0–		15–		25–		45 and up.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
71*b*1. Splenic anæmia ..	403	506	82	47	42	25	91	103	188	331
71*b*2. Chlorosis	2	12	1	1	—	2	—	5	1	4
Microcytic anæmia	1	11	—	—	—	—	—	—	1	11
Megalocytic „	1	3	—	—	—	—	—	—	1	3
Von Jaksch's „	11	11	11	11	—	—	—	—	—	—
Infantile pseudo-leukæmia ..	2	4	2	4	—	—	—	—	—	—
Other specified anæmias ..	4	4	2	4	—	—	—	—	2	—
Anæmia (unqualified)	155	287	47	49	7	15	6	41	95	182
71*b*. Total	579	838	145	116	49	42	97	149	288	531

group dealt with above numbered 692 in 1921–25, 483 in 1926–30 and 508 in 1931–35.

Table LXXIII analyses the deaths from these causes during 1931–35 by sex and age and according to the description on the death certificate. The table shows that in 27 per cent. of male deaths and 34 per cent. of female deaths the type of anæmia was not stated. The sex ratio for splenic anæmia was 126 females per 100 males, and for other anæmias 189, compared with 153 for anæmias of the pernicious group.

72 *b* (1). **Hodgkin's Disease.**—Deaths assigned to this cause in 1935 numbered 360 of males and 200 of females. Table LXXIV shows the death rates at quinquennial age groups and the equivalent average death rates at ages under 65 in England and Wales during 1911–20, 1921–30 and 1931–35.

Table LXXIV.—Hodgkin's Disease: Mean Annual Death Rates at Various Ages in 1911–20, 1921–30 and 1931–35.

	Mean annual death rates per million living.					
	Males.			Females.		
	1911–20	1921–30	1931–35	1911–20	1921–30	1931–35
All ages (crude) ..	10	14	18	6	8	9
Ages under 65 (equivalent average rate) ..	11	15	19	6	8	9
0–	3	4	3	1	2	1
5–	10	10	12	3	3	3
10–	7	8	9	3	3	3
15–	8	10	12	4	4	5
20–	8	13	15	5	7	6
25–	9	14	18	4	6	10
30–	9	11	17	5	7	11
35–	11	14	20	5	7	10
40–	9	16	18	6	7	10
45–	12	16	23	6	8	12
50–	16	22	27	10	11	12
55–	20	28	35	10	16	15
60–	21	27	33	16	19	19
65–	27	34	36	14	19	20
70–	33	36	41	14	20	22
75 and over ..	16	26	31	12	16	16

Mortality is twice as great for males as for females and increases with advancing age up to 25–30, remains almost constant to 45 and again increases up to about the 60th year. Since 1911–20 the equivalent average rate has risen for males from 11 to 19 per

million, and for females from 6 to 9 per million, the relative increase in mortality at specific ages being most pronounced between ages 20 and 60 for males and between 25 and 50 for females.

Table LXXV compares the mortality during 1911–20 and 1921–30 in the four large regions as then constituted, in London, the county boroughs, other urban districts, rural districts and in the northern and southern county boroughs, rates based upon less than 20 deaths being shown in italics. In each period the regional

Table LXXV.—Hodgkin's Disease; Death Rates at Various Ages by Region and Class of Area, 1911–20 and 1921–30.

Note.—Rates in italics are based upon less than 20 deaths.

	Mean annual death-rate per million living.												
	1911–20.					1921–30.							
	All Ages.	25–	45–	65–	75 up	All Ages.	0–	5–	25–	45–	65–	75 up
Males.													
England and Wales	10	10	17	29	16	14	4	10	14	22	35	26
North	11	11	17	28	*11*	13	*3*	10	14	20	30	29
Midlands	10	11	16	25	*10*	14	4	10	14	22	31	32
South	12	11	16	34	*26*	16	5	11	14	25	41	22
Wales	10	7	19	*37*	*14*	15	*4*	10	13	25	50	*6*
London	13	12	16	31	*22*	16	*6*	11	15	26	30	*21*
County boroughs	10	10	16	23	*11*	14	*3*	10	13	22	33	*23*
Other urban districts ..	11	11	16	30	*21*	15	*3*	10	15	23	35	28
Rural districts	11	10	20	35	*12*	14	*5*	9	13	20	40	29
Northern county boroughs ..	11	10	15	22	*13*	14	*4*	10	15	21	33	*30*
Southern „ „ ..	11	*7*	26	*33*	*22*	15	*4*	9	15	25	*37*	*24*
Females.													
England and Wales ..	6	5	10	14	12	8	2	4	7	12	19	16
North	5	4	9	13	*5*	7	*2*	4	6	13	17	*10*
Midlands	6	5	10	12	*10*	7	*2*	5	7	11	17	20
South	7	6	10	17	18	9	*1*	4	8	15	25	17
Wales	4	*3*	*8*	*10*	*15*	6	*2*	*4*	5	11	*20*	*8*
London	6	6	7	*14*	*12*	8	*2*	5	8	13	21	*15*
County boroughs	5	4	9	15	*9*	7	*2*	4	6	11	17	16
Other urban districts ..	6	5	10	16	*10*	8	*2*	4	6	14	21	16
Rural districts	6	5	12	10	*17*	8	*1*	5	8	13	20	*16*
Northern county boroughs ..	5	4	9	*15*	*2*	7	*2*	4	6	11	16	*10*
Southern „ „ ..	7	*9*	*11*	*17*	*23*	9	—	*3*	*6*	15	*25*	*26*

distribution of mortality was remarkably uniform, rates being slightly higher in the South, which includes London. At ages under 45 in 1911–20 and under 65 in 1921–30 London had somewhat higher rates than the county boroughs, but there were no appreciable differences in either period between the mortality in the towns and that in the rural districts, nor between that in the northern and southern towns.

In this absence of any sensible effect of urbanisation upon mortality rates Hodgkin's disease differs from cancer, tuberculosis and most infective diseases, which are characterized by an urban excess. The possibility that a real urban excess in incidence is obscured by over-diagnosis in the country needs to be considered.

72 *b*(2). **Agranulocytosis (Agranulocytic Angina).**—The deaths attributed to this condition, alone or in association with other causes, numbered 2 in 1930, 3 in 1931, 7 in 1932, 31 in 1933, 39 in 1934, and 52 in 1935, the classification being in a few instances to causes such as pulmonary tuberculosis or lobar pneumonia with agranulocytosis as a contributory or associated cause.

Pending a clearer definition of the disease as an established clinical entity, the deaths were classed until the end of 1934 to sub-groups 115(3) or 115(4) when it was described as angina, or with the unclassified anæmias in No. 71 *b*(2) when described as agranulocytosis. Since the two descriptions are now regarded as synonyms, the angina being secondary to the blood condition, and since the latter is not characterised by " anæmia " in the usually accepted meaning of the term but by an aleukæmia affecting the granular leucocytes, from 1935 onwards a new subgroup to comprise both descriptions, with title No. 72 *b*(2) aleukæmia (agranulocytosis) has been introduced into Tables 6, 21 and 23.

When other diseases are associated with agranulocytosis on a death certificate the same rules of precedence are now applied for assigning the death to its primary cause as for other defined blood diseases, and all the 82 deaths with mention of this cause which occurred during 1930–34, with one possible exception, would by these rules have been assigned to agranulocytosis as the principal cause. The analysis by sex and age of the deaths during 1930–34 given in Table LXX of the Review for 1934 can therefore be regarded as comparable with the 52 deaths classed to No. 72 *b*(2) in 1935 (Tables 6 and 21), and the complete record up to 1935 is given in Table LXXVI.

Table LXXVI.—Deaths from Agranulocytosis by Sex and Age, in each year 1930 to 1935.

	1930.		1931.		1932.		1933.		1934.		1935.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0–	—	—	—	—	—	—	—	2	—	—	—	1
5–	—	—	—	—	—	—	—	2	—	—	1	2
15–	—	—	—	—	1	1	2	3	4	2	1	4
25–	—	1	—	1	—	—	—	2	1	5	1	—
35–	—	—	—	1	—	1	1	—	1	4	2	6
45–	—	1	1	—	1	1	1	7	2	3	3	8
55–	—	—	—	—	—	2	—	5	3	5	7	10
65–	—	—	—	—	—	—	1	4	1	6	—	5
75 and up ..	—	—	—	—	—	—	—	1	1	1	1	—
All ages ..	—	2	1	2	2	5	5	26	13	26	16	36

Of the 134 deaths 37 were of males and 97 of females, the period of greatest incidence being between the ages of 45 and 65. In 1935 10 of the 52 deaths occurred in the March quarter, 21 in the June quarter, 9 in the September quarter and 12 in the December quarter (Table 23).

75. **Alcoholism.**—This heading in the International List of causes of death excludes organic disease attributed to alcoholism, so, in order to obtain as complete information as possible with regard to mortality from over-indulgence in alcohol, all the deaths in certification of which any mention of alcohol appears are assembled in Table LXXVIII. These numbered 523 in 1935, compared with 494 in 1934 and 484 in 1933.

Table LXXVII.—Deaths from or associated with Alcoholism ; Death-rate per Million from the Combined Causes and from Cirrhosis of Liver not returned as Alcoholic, 1921-1935.

	Number of Deaths.										Death rate per million persons.	
	Alcoholism No. 75.		Returned as connected with alcoholism.									
			Cirrhosis of liver 124 (a)		Heart diseases 90–95.		Violent deaths 163–198.		Other causes.		Returned as alcoholism or associated therewith.	Cirrhosis of liver not returned as alcoholic 124 (b).
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
1921	127	55	100	54	41	17	61	11	125	56	17	47
1922	117	47	103	47	41	14	52	16	125	59	16	46
1923	104	47	98	54	22	12	46	16	106	57	15	42
1924	94	33	90	57	36	8	44	7	120	53	14	42
1925	95	55	87	49	25	19	34	6	90	48	13	44
1926	76	39	82	50	31	20	36	17	90	58	13	44
1927	84	24	162	101	40	22	37	14	176	92	19	41
1928	74	34	210	110	54	34	30	10	205	102	22	40
1929	85	49	175	83	69	38	41	11	206	75	21	38
1930	49	45	144	71	46	25	35	10	147	75	16	36
1931	40	41	162	99	45	35	24	2	136	45	16	34
1932	61	34	115	62	42	19	18	4	99	45	12	32
1933	43	30	115	77	52	19	24	10	79	35	12	26
1934	33	19	125	84	38	22	17	9	97	50	12	28
1935	50	23	139	62	46	30	17	8	91	57	13	28

After 1926 the change in the form of the medical certificate produced a temporary disturbance, consisting, as Table LXXVII indicates, in a sudden increase in deaths attributed to various causes with mention of alcoholism. Violent deaths with associated alcoholism were not so affected, but deaths attributed to heart diseases with mention of alcoholism increased from 51 in 1926 to 107 in 1929, and have since fluctuated between 60 and 80. The death-rate per million due to cirrhosis of the liver with mention of alcohol increased from 3 in 1926 to 8 in 1928, and has since fallen to 5 (Table 7), and the rate for cirrhosis without mention of alcohol has declined from 44 in 1926 to 28. Deaths attributed to causes other than violence, heart disease or cirrhosis of the liver, with mention of alcoholism, increased from 114 in 1933 to 148 in 1935.

The number of deaths attributed solely to alcoholism without mention of other causes, 73, is in excess of the previous year (52).

Table LXXVIII.—Deaths from or connected with Alcoholism, 1935.

		All Ages.		Under 25		25–		35–		45–		55–		65–		75–	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
75.	Deaths attributed solely to alcoholism	50	23	1	—	9	—	13	2	13	9	10	6	3	3	1	3
	Deaths attributed to other causes in conjunction with alcoholism—																
11.	Influenza	3	2	—	—	—	—	—	—	1	—	2	1	—	—	—	1
15.	Erysipelas	2	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—
23.	Tuberculosis of the respiratory system	3	1	—	—	1	—	1	—	1	1	—	—	—	—	—	—
34.	Syphilis	2	2	—	—	—	—	1	—	—	1	1	1	—	—	—	—
45–53.	Cancer	6	3	—	—	—	—	—	—	1	—	2	1	2	1	1	1
55 (*b*).	Renal tumour	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
59.	Diabetes	1	2	—	—	—	—	—	—	—	—	—	1	1	1	—	—
70 (*b*).	Hæmophilia	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
82.	Cerebral hæmorrhage, apoplexy, etc.	6	3	—	—	—	—	—	—	2	—	3	1	1	2	—	—
85.	Epilepsy	1	2	—	—	—	—	—	—	1	1	—	1	—	—	—	—
87 (*b*).	Neuritis, neuralgia ..	4	12	—	—	—	1	1	—	2	4	1	6	—	1	—	—
87 (*c*).	Paralysis agitans	—	1	—	—	—	—	—	—	—	—	—	1	—	1	—	2
92.	Valvular disease of heart ..	3	3	—	—	1	—	—	—	2	—	1	—	—	—	—	—
93 (*a*).	Acute myocarditis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
93 (*b*:1).	Fatty heart	6	6	—	—	—	—	2	1	3	3	1	1	—	—	—	1
93 (*b*:2).	Cardiovascular degeneration	—	4	—	—	—	—	—	—	—	1	—	1	—	1	—	1
93 (*b*:3).	Other or unspecified myocardial disease	24	13	—	—	2	—	1	2	11	3	5	1	5	6	—	1
93 (*c*).	Myocarditis not distinguished as acute or chronic ..	7	2	—	—	—	—	1	—	2	—	2	2	1	—	1	—
94.	Diseases of the coronary arteries	2	1	—	—	—	—	—	1	2	—	—	—	—	—	—	—
95 (*b*:2).	Heart disease (undefined) ..	3	1	—	—	—	—	—	—	2	1	—	—	—	—	—	—
97.	Arterio-sclerosis	7	7	—	—	—	—	—	—	1	—	5	2	1	3	—	2
99.	Endarteritis	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—
100 (2).	Phlebitis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
106.	Bronchitis	4	2	—	—	—	—	1	—	2	1	1	1	—	—	—	—
107.	Broncho-pneumonia ..	8	4	—	—	—	—	3	—	2	—	2	—	1	2	—	2
108.	Lobar pneumonia	12	3	—	—	—	—	1	2	7	1	3	—	1	—	—	—
114 (*b*:2).	Pulmonary abscess ..	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
115 (3).	Diseases of the tonsils ..	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—
116.	Œsophageal obstruction ..	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
117.	Ulcer of the stomach or duodenum	4	—	—	—	—	—	—	—	2	—	1	—	1	—	—	—
118 (1).	Inflammation of the stomach	7	2	—	—	—	—	—	—	3	1	—	—	2	1	2	—
121.	Appendicitis	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
122 (*b*).	Intestinal obstruction ..	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
124 (*a*).	Cirrhosis of the liver ..	139	62	—	—	1	2	8	2	41	11	48	30	37	13	4	4
130–131.	Nephritis	6	10	—	—	—	—	—	1	2	1	2	3	2	3	—	2
136 (*a*).	Stricture of Urethra ..	2	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—
138.	Epididymitis	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
152 (1).	Cellulitis	1	1	—	—	—	—	—	—	—	—	1	1	—	—	—	—
163–171.	Suicide	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
186 (pt.).	Injury by fall	10	7	—	—	1	—	1	1	1	1	5	2	2	2	—	1
186 (pt.).	Injury by crushing (vehicles, railway, etc.)	2	1	—	—	—	1	—	—	—	—	1	—	1	—	—	—
	Other violence	4	—	—	—	1	—	1	—	1	—	—	—	1	—	—	—
	TOTAL ..	343	180	1	—	16	4	37	12	113	40	102	63	64	40	10	21

76, 77. **Chronic Poisoning other than Alcoholism.**—Deaths from food poisoning are classified to No. 177 and from other acute poisoning to Nos. 178–179 if accidental, 163–164 if suicidal, 175 if homicidal or 195 if it is not determined how the poison was administered, and analysis of these groups will be found in Table 25. Deaths from chronic poisoning other than alcoholism, assigned to Nos. 76 or 77, numbered 33 in 1935, of which 26 were

classed as occupational lead poisoning. The numbers in the last 3 quinquennial periods were as follows:—

		Males.			Females.		
		1921–25.	1926–30.	1931–35.	1921–25.	1926–30.	1931–35.
77 (1)	Occupational lead poisoning ..	225	220	139	16	11	9
76, 77 (2)	Other chronic poisoning (not alcoholic) ..	41	42	40	24	22	14

There was a considerable decline between 1926–30 and 1931–35 in the male deaths assigned to occupational lead poisoning. The 54 deaths in the group of other chronic poisoning during 1931–35 are further analysed below.

	Males.				Females.			
	All ages.	0–	15–	45 and over.	All ages.	0–	15–	45 and over.
Chronic poisoning by:—								
Lead (not classed as occupational)	10	—	4	6	3	—	1	2
Arsenic	1	—	1	—	1	1	—	—
Mercurial compounds ..	1	—	—	1	—	—	—	—
Potassium bromide	1	—	1	—	—	—	—	—
Opium and morphine ..	11	—	3	8	6	—	—	6
Tobacco, nicotine	5	—	—	5	—	—	—	—
Paraldehyde	4	—	1	3	—	—	—	—
Aspirin	2	—	—	2	1	—	1	—
Barbiturates	2	—	1	1	2	—	1	1
Benzine	—	—	—	—	1	—	1	—
Benzol	1	—	—	1	—	—	—	—
Heroin and luminal ..	1	—	1	—	—	—	—	—
T.N.T.	1	—	1	—	—	—	—	—
Total (76, 77 (2))	40	—	13	27	14	1	4	9

87 (*d*). **Disseminated Sclerosis.**—In each year since 1921 when disseminated sclerosis began to be separately tabulated as a cause of death more than 600 deaths have been classed to the disease, and in 1935 908 were so classified, this being the largest number yet recorded. Table LXXIX shows the mean annual mortality rates at various ages in the quinquennial periods 1921–25, 1926–30 and 1931–35. The male standardized rate has not changed appreciably during that time, being 15·4, 15·9 and 15·2 in the three periods, but the female rate has slightly increased, the corresponding figures being 14·2, 15·6 and 16·5. On the whole mortality has tended to rise at the middle period of life and to decline or remain stationary at higher ages. The ages of greatest mortality

are 65–75 but the age distribution differs in the two sexes, female mortality being in excess of that for males between 25 and 55 whereas male rates are in excess of female at higher ages.

Table LXXIX.—Disseminated Sclerosis; Death rates per Million living at Various Ages, 1921–25, 1926–30 and 1931–35.

	Males.			Females.		
	1921–25.	1926–30.	1931–35.	1921–25.	1926–30.	1931–35.
All ages (crude) ..	18	20	20	18	21	23
,, (standardized)	15	16	15	14	16	17
0–	0	0	0	0	0	0
15–	3	2	3	3	3	3
25–	9	10	11	12	12	13
35–	20	24	26	22	29	32
45–	33	36	36	36	44	47
55–	68	61	55	51	49	53
65–	80	91	72	55	61	57
75 and over ..	79	54	57	57	44	40

Table LXXX.—Disseminated Sclerosis; Mortality per Million living by Age and Class of Area, 1934 and 1935.

	Greater London.		County Boroughs.*		Other Urban districts.*		Rural districts.*	
	1934.	1935.	1934.	1935.	1934.	1935.	1934.	1935.
Males.								
All ages (standardized).. ..	11	10	14	18	15	18	14	14
0–	*1*	—	*2*	*1*	*1*	*2*	*1*	*1*
25–	*6*	*7*	*12*	*12*	*14*	*13*	*7*	*8*
35–	*19*	*11*	25	42	26	33	*17*	*25*
45–	*30*	*32*	29	38	*24*	42	*39*	*26*
55 and over ..	44	44	53	60	63	66	69	66
Females.								
All ages (standardized).. ..	15	15	13	17	17	16	18	21
0–	*1*	*1*	*2*	*3*	*1*	*2*	*2*	*1*
25–	*8*	*13*	*9*	*14*	*15*	*10*	*15*	*18*
35–	*27*	30	21	33	31	*18*	37	44
45–	56	50	41	49	53	53	52	72
55 and over ..	52	39	46	47	45	59	53	54

Note.—Rates in italics are based on less than 20 deaths.

* Outside Greater London.

Table LXXX compares the mortality in 1934 and 1935 in Greater London, in the county boroughs, other urban districts and rural districts outside Greater London. Male standardized mortality attributed to the disease is lower in Greater London than elsewhere, and at ages 55 and over mortality decreases as urbanisation increases. Female standardized mortality is also highest in rural areas, this being most noticeable at ages between 25 and 45. A tendency for the incidence of disseminated sclerosis to be higher in rural districts than towns has been noticed in Denmark.*

90–103. **Diseases of the Circulatory System.**—The deaths assigned to *heart diseases* including coronary disease (Nos. 90–95) in 1935 numbered 114,671—55,524 of males and 59,147 of females. These numbers are equivalent to crude death-rates per million of 2,847 for males and 2,797 for females. When standardized, the revised rates are considerably reduced to 1,949 for males and 1,597 for females, but still remain in this form the highest in any year for males and in any year except 1929 and 1933 for females (Table 8).

As pointed out in previous Reviews the recent increase of crude mortality (Table 7) from heart diseases is due, among other causes, to the increasing age of the population and to more frequent record of myocardial degeneration in certification of the deaths of old people. The introduction of the new form of death certificate has led to more frequent statement of this or other forms of heart disease as a subsidiary cause, and by the operation of the rules of selection of joint causes this often results in the death being transferred to the heart group as a consequence.

Table LXXXI shows how the rates for 1935 have been affected by increasing certification of myocarditis or myocardial or cardio-vascular degeneration as a cause of death of persons over 65, and what, but for them, would have been the course of recent mortality from diseases of the heart. This has been done by ascertaining and deducting from the standardized death-rate from all heart diseases (Table 8) that portion of it for which chronic myocardial disease (other than fatty heart) at ages over 65 was responsible in each year 1921–35, that is to say, the deaths at this age in the standard million derived from the three groups 93*b* (2), 93 (*b*) (3) and 93 (*c*), corresponding to No. 90 (7) prior to 1931. The rates for the years 1922 to 1930 were shown in detail in Table L of the Review for 1931.

The crude death-rate from heart disease has increased since 1921 by 99 per cent., but the standardized rate has increased by 62 per cent. for males and 44 per cent. for females. When further allowance is made for the disturbing influences mentioned above, the increase is seen to have been only 5 per cent. for males and there has been a decrease of 10 per cent. for females.

* *Ugeskrift for Laeger.* 1934, No. 30, p. 823.

Table LXXXI also shows how rapid has been the increase for each sex of mortality ascribed to senile myocarditis, the rates for 1935 being more than five times those of 1921.

The changes which occurred between 1924 and 1934 in mortality at various ages from different forms of heart disease were shown in Tables LXXIV and LXXV of the Review for 1934.

Table LXXXI.—Deaths in Standard Million from Heart Diseases at all ages, and from senile myocarditis at ages over 65 in 1921 and 1931-35; also the mortality in each year 1922-35 per cent. of that in 1921.

	Males.			Females.		
	All Heart Diseases.	"Senile Myocarditis" (*see* text).	Col. 1 less col. 2.	All Heart Diseases.	"Senile Myocarditis" (*see* text).	Col. 4 less col. 5.
	(1)	(2)	(3)	(4)	(5)	(6)
1921 ..	1,203	154	1,049	1,107	145	962
1931 ..	1,845	746	1,099	1,592	646	946
1932 ..	1,848	779	1,069	1,560	661	899
1933 ..	1,896	818	1,078	1,616	705	911
1934 ..	1,897	820	1,077	1,565	703	862
1935 ..	1,949	851	1,098	1,597	735	862
	Rates for subsequent years per cent. of those for 1921.					
1922 ..	108	129	105	110	129	107
1923 ..	101	136	95	102	134	97
1924 ..	105	165	97	107	158	99
1925 ..	110	203	96	110	192	98
1926 ..	108	219	92	107	210	92
1927 ..	117	259	97	118	248	98
1928 ..	123	296	97	122	285	97
1929 ..	153	450	109	150	427	108
1930 ..	142	421	101	134	388	96
1931 ..	153	484	105	144	446	98
1932 ..	154	506	102	141	456	93
1933 ..	158	531	103	146	486	95
1934 ..	158	532	103	141	485	90
1935 ..	162	553	105	144	507	90

The progressive rise since 1920, commented on in previous Reviews, in the standardized mortality assigned to *angina pectoris*, and to diseases of the coronary arteries, No. 94, continued in 1935. For males this rate has risen from 32 in 1920 to 279, and for females from 13 to 107, and the degree of relative increase tends to become

greater as age advances for females, though not for males. Part of this has been due to the transfer, since mid-1927, of deaths due to atheroma and sclerosis of the coronary arteries from the arterio-sclerosis group, as pointed out in the Review for 1928 (p. 100), but the increase since 1928, amounting to 176 per cent. for males and 206 per cent. for females, represents a real change in the frequency with which death is attributed to coronary disease.

The standardized rates of mortality classed to angina pectoris, cardio-vascular degeneration, arterio-sclerosis, cerebral vascular lesions and abnormalities of blood pressure (comprising only hyperpiesis) are brought together below for 1925, 1928, 1931, 1934 and 1935. Chronic interstitial nephritis mortality with mention of arterio-sclerosis has not been added since these deaths are not separated from other chronic nephritis in No. 131. The total standardized rate from this group of degenerative vascular causes has increased during the last 10 years for both sexes, but how much of the continued rise can be accounted for by increasing mention of these causes on death certificates in conjunction with bronchitis and other causes is at present difficult to say. The more rapid rise of the male rate than of the female rate is compatible with the view that it may be an aftermath of the war, caused by the attaining to ages 50 to 65 of a population not only inferior in average physique owing to elimination of the fittest during 1914–18, but which was subjected during those years to quite abnormal stress.

		Males.					Females.				
		1925.	1928.	1931.	1934.	1935.	1925.	1928.	1931.	1934.	1935.
94.	Coronary disease, angina pectoris	55	101	168	248	279	19	35	59	94	107
93 *b* (2).	"Cardio-vascular degeneration"	(21)*	(34)*	215	255	266	(20)*	(26)*	144	168	188
97 (3).	Arterio-sclerosis without cerebro-vascular lesion ..	315*	360*	192	170	163	161*	191*	110	101	97
97 (1) (2).	Arterio-sclerosis with cerebro-vascular lesion	136	221	220	228	228	91	161	165	176	181
82.	Cerebro-vascular lesions without mention of arterio-sclerosis†	580	445	436	398	396	554	457	421	397	399
102.	Abnormalities of blood pressure	2	4	4	7	7	1	2	3	6	6
	Total of above	1,109	1,165	1,235	1,306	1,339	846	872	902	942	978

Notes.—* The basis of estimation of these figures was explained on page 112 of the Review for 1934.

† This group includes some deaths from cerebral embolism and thrombosis which are not closely related to vascular degeneration but whose separation could not be readily achieved for this table. Embolism deaths form less than 2 per cent. of the group and have decreased since 1925.

Aneurysm mortality (No. 96) is dealt with along with syphilis on p. 74.

Deaths assigned to the international group *gangrene* (No. 98) have steadily declined from 1,297 in 1922 to 1,247 in 1925 to 633 in 1935, and the standardized death rates have fallen since 1925 from 31 to 11 for males and from 20 to 8 per million for females (Table 8).

Deaths from *other diseases of the arteries* not classed to the groups already mentioned are assigned to No. 99, diseases of the *veins* to No. 100, diseases of the *lymphatic system* to No. 101 and certain other diseases of the circulatory system to No. 103. Table LXXXII analyses the 5118 deaths which were included in these 4 groups during 1931–35 by sex, age and stated cause.

Table LXXXII.—Diseases of the Arteries, Veins, Lymphatics, etc., classed to Nos. 99–101, 103. Deaths at Various Ages, 1931–35.

		Males.				Females.			
		All ages.	0–	15–	45 and over.	All ages.	0–	15–	45 and over.
99.	Aortitis	68	—	11	57	31	—	1	30
	Aortic rupture	7	—	1	6	4	—	—	4
	Thrombo-angiitis obliterans	64	1	6	57	15	—	1	14
	Endarteritis obliterans	110	—	3	107	110	—	2	108
	Periarteritis nodosa	4	—	2	2	4	1	2	1
	"Endarteritis"	134	—	3	131	167	—	3	164
	"Arteritis"	60	—	—	60	67	—	2	65
	Intermittent claudication	4	—	—	4	2	—	—	2
	Thrombosis*	403	6	55	342	384	3	65	316
	Embolism*	51	1	4	46	73	1	9	63
	Rupture of artery	3	—	1	2	3	—	—	3
100 (1).	Varix	398	—	47	351	822	—	85	737
100 (2).	Phlebitis	401	—	51	350	755	2	67	686
	Thrombo-phlebitis	74	—	9	65	131	1	29	101
	Venous thrombosis	118	1	10	107	163	1	18	144
103.	Hæmorrhage not classed elsewhere	32	3	3	26	31	3	4	24
101.	Septic adenitis	65	23	10	32	63	11	16	36
	Adenitis	128	84	12	32	116	59	9	48
	Enlarged lymph glands	11	8	2	1	10	4	1	5
	Lymphangitis	14	2	4	8	16	1	2	13
	Lymphangiectasis	—	—	—	—	1	1	—	—
	Chylous ascites	—	—	—	—	1	—	—	1

* Other than cerebral, coronary, pulmonary, puerperal, portal or venous.

115 (2) (3) (4). **Diseases of the Tonsils, Pharynx, etc.**—The crude death rate from diseases of the *tonsils*, No. 115 (3), which averaged 13 per million in 1911–20 and fell to 10 in 1923–24, rapidly increased to 24 in 1929 and then remained at 23 until 1932. The rate again increased to 34 in 1934 but declined to 29 in 1935. During 1931–35, of 5,520 deaths assigned to this group of tonsil diseases 1,878 were

of children under 15 and the mortality rates at these ages in 1911–20 and in the last 3 quinquennial periods are compared below.

Age.	Sex.	1911–20.	1921–25.	1926–30.	1931–35.
0–	M.	38	36	50	62
	F.	33	29	42	51
5–	M.	29	27	41	47
	F.	33	26	40	45
10–15	M.	13	10	14	18
	F.	12	11	16	20

At ages under 5 the increase in mortality between 1921–25 and 1931–35 amounted to 72 per cent. for boys and 76 per cent. for girls; at 5–10 the rates of increase were 74 and 73 per cent. respectively, and at 10–15 80 and 82 per cent. At ages 15 and upwards the male death rate increased in the same period from 8 to 21 per million or by 162 per cent., and the female rate increased from 7 to 26 per million, or by 271 per cent. The recent increase in mortality from diseases of the tonsils has therefore been more rapid for adults than for children. The parallelism between recent movements of the rate and those of death rates from septic diseases is indicated below. For each of the groups shown mortality increased from 1932 to 1934 and declined in 1935.

Rates per million living.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
115 (3). Diseases of tonsils	21	24	23	23	23	27	34	29
89. Ear and mastoid disease	34	36	35	35	35	38	41	35
36. Purulent infections, etc.	17	22	22	19	17	19	20	17
152. Cellulitis, skin abscess	19	19	17	19	17	19	24	19
Rates per 1,000 *Total births.*								
140, 145. Puerperal sepsis	1·72	1·73	1·84	1·59	1·55	1·75	1·95	1·61

Comparison of the male and female death rates at various ages in 1935 reveals no important differences up to 55 but a considerable excess of female mortality at higher ages :—

	Death rates per million living at ages.							
	0–	5–	15–	25–	35–	45–	55–	65 and over.
Males	52	31	13	19	22	30	30	42
Females	52	33	16	15	16	28	51	65

Table LXXXIII classifies the 5,520 deaths from diseases of the tonsils during 1931–35 according to age and the cause stated by the certifier. Of these 1,581 (29 per cent.) were attributed to "tonsillitis" without further specification, 985 (18 per cent.) to septic or suppurative tonsillitis, 401 (7 per cent.) to other forms of tonsillitis and 551 (10 per cent.) to abscesses of or around the tonsils. Streptococcal infection was stated as the cause of 1,020 deaths, and in this group the differing age distribution in males and females

is particularly evident. Other organisms were named as the infective agent in 22.

Enlarged tonsils or adenoids were given as the cause of 60 deaths and tonsillectomy without specification of the disease for which the operation was performed was stated as the cause of 513 deaths, 369 being of children under 15. These numbers do not represent

Table LXXXIII.—Diseases of the Tonsils, Pharynx, etc. Deaths by Age and Stated Cause, 1931–35.

		Males.				Females.			
		All ages.	0–	15–	45 and over.	All ages.	0–	15–	45 and over.
115 (3).	Tonsillitis (unqualified)	703	281	195	227	878	262	217	399
	„ septic	368	126	106	136	496	147	129	220
	„ suppurative	49	10	23	16	72	16	20	36
	„ ulcerative	53	13	15	25	62	13	13	36
	„ phlegmonous	4	1	—	3	7	2	3	2
	„ gangrenous	12	4	5	3	19	6	5	8
	„ follicular	91	45	25	21	129	43	26	60
	„ infective	9	5	2	2	15	6	2	7
	Streptococcal infection of tonsils	439	134	146	159	581	112	183	286
	Staphylococcal „ „	6	4	2	—	13	2	5	6
	Pneumococcal „ „	—	—	—	—	3	—	1	2
	"Septic throat"	50	12	13	25	53	11	16	26
	"Sore throat"	3	2	1	—	3	1	2	—
	Abscess of tonsil	34	14	9	11	35	7	12	16
	Peritonsillar abscess or cellulitis	145	29	61	55	132	26	35	71
	"Quinsy"	107	18	44	45	98	15	19	64
	Enlarged tonsils	21	20	—	1	17	15	2	—
	Adenoids	13	12	1	—	9	8	1	—
	Tonsillectomy (disease unspecified)	292	210	71	11	221	159	50	12
	Hæmorrhage from tonsils	1	—	—	1	—	—	—	—
	Disease of tonsils (nature unspecified)	123	46	35	42	154	41	36	77
	Total classed to 115 (3)	2,523	986	754	783	2,997	892	777	1,328
115 (2).	Ludwig's angina	242	49	84	109	205	37	58	110
115 (4).	Vincent's angina	78	25	20	33	131	29	35	67
	*Agranulocytic angina	11	—	6	5	30	2	7	21
	Streptococcal infections of pharynx or nasopharynx	112	25	38	49	132	27	27	78
	†Pharyngitis, infection, ulceration or sepsis of pharynx or nasopharynx	416	105	96	215	536	91	92	353
	Streptococcal retropharyngeal abscess	3	2	—	1	5	3	1	1
	†Retropharyngeal abscess	68	52	7	9	49	32	10	7
	Parotitis, parotid abscess	58	10	6	42	114	6	5	103
	Submaxillary or sublingual abscess	14	3	2	9	11	1	2	8
	Glossitis, ulcer of tongue	7	1	—	6	11	—	2	9
	Other (non-infective) conditions	9	1	1	7	6	1	1	4
	Total classed to 115 (2) (4)	1,018	273	260	485	1,230	229	240	761

* Deaths in 1931–34; these are now classed to No. 72*b* (2), *see* Table 6.
† Nature of infecting organism not specified.

all the deaths following tonsillectomy in the 5 years since deaths with mention of tonsillectomy in conjunction with the disease of the tonsils necessitating the operation are classified in tabulation to the particular disease mentioned and a considerable number of deaths following operations are therefore included under other headings in the table such as enlarged tonsils. The numbers of deaths classed to diseases of the tonsils which occurred under or associated with anæsthesia are separately shown in Table CIV and corresponding tables for previous years, and the total of such deaths during 1931–35 was 231, 140 of males and 91 of females.

Table LXXXIII also classifies the deaths during 1931–35 assigned to other diseases of the mouth, throat and nasopharynx, excluding diseases of the teeth and gums. There were 447 deaths attributed to Ludwig's angina and 209 to Vincent's angina, 244 to streptococcal infections and 1,292 to infections or inflammations of unstated origin of which 172 affected the parotid gland, 21 the submaxillary gland and 4 the sublingual gland, 18 the tongue, and 117 were retropharyngeal abscesses, the remainder being infections of the pharynx or nasopharynx. With the exception of the 209 deaths from Vincent's angina and 15 from non-infective conditions the bulk of the deaths assigned to No. 115 (4) may be regarded as due to streptococcal infection.

137. **Diseases of the Prostate.**—The deaths assigned to prostatic diseases in 1935 totalled 6,626, these being classified as follows :—

	All ages.	0–	15–	35–	45–	55–	65–	75 and over.
No. 137. "Adenoma"	334	—	—	—	4	42	140	148
"Myoadenoma"	11	—	—	—	2	1	6	2
"Fibro-adenoma"	8	—	—	—	—	1	2	5
"Fibroid"	3	—	—	—	1	1	1	—
Hypertrophy and other conditions	4,414	—	5	7	68	567	1,721	2,046
Total (No. 137)	4,770	—	5	7	75	612	1,870	2,201
No. 51. Cancer of prostate	1,856	—	2	5	73	359	851	566

No real distinction can be made between the conditions described as adenoma and prostatic hypertrophy on death certificates, and the other conditions included in No. 137 are of little numerical importance, so this group may be regarded as representing the prostatic enlargements not diagnosed as malignant.

The proportion of total deaths returned as cancer declines with advancing age, being 49 per cent. at 45–55, 37 at 55–65, 31 at 65–75 and 20 per cent. at 75 and over.

The changes in the standardized death rates of the prostatic diseases certified as malignant and of those not so certified since 1911–20 are compared below :—

Standardized death rates per million living.

	1911–20.	1921–30.	1930.	1931.	1932.	1933.	1934.	1935.
Cancer of prostate	26·5	47·7	54·9	56·4	58·5	57·4	56·2	62·1
Other diseases of prostate	89	125	150	153	161	162	160	163

Whereas the cancer rate increased between 1911–20 and 1935 by 134 per cent., that for other prostatic diseases increased by 83 per cent., and during the last 5 years the rates of increase have been 13 and 9 per cent. respectively. There can be little doubt

that part of the increase for cancer of the prostate is due to more complete certification of the malignancy and it cannot be decided from these figures whether malignant growths have increased in recent years more rapidly than the non-malignant enlargements, but there can be little doubt that the combined mortality from these causes (after correcting for the effect of the increasing proportion of old men in the population) is steadily increasing.

140–150. **Maternal Mortality.**—*Deaths and their Classification.* The number of deaths assigned to diseases of pregnancy, childbirth and the puerperal state was 2,457 (Tables 6, 21 and LXXXIV), of which 353 or 14·4 per cent. were assigned to abortion, 74 or 3·0 per cent. to ectopic gestation, and the remainder to other diseases and accidents arising from pregnancy and childbirth.

In addition 94 deaths from criminal abortion were assigned to various forms of violence, *e.g.*, suicide, murder, etc., in accordance with the verdicts recorded by the coroners' juries (Tables 25 and LXXXVII), and 712 deaths of pregnant or parturient women who suffered from various non-puerperal diseases (Table LXXXV) were classified to those diseases. The assignment of deaths, attributed to a non-puerperal cause in association with pregnancy or the puerperal state, to the maternal cause on the one hand or to the associated cause on the other is carried out in accordance with rules of precedence outlined in the Manual of the International List of Causes of Death.

It should be remembered that the 712 deaths defined by this process as " not classed to pregnancy or childbearing but returned as associated therewith," resulted in large part from risks to which the general population of women was exposed and a large proportion of them would have occurred if these women had not been pregnant. Every pregnant woman is exposed to about the same hazards of dying from causes unconnected with pregnancy as if she had not been pregnant, and if she does so die the fact of pregnancy or recent parturition is usually mentioned on the death certificate on the grounds that notwithstanding that normal childbearing is a physiological process it is difficult to assert categorically that in the presence of some serious disease it did not, by diminishing the reserves of strength or by some other means, render recovery more difficult. The introduction of the new form of certificate in 1927 undoubtedly resulted in a more complete recording of associated childbearing, since this might in many instances be regarded as " contributing to death but not related to the immediate cause," though neither " primary " nor " secondary " in the terminology of the old form of certificate.

A study of the trend of deaths before and after 1927 leads to the conclusion that about one-fifth of the deaths now classed as associated with childbearing would have escaped recognition as such in the death registers prior to the introduction of the new

certificate; and this should be borne in mind when comparing recent rates with those prior to 1927.

A detailed discussion of this and many other factors which must be taken into account when comparing statistics of maternal mortality with those of years prior to 1931, or with those of other countries, was included in the Review for 1933, pp. 96–113, to which reference should be made before drawing conclusions from such comparisons.

Table LXXXIV gives in full detail of civil condition, age and cause, the deaths of women registered during 1935 which were classed to pregnancy and childbearing, that is to say to International groups 140–150, and to criminal abortion amongst the violent causes (Nos. 171, 175, 194, 195). The analysis contained in this table and its predecessors was summarized for each year 1924–33 in Table LXXI of the Review for 1933, and reference may be made to that table and to Table LXXVIII in the Review for 1934 in order to compare the deaths of married, single or widowed women from specific causes during 1935 with those registered in previous years. The total deaths from causes other than abortion (Nos. 142–150) during each year 1931 to 1935, distributed by civil condition and age, have been as follows, the numbers of live and still births registered in each year being also shown.

	1931	1932	1933	1934	1935
Total deaths (Nos. 142–150) ..	2,254	2,208	2,240	2,354	2,104
Single (or divorced)	117	108	123	127	106
Married	2,121	2,084	2,101	2,211	1,986
Widowed ..	16	16	16	16	12
Ages 10— ..	—	—	1	—	—
15— ..	68	62	61	59	63
20— ..	383	321	366	372	327
25— ..	581	576	617	638	554
30— ..	578	553	501	585	541
35— ..	414	435	455	441	404
40— ..	207	234	215	235	185
45 and over	23	27	24	24	30
Live and still births ..	659,014	640,443	605,497	622,851	624,191

Table LXXXV gives in similar detail of age, and by civil condition for the total, the causes to which the deaths classed as *associated with, though not due to, pregnancy or childbearing* were assigned, those associated with abortion being also distinguished at the foot of the table. The total consisted of 25 single, 683 married and 4 widowed women, compared with average numbers during 1931–34 of 40, 753 and 6 respectively. The annual totals of these deaths in the 5 years 1931 to 1935 have been 911, 713, 828, 747 and

712, part of the fluctuation being accounted for by influenza epidemics. Chronic nephritis accounted for 69 (71 in 1934), acute yellow atrophy, for 39 (32 in 1934) and lobar pneumonia for 75 (83 in 1934). Deaths assigned to intestinal obstruction numbered 43 (49 in 1934), including 14 from ileus following Cæsarean section.

The effect of the operation of the rules of preference upon the distribution of deaths between Tables LXXXIV and LXXXV was discussed in the Review for 1933, and the conclusion was reached that complete reliance upon the order of statement on the certificate of death rather than upon the rules of selection defined in the Manual of the International List of Causes of Death would not affect the *totals* assigned to maternal and non-maternal causes to any appreciable extent, although it would result in considerable transfers between the sub-groups making up the totals. The causes most affected would be puerperal sepsis on the one hand, and the associated causes mentioned above, namely intestinal obstruction, acute yellow atrophy, lobar pneumonia and chronic nephritis, on the other, to all of which the rules give an unduly high order of preference.

No national statistics are available of the frequency with which *Cæsarean section* is resorted to, but the deaths with mention of the operation, whether assigned to puerperal or non-puerperal causes, were increasing until 1931 (Table LXXXVI). In 1921–23 and succeeding triennia to 1930–32 they averaged 103, 117, 142 and 164 per annum, and in 1933 numbered 170, in 1934 161, and in 1935 195, giving a triennial average of 175.

All deaths classified as caused by or associated with *abortion* are brought together in Table LXXXVII under the various headings, with corresponding figures for previous years for which the information is available.

It should be noted that abortions resulting from other complications of pregnancy or induced therapeutically on that account are still classed to Nos. 143, 146, 147 and do not appear under any of the "abortion" headings unless there was some more important associated condition causing the death to be classed to one of the "associated" causes in Table LXXXV.

Special enquiries were made during 1935 regarding the deaths classified as due to pregnancy or child-bearing as to whether the deceased had been delivered of a live or still-born child, or whether there had been an abortion, or death had occurred whilst in the pregnant state (which would include some incomplete abortions), and the results of these enquiries are shown in Table LXXXVIII. There were 40 deaths classed to albuminuria, eclampsia, other toxæmias and "other accidents" of pregnancy in which an abortion was ascertained to have occurred. How many of these occurred spontaneously and how many by therapeutic induction was not ascertained. Such abortions which are secondary to toxæmia or to some other morbid condition of pregnancy, and of which mention

Table LXXXIV.—Deaths of Women classed to Pregnancy and Childbearing, 1935.

Cause of Death.	All Ages	Civil Condition.			Ages.						
		Single.	Married.	Widowed.	15–	20–	25–	30–	35–	40–	45 and upwards
140. Post abortive sepsis	262	34	222	6	8	26	70	79	52	25	2
Single	—	34	—	—	7	9	11	5	2	—	—
Married	—	—	222	—	1	17	58	71	49	24	2
Widowed	—	—	—	6	—	—	1	3	1	1	—
Tetanus	1	—	1	—	—	—	—	1	—	—	—
Streptococcal infection	22	3	19	—	1	2	8	4	4	3	—
Pneumococcal infection	1	—	1	—	—	—	—	—	1	—	—
Staphylococcal infection	1	—	1	—	1	—	—	—	—	—	—
Gas gangrene	1	—	1	—	—	—	—	—	1	—	—
Infective endocarditis	3	—	3	—	—	1	—	2	—	—	—
Septic pneumonia	5	3	2	—	1	—	2	1	1	—	—
Septicæmia	86	12‡	71	3	2	9	23	23	17	12	—
Sepsis	18	2	16	—	—	3	3	7	2	3	—
Septic intoxication, sapræmia.	22	4	17	1	1	1	6	7	3	4	—
Pelvic peritonitis	10	—	10	—	—	—	1	4	4	1	—
Peritonitis	52	7	44	1	2	8	16	15	8	2	1
Perforated pyosalpinx	1	—	1	—	—	—	—	—	1	—	—
Endometritis	14	—	14	—	—	—	3	6	5	—	—
Parametritis	2	—	2	—	—	—	—	—	1	—	1
Erysipelas	1	—	1	—	—	—	—	1	—	—	—
Pyæmia	5	2	3	—	—	1	1	2	1	—	—
Pelvic cellulitis	8	—	8	—	—	1	1	3	3	—	—
Pelvic abscess	4	1	3	—	—	—	3	1	—	—	—
Other specified septic conditions.	5	—	4	1	—	—	3	2	—	—	—
141. Abortion not returned as septic	91	3	86	2	1	9	17	19	25	18	2
Single	—	3	—	—	1	1	—	1	—	—	—
Married	—	—	86	—	—	8	17	17	24	18	2
Widowed	—	—	—	2	—	—	—	1	1	—	—
(1) Hæmorrhage following abortion.	71	2	67	2	1	4	14	14	23	13	2
Single	—	2	—	—	1	1	—	—	—	—	—
Married	—	—	67	—	—	3	14	13	22	13	2
Widowed	—	—	—	2	—	—	—	1	1	—	—
(2) Without record of hæmorrhage.	20	1	19	—	—	5	3	5	2	5	—
Single	—	1	—	—	—	—	—	1	—	—	—
Married	—	—	19	—	—	5	3	4	2	5	—
Widowed	—	—	—	—	—	—	—	—	—	—	—
142. Ectopic gestation	74	5	68	1	1	6	14	19	21	11	2
Single	—	5	—	—	—	1	2	2	—	—	—
Married	—	—	68	—	1	5	12	17	21	11	1
Widowed	—	—	—	1	—	—	—	—	—	—	1
143. Other accidents of pregnancy	16	—	14	2	—	—	2	4	6	2	2
Single	—	—	—	—	—	—	—	—	—	—	—
Married	—	—	14	—	—	—	2	4	4	2	2
Widowed	—	—	—	2	—	—	—	—	2	—	—
Hydatidiform mole	8	—	6	2	—	—	1	2	3	—	2
Hydramnios	3	—	3	—	—	—	1	1	1	—	—
"Pregnancy" (unqualified)	5	—	5	—	—	—	—	1	2	2	—
144. Puerperal hæmorrhage	253	5	246	2	—	34	60	65	50	38	6
Single	—	5	—	—	—	3	1	1	—	—	—
Married	—	—	246	—	—	31	59	64	49	37	6
Widowed	—	—	—	2	—	—	—	—	1	1	—
(*a*) Placenta prævia	123	3	119	1	—	10	22	37	30	22	2
Single	—	3	—	—	—	1	1	1	—	—	—
Married	—	—	119	—	—	9	21	36	29	22	2
Widowed	—	—	—	1	—	—	—	—	1	—	—
(*b*) Other puerperal hæmorrhage.	130	2	127	1	—	24	38	28	20	16	4
Single	—	2	—	—	—	2	—	—	—	—	—
Married	—	—	127	—	—	22	38	28	20	15	4
Widowed	—	—	—	1	—	—	—	—	—	1	—
Post partum hæmorrhage	65	1	63	1	—	15	18	16	7	8	1
Adherent or retained placenta.	54	1	53	—	—	8	17	11	10	6	2
Accidental hæmorrhage	11	—	11	—	—	1	3	1	3	2	1

Cause of Death.	All Ages.	Civil Condition.			Ages.						
		Single.	Married.	Widowed.	15–	20–	25–	30–	35–	40–	45 and upwards
145. Puerperal sepsis not returned as post-abortive.	744	43	697	4	29	139	204	205	120	42	5
Single	—	43	—	—	13	11	5	12	2	—	—
Married	—	—	697	—	16	127	199	191	118	41	5
Widowed	—	—	—	4	—	1	—	2	—	1	—
(*a*) Puerperal septicæmia and pyæmia.	744	43	697	4	29	139	204	205	120	42	5
Single	—	43	—	—	13	11	5	12	2	—	—
Married	—	—	697	—	16	127	199	191	118	41	5
Widowed	—	—	—	4	—	1	—	2	—	1	—
Streptococcal infection ..	62	3	58	1	1	11	18	17	11	3	1
Staphylococcal infection	1	—	1	—	1	—	—	—	—	—	—
Pneumococcal infection ..	4	—	4	—	1	2	—	—	—	1	—
Gonococcal infection ..	2	1	1	—	—	1	1	—	—	—	—
Bacillus coli infection ..	5	—	5	—	—	1	2	1	1	—	—
Gas gangrene	4	—	4	—	1	—	2	1	—	—	—
Septic phlegmasia alba dolens, phlebitis, thrombosis.	39	2	37	—	—	6	7	8	12	6	—
Septic pneumonia ..	6	1	5	—	—	3	1	—	1	1	—
Septic endocarditis ..	8	—	8	—	—	2	3	2	1	—	—
Toxic myocarditis ..	3	—	3	—	—	—	1	1	1	—	—
Septicæmia	234	16	216	2	8	42	57	73	37	15	2
Sepsis	101	4	97	—	4	19	29	30	12	7	—
Septic intoxication, sapræmia.	30	3‡	27	—	1	6	9	8	4	2	—
Pelvic peritonitis ..	15	2	13	—	3	4	3	4	1	—	—
Peritonitis	74	3	71	—	4	13	22	19	12	3	1
Salpingitis	7	1	6	—	—	1	2	2	2	—	—
Metritis	6	—	5	1	1	—	1	3	—	1	—
Endometritis	42	—	42	—	—	5	10	13	11	2	1
Parametritis	6	—	6	—	—	3	1	1	1	—	—
Erysipelas	2	—	2	—	—	—	—	1	1	—	—
Pyæmia	13	1	12	—	—	4	6	2	—	1	—
Pelvic cellulitis	26	—	26	—	1	5	10	6	4	—	—
Pelvic abscess	5	2	3	—	—	—	4	1	—	—	—
Other specified septic conditions.	8	1	7	—	—	3	2	1	2	—	—
"Puerperal fever" ..	41	3	38	—	3	8	13	11	6	—	—
(*b*) Puerperal tetanus ..	—	—	—	—	—	—	—	—	—	—	—
146. Puerperal albuminuria and convulsions.	348	18	328	2	18	67	91	79	57	27	9
Single	—	18	—	—	2	4	10	—	—	1	1
Married	—	—	328	—	16	63	81	78	56	26	8
Widowed	—	—	—	2	—	—	—	1	1	—	—
(1) Puerperal convulsions ..	256	13	242	1	13	53	71	62	36	17	4
Single	—	13	—	—	1	3	7	—	—	1	1
Married	—	—	242	—	12	50	64	62	35	16	3
Widowed	—	—	—	1	—	—	—	—	1	—	—
(2) Other conditions under 146	92	5	86	1	5	14	20	17	21	10	5
Single	—	5	—	—	1	1	3	—	—	—	—
Married	—	—	86	—	4	13	17	16	21	10	5
Widowed	—	—	—	1	—	—	—	1	—	—	—
147. Other toxæmias of pregnancy ..	138	10	128	—	4	25	29	35	31	12	2
Single	—	10	—	—	—	8	2	—	—	—	—
Married	—	—	128	—	4	17	27	35	31	12	2
Widowed	—	—	—	—	—	—	—	—	—	—	—
Chorea of pregnancy	6	1	5	—	—	4	2	—	—	—	—
Toxæmia of pregnancy ..	95	5	90	—	3	12	18	21	28	11	2
Puerperal toxæmia	2	—	2	—	—	—	1	1	—	—	—
Uncontrollable vomiting ..	35	4	31	—	1	9	8	13	3	1	—
148. Puerperal phlegmasia alba dolens, embolism and sudden death.	165	10	155	—	4	13	41	56	38	12	1
Single	—	10	—	—	1	2	2	5	—	—	—
Married	—	—	155	—	3	11	39	51	38	12	1
Widowed	—	—	—	—	—	—	—	—	—	—	—
(*a*) Puerperal phlegmasia alba dolens not returned as septic.	43	3	40	—	1	2	7	15	15	2	1
Single	—	3	—	—	1	—	1	1	—	—	—
Married	—	—	40	—	—	2	6	14	15	2	1
Widowed	—	—	—	—	—	—	—	—	—	—	—
(*b*) Puerperal embolism and sudden death.	122	7	115	—	3	11	34	41	23	10	—
Single	—	7	—	—	—	2	1	4	—	—	—
Married	—	—	115	—	3	9	33	37	23	10	—
Widowed	—	—	—	—	—	—	—	—	—	—	—

Cause of Death.	All Ages.	Civil Condition.			Ages.						
		Single.	Married.	Widowed.	15–	20–	25–	30–	35–	40–	45 and upwards
149. Other accidents of childbirth ..	311	14	296	1	7	32	96	68	72	35	1
Single	—	14	—	—	1	5	4	4	—	—	—
Married	—	—	296	—	6	27	92	64	71	35	1
Widowed	—	—	—	1	—	—	—	—	1	—	—
Contracted pelvis	79	5	74	—	2	11	24	18	20	4	—
Craniotomy	2	—	2	—	—	—	—	1	1	—	—
Instrumental delivery ..	15	1	13	1	1	1	7	—	5	1	—
Malpresentation	42	2	40	—	—	5	13	13	7	4	—
Version	4	—	4	—	—	—	2	2	—	—	—
Abnormal fœtus	15	—	15	—	1	1	4	6	2	1	—
Difficult and prolonged labour	51	2	49	—	1	6	15	6	15	7	1
Cæsarean section (reason unstated).†	16	—	16	—	—	1	5	2	4	4	—
Rupture of uterus	23	2	21	—	—	2	5	3	5	8	—
Rupture of vagina	1	—	1	—	—	—	1	—	—	—	—
Rupture of bladder	1	—	1	—	—	—	1	—	—	—	—
Inversion of uterus	7	—	7	—	—	1	5	1	—	—	—
Uterine inertia	18	1	17	—	—	2	4	6	4	2	—
Atony of uterus	2	—	2	—	—	—	1	—	1	—	—
Rigid cervix uteri	4	—	4	—	—	—	1	—	1	2	—
Atresia of vagina	1	—	1	—	—	—	1	—	—	—	—
Adherent and retained placenta	20	—	20	—	1	2	5	7	5	—	—
Precipitate labour	5	1	4	—	1	—	—	1	2	1	—
Multiple birth	5	—	5	—	—	—	2	2	—	1	—
150. Other or unspecified conditions of the puerperal state.	55	1	54	—	—	11	17	10	9	6	2
Single	—	1	—	—	—	—	—	1	—	—	—
Married	—	—	54	—	—	11	17	9	9	6	2
Widowed	—	—	—	—	—	—	—	—	—	—	—
(1) Puerperal insanity ..	15	—	15	—	—	5	6	1	2	1	—
Single	—	—	—	—	—	—	—	—	—	—	—
Married	—	—	15	—	—	5	6	1	2	1	—
Widowed	—	—	—	—	—	—	—	—	—	—	—
(2) Puerperal diseases of the breast.	16	1	15	—	—	2	7	3	3	1	—
Single	—	1	—	—	—	—	—	1	—	—	—
Married	—	—	15	—	—	2	7	2	3	1	—
Widowed	—	—	—	—	—	—	—	—	—	—	—
(3) Childbirth (unqualified) ..	24	—	24	—	—	4	4	6	4	4	2
Single	—	—	—	—	—	—	—	—	—	—	—
Married	—	—	24	—	—	4	4	6	4	4	2
Widowed	—	—	—	—	—	—	—	—	—	—	—
(with secondary causes as follows):—											
Anæmia	8	—	8	—	—	1	2	1	3	—	1
Myocarditis	1	—	1	—	—	—	—	1	—	—	—
Coronary thrombosis ..	1	—	1	—	—	—	—	—	—	1	—
Pneumonia	3	—	3	—	—	—	—	1	1	1	—
Broncho pneumonia ..	2	—	2	—	—	—	1	—	—	—	1
Lung abscess	2	—	2	—	—	—	—	2	—	—	—
Pulmonary congestion ..	2	—	2	—	—	1	—	—	—	1	—
Meningitis	1	—	1	—	—	1	—	—	—	—	—
Cystitis	1	—	1	—	—	—	1	—	—	—	—
Cardiac failure	3	—	3	—	—	1	—	1	—	1	—
Total (including abortion other than criminal).	2,457	143*	2,294	20	72	362	641	639	481	228	34
Single	—	143*	—	—	25	44	37	31	4	1	1
Married	—	—	2,294	—	47	317	603	601	470	224	32
Widowed	—	—	—	20	—	1	1	7	7	3	1
Total from causes other than abortion (Nos. 142–150).	2,104	106*	1986	12	63	327	554	541	404	185	30
Single	—	106*	—	—	17	34	26	25	2	1	1
Married	—	—	1,986	—	46	292	528	513	397	182	28
Widowed	—	—	—	12	—	1	—	3	5	2	1
Criminal abortion (*see* Table 25)	94	28	66	—	7	16	26	24	17	4	—
Single	—	28	—	—	6	8	9	3	1	1	—
Married	—	—	66	—	1	8	17	21	16	3	—
Widowed	—	—	—	—	—	—	—	—	—	—	—

* Including 2 divorced women. ‡ Including 1 divorced woman.

† In addition, Cæsarean section was stated to have been performed in the cases of 126 deaths included under other headings in this table—ante partum hæmorrhage 1, placenta prævia 18, accidental hæmorrhage 3, puerperal albuminuria and convulsions 9, toxæmia of pregnancy 7, contracted pelvis 40, malpresentation 9, disproportion 11, difficult and prolonged labour 19, ruptured uterus 2, uterine inertia 3, rigid os uteri 2, twin pregnancy 1, and adhesive peritonitis 1.

Table LXXXV.—Deaths of Women not Classed to Pregnancy or Childbearing, but returned as associated therewith, 1935.

	Cause of Death.	All Ages.	Ages. 15–	20–	25–	30–	35–	40–	45 and upwards.
1	Typhoid Fever	1	—	—	1	—	—	—	—
7	Measles	1	—	1	—	—	—	—	—
8	Scarlet Fever	5	—	—	2	2	1	—	—
11	Influenza	33	1	2	12	9	6	3	—
15	Non-puerperal Erysipelas	2	—	—	—	—	—	2	—
17	Encephalitis Lethargica	1	—	—	1	—	—	—	—
18	Cerebro Spinal Fever	2	—	1	1	—	—	—	—
23	Tuberculosis of respiratory system	48	1	5	15	17	8	2	—
24–32	Other forms of tuberculosis	5	—	1	3	1	—	—	—
34 (*a*)	Congenital syphilis	1	—	—	1	—	—	—	—
34 (*b*) (*c*)	Syphilis acquired or unspecified	4	—	—	—	1	2	1	—
35 (2)	Gonorrhœa	1	—	1	—	—	—	—	—
36 (*a*) (*b*)	Non-puerperal septic infection	2	—	1	1	—	—	—	—
45–53	Cancer	9	—	1	1	—	3	3	1
54 (*a*)	Non-malignant tumours of female genital organs	16	—	1	1	8	4	2	—
54 (*b*) 55 (*b*)	Tumours of other sites	4	—	1	1	—	2	—	—
56	Rheumatic fever	10	1	5	3	1	—	—	—
57 (2)	Rheumatoid arthritis	1	—	—	—	—	1	—	—
59	Diabetes	13	1	2	3	5	1	1	—
66 (*a*)	Adenoma of thyroid	1	—	—	—	1	—	—	—
66 (*b*)	Exophthalmic goitre	12	—	1	1	3	7	—	—
69 (1)	Amyloid disease of unstated origin	2	—	—	1	—	—	1	—
70 (*a*)	Thrombocytopænia	1	—	—	—	1	—	—	—
71 (*a*)	Pernicious anæmia	9	—	—	4	1	3	1	—
71 (*b*)	(2) Anæmia	2	—	1	—	1	—	—	—
72 (*a*)	Leukæmia	1	—	1	—	—	—	—	—
81	(3) Myelitis	1	—	—	1	—	—	—	—
83	General paralysis of the insane	1	—	—	—	—	1	—	—
84 (*b*)	Dementia	1	—	—	—	—	—	1	—
85	Epilepsy	6	—	1	3	2	—	—	—
87 (*b*)	Peripheral Neuritis	1	—	—	1	—	—	—	—
87 (*e*)	Hysteria	1	—	—	1	—	—	—	—
89 (*a*)	Otitis media	1	—	—	—	1	—	—	—
89 (*b*)	Mastoiditis	1	—	—	—	1	—	—	—
90	Pericarditis	1	—	—	1	—	—	—	—
91 (1)	Malignant Endorcarditis	8	—	2	3	1	2	—	—
91 (2)	Acute endocarditis	1	—	—	—	1	—	—	—
92 (2)	Mitral valve disease	76	1	9	21	20	20	5	—
92 (3, 4, 5)	Other or unspecified valvular disease	38	—	4	13	7	9	5	—
93 (*a*)	Acute myocarditis	1	—	—	—	—	1	—	—
93 (*b*)	(1) Fatty heart	13	—	1	5	2	2	3	—
93 (*b*)	(3), 93 (*c*) Other or unspecified myocardial disease	41	—	1	6	9	15	10	—
94	Diseases of the coronary arteries	1	—	—	—	—	1	—	—
95	Other diseases of the heart	7	—	2	1	2	2	—	—
96	Aneurysm	2	—	—	—	1	1	—	—
97 (3)	Arterio sclerosis	1	—	—	—	1	—	—	—

Table LXXXV.—*continued.*

	Cause of Death.	All Ages.	Ages. 15–	20–	25–	30–	35–	40–	45 and upwards.
99	Other diseases of the artieries	3	1	—	—	1	—	1	—
100 (1)	Varix	5	—	—	1	1	1	2	—
100 (2)	Non-puerperal phlebitis	1	—	—	—	1	—	—	—
106	Bronchitis	8	—	2	—	1	2	3	—
107	Broncho pneumonia	18	—	5	5	2	5	1	—
108	Lobar pneumonia	75	2	14	16	19	21	2	1
109	Pneumonia (not otherwise defined)	9	—	—	—	4	4	1	—
110 (1)	Empyema	2	—	—	2	—	—	—	—
110 (2)	Other pleurisy	2	—	—	2	—	—	—	—
112	Asthma	5	—	1	1	1	1	1	—
114 (*b*)	(2) Pulmonary abscess (nature unstated)	2	—	1	1	—	—	—	—
115 (1)	Dental abscess	4	—	—	1	2	—	1	—
115 (3)	Diseases of the tonsils	3	1	—	—	1	—	1	—
115 (4)	Other diseases of the buccal cavity, pharynx, etc.	2	—	—	—	1	1	—	—
117 (*a*)	Ulcer of the stomach	2	—	1	1	—	—	—	—
118	Gastritis	1	—	—	—	1	—	—	—
119 & 120 (*a*)	(2) Enteritis	1	—	—	—	1	—	—	—
119 & 120 (*b*)	Ulcerative colitis	1	—	—	1	—	—	—	—
121	Appendicitis	10	—	1	5	2	—	2	—
122 (*a*)	(1) Strangulated hernia	1	—	—	—	1	—	—	—
122 (*b*)	Intestinal obstruction	43	1	6	10	10	11	4	1
125 (1)	Acute yellow atrophy	39	2	5	16	8	6	1	1
125 (2)	Jaundice	1	—	—	—	1	—	—	—
127 (1)	Cholecystitis	1	—	—	—	1	—	—	—
131	Chronic nephritis	69	1	5	18	18	17	9	1
133 (a)	Pyelonephritis	1	—	—	1	—	—	—	—
133 (*b*)	Other diseases of the kidney and annexa	3	—	—	1	2	—	—	—
134 (*b*)	Calculi of the bladder	1	—	1	—	—	—	—	—
139 (*b*)	Non-puerperal pyometra	1	—	—	1	—	—	—	—
151	Carbuncle	1	—	—	—	1	—	—	—
152 (2)	Abscess of thigh	1	—	—	—	—	1	—	—
153	Eczema	1	—	1	—	—	—	—	—
163–198	Violence	5	—	2	—	1	—	2	—
	Total	712*	13	90	191	180	162	71	5
	Single	25	3	6	6	5	4	1	—
	Married	683	10	84	185	172	158	69	5
	Widowed	4	—	—	—	3	—	1	—
Associated with abortion (included above)		74	1	8	16	18	19	12	—
	Single	5	—	1	2	—	2	—	—
	Married	69	1	7	14	18	17	12	—
	Widowed	—	—	—	—	—	—	—	—

* Of these 712 deaths, 207 were stated to be associated with pregnancy, 74 with abortion, 45 with premature delivery, 28 with delivery at full term, and 358 with childbirth. Cæsarean section was stated to have been performed in the case of 53 of these deaths, of which 14 were attributed to ileus following Cæsarean section and assigned to No. 122 (*b*) above.

Table LXXXVI.—Deaths with Mention of Cæsarean Section, 1921–1935.

	Assigned to Puerperal Causes.						Assigned to non-puerperal causes.			Total with mention of Cæsarean Section.
	Placenta prævia.	Contracted pelvis.	Albuminuria, etc.	Other specified.	Reason not stated.	Total.	Intestinal obstruction.	Other Causes.	Total.	
1921 ..	4	19	3	13	50	89	5	18	23	112
1922 ..	5	9	9	25	20	68	7	13	20	88
1923 ..	1	8	8	35	33	85	5	18	23	108
1924 ..	7	39	6	32	4	88	11	13	24	112
1925 ..	9	31	8	32	10	90	11	18	29	119
1926 ..	6	40	16	30	5	97	10	12	22	119
1927 ..	5	24	10	56	2	97	8	23	31	128
1928 ..	9	40	16	46	2	113	11	24	35	148
1929 ..	15	55	9	17	8	104	11	35	46	150
1930 ..	11	43	8	25	5	92	23	27	50	142
1931 ..	14	54	16	41	10	135	16	32	48	183
1932 ..	13	46	10	38	9	116	22	30	52	168
1933 ..	10	51	9	39	16	125	21	24	45	170
1934 ..	6	33	16	42	9	106	23	32	55	161
1935 ..	18	40	9	59	16	142	17	36	53	195

Table LXXXVII.—Deaths attributed to, or associated with, Abortion, 1926-35.

Old List No.	New List No.		1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934	1935.
Part of 146	140	Post-abortive sepsis ..	222	215	224	238	300	229	262	257	295	262
	141	Abortion not returned as septic :—										
Part of 143c		(1) Hæmorrhage following abortion.	72	72	47	51	59	97	105	108	94	71
143a		(2) Without record of hæmorrhage.	86	82	77	67	65	21	12	13	5	20
199, 202	VI (Table 25).	Criminal abortion (inquest cases).	51	47	57	67	67	79	69	85	100	94
		Total attributed to abortion.	431	416	405	423	491	426	448	463	494	447
		Associated with abortion but not classed to it.	?	?	83	182*	77	77	90	97	64	74
		Total attributed to, and associated with, abortion.	?	?	488	605	568	503	538	560	558	521

* The excessive number of deaths associated with abortion but not classed to it in 1929 was partly due to the influenza epidemic of that year and partly to the allocation to abortion rather than to childbirth for that year only of 63 deaths said to be associated with premature delivery without definition as to length of gestation.

is not always made on death certificates, are in a class by themselves, and there would seem to be little justification for including them in the total of abortion deaths.

The three deaths attributed to puerperal phlegmasia alba dolens not returned as septic which were found on enquiry to have followed an abortion, were probably cases of post-abortive sepsis, but there was no mention of a septic condition. The unsatisfactory classification of the hæmorrhages of pregnancy in the last revision of the International List, a somewhat confused terminology, and a frequent failure to distinguish between abortion and stillbirth are responsible for the fact that 16 deaths classed to No. 141(1) under

the heading "Hæmorrhage following abortion," were found by this special enquiry to have followed a still or live birth, and that, on the other hand, 4 deaths classed to No. 144(*a*), "Placenta prævia," were found to have followed an abortion. The terms "ante-partum hæmorrhage" and "accidental hæmorrhage of pregnancy" were placed in the list under the heading of abortion, whilst "unavoidable hæmorrhage" was allocated to No. 144(*a*) and accidental hæmorrhage "of parturition" or without qualification to No. 144(*b*)

Table LXXXVIII.—Deaths from Pregnancy and Child-bearing Classified by Cause, Age, Civil Condition and Outcome of Pregnancy, 1935.

Cause to which Initial Classification was made.§		Deaths following or accompanied by				Deaths in the Pregnant State.	No information obtained.	Total.
		Live Birth(s).	Still Birth(s).	Live and Still Birth.	Abortion.			
140–150.	All Causes Total	972	520	18	307	231	409	2,457
	Single	43*	23	1	36	10	30*	143
	Married	925	494	17	264	219	375	2,294
	Widowed	4	3	—	7	2	4	20
	Ages 15–	29	19	1	9	4	10	72
	20–	160	70	3	36	29	64	362
	25–	285	120	5	83	44	104	641
	30–	249	135	5	78	63	109	639
	35–	175	111	3	61	49	82	481
	40–	67	53	1	34	38	35	228
	45 up.	7	12	—	6	4	5	34
140	Post-abortive sepsis	—	—	—	213	1	48	262
141	Abortion not returned as septic—							
	(1) With record of hæmorrhage	1	15	—	31	13	11	71
	(2) Without „ „	—	1	—	15	—	4	20
142	Ectopic gestation	—	1	—	—	49	24	74
143	Other accidents of pregnancy ..	2	1	1	1	7	4	16
144	Puerperal hæmorrhage—							
	(*a*) Placenta prævia	26	41	—	4	31	21	123
	(*b*) Other puerperal hæmorrhage	88	24	—	—	1	17	130
145	Puerperal sepsis not returned as post-abortive§.	468	138	7	1†	5	125	744
146	Puerperal convulsions and albuminuria.	98	105	4	13	66	62	348
147	Other toxæmias of pregnancy ..	28	37	—	26	32	15	138
148*a*	Puerperal phlegmasia alba dolens not returned as septic.	26	9	—	3	2	3	43
148*b*	Puerperal embolism and sudden death.	71	18	1	—	3	29	122
149	Other accidents of childbirth ..	123	126	5	—	20	37	311
150 (1)	Puerperal insanity	13	—	—	—	—	2	15
150 (2)	Puerperal diseases of the breast ..	13	—	—	—	—	3	16
150 (3)	Childbirth (unqualified)	15	4	—	—	1	4	24

* Includes one divorced woman.
† Classed to this number before the additional information was received.
§ The classification by cause was not modified in the light of the information obtained in the course of the special enquiries except in the case of deaths certified as puerperal sepsis and found to be post-abortive.

A more satisfactory grouping of the hæmorrhages of pregnancy is to be expected at the next revision, but even so it must be remembered that the meanings of these terms as written on death certificates very often do not conform with their most modern definitions. The official classification of the hæmorrhages to abortion on the one hand, and to puerperal hæmorrhage on the other, has not been altered in 1935 as the result of the special

enquiries, but it is evident that correction would result in the net transfer of some 12 deaths from the abortion total to puerperal hæmorrhage. Enquiries are being continued with regard to such deaths, and in all tabulations from 1936 onwards the necessary reclassifications of the hæmorrhage deaths will be made on the basis of such enquiries, thus removing this source of error.

Deaths known to have resulted from criminal abortion numbered 94, compared with a yearly average of 80 in 1930–34 and included 28 single women. Post-abortive sepsis caused 262 deaths, the average in 1930–34 being 269. These post-abortive sepsis deaths comprised 26·0 per cent. of the total assigned to puerperal sepsis, compared with an average of 24·2 in the preceding 5 years.

Table LXXXIX.—Mortality of Women in or associated with Childbirth per Thousand Children born alive, 1891–1935.

Year.	Classification in use from 1911 onwards.				Classification in use before 1911.				Total Mortality from or associated with pregnancy or childbirth. §
	Puerperal (including post-abortive) sepsis.	Other puerperal causes including abortion§	Total mortality from pregnancy and child-bearing.§	Associated causes*	Puerperal (including post-abortive) sepsis.	Other puerperal causes including abortion§	Total mortality from pregnancy and child-bearing.§	Associated causes†	
1891–95	—	—	—	—	2·60	2·89	5·49	—	—
1896–1900	—	—	—	—	2·12	2·57	4·69	—	—
1901–05	—	—	—	—	1·95	2·32	4·27	1·29	5·56
1906–10	—	—	—	—	1·56	2·18	3·74	1·26	5·00
1911–15	1·42	2·61	4·03	0·99	1·50	2·31	3·81	1·21	5·02
1916–20	1·51	2·61	4·12	1·68	1·59	2·29	3·88	1·92	5·80
1921–25	1·40	2·50	3·90	1·14	1·48	2·21	3·69	1·35	5·04
1926–30	1·73	2·54	4·27	1·24	1·78	2·23	4·01	1·50	5·51
1931–35	1·76	2·54	4·30	1·29	1·83	2·29	4·12	1·48	5·60
1911 ..	1·43	2·44	3·87	1·04	1·52	2·15	3·67	1·24	4·91
1912 ..	1·39	2·59	3·98	0·97	1·47	2·31	3·78	1·17	4·95
1913 ..	1·26	2·70	3·96	0·91	1·34	2·37	3·71	1·16	4·87
1914 ..	1·55	2·62	4·17	0·95	1·63	2·32	3·95	1·17	5·12
1915 ..	1·47	2·71	4·18	1·09	1·56	2·38	3·94	1·38	5·27
1916 ..	1·38	2·74	4·12	0·94	1·47	2·40	3·87	1·19	5·06
1917 ..	1·31	2·58	3·89	0·95	1·39	2·27	3·66	1·18	4·84
1918 ..	1·28	2·51	3·79	3·81	1·35	2·20	3·55	4·05	7·60
1919 ..	1·67	2·70	4·37	1·93	1·76	2·36	4·12	2·18	6·30
1920 ..	1·81	2·52	4·33	1·13	1·87	2·25	4·12	1·34	5·46
1921 ..	1·38	2·54	3·92	1·08	1·46	2·25	3·71	1·29	5·00
1922 ..	1·39	2·42	3·81	1·35	1·46	2·12	3·58	1·58	5·16
1923 ..	1·30	2·52	3·82	1·00	1·38	2·22	3·60	1·22	4·82
1924 ..	1·39	2·51	3·90	1·16	1·48	2·22	3·70	1·36	5·06
1925 ..	1·56	2·52	4·08	1·07	1·62	2·24	3·86	1·29	5·15
1926 ..	1·60	2·52	4·12	1·02	1·64	2·23	3·87	1·27	5·14
1927 ..	1·57	2·54	4·11	1·32	1·63	2·20	3·83	1·60	5·43
1928 ..	1·79	2·63	4·42	1·20	1·85	2·30	4·15	1·47	5·62
1929 ..	1·80	2·53	4·33	1·49	1·83	2·24	4·07	1·75	5·82
1930 ..	1·92	2·48	4·40	1·19	1·96	2·19	4·16	1·43	5·59
1931 ..	1·66	2·45	4·11	1·44	1·71	2·22	3·93	1·62	5·55
1932 ..	1·61	2·60	4·21	1·16	1·68	2·33	4·01	1·36	5·37
1933 ..	1·83	2·68	4·51	1·43	1·90	2·42	4·32	1·62	5·94
1934 ..	2·03	2·57	4·60	1·25	2·10	2·30	4·39	1·45	5·85
1935 ..	1·68	2·42	4·10	1·19	1·75	2·20	3·95	1·34	5·29

* 712 deaths in 1935 (Table LXXXV).
† 712 deaths in Table LXXXV, and 92 from puerperal nephritis and albuminuria in 1935.
§ Excluding criminal abortion.

Many medical certificates contain no statement as to whether the sepsis followed abortion or delivery at term, and it was ascertained by a sample inquiry in 1932 that about 4 per cent. of such deaths were post-abortive sepsis, and on the basis of this the sepsis figures for the six years 1929–34 can be corrected as explained in previous Reports with the effects upon mortality rates as noted below Table XC. In 1935, as the result of the enquiries mentioned above, the correct allocation of sepsis deaths was made possible.

Rates of Mortality.—Maternal mortality rates should properly be based upon the number of pregnancies, but this number cannot be ascertained owing to the absence of statistics of abortions and of multiple births. It is, therefore, necessary to choose between some approximation to this number, such as the registered annual births, and the total living population of women of the specified class whether pregnant or not. In the Reviews for the years 1921–30, crude death rates per million women of all ages were shown in Table 5 for each puerperal cause, but from 1931 rates based upon the total births registered in each year have been substituted (Table 7). Rates of mortality from combined puerperal causes per 1,000 live births have been given in the text of the Reports since 1902, and in Table LXXXIX such rates are given from 1891–95 according to the classification in use prior to 1911, and from 1911 onwards according to both the old and revised systems.

The changes in the classification of causes in 1911 involved certain transfers of puerperal mastitis, phlegmasia alba dolens and nephritis deaths, which necessitate tabulation of the dual series of rates for comparison with earlier years.

Reliable statistics of stillbirths have been available since 1928, and as the total births, *i.e.*, live and still births, provide a closer approximation to the number of women exposed to the risk of dying from puerperal conditions than do live births alone, maternal mortality rates have been calculated since that year on both bases, and will continue to be so calculated for a sufficient period to enable statistical continuity to be assured.

For a discussion of the relative advantages of, and fallacies inherent in, the different rates used as measures of mortality risk in childbearing, reference should be made to the Review for 1933, pp. 113–116.

Table LXXXIX shows that the annual rate of total mortality from pregnancy and child bearing with exclusion of criminal abortion, ranged from 3·87 to 4·37 per 1,000 live-born children during 1911–20; and from 3·81 to 4·42 in the next decade. The years 1928–30 and 1933–34 were characterized by higher rates for puerperal sepsis than had been recorded for many years, save in 1920, and the total rate in consequence was enhanced in those years, but in 1935 it fell to 4·10.

Mortality classed to causes associated with pregnancy or childbearing ranged from 0·91 to 1·09 during 1911–17, was very high owing to influenza in the years 1918–19, and was again enhanced from the same cause in 1922, 1927, 1929, and 1933. During the four years 1923–26 before introduction of the new death certificate the rate averaged 1·06, and in 1931–35 it has averaged 1·29, but as was pointed out in the Review for 1933 an increase of about one-fifth in this rate has probably resulted from the fuller information invited by the new certificate.

Abortion deaths can only be distinguished from 1926 onwards and Table XC shows the mortality rates per thousand live births in each year 1926 to 1935 from pregnancy and childbearing with exclusion of abortion, distinguishing the sepsis mortality, and also from other causes associated with pregnancy and childbearing excluding those with mention of abortion. In the next part of the

Table XC.—Mortality rates of Women in or associated with pregnancy and childbearing, with separation of abortion, 1926-35.

Year.	Per 1,000 Live Births.				Per 1,000 Live and Still Births.					Per Million women aged 15–45.	
	Pregnancy and childbearing without abortion.			Associated causes without abortion.	Pregnancy and childbearing without abortion.			Associated causes without abortion.	Sepsis, including abortion. ‡	Abortion, including criminal.	Associated with abortion.
	Septic.	Other.	Total.		Septic.	Other.	Total.				
1926	1·28	2·29	3·57	?	—	—	—	—	—	—	—
1927	1·24	2·30	3·54	?	—	—	—	—	—	—	—
1928	1·46	2·44	3·90	1·07	1·40	2·34	3·74	1·03	1·72	42	9
1929	1·43	2·35	3·78	1·21	1·38	2·25	3·63	1·25	1·73	43*	12†
1930	1·45	2·29	3·74	1·07	1·40	2·19	3·59	1·03	1·84	50*	8
1931	1·30	2·27	3·57	1·32	1·25	2·17	3·42	1·27	1·59	43*	8
1932	1·19	2·41	3·60	1·01	1·14	2·31	3·45	0·97	1·55	46*	9
1933	1·39	2·47	3·86	1·26	1·33	2·37	3·70	1·21	1·75	47*	10
1934	1·53	2·40	3·93	1·14	1·47	2·31	3·78	1·10	1·95	51*	7
1935	1·24	2·27	3·51	1·07	1·19	2·18	3·37	1·02	1·61	46	8

* If corrected for puerperal sepsis deaths having no statement as to duration of pregnancy (*see* text) the estimated rates for 1929 to 1934 are raised to 46, 53, 46, 47, 50 and 53, and the septic and total rates excluding abortion are decreased by about 0·04 per 1,000. No correction is necessary for 1935.
† Corrected in accordance with the note below Table LXXXVIII.
‡ Excluding criminal abortion.

Table similar rates per thousand live and still births are shown for each year 1928 onwards and rates from puerperal sepsis including abortion are added. During the ten years the mortality from pregnancy and childbearing without abortion has fluctuated between maximal rates in 1928 and 1934 and minimal rates in 1927, 1931 and 1935, the lowest rate being recorded in 1935. In the last two columns are given the total abortion rates (including criminal) and the rates from non-maternal causes associated with abortion, these rates being based upon the population of women between the ages of 15 and 45. No rise in the abortion rate since 1929 is evident, and a fall occurred in 1935 compared with the previous year.

The trend of mortality rates from the separate causes can be ascertained from Table 7.

Mortality rates from each cause at three ages of the mother, based upon the estimated numbers of live and still-births at those ages calculated from Census data, were given in Table LXXV of the Review for 1933 relating to each year 1924–33, and Table LXXXV of the Review for 1934 gave similar rates at the three ages for causes other than abortion in married women based upon estimated legitimate births, and for abortion in married and single women based upon the respective estimated populations in 1930–32, 1933 and 1934.

Pending the ascertainment of age of mother at birth registration the estimated numbers of births at various ages at dates several years after the census were not thought to be sufficiently reliable to justify the calculation of similar rates for 1935.

Number of previous confinements and multiple births.—Special enquiries were made during 1935 regarding the number of previous confinements for every death classed to maternal causes and as to whether the birth was multiple or single, live or still, for every death of a married woman classed to maternal causes other than abortion. Complete replies on these matters were received relating to 1,823 of the deaths and partial replies relating to 96, and the information so obtained is analysed in Table XCI. The provisional figures have been discussed elsewhere*, and it is sufficient to note here that out of 1,436 maternal deaths following a live or still birth, 77 accompanied a twin birth, a proportion of 1 in 19. The proportion of twin to total confinements being of the order 1 in 90 it is evident that the fact of a confinement being a twin pregnancy enhanced the average mortality risk considerably.

Regional distribution.—Deaths from abortion other than criminal, and from the residual groups of septic and other causes excluding abortion, were distributed amongst the different types of area as follows :—

	England & Wales.	Greater London.	County Boroughs.*	Other urban districts.*	Rural districts.*
140. Post-abortive sepsis	262	61	83	76	42
141. Abortion, not septic	91	10	32	30	19
145. Puerperal sepsis not returned as abortion	744	95	249	245	155
142–4, 146–50. Other causes	1,360	180	444	458	278

(* Outside Greater London.)

Comparison of these totals with the corresponding figures on page 129 of the Review for 1934 shows that whilst abortion deaths declined in the county boroughs by 36 and in other urban districts by 11, there was no change in Greater London and an increase of 6

* Report of an investigation into maternal mortality, 1937. Cmd. 5422, pp. 105, 110.

in the rural areas. Puerperal sepsis deaths registered a decline of 17 in Great London, 38 in the county boroughs, 51 in other urban districts and 67 in the rural districts, whilst the other causes showed a slight fall in each class of area.

In the county boroughs as a whole there occurred one abortion death to every 6 other deaths classed to childbearing, and the county boroughs having more than 2 abortion deaths and for which this ratio exceeded 1 to 4 have been printed in italics in the paragraph which follows.

Table XCI.—Deaths of Married Women Classed to Pregnancy and Childbearing, according to previous Fertility and Outcome of the Confinement resulting in Death, 1935.

No. of previous confinements.	Total of known birth order.	With live or still birth.					Total with live or still birth.	With abortion	Deaths in the pregnant state.
		Single birth.		Multiple birth.					
		Live.	Still.	Live only.	Live and still.	Still only.			
0	787	424	231	17	10	5	687	30	70
1	333	163	66	10	1	3	243	52	38
2	197	83	41	5	—	1	130	46	21
3	130	46	29	3	1	—	79	36	15
4	99	29	21	2	—	2	54	31	14
5	81	30	18	3	1	—	52	15	14
6	48	22	10	1	1	—	34	7	7
7	43	17	8	—	—	3	28	12	3
8	32	14	8	—	1	—	23	4	5
9	13	5	5	1	—	—	11	1	1
10	24	6	14	—	—	—	20	3	1
11	11	6	2	2	—	—	10	—	1
12	11	1	4	—	—	—	5	3	3
13	6	—	1	—	—	—	1	2	3
14	5	1	3	—	—	—	4	1	—
15	2	1	—	—	—	—	1	—	1
25	1	—	—	—	—	—	—	1	—
Totals of known birth order	1,823	848	461	44	15	14	1,382	244	197
Birth order not known	—	31	19	2	2	—	54	20	22

The 123 abortion deaths in the county boroughs (including those within the boundary of Greater London) were thus located :—*Barrow-in-Furness* 3, Birkenhead 1, Birmingham 4, Blackburn 1, Blackpool 2, *Bradford* 4, Bristol 3, Burnley 1, Bury 1, Coventry 1, *Croydon* 3, Derby 1, Doncaster 1, East Ham 2, *Exeter* 1, *Gateshead* 3, Grimsby 2, Halifax 1, *Hastings* 1, *Ipswich* 1, Kingston-upon-Hull 2, *Leeds* 7, Leicester 2, Liverpool 8, Manchester 7, Middlesbrough 2,

Newcastle-on-Tyne 2, *Norwich* 1, Nottingham 4, *Oldham* 3, *Plymouth* 3, Portsmouth 3, *Preston* 2, Rotherham 1, *St. Helens* 2, Salford 1, Sheffield 5, Southampton 3, Southend-on-Sea 1, South Shields 1, Stockport 1, Stoke-on-Trent 3, Sunderland 3, Wakefield 1, *Wallasey* 4, Warrington 1, *West Bromwich* 2, *West Ham* 3, *Wigan* 2, Wolverhampton 2, York 1, Cardiff 3.

Table XCII gives an analysis of deaths of married and other women classed to abortion (excluding criminal) during 1931–35, and also during 1926–30, according to age and type of area, and of married women according to regions as defined in 1926–30. Notwithstanding a slight increase of about 0·6 per cent. in the population of all women at ages 15–45, decline in the

Table XCII.—Deaths Classed to Abortion, 1926-30 and 1931-35, by Age, Civil Condition, Class of Area and Region.

		All Ages.	15–	20–	25–	30–	35–	40–	45–	50 up
Married Women.										
England and Wales	1926–30	1,850	7	150	397	510	498	255	33	—
	1931–35	1,614	7	139	334	476	420	212	24	2
London A.C. ..	1926–30	257	1	24	80	70	73	36	3	—
	1931–35	168	—	17	35	59	38	16	3	—
County Boroughs ..	1926–30	713	2	54	163	203	186	90	15	—
	1931–35	599	7	55	117	177	150	80	12	1
Other Urban Districts	1926–30	594	1	50	143	164	151	77	8	—
	1931–35	579	—	44	127	165	160	75	8	—
Rural Districts ..	1926–30	286	3	22	41	73	88	52	7	—
	1931–35	268	—	23	55	75	72	41	1	1
North	1926–30	739	3	56	167	212	191	96	14	—
	1931–35	639	4	55	134	193	159	85	9	—
Midlands	1926–30	501	1	35	110	135	133	78	9	—
	1931–35	472	2	40	87	132	131	70	9	1
South (inc. London)	1926–30	440	3	41	87	116	129	58	6	—
	1931–35	357	1	30	82	110	87	40	6	1
Wales	1926–30	170	—	18	33	47	45	23	4	—
	1931–35	146	—	14	31	41	43	17	—	—
Single, Widowed and Divorced Women.										
England and Wales	1926–30	316	35	97	67	51	44	22	—	—
	1931–35	237	30	63	64	39	31	8	2	—
London A.C. ..	1926–30	56	3	21	17	7	4	4	—	—
	1931–35	46	2	15	20	4	4	1	—	—
County Boroughs ..	1926–30	121	15	34	24	20	18	10	—	—
	1931–35	82	14	25	19	10	12	2	—	—
Other Urban Districts	1926–30	85	10	26	15	15	16	3	—	—
	1931–35	81	9	17	17	21	13	3	1	—
Rural Districts ..	1926–30	54	7	16	11	9	6	5	—	—
	1931–35	28	5	6	8	4	2	2	1	—

number of abortion deaths occurred in 1931–35 in comparison with the preceding quinquennium, amounting for married women to 13 per cent., distributed over each age group after 20 and chiefly evident in London and the county boroughs. Amongst single, widowed and divorced women the decline amounted to 25 per cent., distributed over every age group and most pronounced in the county boroughs and rural districts.

The distribution throughout the country of the mortality ascribed to pregnancy and childbearing in 1935 is outlined in Table XCIII. The London rates, both for sepsis and other mortality, were the lowest in the table. The total rate was highest in Wales I and II, North I and II following next in order.

Puerperal fever notification.—The records of cases of puerperal fever and pyrexia notified are collated with those of births and of deaths from this cause in Table XCIII. The proportion to live births of puerperal fever cases notified is 37 per 10,000. This rate rose from 30 in 1927 to 40 in 1930, averaging 36 in the next 3 years, and may have been affected by the compulsory notification of "puerperal pyrexia," which was in force throughout the period, having commenced on October 1, 1926. "Fever" and "pyrexia" notifications combined in the five years from 1931 to 1935 totalled 128, 123, 136, 141 and 136 per 10,000 live births. The records

Table XCIII.—Distribution throughout England and Wales of Mortality of Women in Childbirth, distinguishing Septic and Other Causes, and of Prevalence of Puerperal Fever and Pyrexia, 1935.

	Per 1,000 Live Births.					Per 1,000 Live and Still Births.					"Puerperal Fever" Cases per 100 Deaths.
	Deaths.			Cases.		Deaths.			Cases.		
	Sepsis.	Other causes.	Total.	"Fever."	"Pyrexia."	Sepsis.	Other causes.	Total.	"Fever."	"Pyrexia."	
England and Wales ..	1·68	2·42	4·10	3·75	9·85	1·61	2·32	3·94	3·60	9·44	223
South-East	1·45	1·85	3·30	3·87	10·32	1·40	1·79	3·19	3·74	9·98	267
Greater London ..	1·32	1·61	2·93	4·20	11·09	1·28	1·56	2·84	4·07	10·73	317
Remainder of South-East..	1·64	2·21	3·86	3·36	9·15	1·59	2·14	3·72	3·25	8·83	205
North	1·81	2·74	4·55	3·71	10·25	1·72	2·62	4·34	3·54	9·79	205
North I	2·00	2·89	4·89	4·06	9·33	1·92	2·76	4·68	3·88	8·94	203
„ II	1·59	3·22	4·81	2·29	8·26	1·52	3·09	4·61	2·19	7·92	144
„ III	1·74	2·45	4·19	4·39	9·97	1·66	2·34	4·00	4·19	9·52	252
„ IV	1·81	2·74	4·55	3·52	11·26	1·72	2·61	4·33	3·35	10·73	195
Midland	1·73	2·31	4·04	3·50	9·10	1·66	2·21	3·87	3·35	8·72	202
Midland I	1·74	2·23	3·97	3·83	9·60	1·67	2·13	3·80	3·67	9·21	220
„ II	1·71	2·47	4·18	2·83	8·08	1·64	2·37	4·01	2·72	7·75	166
East	1·55	2·29	3·84	3·10	8·89	1·49	2·20	3·69	2·98	8·55	200
South West	1·30	2·72	4·02	2·68	10·25	1·25	2·61	3·86	2·57	9·83	206
Wales	2·40	3·83	6·23	5·31	7·81	2·27	3·62	5·89	5·02	7·38	221
Wales I	2·47	3·95	6·42	6·01	8·10	2·34	3·73	6·07	5·68	7·66	243
„ II	2·19	3·48	5·67	3·28	6·96	2·07	3·29	5·36	3·10	6·58	150
County Boroughs* ..	1·68	2·41	4·10	5·03	11·65	1·61	2·31	3·92	4·82	11·15	299
Other Urban Districts*	1·85	2·81	4·66	2·76	8·81	1·77	2·69	4·45	2·64	8·43	149
Rural Districts*.. ..	1·79	2·70	4·50	2·55	6·91	1·72	2·59	4·31	2·44	6·62	142
Greater London Admin. County	1·15	1·43	2·58	4·46	12·30	1·11	1·39	2·50	4·32	11·90	389
Greater London Outer Ring ..	1·48	1·77	3·25	3·96	10·00	1·43	1·72	3·15	3·84	9·68	267

* Excluding Greater London.

of notifications under both headings will be found in Tables 28–29 in full detail of locality. As in previous years the highest fever rates were recorded for Wales I, North III and Great London, the pyrexia rates being highest in North IV and Greater London. The fever rate was lowest in North II and the South West, and the pyrexia rate in Wales II, as in 1934.

The proportion of puerperal fever cases to sepsis deaths ranges in the regions from 144 cases notified per 100 deaths in North II to 252 in North III, the London ratio being 389.

Poisoning by solid, liquid or gaseous substances.—In the Review for 1932, Table LXVIII, the deaths,—suicidal, homicidal and accidental—caused by poisonous or corrosive substances or gases during four triennial periods 1921–23, 1924–26, 1927–29, 1930–32, were analysed, separating the principal poisons in more detail than in Table 25. This analysis is continued in Table XCIV of the present Review for a further triennium 1933–35, the figures for the 3 preceding periods being repeated from the previous tabulation. In this table deaths occurring in association with the administration of

Table XCIV.—Suicidal, Homicidal and Accidental Deaths by means of Poisonous and Corrosive Substances with detailed Analysis of those due to Analgesic and Narcotic Drugs, 1924-1935.

NOTE.—Deaths from alcoholism or *chronic* poisoning by organic or mineral substances (Nos. 75–77 of International List), or from abortion attributed to drugs taken or adminstered for that purpose, are not included in this Table. For these *see* text. Food poisoning deaths (No. 177) and deaths under anæsthetics administered for surgical purposes are also not included here. For deaths under Anæsthetics *see* Table CIII.

	Sex.	Suicide. Also Homicide (in brackets).				Accident (including "Open Verdicts").			
		1924–26.	1927–29.	1930–32.	1933–35.	1924–26.	1927–29.	1930–32.	1933–35.
Solid or Liquid Poisons and Corrosive Substances.									
Acetic acid	M.	2	2	1	3	1	1	—	2
	F.	4	1	3	3	1	—	—	—
Ammonia	M.	29	40	36	34	9	8	10	11
	F.	26	45	42	57	8	11	7	14
Antimony compounds	M.	2	3	3	2	1	—	1	—
	F.	—	—	—	—	—	—	—	—
Arsenic compounds	M.	5 (1)	15	11	14 (1)	2	4	4	6
	F.	2	6 (2)	10	7	2	2	4	3
Atophan	M.	—	—	—	—	1	—	5	4
	F.	—	—	—	—	1	4	1	3
Carbolic acid	M.	75 (1)	73	117	84	10	10	15	16
	F.	65 (1)	78	78	61	11	8	9	7
Caustic alkali	M.	—	—	2	—	2	6	7	8
	F.	—	—	1	1	1	1	—	4
Copper sulphate	M.	1	3	1	1	—	—	1	—
	F.	—	3	1	3	—	—	—	—
Cyanides not included below ..	M.	6	16	8	9	4	3	—	—
	F.	—	1	1 (1)	2	—	—	—	—
Hydrochloric acid	M.	94	116	100 (1)	152 (1)	17	8	7	10
	F.	86	77	57	92 (1)	14	6	7	5
Iodine	M.	2	3	3	4	2	1	—	—
	F.	5	3	1	3	—	2	3	2
Lead or lead salts†	M.	—	—	1	—	2	—	—	1
	F.	—	—	—	—	1	1	—	—
Mercury and its compounds ..	M.	9	10	8	9	3	3	5	3
	F.	9	13	7	5	6	—	4	1
Nicotine and preparations ..	M.	9	10	12	32	2	—	—	1
	F.	1	2	3	7	2	1	—	1
Nitric acid	M.	8	3	—	6	2	—	1	—
	F.	3	1	1	1	—	1	—	—
Oxalate of potassium	M.	—	1	—	1	—	1	—	—
	F.	2	1	1	2	—	—	—	—
Oxalic acid	M.	40	30 (1)	32	30	4	5	2	2
	F.	70	64	50	59	3	6	5	5
Permanganate of potash ..	M.	1	1	—	1	2	1	1	—
	F.	2	—	2	3	—	—	—	—
Phosphorus	M.	5	9	9	8	3	1	1	1
	F.	2	6	12 (1)	10 (1)	—	1	3	3
Potassium chromate, bichromate	M.	—	7	1	9	2	—	2	—
	F.	2	—	—	1	—	—	—	—

* *See also* under Irrespirable and Poisonous Gases. † *See* note at head of Table.

Table XCIV.—*continued.*

	Sex.	Suicide. Also Homicide (in brackets). 1924–26.	1927–29.	1930–32.	1933–35.	Accident (including "Open Verdicts"). 1924–26.	1927–29.	1930–32.	1933–35.
Solid or Liquid Poisons and Corrosive Substances—*continued.*									
Potassium cyanide	M.	75	75	147	145 (2)	4	6	10	8
	F.	12 (1)	6	19 (4)	20 (1)	2	1	3	3
Prussic acid*	M.	59	77	74	68	2	7	3	5
	F.	3	5	6	6	3	—	1	—
Quinine and its compounds	M.	—	—	—	—	1	—	—	2
	F.	—	2	—	—	1	1	2	2
Strychnine	M.	25 (1)	22	13	26 (1)	14	9	8	2
	F.	13	9	14	10 (1)	11	13	7	1
Sulphuric acid	M	7	10	12	20	—	1	5	2
	F.	2	2	4	10	1	1	—	1
Zinc or zinc salts	M.	3	4	—	2	3	1	2	2
	F.	—	—	1	—	2	2	1	1
Analgesic and narcotic drugs :—									
Methane series :—									
Alcohol (acute poisoning)†	M.	—	—	—	3	2	2	9	11
	F.	—	—	—	2	1	1	4	4
Barbituric acid group	M.	7	11	17	41	10	12	21	51
	F.	6	22	23	52	17	21	30	53
Chloral group	M.	2	—	7	2	4	2	5	1
	F.	—	—	1	3	—	2	1	5
Chloroform*	M.	3	5	2	3	1	—	—	1
	F.	2	1	3	3 (1)	—	—	—	1
Paraldehyde	M.	1	—	2	—	4	6	3	4
	F.	—	—	—	1	2	3	6	1
Sulphone group	M.	—	1	1	—	2	1	1	1
	F.	—	—	—	—	—	1	1	—
Ureides	M.	—	—	1	1	—	1	—	—
	F.	—	—	1	—	—	—	1	1
Opium series :—									
Opium, morphine, codeine and their preparations	M.	12	16	14	25	27	15	16	12
	F.	8 (1)	8	5	6	9	12	10	3
Diamorphine (heroin) and its preparations	M.	1	—	—	1	—	—	—	—
	F.	—	—	1	—	1	1	—	—
Belladonna series :—									
Belladonna, atropine and their preparations	M.	4	4	4	4	5	5	4	2
	F.	4	7	3	2	3	5	4	1
Hyoscine and its preparations	M.	—	—	—	—	1	1	—	—
	F.	—	—	—	—	1	—	—	—
Cocaine and its preparations and substitutes	M.	—	1	2	—	—	—	3	—
	F.	—	—	1	2	1	—	1	—
Coal tar analgesics, acetanilide, phenazone, pyramidon, etc.	M.	—	—	1	—	—	—	—	1
	F.	—	—	—	—	1	—	1	2
Salicyl compounds :—									
Salicylic acid and its preparations	M.	—	3	1	6	1	2	2	7
	F.	1	6	4	2	1	2	4	5
Acetyl-salicylic acid (aspirin) and its preparations	M.	—	10	18	25	—	10	8	14
	F.	—	5 (1)	17	31	2	8	13	18
Miscellaneous, including mixtures of the above	M.	5	7	9	7	6	9	8	10
	F.	4	5	9	9	4	8	3	6
Total analgesic and narcotic group	M.	35	58	79	118	63	66	80	115
	F.	25 (1)	54 (1)	68	113 (1)	43	64	79	100
Miscellaneous or ill-defined solid or liquid poisons :—									
Camphor preparations	M.	4	3	3	1	2	2	3	1
	F.	—	4	6	1	1	1	3	5
Coal tar derivatives (not otherwise described)	M.	2	—	—	4	—	—	—	—
	F.	—	—	3	1	—	—	1	—
Corrosives (not otherwise described)	M.	14	19	10	14	4	—	3	7
	F.	13 (1)	3	1 (1)	8	—	—	2	2
Cresol disinfectants other than lysol	M.	14	20	23	26	7	3	4	1
	F.	13	26	24	34	5	4	5	6
Disinfectants and fumigants (not otherwise described)	M.	2	4	9	3	—	1	2	—
	F.	2	3 (1)	6	2	—	1	1	—
Embrocations and liniments (not elsewhere included)	M.	6	11	3	6	4	10	2	8
	F.	2	6	4	3	4	2	3	2
Eucalyptus	M.	—	—	1	—	—	—	—	—
	F.	1	1	—	—	—	—	—	—
Lysol	M.	222 (1)	457 (1)	453 (1)	391 (1)	9	16	20	13
	F.	302 (1)	495 (1)	519 (1)	452	14	14	20	11

* *See also* under Irrespirable and Poisonous Gases.

† *See* note at head of Table.

Table XCIV.—*continued.*

	Sex.	Suicide. Also Homicide (in brackets). 1924–26.	1927–29.	1930–32.	1933–35.	Accident (including "Open Verdicts"). 1924–26.	1927–29.	1930–32.	1933–35.
Solid or Liquid Poisons and Corrosive Substances—*continued.*									
Plants, berries, leaves, etc. :—									
Deadly nightshade	M.	—	—	—	—	1	—	—	2
	F.	—	—	—	—	2	—	—	2
Foxglove	M.	—	—	—	1	—	1	—	—
	F.	—	—	—	—	—	—	—	—
Hemlock	M.	—	—	1	—	—	—	—	—
	F.	—	—	—	—	—	1	1	—
Fungi	M.	—	—	—	—	5	1	2	1
	F.	—	—	—	—	1	1	3	1
Poisonous berries (not otherwise defined)	M.	—	—	—	1	2	1	2	—
	F.	—	—	—	—	1	—	1	—
Woody nightshade	M.	—	—	—	—	1	—	—	—
	F.	—	—	—	—	1	—	—	—
Yew leaves	M.	—	—	—	—	—	—	1	—
	F.	—	—	1	—	—	1	1	—
Other poisonous plants	M.	—	—	—	1	2	4	—	—
	F.	—	—	—	—	1	1	2	1
Soldering fluid	M.	1	4	—	—	—	2	1	—
	F.	—	—	—	—	—	—	—	—
Turpentine	M.	1	2	1	—	1	—	—	—
	F.	—	—	1	—	2	—	—	—
Vermin destroyers and insecticides (not otherwise described)	M.	5	2	1	2	—	—	—	—
	F.	5	3	2	2	—	—	—	—
Weed killers (not otherwise described)	M.	6	6	7	2	1	—	2	1
	F.	3	1	9	—	—	—	—	—
All other solid or liquid poisons	M.	22	18	20	8	22	18	17	4
	F.	16	16	8	5	16	12	16	12
Total solid or liquid poisons and corrosive substances	M.	791 (4)	1,133 (2)	1,202 (2)	1,238 (6)	217	201	229	239
	F.	692 (5)	937 (5)	966 (8)	984 (5)	161	164	195	198
Irrespirable or Poisonous Gases.									
Coal gas	M.	1,416 (13)	2,139 (13)	2,920 (29)	3,335 (17)	197	229	235	229
	F.	859 (13)	1,221 (9)	1,662 (26)	1,997 (19)	186	245	205	242
Carbon monoxide (so stated) :—									
From coal or coke fire	M.	—	—	—	—			9	15
	F.	—	—	—	—			4	—
From gas fire, radiator or geyser	M.	—	—	—	—			8	18
	F.	—	—	—	—			9	8
From motor or petrol engine	M.	—	—	—	28	46	61	24	33
	F.	—	—	—	2	5	21	2	—
From other or unspecified source	M.	4 (2)	1	7	2			72	57
	F.	1	—	— (1)	—			3	1
Carbon dioxide (so stated)	M.	—	—	—	1	5	8	8	10
	F.	—	—	—	—	—	—	—	—
"Fumes" (so stated) :—									
From coal or coke fire	M.	—	—	—	—	4	2	7	4
	F.	—	—	—	—	—	1	—	1
From gas fire, radiator or geyser	M.	—	—	—	—	—	—	1	2
	F.	—	—	—	—	—	2	—	—
From motor car or petrol engine	M.	1	7	13	8	4	4	9	2
	F.	—	—	2	1	—	1	—	—
From oil stove or lamp	M.	—	—	—	—	3	—	—	2
	F.	—	—	—	—	2	3	—	1
Prussic acid (gas)	M.	—	—	—	—	2	—	2	—
	F.	—	—	—	—	—	—	—	2
Analgesic and narcotic drugs :—									
Chloroform vapour	M.	—	—	—	1	2	—	—	—
	F.	—	—	—	—	—	—	—	—
Nitrous oxide gas	M.	1	—	—	—	2	2	—	—
	F.	—	—	—	—	—	—	—	—
Other poisonous gases or fumes	M.	4	2	4	—	47	35	42	54
	F.	4	1	1	—	4	10	4	2
Total, Irrespirable or poisonous gases	M.	1,426 (15)	2,149 (13)	2,944 (29)	3,375 (17)	312	341	417	426
	F.	864 (13)	1,222 (9)	1,665 (27)	2,000 (19)	197	283	227	257

anæsthetics for surgical purposes are, of course, not included, but they have been analysed over the same period of years under comparable headings in Table CIII, and were shown for 1921–23 also in Table LXXIII of the Review for 1932. Deaths due to abortion recorded as produced by drugs have also been excluded. The suicidal deaths correspond to those assigned to Nos. 165–167 of the International List during 1924–30 and Nos. 163–164 from 1931 onwards; the accidental and " open verdict " deaths correspond to Nos. 177, 181 during 1924–30 and Nos. 178–179 with part of No. 195 from 1931 onwards. Homicidal deaths are also shown in the table in parentheses. The " open verdict " fatalities are included under the accident heading, that is to say, they are presumed for the purpose of this analysis not to have been suicidal or homicidal.

Deaths from alcoholism or *chronic* poisoning by organic or mineral substances, which are classed to Nos. 75–77 of the International List, are excluded, the alcohol deaths shown being those attributed to acute poisoning, usually by methylated spirits, without suggestion of habitual alcoholism. The deaths of males attributed to alcoholism in the four triennial periods defined in the Table numbered 265, 243, 150, 126 respectively, and of females 127, 107, 120, 72. From chronic poisoning by other organic substances deaths of males numbered 15, 20, 18, 10, and of females 10, 10, 7, 6. From occupational lead poisoning deaths of males numbered 119, 137, 96, 82, and of females 8, 7, 6, 4 and from other chronic poisoning by mineral substances male deaths were 10, 9, 8, 9, and female deaths 4, 2, 2, 3.

The mean standardized rate for suicide by any means whatsoever increased for males from 128 per million in 1924–26 to 154 in 1930–32 and declined slightly to 150 in 1933–35, whilst for females it increased from 50 in 1924–26 to 59 in 1930–32 and 63 in 1933-35. The distribution of the suicide rate in 1931–35 in the county boroughs and counties is shown in Table XCVII. The total suicides during the four triennial periods numbered 12,253, 14,773, 15,941 and 16,427. Suicides by means of solid or liquid poisons during the four triennial periods numbered 1,483, 2,070, 2,168, 2,222, and by means of gaseous poisons they numbered 2,290, 3,371, 4,609, 5,375. Whilst the rise in the total suicide rate and in the use of solid and liquid poisons for this purpose was almost arrested in 1933–35, the resort to gaseous poisons, chiefly coal gas, continued to increase rapidly.

The poisons which showed the most noteworthy increases as suicidal agents in 1933–35 compared with the preceding triennium were coal gas from 4,582 to 5,332 deaths, hydrochloric acid, nitric and sulphuric acids 174 to 281, nicotine and its preparations 15 to 39, barbituric acid derivatives 40 to 93, aspirin 35 to 56, opium, morphine or codeine 19 to 31, ammonia 78 to 91, and potassium chromate or bichromate 1 to 10. The drugs of the barbituric acid series to which the 93 suicides were attributed during 1933–35 were as follows :— medinal (26), veronal or barbitone (22), dial (15), luminal (14),

" barbituric acid " (7), allonal (2), soneryl (2), other or unspecified barbiturates (5). There were 40 suicides by carbon monoxide or fumes from motor or petrol engines (including the death attributed to " carbon dioxide " from this source) compared with 15 in 1930–32. Considerable decreases were recorded for carbolic acid, 195 to 145, lysol 972 to 843, and " weed killers " 16 to 2.

Accidental deaths due to solid or liquid poisons or corrosive substances increased slightly from 424 in 1930–32 to 437 in 1933–35. The increase was more than explained by the barbituric acid derivatives with 104 deaths compared with 51, the drugs involved being veronal or barbitone (31), medinal (22), luminal (21), dial (10), allonal (6), " barbituric acid " (4), soneryl (3), other or unspecified barbiturates (7). An appreciable increase occurred also for ammonia, 17 to 25, and aspirin and other salicyl compounds, 27 to 44. Accidental deaths attributed to irrespirable or poisonous gases increased from 644 to 683, chiefly due to coal gas deaths amongst women which rose from 205 to 242.

Suicide and Other Violence.—*Mortality in* 1931–35 *in separate areas of the Country.*—In the Decennial Supplement for 1911–20, Part III, Table 18, death rates from suicide and other forms of violence, at various ages and at all ages standardized, expressed as percentages of the corresponding national rates, were given for London administrative county and aggregates of all county boroughs, other urban districts and rural districts. For suicide London had the highest standardized ratio of 107 for each sex, the county boroughs 98, urban districts 98 and 100 for males and females, and rural districts 102 and 98, no appreciable effect of urbanisation being evident outside London. In 1931–35 London had a still higher standardized mortality in terms of the national rate, the ratio being 115 for the administrative county, 96 for the outer ring and 106 for Greater London as a whole. Outside Greater London the effect of urbanisation was no longer inappreciable, as shown below :—

Standardized mortality (all ages) per cent. of that in England and Wales.

	Suicide.		Other Violence.		
	Persons.	Males.		Females.	
	1931–35.	1911–20.	1931–35.	1911–20.	1931–35.
London, A.C. ..	115	102	97	133	119
London, outer ring ..	96	—	88	—	93
County boroughs* ..	106	102	94	121	108
Other urban districts*	97	100	100	85	94
Rural districts* ..	88	98	115	75	91

* Outside Greater London in 1931-35.

From other forms of violence males showed no effect of urbanisation on the death rate in 1911–20, but in 1931–35 the country districts had a considerably higher mortality than London or the towns and the ratio decreased with increasing population density from 115 in

the rural areas to 94 in the county boroughs. This is the more surprising when it is remembered that agricultural workers have accident mortalities during their working life below the average for all males. Females, on the other hand, showed both in 1911–20 and 1931–35 the reverse effect, London having the highest ratio and the rural districts the lowest, the amount of the urban excess being very considerable in the first period but less pronounced in 1931–35. Expressing the risk of violent death by external causes in the rural districts as a percentage of that in London, for males this relative proportion was 96 in 1911–20 and increased to 119 in 1931–35, whilst for females it was 56 in 1911–20 and increased to 76 in 1931–35. Causes have therefore been at work tending to enhance the rural accident risk for both sexes in comparison with that in London and the large towns.

The ages at which the change has taken place are indicated in Table XCV, where the county borough and rural district rates are expressed as percentages of the national rate both in 1911–20 and 1935. For children under 5 the much greater freedom from fatal

Table XCV.—Mortality from Violent causes (other than suicide) at various ages per cent of that in England and Wales for county boroughs and rural districts, 1911–20 and 1935.

	England and Wales, rates per million. 1935.		Male ratios.				Female ratios.			
			Rural Districts.*		County Boroughs.*		Rural Districts.*		County Boroughs.*	
	M.	F.	1911–20.	1935.	1911–20.	1935.	1911–20.	1935.	1911–20.	1935.
0—	670	469	81	94	117	104	71	94	125	101
5—	283	138	88	104	105	94	79	111	122	106
15—	534	114	113	154	87	77	110	151	99	92
25—	445	86	114	142	90	80	82	131	110	81
35—	421	86	110	136	96	92	75	110	115	72
45—	538	142	103	140	99	81	74	115	120	95
55—	715	265	94	110	106	97	64	100	125	113
65—	1,029	770	86	87	111	114	62	77	133	120
75 up	3,007	3,112	74	72	127	130	76	76	120	123
All ages (standardized ratio)	100	100	98	121	102	93	75	101	121	105

* Outside Greater London in 1935.

accident enjoyed by the rural child in 1911–20 has almost disappeared in 1935 and at the school ages 5–15 it has been replaced by a greater mortality risk in the rural districts than in the towns. At ages 15–25 there is a rural excess over the county boroughs of 100 per cent. for males and 64 per cent. for females compared with 30 and 11 per cent. in 1911–20. At 25–35 a male rural excess over the county boroughs of 27 per cent. has given place to one of 78 per cent. and a large urban excess for females at this age in 1911–20 has been replaced by a rural excess of 62 per cent., and at 35–55 similar changes have occurred, though not quite so pronounced. About the age of 55 for females and 65 for males a reversal takes place,

the urban risk then becoming greater than the rural to an increasing degree with advancing age. Whereas in 1911–20 the accident risk for females was much lower in country than town at every age except 15–25, in more recent years their accident mortality has followed that of males in the direction of rural excess at all ages between 15 and 55.

Table XCVI shows the association between urbanisation and mortality from the more important causes of violent deaths during 1935, the registered deaths being expressed as percentages of the numbers expected if the national death rates during that year had been operative at each age in the populations as estimated for 1935.

Table XCVI.—Mortality from certain forms of Violence (excluding suicides) of residents in Greater London and urban and rural aggregates, expressed as standardized percentage ratios of registered to calculated deaths, 1935.

List No.	Cause of accidental injury.	MALES.					FEMALES.				
		Total deaths.	Standardized mortality ratios.				Total deaths.	Standardized mortality ratios.			
		England and Wales.	Greater London.	County Boroughs.	Other Urban Districts.	Rural Districts.	England and Wales.	Greater London.	County Boroughs.	Other Urban Districts.	Rural Districts.
186 (4) pt.	Mechanical road transport	3,829	99	88	94	129	1,313	122	97	84	104
Do.	Railways or tramways	360	86	102	107	103	41	129	97	66	127
Do.	Other forms of transport (not water) ..	604	73	66	92	194	179	66	80	104	167
186 (1)	Fall	1,944	112	122	93	70	2,314	95	126	94	77
186 (2)	Mines and quarries ..	632	—	44	179	180	—	—	—	—	—
186 (3)	Machinery	253	63	89	124	121	6	—	—	—	—
181	Burns and scalds ..	531	86	116	101	89	801	71	113	113	89
182	Mechanical suffocation	234	109	91	109	93	155	65	110	118	93
183	Accidental drowning..	688	71	90	116	121	133	68	63	105	192

Mortality caused by mechanical road vehicles, which accounted for about a third of the total accidental deaths, was 30 per cent. greater amongst men residing in rural areas, and 11 per cent. less amongst men living in the county boroughs, than amongst male residents of Greater London. For women, however, the rate was highest in Greater London, intermediate in the county boroughs and rural districts and least in the small towns. It is important to remember that no account is taken of the place where the accident occurred, but it seems to be a necessary inference that men living in the country suffer a greater total rate of mortality due to motor vehicles, whether as drivers, passengers, cyclists or pedestrians, than do men residing in towns. From a provisional analysis of 1936 records it would appear that the male excess in country districts is almost wholly due to fatalities amongst motor cyclists. Mortality on railways or tramways showed no consistent relation with urbanisation, but for other forms of transport, chiefly pedal cycles and horse drawn vehicles, residents in country districts of each sex returned rates much above those for town dwellers.

Mortality from burns and scalds was lowest in Greater London, but for accidental mechanical suffocation Greater London gave the highest rate for males and lowest for females. The risk of death by accidental drowning became progressively smaller with increasing urbanisation of the locality of residence, and accidental male mortality in mines or quarries, or by machinery, was greatest amongst residents in small towns or rural areas.

In Table XCVII the mean annual deaths by suicide and other violence at all ages in Greater London, each county borough and each county aggregate of urban districts and of rural districts during 1931–35 are given, and in the adjoining columns they have been expressed as percentage ratios to the standard numbers. For deaths by violence other than suicide these were obtained by applying the national rates in the same period for males and females at ages 0–, 5–, 15–, 25–, 35–, 45–, 55–, 65– and 75 upwards to the estimated populations at risk in each of the groups. For suicide the grouping was for persons only at ages 0–, 15–, 25–, 45– and 65 up. The resulting standardized ratios can be regarded as corrected death rates during 1931–35 expressed as percentages of the corresponding rate for England and Wales.

The five county boroughs with highest suicide ratios were Halifax (147), Burnley (143), Brighton (141), Portsmouth (138) and Rochdale (138), and the five with lowest ratios were Barnsley (78), Sheffield (74), Rotherham (67), West Hartlepool (67) and Newport (64). For the urban and rural district aggregates suicide figures exceeding 125 or less than 75 were based upon less than 10 deaths with the exception of the high ratio for Northamptonshire urban districts (147), and the low ratios for the rural districts of Northumberland (48), Lindsey (57), Glamorgan (59), Durham (66), Berkshire, Cornwall and Dorset (71), Yorks West Riding (73).

The five county boroughs with highest male mortality figures for violence other than suicide were Warrington (136), Wigan (130), Rotherham (121), Exeter (121), and Stoke-on-Trent (118), and the four with lowest male ratios were Barrow-in-Furness (68), Norwich (68), Eastbourne (71) and Bournemouth (72). For females Sunderland (161) gave the highest figure, followed by Bradford, Leeds, Rotherham and Bury (138 for each), whilst Bournemouth (61), Merthyr Tydfil (63), Tynemouth (63) and West Ham (69) recorded the lowest rates. The rural aggregates with highest rates, based on not less than 10 deaths, were for males those of Glamorgan (174), Flint (156), Carmarthen (148), Pembroke (146), Nottingham (140) and Westmorland (140), and for females those of Staffordshire (137), Warwick (125), Glamorgan (120), Cheshire (119), Kent (118), Bedfordshire (117), Monmouth (114) and Worcester (113). The urban district aggregates with highest rates were, for males, those of Westmorland (150), Cumberland (138), Glamorgan (133), Northumberland, Monmouth and Montgomery (each 120), and for females those of Cheshire (151), Lancashire (113), Carmarthen (111), Glamorgan (110) and Denbigh (110).

Table XCVII—Mean Annual Numbers of Deaths from Tuberculosis, and from Suicide and other Violent causes, in London, each county borough and each county aggregate of urban and of rural districts in 1931–35, and percentage ratios of such deaths to the standard deaths at the specified ages.

	Respiratory Tuberculosis.								Other Tuberculosis.		Suicide.		Other Violence.			
	Males. Aged 15–35.		Females. Aged 15–35.		Males. Aged 35 up.		Females. Aged 35 up.		Persons. All ages.		Persons. All ages.		Males. All ages.		Females. All ages.	
	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.
SOUTH-EASTERN REGION :—																
Greater London	1,246	103	1,362	90	2,167	115	943	97	874	78	1,201	106	2,053	92	1,236	107
London Admin. Co.	710	113	747	91	1,346	140	534	106	471	83	678	115	1,112	97	720	119
Outer Ring	536	91	615	85	821	89	409	87	403	74	523	96	941	88	516	93
Bournemouth	11	92	13	65	28	112	16	89	13	93	16	84	21	72	14	61
Brighton	16	89	22	96	44	129	24	120	23	128	31	141	41	102	29	112
Canterbury	4	133	3	75	6	100	2	67	2	67	4	100	7	100	4	100
Croydon	31	94	38	93	51	91	26	87	24	77	34	100	54	86	33	92
Eastbourne	7	117	7	70	14	117	6	75	6	86	8	89	10	71	8	73
East Ham	23	105	27	108	30	94	16	107	14	74	23	121	34	89	14	78
Hastings	8	114	8	80	19	136	11	110	6	75	11	100	14	82	11	73
Oxford	9	60	14	93	17	100	10	111	10	91	9	82	21	88	13	100
Portsmouth	41	114	45	115	67	116	36	124	34	100	47	138	55	80	34	94
Reading	17	131	15	94	28	117	10	83	12	92	14	100	25	89	13	87
Southampton	33	138	36	129	65	151	23	115	23	92	32	133	40	82	24	100
Southend-on-Sea	16	107	19	90	31	103	21	117	12	75	23	121	27	82	17	81
West Ham	66	153	64	131	88	152	33	118	36	88	34	100	72	95	24	69
Bedfordshire U.D.s	21	100	26	104	32	91	20	111	18	95	24	114	35	85	20	91
R.D.s	7	64	3	27	9	47	7	78	9	90	8	73	25	109	14	117
Berkshire U.D.s	9	90	11	92	12	71	8	89	8	80	9	82	23	110	12	92
R.D.s	14	74	15	71	23	64	15	88	18	95	15	71	47	109	18	82
Buckinghamshire U.D.s	18	90	16	73	22	69	10	67	14	78	20	111	36	95	16	84
R.D.s	12	55	14	64	22	63	12	71	14	70	20	95	40	93	18	78
Essex U.D.s	123	85	140	83	195	87	92	83	104	74	124	96	226	83	100	75
R.D.s	23	66	25	69	43	66	25	83	34	103	32	86	78	100	30	73
Hertfordshire U.D.s	35	83	37	73	52	75	28	78	30	77	35	85	82	101	37	84
R.D.s	12	67	12	60	16	53	11	73	16	94	13	76	41	114	16	89
Kent U.D.s	122	94	141	97	202	94	110	100	107	87	136	106	221	86	123	87
R.D.s	39	91	38	81	58	73	35	92	42	95	45	98	114	116	46	118
Middlesex U.D.s	218	85	259	84	335	86	180	89	170	74	226	97	415	91	238	102
Oxfordshire U.D.s	5	100	4	69	7	78	5	125	2	25	7	117	12	109	5	83
R.D.s	8	62	7	54	13	59	9	82	11	92	8	62	35	125	13	87
Southamptonshire U.D.s	28	61	27	71	52	93	22	79	36	103	35	103	64	84	30	83
R.D.s	24	73	20	62	34	63	17	65	27	87	31	97	66	97	37	109
Surrey U.D.s	95	78	104	68	162	81	77	71	78	69	109	89	210	91	133	102
R.D.s	13	65	14	58	26	74	15	79	11	58	19	90	44	107	20	91
Sussex East U.D.s	13	81	16	67	28	85	21	95	15	83	25	109	37	95	24	83
R.D.s	10	59	11	55	24	71	13	72	14	78	21	100	45	113	22	100
Sussex West U.D.s	12	86	12	63	26	93	15	88	13	87	15	79	28	85	22	92
R.D.s	8	50	8	42	19	59	9	56	10	59	15	79	38	100	17	85
Wight, Isle of U.D.s	7	100	5	50	12	80	8	89	8	100	10	100	10	56	9	75
R.D.s	2	67	3	100	5	83	2	67	2	67	2	67	5	71	3	75
NORTH I.																
Darlington	15	150	16	133	18	106	10	125	12	120	10	100	16	80	7	70
Gateshead	32	188	42	210	38	141	21	175	34	189	12	80	31	94	16	107
Newcastle-on-Tyne	67	163	68	139	86	132	38	127	67	163	34	94	78	101	39	111
South Shields	42	280	37	206	33	137	19	158	51	300	12	86	29	97	11	79
Sunderland	50	192	45	145	37	95	27	142	45	161	23	105	52	104	37	161
Tynemouth	13	144	16	145	20	133	10	143	18	180	8	89	16	89	5	63
West Hartlepool	11	110	13	118	17	106	9	129	19	190	6	67	17	89	8	89
Durham U.D.s	97	128	106	136	95	83	61	122	119	155	48	77	157	108	60	102
R.D.s	65	108	69	117	55	61	40	105	82	137	31	66	152	133	50	111
Northumberland U.D.s	52	118	61	127	53	75	34	106	69	157	33	85	103	120	39	105
R.D.s	9	64	13	81	15	62	14	127	19	136	11	48	36	124	14	100

Table XCVII.—*continued.*

	Respiratory Tuberculosis.								Other Tuberculosis.		Suicide.		Other Violence.			
	Males. Aged 15–35.		Females. Aged 15–35.		Males. Aged 35 up.		Females. 35 up.		Persons. All ages.		Persons. All ages.		Males. All ages.		Females. All ages.	
	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.
NORTH II.																
Carlisle	9	112	12	120	12	92	5	71	10	125	8	100	15	100	10	125
Kingston-upon-Hull	66	143	67	126	93	131	46	139	59	128	43	108	94	108	46	115
Middlesbrough	39	186	41	186	54	169	25	192	36	171	14	82	44	116	18	112
Cumberland U.D.s	21	150	28	187	22	96	13	118	26	173	8	62	40	138	14	100
R.D.s	11	79	12	80	19	79	12	109	15	107	11	79	39	130	13	93
Westmorland U.D.s	4	100	4	80	6	86	2	50	4	100	7	175	12	150	6	120
R.D.s	3	60	3	60	4	50	4	100	4	80	5	100	14	140	6	120
Yorkshire East Riding U.D.s	9	100	11	85	11	65	8	80	9	90	11	100	17	81	11	92
R.D.s	8	57	11	79	8	33	8	73	15	115	12	92	32	107	13	93
„ North Riding U.D.s	18	72	27	93	35	81	19	90	32	123	20	80	48	94	24	92
R.D.s	11	46	15	71	16	47	12	75	22	110	17	85	49	107	16	76
NORTH III.																
Barnsley	11	100	11	92	14	88	8	114	13	118	7	78	21	105	9	112
Bradford	39	100	44	90	88	121	38	97	39	103	50	116	70	90	58	138
Dewsbury	5	71	10	111	10	77	6	86	9	129	8	100	15	107	9	129
Doncaster	6	60	7	64	12	75	4	57	8	89	11	122	21	117	8	100
Halifax	10	77	13	81	18	75	7	131	15	125	22	147	24	92	15	107
Huddersfield	16	100	16	80	28	97	11	73	17	121	19	112	29	97	20	125
Leeds	78	113	97	111	157	139	58	100	85	131	66	100	124	96	87	138
Rotherham	10	91	10	91	15	107	6	86	8	80	6	67	23	121	11	138
Sheffield	79	105	79	89	141	116	49	88	62	89	50	74	126	91	67	106
Wakefield	8	89	9	90	14	93	6	86	8	100	8	100	16	94	6	86
York	11	85	11	73	21	105	10	100	11	92	13	108	24	100	11	92
Yorkshire West Riding U.D.s	109	70	146	82	201	78	94	75	148	101	147	100	341	115	147	106
R.D.s	39	57	51	76	67	65	34	76	66	102	41	73	156	123	54	100
NORTH IV.																
Barrow-in-Furness	13	130	10	111	16	94	6	87	12	133	9	100	13	68	7	88
Birkenhead	23	110	28	112	49	148	20	125	27	129	16	84	41	103	23	121
Blackburn	18	113	20	100	27	90	12	75	17	113	24	133	29	91	17	106
Blackpool	11	85	12	67	28	100	15	94	10	77	17	94	25	89	18	106
Bolton	20	80	24	77	40	95	15	68	22	96	32	128	42	91	27	117
Bootle	22	200	21	161	34	212	11	138	15	125	8	89	23	110	9	100
Burnley	15	115	15	94	23	96	12	100	17	142	20	143	20	77	16	133
Bury	6	75	8	80	14	93	5	63	9	129	11	122	18	112	11	138
Chester	6	100	7	100	10	111	5	100	7	117	6	100	10	91	6	100
Liverpool	203	171	226	154	332	186	139	154	148	116	102	98	203	91	124	115
Manchester	144	131	185	138	316	184	111	128	113	109	101	101	196	99	115	122
Oldham	20	105	22	96	41	121	14	82	20	111	25	132	27	75	19	112
Preston	16	94	23	115	29	107	14	100	17	106	15	94	30	100	19	127
Rochdale	11	85	12	75	21	91	10	83	9	75	18	138	24	100	15	125
St. Helens	16	94	23	135	26	108	9	90	16	100	11	85	35	117	16	133
Salford	49	153	53	136	90	187	32	133	36	120	25	89	61	107	33	127
Southport	5	56	7	54	14	78	9	75	9	90	12	100	16	80	13	93
Stockport	15	83	17	77	37	119	16	100	14	82	16	89	29	85	17	100
Wallasey	12	100	12	75	26	118	14	108	12	92	14	100	20	80	14	100
Warrington	13	100	18	129	29	161	8	100	12	100	11	110	30	136	11	122
Wigan	12	100	22	147	17	89	8	89	16	133	11	100	30	130	11	110
Cheshire U.D.s	41	61	57	70	98	82	45	75	59	91	69	100	119	90	71	151
R.D.s	14	50	16	50	27	57	16	73	23	88	28	104	64	116	31	119
Lancashire U.D.s	163	74	210	81	315	83	140	73	202	99	237	109	429	103	227	113
R.D.s	21	58	22	55	27	44	19	63	30	94	31	89	82	119	32	100

Table XCVII.—*continued.*

	Respiratory Tuberculosis.								Other Tuberculosis.		Suicide.		Other Violence.			
	Males. Aged 15–35.		Females. Aged 15–35.		Males. Aged 35 up.		Females. Aged 35 up.		Persons. All ages.		Persons. All ages.		Males. All ages.		Females. All ages.	
	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.
MIDLAND I.																
Birmingham	162	109	178	101	315	141	144	129	105	74	159	121	242	90	142	110
Bristol	69	123	77	112	100	108	67	137	47	85	61	109	90	83	59	100
Burton-on-Trent	6	86	4	50	11	92	4	80	6	86	6	86	12	86	5	71
Coventry	29	104	33	106	54	120	26	137	19	79	30	125	40	82	23	110
Dudley	14	156	14	140	17	131	8	133	7	78	6	86	13	81	6	86
Gloucester	12	171	12	133	12	100	9	150	8	114	7	100	16	107	9	112
Smethwick	10	77	11	73	20	105	9	100	8	67	14	127	19	83	8	80
Stoke-on-Trent	38	93	51	104	100	172	49	175	47	117	39	118	86	118	40	125
Walsall	17	113	26	144	27	117	16	145	13	87	14	108	26	93	16	123
West Bromwich	11	92	14	100	23	135	8	100	8	67	12	120	22	100	8	80
Wolverhampton	20	100	21	87	41	132	18	129	16	80	18	100	33	89	21	117
Worcester	10	143	13	144	12	100	6	100	9	129	7	100	14	100	10	125
Gloucestershire U.D.s	17	121	20	111	24	92	11	79	14	100	14	82	25	81	15	71
R.D.s	23	74	34	106	31	57	18	69	27	90	29	91	74	112	31	86
Herefordshire U.D.s	6	120	5	71	8	80	5	100	6	120	6	100	11	92	6	86
R.D.s	7	78	13	144	10	59	10	125	10	100	12	120	27	129	9	82
Salop U.D.s	17	106	18	100	21	75	13	100	15	94	17	106	30	88	13	72
R.D.s	11	61	15	83	18	60	14	108	17	100	17	100	43	113	19	100
Staffordshire U.D.s	80	104	94	112	112	100	64	125	73	97	58	92	146	104	61	97
R.D.s	18	60	25	81	28	60	19	90	25	86	27	100	82	139	37	137
Warwickshire U.D.s	25	83	28	76	37	74	19	76	29	100	34	113	54	92	30	94
R.D.s	14	64	19	83	20	57	11	69	15	71	17	85	59	137	25	125
Worcestershire U.D.s	31	100	39	105	44	90	23	92	29	97	31	107	52	87	32	103
R.D.s	11	85	16	114	16	67	9	82	14	108	14	100	40	138	18	113
MIDLAND II.																
Derby	16	80	18	75	43	130	15	94	15	75	17	89	33	85	19	106
Leicester	51	150	59	137	86	151	41	137	35	109	44	129	52	79	37	109
Northampton	14	108	15	94	22	92	11	92	13	108	18	129	22	81	12	86
Nottingham	38	100	64	133	82	132	43	130	43	113	48	126	76	103	41	105
Derbyshire U.D.s	33	69	41	76	43	58	25	74	42	93	39	93	96	108	32	80
R.D.s	23	51	31	67	37	63	18	60	31	74	35	92	109	128	34	92
Leicestershire U.D.s	16	89	24	114	24	86	15	107	18	106	17	106	34	100	14	88
R.D.s	26	96	34	113	30	71	22	110	25	96	27	112	50	96	21	84
Northamptonshire U.D.s	18	120	18	100	16	62	13	108	12	86	22	147	24	80	13	93
R.D.s	14	93	14	88	15	54	10	77	14	93	18	112	35	103	12	67
Nottinghamshire U.D.s	39	93	48	100	46	72	26	90	41	105	35	97	83	108	36	106
R.D.s	17	68	21	78	22	58	16	53	19	79	21	100	67	140	21	95
Peterborough, Soke of U.D.s	4	67	4	57	5	45	5	100	5	83	7	117	11	85	6	86
R.D.s	1	100	0	—	1	50	1	100	1	100	1	100	3	100	2	200
EAST.																
Great Yarmouth	9	129	14	156	14	108	10	143	9	112	9	112	12	75	9	100
Grimsby	16	123	20	133	22	96	13	130	20	154	15	125	20	77	12	100
Ipswich	11	92	16	107	19	90	12	120	11	92	11	92	22	88	10	71
Lincoln	10	111	11	110	13	76	6	75	12	133	6	133	15	83	7	78
Norwich	18	106	21	95	34	121	14	93	13	76	20	118	23	68	16	80
Cambridgeshire U.D.s	4	31	7	58	13	87	6	75	6	67	12	120	16	76	11	100
R.D.s	7	70	10	100	14	78	8	89	10	100	11	100	20	87	10	77
Ely, Isle of U.D.s	4	57	6	86	7	64	3	60	8	114	8	133	12	86	6	86
R.D.s	4	80	4	80	4	50	2	67	4	80	3	75	10	100	3	60
Huntingdonshire U.D.s	3	75	3	75	4	67	3	100	5	125	5	125	8	114	2	50
R.D.s	4	100	5	125	4	57	2	50	4	100	4	100	10	111	5	100
Lincs., Holland U.D.s	3	60	4	67	7	88	5	125	6	120	5	100	10	91	6	100
R.D.s	6	75	9	112	7	54	6	100	7	88	7	100	19	112	7	88
„ Kesteven U.D.s	6	100	7	117	7	70	4	80	5	83	8	133	10	83	4	57
R.D.s	7	64	11	122	9	56	6	86	8	89	6	67	26	124	9	82
„ Lindsey U.D.s	23	128	23	110	25	83	17	113	26	144	14	82	37	103	12	67
R.D.s	10	53	18	95	17	52	14	100	19	100	13	57	35	83	15	71

Table XCVII—*continued.*

	Respiratory Tuberculosis.								Other Tuberculosis.		Suicide.		Other Violence.			
	Males. Aged 15–35.		Females. Aged 15–35.		Males. Aged 35 up.		Females. Aged 35 up.		Persons. All ages.		Persons. All ages.		Males. All ages.		Females. All ages.	
	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.	Mean Registered Deaths.	Percentage of Expected.
Norfolk .. ..U.D.s	6	75	6	67	10	71	7	100	11	138	7	78	17	100	8	73
R.D.s	23	66	30	86	38	58	24	80	34	97	36	97	78	95	34	79
Rutland .. ..U.D.s	—	—	—	—	1	100	—	—	—	—	1	—	1	100	—	—
R.D.s	—	—	1	50	2	50	2	100	2	100	2	100	5	125	2	100
Suffolk East ..U.D.s	13	118	10	71	14	70	12	109	11	92	11	92	18	72	10	71
R.D.s	12	75	13	87	17	57	11	85	14	88	20	118	34	90	13	68
Suffolk West ..U.D.s	4	80	6	100	7	70	7	140	5	100	5	83	10	83	8	114
R.D.s	8	89	8	100	10	59	9	129	8	100	7	78	15	75	7	64
SOUTH WEST.																
Bath	8	100	6	55	15	94	11	110	8	100	11	100	16	89	11	73
Exeter	7	78	11	100	17	106	9	112	10	111	10	100	23	121	10	91
Plymouth	37	119	46	144	46	94	27	117	33	118	29	104	46	79	30	103
Cornwall .. ..U.D.s	23	121	24	100	39	108	19	95	25	132	18	78	35	83	18	64
R.D.s	16	76	25	109	33	85	16	80	23	110	17	71	47	98	23	85
Devonshire .. ..U.D.s	30	111	32	89	52	96	32	100	28	100	28	78	52	81	31	72
R.D.s	21	70	33	103	40	69	26	93	25	83	35	106	68	100	30	83
Dorsetshire .. ..U.D.s	14	70	19	83	29	88	16	89	19	100	20	95	36	90	20	87
R.D.s	9	64	8	62	12	50	10	83	12	92	10	71	30	100	12	75
Somersetshire.. ..U.D.s	17	74	26	90	33	80	21	91	17	74	28	108	45	92	22	71
R.D.s	19	63	25	81	33	59	17	63	29	97	26	79	85	127	34	92
Wiltshire .. ..U.D.s	16	76	16	70	21	58	12	71	20	105	19	90	34	81	14	61
R.D.s	15	60	16	76	20	53	14	82	18	82	20	91	50	102	15	63
WALES I.																
Cardiff	61	197	53	136	72	141	32	133	50	161	30	107	66	108	28	100
Merthyr Tydfil	16	160	24	240	13	76	8	114	17	170	9	100	21	105	5	63
Newport	18	138	27	180	24	114	12	133	15	115	7	64	22	88	9	82
Swansea	35	146	42	150	42	108	18	106	20	87	19	90	51	113	21	105
Brecon .. ..U.D.s	3	150	4	133	3	75	2	22	3	150	2	100	4	80	1	50
R.D.s	7	117	10	167	6	60	5	125	8	133	5	100	13	108	5	100
Carmarthen .. ..U.D.s	13	118	16	133	17	94	8	100	10	100	10	100	20	100	10	111
R.D.s	16	107	26	163	19	79	14	127	18	129	12	92	43	148	11	85
Glamorgan .. ..U.D.s	108	129	152	177	123	88	73	130	110	134	53	75	215	133	69	110
R.D.s	27	100	40	143	31	72	17	94	27	104	13	59	89	174	24	120
Monmouth .. ..U.D.s	52	123	67	163	48	71	28	104	44	105	27	77	98	120	31	97
R.D.s	6	86	9	112	7	54	5	83	7	100	5	71	17	106	8	114
WALES II.																
Anglesey .. ..U.D.s	4	200	5	167	5	125	4	200	5	250	1	33	5	100	3	100
R.D.s	5	125	7	175	8	114	8	200	5	125	3	75	8	89	5	100
Caernarvon .. ..U.D.s	11	138	14	127	22	147	11	139	9	112	7	78	14	82	10	100
R.D.s	16	229	17	213	25	179	15	214	14	200	6	75	17	100	6	67
Cardigan .. ..U.D.s	4	200	4	133	5	125	4	200	3	150	2	67	3	60	2	67
R.D.s	7	175	11	220	10	111	7	140	4	80	8	133	9	75	4	57
Denbigh .. ..U.D.s	7	88	9	90	17	121	11	138	11	138	6	67	15	94	11	110
R.D.s	12	80	14	100	15	63	13	130	17	121	11	85	38	131	10	83
Flint .. .. ..U.D.s	8	114	8	89	10	91	4	67	6	86	4	57	15	107	5	71
R.D.s	7	78	9	90	13	87	5	71	10	111	7	88	28	156	7	78
Merioneth .. ..U.D.s	3	100	5	167	8	160	4	200	4	133	2	67	4	80	2	67
R.D.s	3	100	7	233	6	100	4	125	3	100	5	167	6	86	4	100
Montgomery .. ..U.D.s	2	100	3	100	3	75	2	100	1	50	2	100	6	120	2	67
R.D.s	4	100	7	175	6	86	3	100	4	100	5	125	9	100	3	60
Pembroke .. ..U.D.s	5	83	10	167	12	120	5	100	10	167	3	60	13	108	6	100
R.D.s	7	117	9	150	7	64	9	180	10	167	6	100	19	146	5	71
Radnor .. ..U.D.s	—	—	1	100	2	200	2	200	1	100	2	200	1	50	1	100
R.D.s	1	50	2	100	1	25	2	100	3	150	1	50	5	100	—	—

186. **Crushing by Motor Vehicles (not on railways).**—Apart from 445 deaths on railways and 61 caused by aircraft, there were 5,311 accidental deaths attributed to mechanically-propelled vehicles in 1935, 3,957 of males and 1,354 of females. The rate of mortality per million persons was 131 compared with 151 in 1934, 147 in 1933, 141 in 1932, 147 in 1931 and 159 in 1930. In Table XCVIII, the allocation of deaths to the different types of mechanically-propelled road vehicles is shown. The deaths classified as " Others " in 1935 are made up as follows :—

Motor cab, 23; motor coach, 37; motor tractor, 12; steam roller, 1; other or undefined motor, 10, and collisions involving a motor vehicle without statement as to which of the vehicles caused the death, 1,272.

Table XCVIII.—Deaths, and Death Rates per Million Living, caused by various Types of Road Motor Vehicles in each year—1928–35.

	Deaths.								Rate per Million Living.							
	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1928.	1929.	1930.	1931.	1932.	1933.	1934	1935.
Electric tram ..	101	89	73	74	52	66	69	51	2·6	2·2	1·8	1·9	1·3	1·6	1·7	1·3
Motor car ..	1,550	1,660	1,643	1,688	1,646	1,773	1,882	1,633	39·2	41·9	41·3	42·2	40·9	43·9	46·5	40·2
Motor van, lorry, etc.	938	1,162	1,273	1,209	1,111	1,180	1,290	1,170	23·8	29·3	32·0	30·2	27·6	29·2	31·9	28·8
Motor omnibus ..	557	584	692	529	447	421	413	369	14·1	14·7	17·4	13·2	11·1	10·4	10·2	9·1
Motor cycle	1,043	1,162	1,286	1,083	983	965	875	733	26·4	29·3	32·3	27·1	24·5	23·9	21·6	18·0
Others	1,007	1,095	1,375	1,309	1,432	1,529	1,583	1,355	25·5	27·6	34·5	32·7	35·6	37·9	39·1	33·3
Total motor vehicles	5,196	5,752	6,342	5,892	5,671	5,934	6,112	5,311	131·6	145·2	159·3	147·3	141·1	147·1	151·0	130·7

Lack of specification of the vehicle causing death in the last group renders the analysis of Table XCVIII less complete than it would otherwise have been. It has not hitherto been possible to distinguish between the occupants of vehicles, pedestrians and cyclists from the records of death certification, but an attempt at such analysis is being made for 1936.

Deaths attributed to the motor omnibus have fallen progressively since 1930, the total registered deaths in the causation of which this type of vehicle was concerned (alone or in collision with some other vehicle) being 852, 699, 595, 559, 537 and 474 in the six years 1930 to 1935. The same applies to the motor cycle, for which the corresponding totals have been 2,091, 1,797, 1,783, 1,727, 1,621 and 1,380, but for the motor car this total, after remaining almost stationary from 1930 to 1932 (2,219, 2,257, 2,291) rose to 2,527 in 1933 and 2,700 in 1934, falling again to 2,315 in 1935.

Pedal cycles are known to have been concerned in or responsible for the following accidental deaths :—

		1929.	1930.	1931.	1932.	1933.	1934.	1935.
Pedal cycles alone	M	207	258	235	308	345	399	447
	F	47	61	84	95	105	152	159
Pedal cycle in collision with other vehicles	M	232	294	309	431	544	627	511
	F	23	34	35	49	64	99	77
Total	M	439	552	544	739	889	1,026	958
	F	70	95	119	144	169	251	236
	P	509	647	663	883	1,058	1,277	1,194

The recent rapid increase of such deaths was arrested in 1935.

Table XCIX compares the mean annual death rates per million living due to accidents caused by all forms of road motor vehicles at various ages in 1935 with those in 1934 and the three triennial periods 1925–27, 1928–30 and 1931–33. The male rate at all ages is about three times the female rate. This excess is present at each age, but the ratio of male to female risk increases with age to a maximum exceeding 7 at 20–25, then declines to about 2 at ages over 55.

Table XCIX.—Death rates per Million living from All Accidents caused by Road Motor Vehicles, by Sex and Age. 1925–27, 1928–30, 1931–33, 1934, and 1935.

	Males.					Females.				
	1925–27.	1928–30.	1931–33.	1934.	1935.	1925–27.	1928–30.	1931–33.	1934.	1935.
0– ..	107	142	143	135	124	55	87	88	95	73
5– ..	195	250	242	229	193	92	129	133	126	105
10– ..	102	132	106	107	103	26	40	37	38	35
15– ..	151	231	238	251	192	32	50	52	70	49
20– ..	233	365	393	414	363	30	57	55	58	46
25– ..	146	221	228	234	199	22	31	33	32	33
35– ..	112	147	142	155	137	23	33	33	31	23
45– ..	134	166	160	192	158	36	57	53	49	46
55– ..	170	239	228	228	215	75	95	104	100	75
65– ..	301	400	395	405	348	140	190	186	185	192
75 and over	490	738	711	753	658	179	276	260	355	277
All ages..	159	226	225	224	203	48	71	72	75	64

From 1925–27 to 1928–30 the male rate at all ages rose by 42 per cent. and the female rate by 48 per cent. The changes which took place in the mean rates from 1928–30 to 1931–33 were, however, remarkably slight, the female rates remaining almost unchanged at each age under 45, whilst the male rates showed a rise for young adults balanced by a fall for boys of school age and men over 35.

In 1935 the mortality of boys and girls under 10 declined considerably compared with the previous year and a slight improvement occurred also at 10–15. At every age period the male rate fell below those of 1928–30, 1931–33 and 1934, and the same was true for females under 25 and at 35–65. The groups showing no tendency to improvement since 1928–30 are females aged 25–35 and 65 upwards. As indicated in the Review for 1933, there are three ages of maximal risk, 5–10, 20–25 and 75 upwards, depending upon the fact that the death rates are the resultants of the combined risks to pedestrians, cyclists and occupants of motor vehicles whose deaths cannot as yet be separated.

Table 25 analyses according to sex and age the accidental deaths caused by each type of vehicle, and from that table it can be ascertained that the proportion of male to female deaths varies

considerably according to the vehicle causing death and according to age, the percentage ratios being as follows :—

	All Ages.	0–5.	5–15.	15–25.	25–45.	45–65.	65 and over.
Motor car	187	148	178	277	235	186	157
Motor bus	184	162	194	312	550	252	73
Motor van, lorry	247	186	232	440	453	288	147
Pedal cycle	281	—	212	263	529	358	163
Motor cycle	482	400	200	831	1289	324	127
Collisions between pedal cycle and other vehicle..	664	—	429	688	543	773	?

The all-ages ratios vary little from year to year, the corresponding figures in 1934 for the 6 classes of accident being 188, 187, 244, 262, 373, 633. Male excess of deaths is greatest for collisions involving a pedal cycle, motor cycle accidents coming next, and is least for motor car and bus accidents. At ages under 15 years the greater risks taken by boys than girls in street play are reflected in these figures. At 5–15 the male excess is greater than at 0–5 for the vehicles chiefly responsible for the deaths of pedestrians. The much greater participation of young adult males in the driving of motor cycles and commerical vehicles, and in the riding of pedal cycles, results in male deaths numbering 5 to 10 times the female deaths at 15–45, after which age the contrasts become gradually less except for collisions involving pedal cycles (in which the rider is generally the victim).

199, 200. **Ill-defined Diseases.**—These headings in the International List of Causes of Death, to which 1,307 deaths have been allocated, exclude the ill-defined diseases of infancy and old age, 158 and 162 (*b*). In the more comprehensive sense resulting from their inclusion, the deaths from ill-defined causes in 1935 numbered 18,932, or 3·96 per cent. of the total as compared with 3·78 in 1934, 3·89 in 1933, 4·19 in 1932 and 9·67 in 1911.

Inquiries sent to medical practitioners and coroners requesting further information as to indefinitely certified deaths amounted to 9,451, and to these 8,425 replies were received, with results to classification, some of the most important of which are set out in Table C.

The total additions to certain definite headings resulting from these inquiries were as follows :—To influenza, 50; to encephalitis lethargica, 63; to cerebro-spinal fever, 94; to tuberculosis of the respiratory system, 165; to other forms of tuberculosis, 86; to venereal diseases, 133; to cancer, 717; to diseases of the spinal cord, 39; to general paralysis of the insane, 11; to disseminated sclerosis, 20; to arterio-sclerosis, 62; to ulcer of stomach and duodenum, 125; to appendicitis, 70; to biliary calculi, 135; to chronic nephritis, 127; to diseases of the prostate, 110; to puerperal sepsis, 56; to congenital malformations, 81.

Table C.—Replies to Inquiries respecting Indefinitely Certified Causes of Death, 1935.

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to certain headings.
Croup	10	10	Laryngismus stridulus 3, Laryngitis 4.
Membranous laryngitis	3	3	Diphtheria 2, Laryngitis 1.
Pyæmia, septicæmia, etc.	150	127	Scarlet Fever 1, Diphtheria 1, Cancer 1, Diseases of the tonsils 13, Puerperal sepsis 3, Diseases of the skin 18.
Tuberculosis ..	124	122	Tuberculosis of the respiratory system 59, Tuberculosis of the central nervous system 2, Tuberculosis of intestine and peritoneum 6, Tuberculosis of the vertebral column 2, Tuberculosis of other bones and joints 5, Tuberculosis of skin and subcutaneous tissue 1, Tuberculosis of lymphatic system 10, Tuberculosis of genito-urinary system 3, Disseminated tuberculosis 6.
Cancer (part or organ not stated).	1,281	1,253	Part or organ stated in 1,215 cases.
Cerebral tumour (P.M. cases).	314	287	Tuberculosis of the central nervous system 2, Syphilis 1, Cancer 122, Glioma 74.
Tumour of other sites	727	588	Syphilis 4, Cancer 457.
Rheumatism ..	720	718	Rheumatic Fever 200, Chronic rheumatism 5, Rheumatoid arthritis 3, Rheumatic heart disease, 492
Encephalitis ..	199	180	Measles 2, Whooping cough 1, Influenza 21, Polio-encephalitis 1, Encephalitis lethargica 59, Tuberculosis of the central nervous system 1, Syphilis 4, Other forms of encephalitis 49, Meningitis 7.
Basal or basic meningitis.	25	25	Cerebro-spinal fever 6, Tuberculosis of central nervous system 2, Meningitis—other forms, 11.
Posterior or post basal or post basic meningitis.	26	25	Cerebro-spinal fever 16, Meningitis—other forms, 5.
Cerebro-spinal meningitis.	81	79	Influenza 1, Cerebro-spinal fever 61, Tuberculosis of the central nervous system 2, Meningitis—other forms 8.
Spinal sclerosis ..	18	17	Other diseases of the spinal cord 7, Disseminated sclerosis 8.
Cerebral sclerosis ..	10	10	Disseminated sclerosis 5.

Table C.—*continued.*

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to certain headings.
Paraplegia	36	30	Syphilis 1, Other diseases of the spinal cord 5.
General paralysis (outside asylums).	12	12	General paralysis of the insane 6.
Paralysis	8	7	Other diseases of the spinal cord 2, Cerebral hæmorrhage, apoplexy, etc., 2.
Aortitis, arteritis and endarteritis.	129	121	Syphilis 60, Arterio sclerosis 10.
Fibroid phthisis ..	69	67	Tuberculosis of the respiratory system 50, Chronic interstitial pneumonia 6.
Hæmoptysis ..	20	19	Tuberculosis of the respiratory system 6, Aneurysm 1.
Stomatitis	15	14	Thrush, aphthous stomatitis 3.
Stricture of œsophagus	26	23	Cancer 6.
Hæmatemesis ..	25	21	Cancer 1, Ulcer of stomach or duodenum 10.
Pyloric stenosis, obstruction, etc.	49	46	Cancer 9, Ulcer of stomach or duodenum 27.
Jaundice	49	48	Influenza 1, Syphilis 1, Weil's disease 2, Cancer 9, Biliary calculi 9.
Peritonitis	77	67	Cancer 3, Ulcer of stomach or duodenum 6, Appendicitis 16, Intestinal obstruction 8, Diseases of the female genital organs 7.
Pemphigus of infants	55	51	Syphilis 9.
Hydrocephalus ..	51	50	Tuberculosis of central nervous system 2, Congenital hydrocephalus 36.
Violence	474	473	Precise form of suicide 120, Drowning 8, Injury by fall 45, Injury in mines and quarries 24, Injury by crushing 101.
Syncope, heart failure	176	164	Influenza 1, Tuberculosis of the respiratory system 3, Diseases of the heart 111, Arterio sclerosis 7, Bronchitis 4, nephritis 3.
Operation	721	712	Cancer 41, Tumours of female genital organs 58, Ulcer of stomach or duodenum 50, Appendicitis 17, Hernia, intestinal obstruction 83, Biliary calculi 94, Diseases of the prostate 64, Diseases of the female genital organs 51, Congenital malformations 5, Violence 5.
Other indefinite forms of certification.	2,745	2,627	———
Total	8,425	7,996	———

In addition 1,942 inquiries were made in connection with parturition.

In addition to the foregoing, 2,404 inquiries were addressed to medical practitioners who had initialled statement " B " on the back of the new form of medical certificate, thereby indicating the possibility of their being in a position to furnish additional information respecting the certified cause of death as the result of a P.M. or laboratory examination which was not available at the time of signing the certificate. Of the 2,142 replies received to these inquiries, 1,121 amended the original certification.

Anæsthetics.—The usual annual statement of deaths during or connected with the administration of an anæsthetic is continued. This is obtained by secondary tabulation of these deaths, since the primary tabulation, represented by Table 21, classifies all such deaths to the disease or injury on account of which the anæsthetic was administered.

The total number of deaths in Table CI, 870, is 56 more than in 1934, and is the largest number yet recorded. During the years for which fully comparable figures can be stated these deaths first increased slowly from 276 in 1911 to 366 in 1920, declined to 336 in 1922, rose to 446 and remained about that level to 1925. They then increased rapidly to 730 in 1929, and have risen further in the last four years.

For the years before 1911 the record is contained in the tables of accidental deaths, but certain causes—strangulated hernia and cancer—were at that time preferred in tabulation to the anæsthetic used. In 1935 the 870 deaths included 121 associated with cancer, and 53 with hernia. So for comparison with the years prior to 1911 the number of deaths should be reduced to 696.

Subject to this allowance for the more comprehensive nature of the figures from 1911 onwards, Table CII provides a record of the deaths since 1901 by sex and age.

The increase since 1911–15 has been relatively more rapid amongst females (247 per cent.) than amongst males (180 per cent.), and has been greatest at ages over 55, and least for males aged 35–45.

The anæsthetic agents recorded on death certificates have altered considerably in recent years, as may be seen from Table CIII. A further increase is recorded in 1935 in the deaths associated with ethyl chloride in combination with ether, which numbered 77, and in the number associated with nitrous oxide, which reached 74. Ether deaths also increased to 288 compared with 252 in the previous year. The increasing employment of barbituric acid derivatives is reflected in the rapid rise in the number of deaths associated with this group of anæsthetics to 36 in 1935.

It need scarcely be pointed out that these fatalities depend upon the extent to which the various agents are used as well as upon the risk attaching to them. But unfortunately the deaths associated

Table CI.—Deaths under or connected with the Administration of various Anæsthetics, according to Sex and Age—1935.

Anæsthetic.		All Ages.	Age.													
			0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Chloroform	M.	38	2	3	3	–	2	2	2	2	1	4	4	1	8	4
	F.	27	–	2	1	1	3	3	2	4	–	2	2	2	3	2
Chloroform and ether	M.	80	–	6	3	–	2	4	7	8	4	11	9	5	12	9
	F.	56	1	1	2	–	2	2	10	3	13	6	4	4	5	3
Chloroform, ether and ethyl chloride	M.	4	–	1	–	–	–	1	1	–	–	–	–	1	–	–
	F.	3	–	–	–	–	–	–	–	1	–	1	1	–	–	–
Chloroform and ethyl chloride	F.	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–
Chloroform, ether and atropine	F.	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–
Chloroform, ether and avertin	F.	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–
Chloroform, ether and spinocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Chloroform and cocaine	M.	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–
Ether	M.	156	8	19	14	7	6	6	7	6	1	7	15	7	33	20
	F.	132	1	21	10	7	4	10	8	9	6	11	10	12	14	9
Ether and ethyl chloride	M.	34	4	8	6	2	1	–	1	1	–	1	1	1	5	3
	F.	43	3	11	7	2	–	–	3	4	5	3	2	1	2	–
Ether and avertin	F.	4	–	–	–	–	–	–	–	1	2	1	–	–	–	–
Ether and novocaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Ether and planocaine	F.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Ether, nitrous oxide and avertin	F.	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–
Ether, nitrous oxide and evipan	M.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Ether, nitrous oxide and percaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Ether, nitrous oxide and scopolamine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Ether, nitrous oxide and stovaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–
Ethyl chloride	M.	9	–	5	3	–	–	1	–	–	–	–	–	–	–	–
	F.	7	–	2	3	–	–	–	–	–	–	–	–	1	–	1
A.C.E.	M.	2	–	–	–	–	1	–	–	–	–	–	–	–	–	1
	F.	5	–	–	1	–	–	1	1	–	1	–	–	1	–	–
Nitrous oxide	M.	43	–	1	4	1	2	–	–	4	2	4	1	3	9	12
	F.	31	–	–	–	2	1	3	1	2	2	5	3	2	7	3
Nitrous oxide and novocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Nitrous oxide and spinocaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Nitrous oxide and stovaine	F.	2	–	–	–	–	–	–	1	–	–	–	–	–	–	1
Avertin	M.	11	–	–	–	1	–	–	1	–	–	1	2	1	3	2
	F.	5	–	–	–	–	–	–	–	–	–	–	–	2	2	1
Avertin and novocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Cocaine	M.	3	–	–	–	–	–	–	–	1	1	–	–	–	–	1
	F.	3	–	–	–	–	–	–	–	1	1	–	1	–	–	–
Cocaine and adrenalin	M.	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–
Cocaine and novocaine	M.	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
	F.	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–

Table CI.—*continued.*

Anæsthetic.		All Ages.	0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Clovaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Decicaine	M.	2	–	–	1	–	–	–	–	–	–	–	–	–	–	1
	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Durocaine	M.	2	–	–	–	–	–	–	–	–	–	1	–	–	–	1
	F.	2	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Ethocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Evipan	M.	18	–	–	–	–	1	–	1	1	1	2	3	3	3	3
	F.	17	–	–	–	–	1	2	1	2	2	1	1	1	4	2
Nembutal	F.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Novocaine	M.	9	–	–	–	–	–	–	–	–	–	–	1	1	1	6
	F.	11	–	–	–	–	1	–	–	2	–	1	2	2	1	2
Novocaine and adrenalin	M.	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
	F.	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–
Novocaine and evipan	M.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Novocaine and percaine	M.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Percaine	M.	12	–	–	–	–	–	–	–	–	–	–	–	1	5	6
	F.	12	–	–	–	–	–	–	–	–	–	5	–	–	3	4
Percaine, omnopon and scopolamine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Planocaine	M.	5	–	–	1	–	–	–	–	–	–	1	–	–	1	2
	F.	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–
Sphenocaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Spinocaine	M.	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–
	F.	2	–	–	–	–	–	1	–	1	–	–	–	–	–	–
Stovaine	M.	8	–	–	–	–	–	–	–	–	–	–	1	–	3	4
	F.	9	–	–	–	–	–	–	–	–	2	–	2	–	3	2
Tropococaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Kind not stated	M.	17	–	–	1	–	–	–	–	–	–	–	2	2	5	7
	F.	15	–	–	–	–	–	2	1	3	1	1	1	3	2	1
Total	M.	467	14	43	36	11	17	14	20	23	11	34	42	26	91	85
	F.	403	5	37	24	13	13	24	28	35	38	37	31	33	47	38

with each type of anæsthetic cannot be collated with the number of its administrations. It is not even possible to say whether, or to what extent, the rapid increase in the number of these deaths implies increased mortality under anæsthetics. The number of administrations is known to be increasing, but cannot be estimated. The deaths tabulated, moreover, can only be those under, not those caused by, anæsthesia. It is impossible from certification to distinguish between deaths from operation under anæsthesia and deaths due to the anæsthetic itself.

Of the 870 deaths in 1935 shown in Table CII, 704 (81 per cent.) were classed to the 22 headings enumerated in Table CIV, the remainder being of very varied causation. The composition of this list changes little from year to year.

Table CII.—Deaths under or associated with Anæsthesia 1901–35.

Year.	Males. All ages	0–	5–	15–	25–	35–	45–	55–	65–	Females. All ages	0–	5–	15–	25–	35–	45–	55–	65–
Yearly average:																		
1901–05*	95	14	20	9	13	16	11	7	4	53	6	9	7	11	8	8	3	2
1906–10*	125	26	20	12	16	18	16	9	8	77	7	14	9	18	11	10	4	3
1911–15	167	30	23	14	20	28	24	16	10	116	14	17	15	16	22	18	10	5
1916–20	188	36	25	25	27	22	20	19	13	119	11	16	14	21	22	17	7	9
1921–25	229	40	28	20	18	27	36	37	24	169	20	17	17	30	29	25	17	12
1926–30	361	56	47	30	26	37	50	62	53	288	29	29	29	44	51	49	34	23
1931–35	432	63	48	37	33	43	56	80	71	353	34	40	36	60	55	50	43	35
1921	204	30	29	16	16	19	34	30	30	133	16	23	16	24	21	19	11	3
1922	185	29	21	16	9	27	30	35	18	151	16	15	12	29	31	26	12	10
1923	262	45	37	29	17	38	35	34	27	184	22	23	14	23	32	32	23	15
1924	245	51	30	21	25	21	42	39	16	184	26	11	30	29	31	21	18	18
1925	249	43	25	17	23	28	39	45	29	193	22	14	15	43	32	29	23	15
1926	306	57	43	23	29	34	39	43	38	250	32	22	29	35	44	51	23	14
1927	328	43	51	25	20	30	42	70	47	268	24	28	29	46	47	40	35	19
1928	384	63	41	30	23	43	55	67	62	272	29	21	27	44	45	44	33	29
1929	414	66	61	31	25	43	63	64	61	316	35	35	27	52	52	50	43	22
1930	375	51	41	39	34	34	52	68	56	332	27	39	33	45	66	58	35	29
1931	413	60	51	44	36	41	51	73	57	310	27	40	23	60	55	43	38	24
1932	416	66	49	37	29	45	58	68	64	333	24	40	33	60	58	42	36	40
1933	425	67	47	44	22	42	56	78	69	343	35	39	47	50	44	48	47	33
1934	440	66	45	29	37	43	48	91	81	374	43	43	38	67	45	53	46	39
1935	467	57	47	31	43	45	68	91	85	403	42	37	37	63	75	64	47	38

Deaths in later periods compared with those of 1911–15 taken as 100.

Yearly average:																		
1911–15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1916–20	113	120	109	179	135	79	83	119	130	103	79	94	93	131	100	94	70	180
1921–25	137	133	122	143	90	96	150	231	240	146	143	100	113	188	132	139	170	240
1926–30	216	187	204	214	130	132	208	388	530	248	207	171	193	275	232	272	340	460
1931–35	259	210	209	264	165	154	233	500	710	304	243	235	240	375	250	278	430	700
1931	247	200	222	314	180	146	213	456	570	267	193	235	153	375	250	239	380	480
1932	249	220	213	264	145	161	242	425	640	287	171	235	220	375	264	233	360	800
1933	254	223	204	314	110	150	233	488	690	296	250	229	313	313	200	267	470	660
1934	263	220	196	207	185	154	200	569	810	322	307	253	253	419	205	294	460	780
1935	280	190	204	221	215	161	283	569	850	347	300	218	247	394	341	356	470	760

* Excluding deaths from cancer and strangulated hernia—*see* page 152.

The numbers of deaths reported from different classes of institutions, etc., in various regions of the country are stated in Table CV, in which, as place of occurrence is evidently of more interest for these deaths than place of residence, they have been tabulated by area of registration.

Compared with the previous year, the deaths in Greater London declined by 10, but they increased in the Northern hospitals by 38, and in hospitals of the South East, excluding London, by 11.

Table CIII.—Deaths under or associated with the Administration of Various Anæsthetics in each year, 1922 to 1935

	Sex.	Average 1922-24.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
Anæsthetics of the Methane series :—													
Chloroform (alone) ..	M.	49	43	54	48	75	63	51	58	52	52	34	38
	F.	31	40	47	53	36	41	37	37	36	31	34	27
Ether (alone)	M.	57	61	105	101	118	142	126	134	130	134	135	156
	F.	44	52	67	72	108	121	130	114	118	115	117	132
Chloroform and ether	M.	70	91	89	100	120	116	115	126	103	91	104	80
	F.	49	57	78	69	80	93	87	79	68	87	76	56
A.C.E. mixture ..	M.	7	11	9	9	5	3	1	10	3	4	4	2
	F.	5	3	8	2	—	6	3	—	5	1	—	5
Ether and ethyl chloride	M.	1	7	10	15	9	12	16	28	24	31	35	34
	F.	1	3	7	17	7	13	16	10	19	26	34	43
Other mixtures, including chloroform or ether.*	M.	3	5	4	4	6	8	5	2	8	6	11	7
	F.	4	2	7	7	3	4	5	8	11	11	12	16
Ethanesal	M.	1	1	—	—	—	—	—	—	—	—	—	—
	F.	2	—	—	—	—	—	—	—	—	—	—	—
Ethyl chloride (alone)	M.	2	5	4	8	6	7	6	3	7	8	13	9
	F.	2	6	3	6	3	3	4	11	7	4	5	7
Barbituric Acid group—Nembutal, Evipan	M.	—	—	—	—	—	—	—	—	—	1	5	18
	F.	—	—	—	—	—	—	—	3	—	1	9	18
Avertin (alone) ..	M.	—	—	—	—	—	1	1	2	5	5	3	11
	F.	—	—	—	—	—	1	1	3	4	4	6	5
Avertin with cocaine derivative.	M.	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	—	—	—	—	—	—	1	2	—	—	—
Nitrous oxide	M.	8	5	9	13	18	27	23	21	36	34	33	43
	F.	4	4	6	19	12	11	18	22	27	24	35	31
Opium or Morphine and their preparations with atropine, hyoscine or cocaine derivative.	M.	—	1	—	1	—	—	1	—	1	—	—	—
	F.	—	—	—	—	—	—	1	1	1	—	—	—
Cocaine and its preparations and substitutes (without any of above):—													
Stovaine	M.	4	2	3	4	2	3	4	2	6	5	7	8
	F.	2	5	6	5	3	6	3	2	6	5	10	9
Novocaine	M.	2	2	2	5	9	12	10	6	20	18	18	9
	F.	2	2	1	3	6	3	11	4	9	8	7	11
Percaine	M.	—	—	—	—	—	—	1	7	10	11	18	12
	F.	—	—	—	—	—	1	2	6	13	13	18	12
Others	M.	—	—	2	4	2	7	3	7	8	18	13	17
	F.	1	1	3	1	4	4	2	4	5	10	7	12
Miscellaneous or unspecified, including combinations of, or containing the above, not distinguished.	M.	27	15	15	16	14	13	12	7	3	7	7	22
	F.	27	18	17	14	10	9	12	5	2	3	4	19
Total	M.	231	249	306	328	384	414	375	413	416	425	440	467
	F.	173	193	250	268	272	316	332	310	333	343	374	403

* Including combinations of chloroform or ether with morphia, atropine, nembutal or cocaine derivatives or substitutes.

Table CIV.—Classification of Deaths under or Associated with Anaesthesia, 1935.

	Cause to which Death was assigned.	Males.	Females.		Cause to which Death was assigned.	Males.	Females.
24–32	Non-respiratory tuberculosis	6	4	122 *b*	Intestinal obstruction.	22	25
45–53	Cancer	76	45	126	Biliary calculi ..	3	15
66 *b*	Exophthalmic goitre	3	16	127	Diseases of the gall bladder.	3	5
89 *b*	Diseases of the mastoid sinus.	12	12	136 *a*	Stricture of the urethra.	2	—
104	Diseases of the nasal fossæ and annexa.	7	2	137	Diseases of the prostate.	23	—
110 : 1	Empyema	6	4				
115 : 1 (pt.)	Extraction of teeth.	18	9	138 (pt.)	Circumcision ..	9	—
				54*a* (pt.)	Uterine fibroids ..	—	8
115 : 3	Diseases of the tonsils.	29	24	140–150	Childbirth and abortion.	—	55
117	Ulcer of the stomach or duodenum.	30	5	154	Acute infective osteomyelitis.	1	4
121	Appendicitis ..	52	30	157	Congenital malformations.	10	9
122 *a*	Hernia	39	14	163–198	Violence	43	24

Table CV.—Deaths under Anæsthetics Registered in 1935 Distribution by Part of Country and Place of Occurrence.

		Greater London.	South-East excluding Greater London.	North.	Midland.	East.	South-West.	Wales.	England and Wales.
Hospitals	M.	87	57	132	42	19	12	20	369
	F.	68	40	111	30	10	9	13	281
Public Assistance Institutions	M.	28	10	19	3	2	—	1	63
	F.	35	9	25	13	—	1	—	83
Mental Hospitals ..	M.	—	—	2	—	—	—	—	2
	F.	—	—	1	—	—	—	—	1
Nursing Homes ..	M.	6	2	2	2	—	—	1	13
	F.	3	3	7	2	2	3	2	22
Elsewhere	M.	1	4	6	4	1	3	1	20
	F.	1	4	8	2	—	1	—	16
Total	M.	122	73	161	51	22	15	23	467
	F.	107	56	152	47	12	14	15	403

There were in 1935 42 deaths under anæsthetics in the case in which record was made of the presence of *status lymphaticus* but which have been referred in tabulation to the condition occasioning the administration of the anæsthetic. The sex and age distribution of these was as follows :—

	All Ages.	0–	5–	10–	15–	20–	25–	35–
Males	25	12	4	2	2	1	3	1
Females	17	9	2	1	2	2	1	—

Medical Certification.

Information bearing upon the extent to which death registration and burial take place on the strength of the certificate of a medical attendant who has actually seen the body after death has appeared under the above title in each text portion of the Statistical Review since 1928 inclusive. For a full statement of the aspects of certification affecting this matter, reference should be made to the 1928 section when the records were examined in some detail, or to the quinquennial repetition of the full enquiry made in 1933. According to present intention the next complete analysis will fall due in 1938, the intermediate years' records being limited to a simple summary of the cases in which the body was or was not seen after death without reference to date or place of death or to the time which had elapsed since the deceased was last seen by a medical attendant.

The appropriate summary of the deaths registered in 1935 is shown in the following table :—

Summary of Certification of Deaths registered during the Year 1935.

—	Registered Medical Practitioner.	Inquest or Coroner's P.M. without Inquest.	Other Cases reviewed by Coroner.	Total Deaths Registered.	
				Number.	Percentage.
(1)	(2)	(3)	(4)	(5)	(6)
Seen after death ..	220,827	41,658	4,906	267,391	56·0
Not seen after death	210,010	—	—	210,010	44·0
	430,837	41,658	4,906	477,401	100·0

NOTE—(1) All deaths subject to inquest or post-mortem by coroner are shown in column 3; of all other deaths, those certified by a registered medical practitioner are shown in column 2 (whether they were referred to a coroner or not), and those not certified by a registered medical practitioner (which are automatically referred to a coroner) are shown in column 4.

(2) Cases in which no statement was forthcoming as to whether they were or were not seen after death have been included with the " not seens " if they were not referred to a coroner. They amounted to 1·4 per 1,000 of the total deaths registered in 1935.

The above statement shows that in 1935 the proportion of " seen " cases was 56·0 per cent. of the total deaths registered, the position in this respect having improved more or less steadily and continuously from the figure of 51·0 per cent. recorded in 1928.

Of the apparently large numbers returned as " not seen," the vast majority of the deceased persons were, of course, seen alive

by the medical attendant on the day of death or within a very short period before death. From the full examination made in 1933 it was shown that if the numbers seen within one day of death were added to those seen after death, as conforming to a standard which satisfies reasonable requirements, they would embrace 93·1 per cent. of the total deaths, while if those seen within two days of death were added the proportion would be increased to 96·6 per cent., both percentages showing an advance over the corresponding 1928 figures.

POPULATION.

The total population of England and Wales as at the 30th June, 1935, has been estimated at 40,645,000 persons, 19,500,000 being males and 21,145,000 females.

The current year's total is 178,000 in excess of the corresponding mid-1934 estimate and represents an estimated rate of growth of 0·44 per cent. per annum during the past year, a figure which may be compared with the 10-year increases of 5·53 per cent. and 4·93 per cent. recorded in respect of the decennia 1921–31 and 1911–21 respectively. (*See* General Tables volume Census, 1931, Table I.)

The method adopted in arriving at the current estimates is that which has been used with apparent success in past periods and consists of taking the 1931 Census as a starting point, adding the births and immigrants and deducting deaths and emigrants between the date of the Census and the 30th June, 1935. Of the elements entering into the computation, the records of births and deaths are believed to be precise and complete, so that such estimation error as may be inherent in the final result may be regarded as attaching almost wholly to the allowances included in respect of migration. For the latter, recourse is had to the statistics of migration periodically compiled by the Board of Trade and to departmental records of the movements of the Defence Forces; these are incomplete however, in that they afford no guide to the passenger traffic between the several countries of the United Kingdom nor to the possible effect on the home population of changes in the personnel of the mercantile marine, the allowance for which is a matter of judgment based upon past experience qualified as may seem to be required by current conditions. The error to which the population estimates are subject is one which may be expected to grow in degree as the preceding census becomes more remote.

The mid-1935 population estimate of 40,645,000 is some 693,000 in excess of the 1931 census figure, of which excess about 493,000 may be assigned to natural increase, leaving 200,000 to be ascribed to the miscellaneous movements summed up in the term migration. It is of interest to observe (from Part II of the Statistical Review Table S) that the net balance of migration which for several decades has, on the whole, been consistently outward in character, appears since about 1930, to have shown a definite inward tendency, thus

affording some numerical compensation for the lowness of the level to which the numbers of births have fallen.

Age Distribution.—The estimated sex-age distribution of the national population, shown in Table 1 of Part I of the Tables section of this volume, has been obtained from the corresponding 1934 distribution by the survivorship method customarily adopted for the purpose; this briefly consists of (1) obtaining the year's deaths arising from the population at each age in 1934, and treating the survivors as the population at the next higher age in 1935, (2) completing the table by the addition of the population aged 0–1, represented by the survivors at the middle of 1935 of the births occurring between the middle of 1934 and the middle of 1935, and (3) adjusting the results of these two operations in respect of the balance of population movement in accordance with such age statistics as are available in respect thereof.

The average ages of the mid-1935 population according to the estimated age distribution are 32·7 and 34·5 for males and females respectively, figures which compare with averages of 31·8 and 33·5 in 1931 or 29·9 and 31·2 in 1921.

Local Populations.—The 1935 estimates of the populations of all Boroughs, Urban Districts and Rural Districts in England and Wales are shown in Table 17 of Part I and Table E of Part II of the Tables section of the current Statistical Review.

As for the country as a whole, so for each of the component areas within the country, the present mid-year estimate has been obtained by estimating the local movement which has taken place since the date of the 1931 census and modifying the 1931 position in respect of such movement. It may be mentioned that the local estimates purport to represent the *resident* populations of the several areas and are, in this respect, different from census populations as generally understood in this country, which consist simply of the persons enumerated in the several areas on census night, whether resident in the area of enumeration or not.

The principles and procedure governing the identification of the basic 1931 resident population and the estimation of the changes in that population which have taken place since 1931 are similar in all general respects to those adopted for the purpose of the 1932 estimates and for their fuller discussion reference may be made to the population section of the text portion of the Statistical Review for 1932.

Non-Civilian Populations.—The merging of non-civilian and civilian deaths in the local mortality records from 1932 onwards has rendered unnecessary the identification of civilian apart from total populations, and the former, shown prior to 1932 in footnotes to Tables 17 and E, are accordingly now omitted.

Institutions.—In the Census classification of population according to residence, the populations of institutions, *e.g.*, Public Assistance Institutions, Infirmaries, Hospitals, Mental Institutions, etc., were

dispersed to their home areas where it was anticipated that they would be discharged within a period of six months; otherwise they were retained in the Institution area. This convention is reflected in the current population estimates but is not precisely identical with the procedure in the areal classification of deaths where it is customary to transfer all institution deaths to former area of residence (if known) irrespectively of the time spent in the Institution.

Local Age Distributions.—Sex and age distributions for large geographical regions of the country are shown in Table 2 of Part I. The populations at ages under five were obtained by the survivorship method (*see* page 160), and for later ages the predetermined total populations, obtained as described in the preceding section, were distributed in accordance with the 1931 census age and sex distribution of the unit, the resulting figures being thereafter modified to allow for the change between the date of the Census and the middle of the year 1935 in the age distribution of the total population of the country.

United Kingdom and Irish Free State.—The populations of each of the countries of the United Kingdom and of the Irish Free State, as estimated by their respective Registrars-General, are shown for each year from 1896 in Table A of Part II.

MARRIAGES.

The marriages registered in England and Wales during the year 1935 numbered 349,536, corresponding to a rate of 17·2 persons married per 1,000 of the population of all ages and conditions. The number so registered is 7,229, or 2·11 per cent. more than the number registered in 1934, and apart from the year 1915 and the years immediately following the war, 1919 and 1920, is the largest number in any year since the commencement of civil registration in 1837. The rate of 17·2 in 1935 is considerably higher than any of the rates recorded in the post-war years 1922 to 1933, and, apart from 1915, 1919 and 1920, it has not been exceeded since 1873 when there was a rate of 17·6. The highest rate attained since 1838 (except for the years 1915, 1919 and 1920) was 17·9 in 1853. (*See* Part II Tables B and C.)

The preference for the third quarter, noticeable in the records since the beginning of the present century, was maintained in 1935, the marriages in this period being 31·6 per cent. of the total, while the fourth, formerly the outstanding favourite, ranks third out of the four. The rate for the first quarter, 10·3 persons married per 1,000 population, follows the usual rule in being the least of the four. The proportion of marriages contracted in the first quarter was only 14·7 per cent. of the total.

In the following table (CVI) the marriages of a series of years are compared with the unmarried population at all ages over 15. By eliminating the progressively falling proportion of children under 15 from the population at risk, the rates of recent

years are scaled down slightly in relation to those of earlier periods, but the principal interest of the table is in showing the difference in the course of the rates as between the two sexes. The actual difference between the male and female ratios is of course due to the inequality of the numbers of unmarried men and women in the population, and since the former have always been in a minority--which has been unduly exaggerated as a result of the war—it is their numbers which primarily determine the marriage-ability of the population, so that, from one point of view, the male ratios may be regarded as providing the better indexes to the variations that have occurred from time to time in the incidence of marriage. In Table C (Part II), the series is taken back to 1895. The male rate in 1935, 59·9 per 1,000, is higher than any rate since 1921, and the female rate, 46·8, higher than any since 1920.

Table CVI.—Annual Number of Marriages of Men and Women per 1,000 Unmarried Population of each Sex aged 15 and over, 1871–1935.

NOTE.—For the census years 1871 to 1931 the annual numbers of marriages have been taken as the average of the three years about each census. From 1920 the rates for individual years are shown.

Year.	Bachelors, Widowers, Spinsters and Widows.	Bachelors and Widowers.	Spinsters and Widows.
1871	57·2	62·3	52·9
1881	51·5	56·0	47·6
1891	49·8	54·6	45·7
1901	48·7	53·5	44·7
1911	46·3	50·8	42·5
1921	54·1	62·7	47·6
1931	46·7	53·3	41·5
1920	61·7	71·5	54·7
1921	52·1	60·4	45·8
1922	48·2	55·8	42·5
1923	46·6	53·9	41·1
1924	46·6	53·6	41·2
1925	46·2	53·3	40·9
1926	43·4	50·0	38·3
1927	47·5	54·8	41·9
1928	46·4	53·7	40·9
1929	47·7	55·2	41·9
1930	47·8	55·6	42·0
1931	46·8	53·4	41·6
1932	46·1	52·6	41·1
1933	48·1	54·9	42·8
1934	52·2	59·6	46·4
1935	52·5	59·9	46·8

Fluctuations of the general Marriage-rate in different Sections of the Country.—In Table CVII comparison is made of the year's marriages and marriage-rates in large geographical sections of the country, and an analysis of the rates in regions and counties is shown in Table F (Part II).

The determination of marriage-rates for localities is not wholly satisfactory. In a large proportion of cases the district of registration is the district of residence of only one of the parties and in some cases of neither. This difficulty, however, is probably of less moment in comparisons between large sections of the country than between smaller adjacent localities.

Among males, the highest frequencies occur in Midland I and II, and North III. Among females the highest places are occupied by Wales I and North I as in 1934. The lowest frequency, for both males and females, is recorded in Wales II.

Table CVII.—Marriage-rate per 1,000 Unmarried Population aged 15 and over in Geographical Sections of the Country.*—1934 and 1935.

Area.	Ratio of unmarried males per 1,000 unmarried females aged 15 and over (Census 1931).	Rate per 1,000 Unmarried Population aged 15 and over.				Ratio of local rate to England and Wales rate (taken as 1,000).			
		1934.		1935.		1934.		1935.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
England and Wales.	778	59·6	46·4	59·9	46·8	1,000	1,000	1,000	1,000
South-East ..	711	60·9	43·4	61·6	44·0	1,022	935	1,028	940
North	796	59·7	47·6	59·6	47·7	1,002	1,026	995	1,019
North I ..	959	57·3	55·1	57·1	55·1	961	1,188	953	1,177
North II ..	866	52·4	45·4	53·3	46·4	879	978	890	991
North III ..	794	62·2	49·5	62·1	49·6	1,044	1,067	1,037	1,060
North IV ..	736	60·8	44·9	60·6	44·9	1,020	968	1,012	959
Midland ..	807	62·4	50·5	63·4	51·5	1,047	1,088	1,058	1,100
Midland I ..	797	62·8	50·2	64·1	51·4	1,054	1,082	1,070	1,098
Midland II ..	826	61·6	51·0	62·1	51·6	1,034	1,099	1,037	1,103
East	878	54·9	48·3	53·8	47·5	921	1,041	898	1,015
South-West ..	743	54·7	40·8	55·3	41·4	918	879	923	885
Wales	986	52·4	51·8	51·5	51·0	879	1,116	860	1,090
Wales I ..	1,060	54·7	58·1	53·3	56·8	918	1,252	890	1,214
Wales II ..	833	46·6	38·9	46·8	39·2	782	838	781	838

* For the constitution of the several sections, *see* page 13.

From the analysis in Table F it will be seen that, among the counties there compared, the 1935 marriage-rate was highest in London, where it exceeds the mean for the country by 22·7 per cent. followed in order by Warwickshire, Staffordshire and Bedfordshire, with excesses ranging from 5·2 to 9·3 per cent. The lowest rates occur in Wales where the counties of Anglesey, Cardigan, Merioneth and Montgomery all return lower rates than any among the English counties.

The City of London returns a rate more than five times as high as the average of England and Wales, and of the Metropolitan Boroughs, several have high rates, notably Holborn and Westminster where rates of about twice the average are found. Such rates give support to the belief that many persons who usually live in the provinces or abroad come to London to be married. At the census of 1931 these three areas returned higher proportions of population living in hotels, boarding-houses, etc., than any of the other Metropolitan Boroughs. Only two of the Metropolitan Boroughs—Lewisham and Stoke Newington—have rates which are lower than the average for England and Wales. Among the county boroughs distinguished, the highest rates occur in Stoke-on-Trent, Coventry, Birmingham and West Bromwich, and the lowest in Reading, Bury and Southport.

Marriage rates by ages, which provide a more exact statement of the incidence and intensity of marriage than the aggregate rates just considered, are shown in Table CVIII. The rates for 1871 to 1931, being based on enumerated populations, are liable to rather smaller errors than those for 1932 to 1935 which are based on post-censal estimates of population.

It will be observed from the last column of Table CVIII, which compares the actual marriages of each year with a standard number, viz., those expected according to the age rates of 1921, and which makes allowance, therefore, for the changing age constitution of the unmarried population, that of the four sections distinguished, bachelors, widowers, spinsters and widows, the 1935 frequencies are lower than those of 1921 (except for spinsters), the percentages to the 1921 frequencies being, in order, spinsters 110·1, bachelors 90·4, widowers 86·9 and widows 74·8. On this basis of comparison the marriage frequency among bachelors is higher than in 1881 but lower than in 1871; that for widowers lies between the ratios of 1901 and 1911; that for spinsters lies between the ratios of 1871 and 1881; while that for widows is higher than in the years 1931 to 1934 but lower than in any of the earlier years shown in the table.

From the age analysis shown in the earlier columns of Table CVIII, it will be seen that the 1935 rates for all four sections have decreased as compared with those for 1921 in all age-groups (except for spinsters under 35 and over 55). The only noteworthy increase occurs among spinsters under 35 years of age. The maintenance of the marriage-rate of young spinsters at a point well in excess of the corresponding rates of pre-war years has been a feature of the returns of recent years. With both bachelors and spinsters, the rates for the age period 25–35, at which more than one-half and one-third respectively of the marriages of these classes take place, are higher than those of any pre-war year shown in the table, while for bachelors the excess extends to all higher ages. Increases in the age rates of 1935 over those of 1934 are recorded for bachelors at

Table CVIII. — Annual Marriage-rate per 1,000 Bachelors, Widowers, Spinsters and Widows respectively at each of several Age Periods, 1871–1935.

NOTE.—Prior to 1921 the annual numbers of marriages have been taken as the average of the three years about each Census.

Year.	Annual marriage-rate per 1,000 in each age group.						Marriage-rate per 1,000 population over 15 in each class.	Ratio to corresponding rate for 1921 taken as 1000.	Marriage-rate which would have resulted had the 1921 age rates been in operation.	Ratio of actual marriage rate (col. 8) to rate in previous column (10).
	15—	20—	25—	35—	45—	55 and over.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
					BACHELORS.					
1871 ..	6·0	122·4	119·3	43·3	15·3	3·2	61·7	987	62·3	990
1881 ..	4·6	106·8	112·4	40·5	14·3	3·0	55·7	891	62·4	893
1891 ..	3·1	94·7	122·4	43·4	15·2	3·5	54·8	877	63·8	859
1901 ..	2·5	85·9	123·7	44·2	14·6	3·3	54·7	875	66·6	821
1911 ..	2·2	74·8	120·6	44·4	14·9	3·9	52·6	842	69·2	760
1921 ..	3·4	94·4	161·1	61·6	19·7	5·5	62·5	1,000	62·5	1,000
1931 ..	3·3	72·3	140·3	52·7	18·1	5·7	56·2	899	67·7	830
1932 ..	3·4	69·7	136·9	51·1	16·9	5·2	55·5	888	68·7	808
1933 ..	3·4	70·4	142·2	51·3	18·3	5·4	58·2	931	70·2	829
1934 ..	3·6	75·0	153·2	54·7	19·0	5·4	63·7	1,019	71·6	890
1935 ..	3·2	76·7	155·2	57·3	18·6	5·3	64·1	1,026	70·9	904
					WIDOWERS.					
1871 ..	11·5	229·0	288·5	181·5	88·3	15·9	65·8	1,475	56·0	1,175
1881 ..	30·6	192·9	246·5	157·8	76·9	16·0	58·2	1,305	56·0	1,039
1891 ..	14·1	153·4	231·7	151·1	74·7	15·5	53·4	1,197	53·7	994
1901 ..	—	132·6	201·7	134·1	65·3	13·5	44·4	996	51·0	871
1911 ..	—	121·6	171·2	117·9	59·4	12·7	36·9	827	47·4	778
1921 ..	14·3	163·7	229·3	155·2	73·5	15·8	44·6	1,000	44·6	1,000
1931 ..	62·5	98·1	179·8	122·3	65·4	14·8	33·1	742	38·5	860
1932 ..	—	103·9	177·6	124·3	62·7	14·0	31·8	713	38·1	835
1933 ..	—	95·3	177·2	125·6	64·9	14·2	31·9	715	37·6	848
1934 ..	—	96·5	181·9	128·1	66·7	14·3	32·1	720	37·1	865
1935 ..	—	105·1	185·2	125·7	67·6	14·4	31·9	715	36·7	869
					SPINSTERS.					
1871 ..	26·8	133·7	85·9	30·4	11·9	1·7	63·1	1,164	55·8	1,131
1881 ..	21·5	121·9	80·6	26·3	10·4	1·6	56·9	1,050	55·8	1,020
1891 ..	16·2	112·4	85·7	26·4	10·3	1·7	54·4	1,004	57·1	953
1901 ..	12·9	104·9	88·6	25·3	9·1	1·5	53·0	978	58·6	904
1911 ..	11·2	97·7	91·1	24·4	8·5	1·8	50·6	934	58·0	872
1921 ..	14·8	114·4	100·0	25·6	8·9	2·0	54·2	1,000	54·2	1,000
1931 ..	17·1	106·9	97·2	22·3	8·3	2·2	51·9	958	53·9	963
1932 ..	17·7	105·1	96·4	22·1	7·8	2·1	51·6	952	54·1	954
1933 ..	18·7	109·2	101·2	22·5	8·1	2·3	54·3	1,002	54·5	996
1934 ..	20·3	118·6	110·1	24·4	8·3	2·1	59·4	1,096	55·0	1,080
1935 ..	19·1	123·2	111·8	25·2	8·6	2·1	59·9	1,105	54·4	1,101
					WIDOWS.					
1871 ..	55·4	170·5	125·5	55·7	20·8	2·6	21·1	1,172	19·6	1,077
1881 ..	56·6	155·3	114·5	50·2	18·6	2·6	18·2	1,011	18·5	984
1891 ..	49·3	150·4	114·3	50·3	17·8	2·4	16·3	906	16·8	970
1901 ..	54·9	140·7	115·9	48·9	15·6	2·1	14·4	800	15·6	923
1911 ..	30·0	151·2	114·1	48·9	15·6	2·1	12·5	694	13·6	919
1921 ..	36·1	191·4	120·3	50·6	17·6	2·5	18·0	1,000	18·0	1,000
1931 ..	57·1	140·8	93·0	33·2	13·6	2·2	8·7	483	11·7	744
1932 ..	14·3	153·2	84·8	31·9	12·3	2·1	8·0	444	11·4	702
1933 ..	45·5	137·7	87·0	32·2	12·2	2·1	7·9	439	11·2	705
1934 ..	83·3	158·4	89·8	33·1	13·0	2·1	8·0	444	11·0	727
1935 ..	—	166·3	90·5	34·5	12·8	2·2	8·0	444	10·7	748

ages 20 to 45; for widowers, at all ages except 35–45; for spinsters at ages 20 to 55; and for widows, at all ages except 15–20 and 45–55.

Widowers' and widows' rates as compared with 1921 show a consistent fall in all the age divisions identified. Widowers' rates are largely in excess of the corresponding bachelors' rates, except under 20 years of age, so that it may be said that re-marriages in the case of males are relatively more frequent than first marriages. Comparison of the rates for spinsters and widows shows that the latter have the advantage in all age groups except at 15–20 and 25–35. The age analysis serves to call attention to the misleading nature of the comparison suggested by the aggregate marriages per 1,000 population shown in column 8 of Table CVIII; owing to the concentration of the single population at the younger ages where marriages are numerous, and the widowed population at the later ages where they are few, the aggregate rate for the single of each sex appears to be vastly in excess of that of the widowed, whereas, if allowance be made for the difference in their age constitutions, the relative positions are modified and, for all age-groups except 15–20 among males and nearly all age-groups among females, are in favour of the widowed.

Table CIX shows how the proportions of first marriages and re-marriages have varied from 1918 to 1935. In 1935 there was a higher proportion of first marriages, and consequently, a lower proportion of re-marriages, than in any of the previous years. An increasing trend in the proportion of first marriages is observable for both sexes, and especially for women, since 1919.

Tables L and K, which appear in Part II of this Review, continue the series shown in previous issues of the Text Volume (Tables LXXXVI and LXXXVII in the volume for 1930). They classify by age the marriages of a number of years, the former giving the mean ages of the persons married in each of the possible combinations and the latter extending the analysis into a number of age-groups. Table K shows that, during the last 50 years or so, the modal age of marriage has tended to increase steadily among bachelors and spinsters and the proportion marrying under 21 years of age to decrease. For bachelors, the most popular age has passed from 21–25 to 25–30 and for widowers, from 35–40 to 50–55, while for spinsters and widows, although the modal group has not changed—being 21–25 for the former and 35–40 for the latter—the position of the mode has risen within the group. The distribution for 1935 as shown in Table K, and the average ages shown in Table L fluctuate in no significant way from the data of the previous few years.

Table G shows that more men married at age 25 and more women at age 21 than at any other age. Table J shows the ages of husbands and wives in combination. Among those under 25, for whom the data are given by single years of age, there is a tendency for brides to be about a year younger than bridegrooms.

Table CIX.—Proportions of First Marriages and Re-marriages in 1,000 Marriages, 1918–1935.

Year.	Men.		Women.		Bachelors who married.		Widowers who married.	
	Bachelors.	Widowers.	Spinsters.	Widows.	Spinsters.	Widows.	Spinsters.	Widows.
1918	901	99	894	106	837	64	57	42
1919	897	103	875	125	816	81	59	44
1920	907	93	894	106	839	68	55	38
1921	911	89	909	91	855	56	54	35
1922	913	87	920	80	866	47	54	33
1923	915	85	929	71	875	40	54	31
1924	916	84	932	68	880	36	53	31
1925	916	84	937	63	884	32	53	31
1926	917	83	940	60	887	30	53	30
1927	918	82	942	58	890	28	52	30
1928	921	79	943	57	893	28	50	29
1929	920	80	946	54	894	26	51	29
1930	923	77	949	51	897	25	51	27
1931	924	76	950	50	900	24	50	26
1932	925	75	953	47	903	22	50	25
1933	926	74	954	46	904	22	50	24
1934	930	70	956	44	909	21	47	23
1935	931	69	957	43	910	21	47	23

Marriages of Minors.—Of the males married during the year, 13,052, or 3·73 per cent., were under the age of 21, and of the females 52,180, or 14·9 per cent., as compared with 3·91 per cent., and 15·3 per cent. last year respectively (*see* Tables M and CX). The male rate is lower than any recorded except those for 1915 and 1916 and is less than half of that shown for 1876–80. Females, who have always greatly outnumbered the males in this class—in the present year the ratio is 4 to 1—naturally show the highest rates and the greatest changes in the rate; they formed 18·8 per 1,000 of the unmarried and widowed females aged 15–21 in 1911, were 26·6 in 1920, and are now 28·8, while the corresponding rates for males were 5·5, 8·8 and 6·9 per 1,000 respectively (*see* Table CXI).

Comparative figures are shown in Table CXI for certain years back to 1901, before which the age-group 15–21 was not identified in the population returns; an indication of the trend of youthful marriage-rates in earlier periods may be gained from Table CX.

The proportions of males and females marrying under age are summarised for regions in Table CXII, and the numbers are

stated in Table M. Much of the variation there shown is but a reflex of the incidence of the general marriage-rate (Table CVII), and regard must necessarily be had to the latter in considering how far the former provides evidence of local custom regarding early

Table CX.—Minors Married per 1,000 Marriages at all Ages, 1876–1935.

Year.	Husbands.	Wives.	Year.	Husbands.	Wives.
1876–80 ..	77·8	217·0	1921 ..	48·2	149·2
1881–85 ..	73·0	215·0	1922 ..	44·4	144·4
1886–90 ..	63·2	200·2	1923 ..	42·5	142·9
1891–95 ..	56·2	182·6	1924 ..	40·4	140·3
1896–1900 ..	51·2	168·0	1925 ..	40·6	142·3
1901–05 ..	46·3	153·1			
1906–10 ..	40·3	139·4	1926 ..	43·3	147·5
1911–15 ..	39·2	136·6	1927 ..	41·4	146·1
1916–20 ..	42·6	133·3	1928 ..	43·5	151·5
1921–25 ..	43·3	143·9	1929 ..	41·8	151·7
1926–30 ..	42·5	150·5	1930 ..	42·6	155·3
1931–35 ..	40·8	155·6			
			1931 ..	43·5	158·5
1917	41·7	134·2	1932 ..	43·6	160·4
1918	42·6	129·0	1933 ..	40·8	157·9
1919	43·7	129·4	1934 ..	39·1	153·0
1920	46·8	142·9	1935 ..	37·3	149·3

Table CXI.—Annual Marriage-rate per 1,000 Unmarried and Widowed Persons in the age-group 15–21 in 1901, 1911, 1921, 1931 and 1927–35.

Year.	Males.		Females.	
	Rate.	Ratio to 1921. Per Cent.	Rate.	Ratio to 1921. Per Cent.
1901	6·7	87	21·6	92
1911	5·5	71	18·8	80
1921	7·7	100	23·4	100
1931	6·7	87	24·8	106
1927	6·0	78	21·6	92
1928	6·2	81	22·1	94
1929	6·2	81	23·0	98
1930	6·4	83	24·0	103
1931	6·7	87	24·8	106
1932	6·8	88	25·4	109
1933	6·8	88	27·1	116
1934	7·3	95	29·7	127
1935	6·9	90	28·8	123

marriage. In 1935 the areas in which the proportion of male minors marrying was highest were Midland II, North III, North IV and Midland I. For females, the corresponding areas were Wales I, North I, and East. As between 1934 and 1935, decreases are recorded for both sexes and in all regions, except for males in Midland II and females in South-East and Wales II.

Divorces and Remarriages of Divorced Persons.—The annual numbers of marriages dissolved or annulled are shown in Table O and again in Table CXIII in terms of the persons involved, for each year since 1921 and for each quinquennium back to 1876–80.

Table CXII.—Marriage-rate of Minors per 1,000 Unmarried Population aged 15–21 in Geographical Sections of the Country, 1934 and 1935.

Area.	1934.				1935.			
	Rate per 1,000 Unmarried Population 15–21.		Ratio of local rate to England and Wales rate taken as 1,000.		Rate per 1,000 Unmarried Population 15–21.		Ratio of local rate to England and Wales rate taken as 1,000.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
England and Wales.	7·3	29·7	1,000	1,000	6·9	28·8	1,000	1,000
South-East	6·3	26·4	863	889	6·0	26·5	870	920
North ..	8·2	31·1	1,123	1,047	7·6	29·8	1,101	1,035
North I ..	7·6	39·5	1,041	1,330	6·7	36·8	971	1,278
North II ..	7·5	32·3	1,027	1,088	7·4	30·7	1,072	1,066
North III ..	8·5	32·3	1,164	1,088	8·3	31·7	1,203	1,101
North IV ..	8·5	27·2	1,164	916	7·6	26·2	1,101	910
Midland ..	8·1	29·4	1,110	990	8·0	28·8	1,159	1,000
Midland I ..	7·7	28·5	1,055	960	7·6	27·8	1,101	965
Midland II	8·8	31·1	1,205	1,047	8·8	31·0	1,275	1,076
East	7·5	34·8	1,027	1,172	6·7	32·2	971	1,118
South-West ..	6·3	30·2	863	1,017	6·0	28·4	870	986
Wales ..	7·1	38·1	973	1,283	6·6	35·2	957	1,222
Wales I ..	7·7	42·9	1,055	1,444	7·4	38·9	1,072	1,351
Wales II ..	5·4	24·8	740	835	4·4	24·8	638	861

During the year 1935, 3,942 divorces and 127 annulments were obtained, the number of persons involved being twice these figures, or a total of 4,069 of each sex.

The number of divorces, which attained a maximum of 4,199 in 1934, has this year fallen to a number only slightly greater than that recorded in 1933. The current numbers are six or seven times as large as those of the years 1901 to 1910. The number of annulments in 1935 is larger than in any previous year.

From Table CXIII it will be seen that the number of persons who on remarriage described themselves as divorced shows an increase and is greater than the corresponding figure recorded for

any earlier year. In view of the increasing numbers of divorces, an increasing trend in such marriages is to be expected. There are slight decreases in the numbers of divorced men marrying widows, and of divorced women marrying widowers. The numbers may understate the facts owing to misdescription of status in the registers.

In Table P are given certain particulars concerning the marriages in respect of which suits for dissolution or annulment were commenced during the year. 4,146 petitions were filed at the Principal Registry in London and 1,175 at 38 District Registries. In respect of the petitions filed at the Principal Registry in London, the most frequent duration of marriage at the date of the commencement of the proceedings is from 5–10 years with an average of 272 for each of those years of duration, but the maximum is not of particular significance, for this period only accounts for 33 per cent. of the cases, there being 13 per cent. of shorter duration, while in 54 per cent. the marriages have subsisted for 10 years or more. Forty-three per cent. of the marriages in question were childless, and in a further 32 per cent. there was one child only. These figures are substantially similar to those recorded in the years 1931 to 1934.

Table CXIII.—Annual Number of Persons Divorced, and of Divorced Persons who Remarried, 1876–1935.

Period.		Number of Persons Divorced.	Annual Number of Divorced Persons who remarried.							
			Total.	Men.	Women.	Divorced men marrying spinsters.	Divorced men marrying widows.	Divorced men and women intermarrying.	Divorced women marrying bachelors.	Divorced women marrying widowers.
1876–80 ..	Average	554	104	56	48	42	12	4	31	15
1881–85 ..		671	128	68	60	53	12	6	42	15
1886–90 ..		707	169	80	89	65	11	8	65	20
1891–95 ..		744	214	110	104	89	15	12	75	23
1896–1900 ..		980	345	172	173	138	24	20	126	37
1901–05 ..		1,126	509	262	247	205	38	38	181	47
1906–10 ..		1,247	693	356	337	276	53	54	253	57
1911–15 ..		1,312	820	411	409	330	50	62	309	69
1916–20 ..		3,019	1,264	683	581	525	127	62	439	111
1921–25 ..		5,467	3,050	1,708	1,342	1,316	295	194	976	269
1926–30 ..		6,716	3,917	2,128	1,789	1,662	270	392	1,225	368
1931–35 ..		8,022	5,154	2,777	2,377	2,179	302	592	1,597	484
1921..		7,044	2,878	1,592	1,286	1,182	330	160	939	267
1922..		5,176	3,374	1,913	1,461	1,457	360	192	1,062	303
1923..		5,334	3,008	1,679	1,329	1,307	279	186	1,002	234
1924..		4,572	2,903	1,627	1,276	1,267	275	170	931	260
1925..		5,210	3,088	1,729	1,359	1,367	229	266	944	282
1926..		5,244	3,124	1,710	1,414	1,325	231	308	995	265
1927..		6,380	3,576	1,924	1,652	1,509	244	342	1,133	348
1928..		8,036	4,125	2,268	1,857	1,764	302	404	1,299	356
1929..		6,792	4,427	2,408	2,019	1,886	307	430	1,357	447
1930..		7,126	4,331	2,330	2,001	1,826	267	474	1,342	422
1931..		7,528	4,668	2,517	2,151	1,963	299	510	1,456	440
1932..		7,788	4,824	2,537	2,287	2,011	259	534	1,539	481
1933..		8,084	5,068	2,747	2,321	2,135	318	588	1,571	456
1934..		8,574	5,545	3,026	2,519	2,378	321	654	1,662	530
1935..		8,138	5,662	3,056	2,606	2,407	312	674	1,758	511

Buildings in which Marriages may be Solemnized.—At the end of the year 1935 the numbers of churches or chapels of the Established Church and of the Church in Wales and of registered buildings in which marriages could be legally solemnized, were as follows :—

		Number added in 1935.	Increase per cent. since 1921.
Established Church and Church in Wales	16,530	15	2·3
All other religious denominations	21,044	107	16·2
Total	37,574	122	9·7

The number of these buildings belonging to the various denominations is shown for the several geographical regions in Table N, which thus provides some indication of the relative strength of the various religious bodies in different parts of the country.

By the Acts 15 and 16 Vict. c. 36, and 18 and 19 Vict. c. 81, it was enacted that all places of religious worship not being churches or chapels of the Established Church, should, if the congregations desired, be certified as such to the Registrar-General, certification for public religious worship being a necessary preliminary to the registration of a building for the solemnization of marriages.

Table CXIV.

Denomination.	Buildings certified to the Registrar-General as meeting-places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*	Increase or decrease (—) per cent. since 1921 in the number of buildings certified for Religious Worship.
Roman Catholics	2,007	1,853	28·7
Methodist Church‡	13,728	8,664	— 1·7
Congregationalists	3,514	3,238	4·5
Baptists	3,420	3,074	7·3
Calvinistic Methodists	1,388	1,110	6·9
Presbyterians	469	465	4·7
Unitarians	184	196	—
New Church	60	63	9·1
Catholic Apostolic Church	62	50	—11·4
Countess of Huntingdon's Connexion	45	40	— 4·3
Salvation Army	1,505	361	32·5
Society of Friends	420	†	— 2·6
Jews	328	†	26·6
Other Denominations	5,572	1,930	67·1
All Denominations	32,702	21,044	11·5

* Of these buildings nearly 1,000 were certified before 1852, as Places of Meeting for Religious Worship, to some other authority than the Registrar-General and therefore are not included in the preceding column.

† It is not necessary for buildings to be registered for the solemnization of Quaker or Jewish marriages. Under section 31 of the Births, Deaths, and Marriages Registration Act (1836), Registering Officers of the Society of Friends and Secretaries of Jewish Synagogues who have been certified to the Registrar-General record the marriages in each case.

‡ Includes Wesleyan Methodist, Primitive Methodist and United Methodist Churches.

The number of places of meeting for religious worship on the official register on the 31st December, 1935, and the number of buildings registered for the solemnization of marriages are shown in Table CXIV.

The Marriage Act, 1898, provided that under specified conditions marriages might be solemnized in registered buildings in the presence of duly authorised persons without the attendance of a Registrar of Marriages. The governing bodies of some of the registered buildings have availed themselves of this provision, and at the end of the year 1935, the number of such buildings which had been brought under the operation of the Act, and so remained, was 6,886 out of the total of 21,044. The numbers of these buildings, and the denominations to which they belonged, were as follows :—

4,523	Methodist Church.
984	Congregationalists.
713	Baptists.
164	Calvinistic Methodists.
502	Other Denominations and Unsectarian.
6,886	All Denominations.

LIVE BIRTHS.

The live births registered during 1935 numbered 598,756, corresponding to a birth-rate of 14·7 per 1,000 of the population living. (Part II Tables B and C.)

The number of births is 1,114 more than those of 1934, an increase of 0·19 per cent.

The birth-rate in this country attained its highest values since the commencement of civil registration during the period 1865-1880, when it exceeded 35 per 1,000 population, and from that time it diminished by gradual and practically continuous stages to 23·8 in 1914. During the war of 1914–18, the rate decreased to a minimum of 17·7 in 1918. Following the return to this country of the combatants, the rate rose rapidly, reaching 25·5 in 1920. Since then it fell, with varying rapidity, to 14·4 in 1933, the lowest figure so far recorded. In 1934 the rate rose to 14·8 and the current rate is almost the same, 14·7. Thus for two successive years the birth-rate has exceeded the minimum recorded in 1933 and, to that extent, it might be inferred that the post-war phase of the long continued decline has been arrested. Later returns tend to shew that the present position is being maintained, but further time must elapse before it will be possible to see whether the period is merely an unusually extended halt preceding a still lower fall or whether it is to prove to be a more significant turning point in the history of the rate.

The present rate of recruitment is well below that which is necessary if diminution of the total population in the future is to be avoided

The recent history of the birth-rate in this country may be compared with that of other countries of which particulars are at hand by reference to Table Q. The record extends over the period from 1911 to 1935 (for earlier years, *see* the Registrar-General's Annual Report for 1910) and covers therefore not only the years of the war period itself when the movements were quite abnormal, but a number of earlier and later years. Of the countries for which 1935 returns are available, the Irish Free State, Finland, Germany, Sweden, Australia and South Africa record increases in their birth-rates as compared with 1934, while one, Norway, remains the same, and the remaining 17 show decreases. Three only of these countries, Austria (13·2 per 1,000 population), Norway (14·6) and Sweden (13·8) have lower rates than that of England and Wales (14·7).

In all the countries listed except France, Spain, Portugal, and Japan the recent rates show a large fall in comparison with pre-war experience, a fall which in respect of England and Wales is the more serious since the position of this country in relation to that of others was already a low one before the war. The case of France is somewhat exceptional in that up to a few years ago the rates were not much lower than before the war. The rate, which was 18·0 in 1930, is now 15·2 and France now ranks above England and Wales, Austria, Norway and Sweden. The rise of the birth-rate in Germany from 14·7 in 1933 to 18·0 in 1934 and 18·9 in 1935, after a series of falls, is a feature of some interest. Apart from this the increases recorded are all small, and while they may suggest that minimum rates have now been passed, may, with equal likelihood, indicate merely temporary breaks in the downward progress.

The crude birth-rate, or ratio of births to population of all ages, is a convenient form of statement when the object in view is to record the aggregate effect of all the various factors governing reproduction. It sums up the effects of all the influences governing the rate at which the community is reproducing itself and is, therefore, in conjunction with the corresponding form of mortality statement, the crude death-rate, the appropriate means of measuring natural increase. The number of births in the country, however, depends mainly upon the number of married women at the reproductive ages, and as they form only one-eighth of the total population the variation of their numbers and ages over a period of time may be different from that of the whole population, in which case the crude birth-rates form but an imperfect measure of the changes in fertility, *i.e.* of the rate of reproduction in proportion to the opportunity of reproduction. In the absence of any knowledge of the constitution of the general population the crude rate is often used as an index of fertility, but always on

the implied assumption of a fixed proportion of potential mothers, an assumption which may reasonably be made only in respect of short periods of adjacent years.

In order to exclude the effect of changing age-constitution of the population, and so obtain a better statement of variations of fertility, a method of standardization was introduced in the Statistical Review (Text) for 1922, and has been in use since then. A description of the method, together with a series of fertility rates calculated for England and Wales in 1921 and 1931 were given in the Registrar-General's Statistical Review for 1932 (Text, pp. 135, 136).

Summarized comparisons based on these fertility rates are given in the last column of Table CXV for groups of three years about each census from 1871 to 1931, and for the individual years 1931 to 1935. The results are contrasted in that table with the more familiar comparisons given by the crude birth-rates whether calculated per 1,000 total population or per 1,000 married women between ages 15 and 45. Thus, in 1870–72, 2,148 legitimate births were recorded for every 1,000 that would have occurred under the standard fertility rates, the 1931 experience being in the aggregate less than half of that of 60 years before. From 1871 the rates diminished steadily and progressively to 1,592 in 1910–12. Since 1920–22 the even more rapid drop, commented upon in dealing with the crude rates, is shown by the further reductions in the index, from 1,460 to 1,000 in 1931. It will be observed that over the earlier years shown in the table the decrease in fertility was overstated by the crude rates, and that since 1920–22 the tendency has been in the other direction.

Illegitimate Births.—The live births registered during 1935 include 25,105 of illegitimate children, a decrease of 680 on the number in 1934, coincident with the increase of 1,114 in total births. Illegitimate births have thus decreased by 2·6 per cent., and legitimate births have increased by 0·3 per cent. As a result of these changes, the proportion of illegitimate to total births has fallen from 4·31 per cent. last year to 4·19 per cent., figures which compare with the minimum of 3·95 per cent. recorded for the period 1901–1905 and the maximum (excluding years prior to 1865) of 6·26 per cent. in 1918.

In addition to the crude rate comparison, an attempt has been made in Table CXV to allow for the age distribution of the potential mothers in respect of illegitimate as well as legitimate births in the manner referred to above. The rates for illegitimate fertility are of much less authority than the rates for legitimate fertility.

Seasonal Distribution of Births.—The number of births registered in each quarter of the year and their frequency per 1,000 population are shown in Table D. Since 1923 the highest rate has occurred in every case in the second quarter. This contrasts with the experience of 1841 to 1890 when the highest rates usually occurred in the first

quarter. The lowest rate is recorded consistently in the fourth quarter.

Table CXV.—Birth-rates and Fertility, 1870–1935.

	Births per 1,000 Total Population.	Ratio to 1931.	Births per 1,000 Married Women, 15–45.	Ratio to 1931.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Legitimate Live Births.					
1870–72	33·3	2,205	292·5	2,380	2,148
1880–82	32·3	2,139	286·0	2,327	2,117
1890–92	29·4	1,947	263·8	2,146	1,983
1900–02	27·5	1,821	235·5	1,916	1,797
1910–12	23·4	1,550	197·4	1,606	1,592
1920–22	21·7	1,437	178·9	1,456	1,460
1930–32	15·1	1,000	122·4	996	999
1931	15·1	1,000	122·7	1,000	1,000
1932	14·6	967	118·0	962	964
1933	13·8	914	110·4	900	905
1934	14·1	934	112·7	919	926
1935	14·1	934	111·9	912	923

	Births per 1,000 Total Population.	Ratio to 1931.	Births per 1,000 Unmarried Women, 15–45.	Ratio to 1931.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Illegitimate Live Births.					
1870–72	1·96	2,800	17·0	2,982	2,886
1880–82	1·65	2,357	14·1	2,474	2,375
1890–92	1·31	1,871	10·5	1,842	1,755
1900–02	1·12	1,600	8·5	1,491	1,419
1910–12	1·03	1,471	7·9	1,386	1,363
1920–22	1·04	1,486	8·1	1,421	1,430
1930–32	0·71	1,014	5·8	1,018	1,002
1931	0·70	1,000	5·7	1,000	1,000
1932	0·67	957	5·6	982	974
1933	0·63	900	5·4	947	936
1934	0·64	914	5·6	982	970
1935	0·62	886	5·4	947	938

	Births per 1,000 Total Population.	Ratio to 1931.	Births per 1,000 total Women, 15–45.	Ratio to 1931.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
All Live Births.					
1870–72	35·3	2,234	153·7	2,387	2,179
1880–82	34·0	2,152	147·7	2,293	2,128
1890–92	30·7	1,943	129·7	2,014	1,972
1900–02	28·6	1,810	114·8	1,783	1,779
1910–12	24·5	1,551	98·3	1,526	1,581
1920–22	22·8	1,443	91·1	1,415	1,459
1930–32	15·8	1,000	64·3	998	1,000
1931	15·8	1,000	64·4	1,000	1,000
1932	15·3	968	62·6	972	964
1933	14·4	911	59·4	922	906
1934	14·8	937	61·5	955	928
1935	14·7	930	61·0	947	923

The seasonal distribution of births is thus consistent with the seasonal distribution of marriages, the frequency of which, as has already been noted (p. 161) is a maximum in the third and a minimum in the first quarter.

Birth-rates of Different Parts of the Country.—The birth-rates, total and illegitimate, of individual administrative areas tabulated in Table E are summarized in Table CXVI for the geographical regions, and their sub-divisions.

The method for comparing the fertility of England and Wales in different years by the use of standard fertility rates applies equally well to the comparison of fertility in different sections of the population of which the sex, age and marital condition constitution is known, and the crude rate comparisons are supplemented in this table by the addition of a series of figures in which variations in birth-rates due solely to differences in the age and marital condition proportions of the several populations, as far as possible, have been eliminated.

Table CXVI shows for each of the specified divisions of the country the crude birth-rates of 1934 and 1935, the ratio of the crude rate to that of the country as a whole, and the corresponding ratio obtained by the use of the standard fertility rates of 1931.

The birth changes which have occurred between 1934 and 1935 in the geographical regions and types of area shown in the table are in general consonance with the movement in the country as a whole. Comparison of the crude rates in 1934 and 1935 for the several areas shows that in both years the highest for all births are found in North I and II, and the lowest in the South-West and South-East. Crude rates for illegitimate births are highest in North II and Wales II, and lowest in Midland I.

The ratios shown in column (2) are based upon the crude rates and reflect therefore not only differences of fertility but also the varying incidence of sex, age and marital condition in the populations from which they arise. When the latter factors are eliminated as in column (4) of Table CXVI, the process may result in altering materially the relative position of an area; for instance, the ratio for Wales II rises from 1,000 (crude) to 1,215 (standardized) while Midland II falls from 1,000 to 944. If the areas be examined from the point of view of urbanization the change from the crude to the standardized comparison is also notable. By the crude rates the position of rural areas is distinctly understated, since from the point of view of fertility alone they are shown to be the most productive of all areas.

The extent of illegitimacy in different classes of area and parts of the country may be gathered from the right half of Table CXVI. Except for a wider range of variation generally the distribution is not significantly different from that of all births. The highest rates occur as a rule in the rural districts. It will be seen that whereas for all births the standardized rural aggregate rate is 8·2 per cent. above the mean, for illegitimate only it is 24·0 per cent. above.

Sex Proportions at Birth.—Births of males in England and Wales in 1935 numbered 307,552 and those of females 291,204;

Table CXVI.—Birth-rates by Geographical Regions, 1934 and 1935.

(*For the constitution of the several regions, see page* 13).

Region.	All Births.				Illegitimate Births.			
	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales, taken as 1,000 (Crude Rates).	Ratio of Actual Births per 1,000 of those which would have occurred had the Standard age rates been operating.	Ratio compared with that for England and Wales, taken as 1,000.	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales, taken as 1,000 (Crude Rates).	Ratio of Actual Births per 1,000 of those which would have occurred had the Standard age rates been operating.	Ratio compared with that for England and Wales, taken as 1,000.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1934.								
England and Wales ..	**14·8**	**1,000**	**928**	**1,000**	**0·64**	**1,000**	**970**	**1,000**
Regional Summary—								
South-East	13·9	939	871	939	0·63	984	909	937
Greater London ..	13·9	939	842	907	0·61	953	810	835
Remainder of South-East.	13·9	939	917	988	0·67	1,047	1,095	1,129
North	15·5	1,047	965	1,040	0·65	1,016	996	1,027
North I	17·4	1,176	1,058	1,140	0·66	1,031	1,126	1,161
North II	16·5	1,115	1,079	1,163	0·87	1,359	1,424	1,468
North III	14·9	1,007	895	964	0·64	1,000	994	1,025
North IV	14·9	1,007	949	1,023	0·61	953	878	905
Midland	15·2	1,027	930	1,002	0·57	891	873	900
Midland I	15·4	1,041	958	1,032	0·55	859	837	863
Midland II	14·8	1,000	879	947	0·60	938	943	972
East	14·8	1,000	983	1,059	0·81	1,266	1,402	1,445
South-West	13·6	919	921	992	0·65	1,016	1,085	1,119
Wales	15·6	1,054	1,009	1,087	0·65	1,016	1,109	1,143
Wales I	16·1	1,088	983	1,059	0·59	922	1,031	1,063
Wales II	14·3	966	1,097	1,182	0·82	1,281	1,301	1,341
Density Summary of all Areas outside Greater London—								
County Boroughs ..	15·5	1,047	960	1,034	0·68	1,063	1,003	1,034
Other Urban Districts	14·5	980	909	980	0·59	922	934	963
Rural Districts ..	15·0	1,014	1,006	1,084	0·67	1,047	1,206	1,243
1935.								
England and Wales ..	**14·7**	**1,000**	**923**	**1,000**	**0·62**	**1,000**	**938**	**1,000**
Regional Summary—								
South-East	13·9	946	871	944	0·63	1,016	902	962
Greater London ..	13·9	946	843	913	0·62	1,000	827	882
Remainder of South-East.	14·0	952	917	993	0·64	1,032	1,041	1,110
North	15·4	1,048	956	1,036	0·63	1,016	957	1,020
North I	17·2	1,170	1,041	1,128	0·62	1,000	1,053	1,123
North II	16·6	1,129	1,080	1,170	0·92	1,484	1,486	1,584
North III	14·8	1,007	886	960	0·60	968	929	990
North IV	14·8	1,007	940	1,018	0·59	952	844	900
Midland	15·3	1,041	930	1,008	0·55	887	843	899
Midland I	15·5	1,054	963	1,043	0·53	855	803	856
Midland II	14·7	1,000	871	944	0·59	952	921	982
East	14·8	1,007	981	1,063	0·75	1,210	1,292	1,377
South-West	13·4	912	905	980	0·58	935	974	1,038
Wales	15·4	1,048	995	1,078	0·63	1,016	1,074	1,145
Wales I	15·7	1,068	958	1,038	0·54	871	943	1,005
Wales II	14·7	1,000	1,121	1,215	0·88	1,419	1,394	1,486
Density Summary of all Areas outside Greater London—								
County Boroughs ..	15·4	1,048	952	1,031	0·66	1,065	970	1,034
Other Urban Districts	14·5	986	906	982	0·56	903	873	931
Rural Districts ..	14·8	1,007	999	1,082	0·64	1,032	1,163	1,240

the proportion of male to female births was 1,057, 1,046, and 1,056 to 1,000 for legitimate, illegitimate, and total births respectively. The corresponding proportions for total births in each year from 1895 onwards and in groups of years since the commencement of registration are shown in Table C (Part II). The extreme range since 1838 has been from 1,032 per 1,000 in 1898 to 1,060 in 1919. During this period the highest ratio recorded prior to the war was 1,054 in 1843 and 1844. The current ratio of 1,056 is exceeded only by that of 1,060 in 1919.

The extent to which different classes of area or portions of the country contribute to the preponderance of male births is shown in Table CXVII in which figures are collected for the five years 1931 to 1935.

Table CXVII.—Male Births per 1,000 Female Births, 1931–1935.

	1931.	1932.	1933.	1934.	1935.
England and Wales	**1,049**	**1,050**	**1,046**	**1,055**	**1,056**
Regional Summary—					
South-East	1,047	1,046	1,044	1,058	1,056
Greater London	1,048	1,052	1,047	1,061	1,057
Remainder of South-East	1,046	1,036	1,039	1,053	1,054
North	1,045	1,050	1,048	1,052	1,055
North I	1,050	1,054	1,065	1,058	1,043
North II	1,072	1,036	1,055	1,044	1,069
North III	1,041	1,046	1,050	1,052	1,064
North IV	1,040	1,054	1,039	1,052	1,053
Midland	1,054	1,053	1,042	1,061	1,050
Midland I	1,052	1,048	1,040	1,063	1,046
Midland II	1,058	1,064	1,047	1,059	1,057
East	1,029	1,040	1,038	1,056	1,057
South-West	1,073	1,057	1,046	1,047	1,072
Wales	1,056	1,057	1,059	1,051	1,069
Wales I	1,060	1,054	1,044	1,058	1,065
Wales II	1,043	1,066	1,103	1,031	1,081
Density Summary of all Areas outside Greater London—					
County Boroughs	1,043	1,047	1,044	1,061	1,050
Other Urban Districts ..	1,057	1,050	1,052	1,045	1,065
Rural Districts	1,048	1,052	1,039	1,054	1,052

The range for the several regions varies from 1,036 to 1,066 in 1932, a difference of 30, or 2·9 per cent. of the average; to 1,038 to 1,103 in 1933, a difference of 65 or 6·2 per cent. of the average. Since the smallest number of births in a region is of the order of 10,000 (in Wales II), it is difficult to ascribe these variations to chance causes. The inconsistency of some of these ratios is illustrated by Wales II, which was the highest in 1932, 1933 and 1935, and the lowest in 1934, and by the South-West which fell from 1,073 in 1931 to 1,057 in 1932 and to 1,046 in 1933 and rose to 1,072 in 1935. A similar inconsistency is revealed when the figures are analysed according

to degree of urbanization. The ratio for the county boroughs was highest in 1934, lowest in 1931, 1932 and 1935; for the urban districts, highest in 1931, 1933 and 1935, lowest in 1934; for the rural districts, highest in 1932, lowest in 1933.

STILLBIRTHS.

Stillbirths registered in England and Wales as a whole are shown for each year in Part II of the Statistical Review, Table B, and for each quarter in Table D. The numbers occurring in metropolitan and county boroughs, and in the aggregates of urban and of rural districts in administrative counties are shown in Part I, Table 18, to which is prefixed a summary for the several larger regions into which the country is divided.

In England and Wales the stillbirths registered during 1935 numbered 25,435 in all, 13,790 being males and 11,645 females; the numbers representing 41, 43 and 38 per 1,000 total births or 42, 45 and 40 per 1,000 live births respectively. The total compares with the figure of 25,209 recorded last year.

Prior to 1st July, 1927, the date on which stillbirth registration became operative in this country under the Births and Deaths Registration Act, 1926, the only record of stillbirths in England and Wales was that obtained from notifications received by Medical Officers of Health. These were published in the successive reports, from 1919 onwards, of the Chief Medical Officer to the Ministry of Health and were summarised in the 1927 Statistical Review, (Text p. 128).

The distribution of the total according to sex, legitimacy and geographical incidence in 1934 and 1935 is summarised in rate form in Table CXVIII: in this Table columns have been included from which comparisons may be made between the incidence of stillbirths on the one hand and that of live births or of infant mortality on the other. Wherever the numbers are large enough to form a satisfactory basis of fact, the frequency of stillbirth amongst males is shown to be definitely greater than it is amongst females. The male excess for legitimate births is the same as that of last year, and it is maintained with considerable uniformity throughout the several sections distinguished. For illegitimate births, also, male excess is usually found, but exceptions are recorded in 1935 in the remainder of the South-East, North I, North III, Midland I and II, East and Wales I and II. As between legitimate and illegitimate births, the latter exhibit the higher rates in all sections excepting the males in North I, Midland II and Wales I, and the females in North II, the amount of the excess being on a somewhat larger scale than that indicated in the comparison between the sexes.

As regards a real comparison, Wales returns legitimate stillbirth frequencies markedly higher than those of any English sections, which among themselves decrease generally from the North, where the rate is 11 per cent. in excess of the general average, to the

Table CXVIII.—Stillbirths, 1934 and 1935.

Area.	Stillbirths per 1,000 total births.					Stillbirths per 1,000 total births and Live Births per 1,000 population expressed in relation to corresponding rate for England and Wales taken as 1,000.				Stillbirths per 1,000 total births and Infant Mortality per 1,000 live births expressed in relation to corresponding rate for England and Wales taken as 1,000.		
	Total.	Legitimate.		Illegitimate.		Stillbirths.		Live Births.		Still-births.	Deaths under 4 weeks.	Deaths under 1 year.
		Males.	Females.	Males.	Females.	Legitimate.	Illegitimate	Legitimate.	Illegitimate			
1934.												
England and Wales ..	**40·5**	**42**	**37**	**55**	**53**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
Regional Summary—												
South-East	33·0	35	30	45	48	810	865	943	984	815	803	889
Greater London ..	32·1	34	29	43	51	787	872	943	953	793	789	976
Remainder of South-East.	34·3	37	31	47	45	845	853	943	1,047	847	825	755
North	45·1	47	42	62	57	1,115	1,108	1,050	1,016	1,114	1,136	1,136
North I	41·4	42	40	51	57	1,025	996	1,184	1,031	1,022	1,268	1,324
North II	44·7	48	40	60	61	1,098	1,126	1,106	1,359	1,104	1,034	1,044
North III	46·6	49	43	73	50	1,150	1,139	1,007	1,000	1,151	1,092	1,014
North IV	46·0	47	44	62	59	1,135	1,126	1,014	953	1,136	1,128	1,145
Midland	41·1	43	38	54	55	1,018	1,011	1,035	891	1,015	1,022	985
Midland I ..	41·0	43	38	56	61	1,013	1,083	1,050	859	1,012	1,035	1,019
Midland II ..	41·1	43	39	49	46	1,025	885	1,007	938	1,015	996	919
East	37·3	40	33	51	40	922	839	986	1,266	921	971	842
South-West	40·1	41	39	50	49	992	926	922	1,016	990	988	844
Wales	53·2	54	50	80	61	1,313	1,321	1,064	1,016	1,314	1,225	1,101
Wales I	54·2	55	52	82	50	1,346	1,237	1,099	922	1,338	1,245	1,113
Wales II	50·2	52	45	78	81	1,213	1,479	957	1,281	1,240	1,163	1,066
Density Summary of all Areas outside Greater London—												
County Boroughs	42·2	43	40	58	53	1,043	1,024	1,050	1,063	1,042	1,078	1,119
Other Urban Districts.	44·2	47	40	62	57	1,090	1,098	986	922	1,091	1,045	941
Rural Districts ..	40·5	42	38	53	49	1,000	950	1,014	1,047	1,000	1,014	905
1935.												
England and Wales ..	**40·7**	**43**	**38**	**50**	**49**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
Regional Summary—												
South-East	33·0	34	31	44	39	807	848	943	1,016	811	812	833
Greater London ..	31·9	33	30	47	37	777	846	943	1,000	784	814	898
Remainder of South-East.	34·6	35	33	40	43	849	850	943	1,032	850	808	734
North	45·4	48	42	55	55	1,114	1,122	1,050	1,016	1,115	1,155	1,187
North I	42·3	45	39	44	58	1,040	1,030	1,177	1,000	1,039	1,312	1,330
North II	41·6	41	42	52	37	1,025	919	1,113	1,484	1,022	1,126	1,201
North III	45·8	48	42	61	62	1,116	1,248	1,007	968	1,125	1,109	1,025
North IV	47·5	51	43	57	56	1,166	1,152	1,007	952	1,167	1,121	1,215
Midland	41·5	43	39	46	49	1,020	965	1,043	887	1,020	1,058	1,029
Midland I ..	41·6	44	39	49	52	1,022	1,022	1,064	855	1,022	1,041	1,027
Midland II ..	41·2	43	39	41	44	1,017	868	1,007	952	1,012	1,091	1,032
East	38·6	41	35	52	53	936	1,069	993	1,210	948	851	776
South-West	40·1	42	37	48	47	985	970	908	935	985	894	757
Wales	54·6	58	51	58	64	1,347	1,238	1,050	1,016	1,342	1,159	1,111
Wales I	54·7	57	51	57	66	1,349	1,240	1,078	871	1,344	1,146	1,114
Wales II	54·3	59	48	61	61	1,334	1,232	979	1,419	1,334	1,197	1,103
Density Summary of all Areas outside Greater London—												
County Boroughs..	42·9	46	39	45	52	1,054	980	1,050	1,065	1,054	1,095	1,162
Other Urban Districts.	43·5	44	42	55	59	1,064	1,165	993	903	1,069	1,037	974
Rural Districts ..	42·0	44	39	53	42	1,032	974	1,007	1,032	1,032	972	859

South-East where it is 19 per cent. below. The contrasts are not so consistent among the illegitimate frequencies.

The relative positions in the various portions of the country and the close association in this respect between stillbirths and infantile deaths are brought out in the columns of the table in which the stillbirth rate and infantile mortality rate of the year are expressed in relation to that of the country at large, the latter being taken as 1,000 in each case. The similarity of incidence is marked in comparisons made with the mortality of the full first year of life, but the parallelism is found in certain areas to be even closer when the comparison is restricted to the deaths occurring within the four weeks immediately following birth.

Some idea of the local variation of stillbirths may be obtained from Table CXIX, which shows the boroughs and the county urban and rural aggregates exhibiting the highest and lowest rates per

Table CXIX.—Stillbirths, 1935. Range of local variation. Stillbirths per 1,000 total births.

Metropolitan Boroughs.		County Boroughs.		Urban Aggregates (Excluding County Boroughs).		Rural Aggregates.	
		Highest.					
Greenwich	42	Dewsbury	66	Huntingdon ..	63	Flint	65
Woolwich	40	Rochdale	65	Carmarthen ..	62	Pembroke	62
Shoreditch ..	38	Salford	63	Flint	60	Anglesey	60
Hammersmith ..	37	Wigan	62	Monmouth	58	Cardigan	60
St. Pancras ..	37	Merthyr Tydfil ..	59	Pembroke	57	Glamorgan ..	58
				Glamorgan ..	56	Brecknock	57
		Lowest.					
Deptford	29	Croydon	30	Middlesex	32	Hereford	33
Islington	29	Reading	30	Surrey	32	Surrey	33
Stepney	29	Norwich	29	Wilts.	32	Sussex East ..	32
Bermondsey ..	27	Oxford	29	Yorks., E.R. ..	32	Cambridge	30
Bethnal Green ..	27	West Ham ..	29	Kent	31	Northumberland ..	30
Westminster ..	26			Cambridge	30		
				Hertford	29		

Table CXX.—Comparison of Live Births and Stillbirths, 1928–1935.

Year.	Stillbirths per 1,000—		Male births per 1,000 female births.				Illegitimate births per 1,000—			
	Population of all ages.	Total births (live and still).	Live births.		Stillbirths.		Live births.		Stillbirths.	
			Total.	Illeg.	Total.	Illeg.	M.	F.	M.	F.
Col. (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1928 ..	0·70	40·1	1,044	1,041	1,210	1,297	44·9	45·1	64·8	60·5
1929 ..	0·68	40·0	1,043	1,021	1,259	1,311	45·1	46·0	62·9	60·4
1930 ..	0·69	40·8	1,044	1,049	1,235	1,233	45·9	45·6	61·0	61·1
1931 ..	0·67	40·9	1,049	1,059	1,248	1,250	44·6	44·2	61·8	61·7
1932 ..	0·66	41·3	1,050	1,042	1,216	1,197	43·8	44·2	56·5	57·3
1933 ..	0·62	41·4	1,046	1,021	1,180	1,137	43·3	44·3	56·1	58·2
1934 ..	0·62	40·5	1,055	1,049	1,188	1,102	43·0	43·3	56·2	60·7
1935 ..	0·63	40·7	1,056	1,046	1,184	1,065	41·7	42·1	48·6	54·0

1,000 total births in 1935. Areas in which fewer than 20 stillbirths were registered have been omitted. Material for a comparison of live births with stillbirths over the years 1928–1935 is contained in Table CXX.

NATURAL INCREASE.

The excess of live births over deaths registered in England and Wales during the years 1928 to 1935 was :—

1928...	...	199,878	1932...	...	129,843
1929...	...	111,181	1933...	...	83,948
1930...	...	193,384	1934...	...	120,832
1931...	...	140,451	1935...	...	121,355

From the comparable series of rates per 1,000 living population given in Table R, it will be observed that, though there is rather greater irregularity in the successive rates of natural increase, they have, over the range of years there given, followed on the whole a similar course to those followed by both birth and death-rates, and have declined with advancing years. The present rate of natural increase is 3·0 per 1,000 population. Lower rates were recorded in 1918 (0·4), 1929 (2·9) and 1933 (2·1), but, with these exceptions, 1934 and 1935 are lower than any so far recorded. It compares with a figure of approximately 10 per 1,000 in the years immediately preceding the war and over 14 per 1,000 in the period 1876–1880 when the birth-rate was at about its maximum. Stated in these terms the curve of natural increase expresses no more than that the crude birth-rate has hitherto been greater than the crude death-rate, and that the decline in the former has advanced at a greater rate than the fall in the latter. From the general continuity of the series it may be inferred that the number of births will continue to exceed the deaths for some years, and that, apart from the results of migration, the population will continue to increase during such period though, naturally, at a slower pace.

Table CXXI shows for 1931–35 the rate of natural increase in various sections of the country, representing the combined effect of the several sectional birth and death rates. Attention may be drawn to the large differences between the different sections of the regions, namely, North I (Durham and Northumberland), and North IV (Cheshire and Lancashire), and between Wales I (Brecknockshire, Carmarthenshire, Glamorganshire and Monmouthshire), and Wales II (the remainder of Wales).

Comparative figures for natural increase and migration during the period 1931–35 are shown in Table E (Part II, p. 10) for the large geographical regions. The natural increase ranges from 23·0 per 1,000 population in North I (Durham and Northumberland) to 2·0 in Wales II (North Central and Western Wales). The Northern, Welsh and Eastern regions show an outward balance of migration which varies from 42·0 per 1,000 in Wales I and 26·3 in North I to 5·1 in.

North II and 3·7 in North IV. An actual decrease of estimated total population is recorded for North I and for the two Welsh regions. The largest increases in population occur in the area of the South-East region outside of Greater London, 53·6 per 1,000, followed by Greater London 30·2, and Midland II, 20·4. The analysis according to degree of urbanisation, shows a very small increase, 0·3 per 1,000, in the total population of the county boroughs—associated with an outward migration of 12·2 per 1,000. The aggregate population of the rural districts shows an increase of 33·5 per 1,000, made up of a natural increase of 14·2 and an inward migration of 19·3.

A comparison of the rates of natural increase in certain selected years is provided in Table CXXII in which the countries shown are the same as in Table Q. The only countries in which there is a greater natural increase in 1935 than in 1911–13 are Spain and Japan, and comparatively small decreases occur in Ireland and Portugal. Two countries, Austria and France, show natural decreases.

Table S, which provides an analysis of migration from 1911 onwards, shows that the balance of passenger movement, which for many years had been in the outward direction, has been reversed during the last six years. The net passenger movement into the United Kingdom was 54,163 in 1935. This contrasts with about

Table CXXI.—Natural Increase per 1,000 living, 1931–1935.

	1931.	1932.	1933.	1934.	1935.
England and Wales	3·5	3·3	2·1	3·0	3·0
Regional Summary—					
South-East	3·4	3·0	2·0	2·6	3·2
Greater London	3·9	3·5	2·3	2·9	3·6
Remainder of South-East	2·9	2·3	1·7	2·2	2·6
North	3·2	3·4	1·9	3·2	2·7
North I	6·1	6·4	4·9	5·2	5·0
North II	4·2	4·5	3·0	4·1	3·9
North III	2·7	2·7	1·6	2·9	2·4
North IV	2·3	2·5	0·8	2·4	1·8
Midland	4·6	4·1	2·9	3·9	3·9
Midland I	4·7	4·2	3·0	4·0	4·0
Midland II	4·6	4·2	2·8	3·7	3·4
East	3·4	2·9	1·9	3·0	2·9
South-West	1·0	0·8	0·4	0·8	0·9
Wales	3·4	3·2	2·3	3·2	2·7
Wales I	4·5	4·2	3·0	4·2	3·6
Wales II	0·7	0·8	0·1	0·4	0·4
Density Summary of All Areas outside Greater London—					
County Boroughs	3·4	3·5	1·9	3·2	2·9
Other Urban Districts	3·1	2·9	1·7	2·7	2·6
Rural Districts	3·7	3·4	2·6	3·2	3·0

48,000 in 1933, 77,000 in 1932 and 91,000 in 1931, and with an outward balance of 100,000 so recently as 1926.

GREAT BRITAIN AND IRELAND.

Population.—The first complete census of the United Kingdom was taken in 1821, when the population numbered 20,893,584 persons; during the 100 years 1821–1921 this number increased by about 126 per cent., the sum of the census figures for Great Britain and of the estimated population of Ireland in June, 1921, amounting to 47,123,196. Up to the date when the 1931 Census was taken there was a further increase of 4 per cent. The populations of the several portions of the United Kingdom for each census year from 1821 and for individual years from 1896 are set out in Table A (Part II).

Marriages.—The marriages during the year 1935 numbered 410,574 corresponding to a rate of 16·4 persons married per 1,000 of the total population. This rate was 0·2 per 1,000 above the corresponding rate in 1934 and 1·5 above the average rate in the ten years 1921–1930.

Table CXXII.—Natural Increase per 1,000 Population in certain Countries, 1911–1935.

(*Derived from birth and death rates given in the League of Nations Annual Epidemiological Report,* 1935, *pp.* 67–69.)

	1911–1913.	1921.	1931.	1932.	1933.	1934.	1935.
England and Wales ..	10·3	10·3	3·5	3·3	2·1	3·0	3·0
Scotland	10·4	11·6	5·7	5·1	4·4	5·1	4·6
Northern Ireland ..	6·7	8·3	6·1	5·8	5·1	6·1	4·8
Irish Free State ..	6·3	5·3	4·8	4·3	5·7	6·2	5·5
Austria	6·1	6·2	1·9	1·3	1·1	0·8	−0·4
Belgium	7·5	8·1	5·0	4·5	3·3	3·8	2·6
Czecho-Slovakia ..	9·2	11·5	7·1	6·9	5·5	5·5	4·4
Denmark	13·3	13·0	6·6	7·0	6·7	7·4	6·7
Finland	12·1	10·3	6·2	6·1	4·5	5·7	6·5
France	0·6	3·0	1·3	1·5	0·5	1·0	−0·5
Germany	12·2	11·2	4·8	4·3	3·5	7·1	7·1
Hungary	11·4	10·6	7·1	5·5	7·3	7·0	5·9
Italy	12·5	12·4	10·1	9·1	10·0	10·1	9·4
Netherlands	15·0	15·3	12·6	13·0	12·0	12·3	11·5
Norway	12·1	12·7	5·4	5·4	4·6	5·0	4·4
Portugal	14·4	11·6	12·9	12·8	11·9	11·9	11·4
Roumania	18·0	15·8	12·5	14·2	13·3	11·7	9·6
Spain	9·0	9·0	10·1	11·8	11·3	10·2	10·2
Sweden	9·7	9·1	2·3	2·9	2·5	2·5	2·1
Switzerland	9·0	8·1	4·6	4·6	5·0	4·9	3·9
Australia	17·1	15·0	9·5	8·3	7·9	7·1	7·1
Canada	—	17·8	13·1	12·6	11·3	11·0	10·6
New Zealand	17·0	14·6	10·1	9·1	8·6	8·0	7·9
South Africa (whites)	21·7	18·0	16·0	14·2	14·3	13·7	13·7
United States of America	—	12·6	6·9	6·5	5·9	6·1	6·0
Japan	13·6	12·4	13·2	15·2	13·7	11·9	14·8

Table CXXIII.—Great Britain and Ireland. Vital Statistics. 1921–30 and 1931–35.

	Great Britain and Ireland.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.
Estimated Population in the middle of the year 1935 (*in thousands*).					
Males	24,057	19,500	2,385	627	1,545
Females	25,861	21,145	2,568	660	1,488
Persons	49,918	40,645	4,953	1,287	3,033
Marriages.					
1935	410,574	349,536	37,997	8,844	14,197
Persons married per 1,000 living :—					
1921–1930	14·9	15·5	13·8	12·1	9·5
1931	14·9	15·6	13·5	11·8	8·9
1932	14·6	15·3	13·6	11·0	8·8
1933	15·1	15·8	13·9	12·0	9·3
1934	16·2	16·9	15·0	12·9	9·5
1935	16·4	17·2	15·3	13·7	9·6
Births.					
1935	769,645	598,756	87,928	24,742	58,219
Per 1,000 living :—					
1921–1930	18·8	18·3	21·5	22·1	20·2
1931	16·5	15·8	19·0	20·5	19·3
1932	15·9	15·3	18·6	19·9	18·9
1933	15·1	14·4	17·6	19·4	19·2
1934	15·5	14·8	18·0	19·8	19·2
1935	15·4	14·7	17·8	19·2	19·6
Deaths.					
1935	602,813	477,401	65,331	18,592	41,489
Per 1,000 living :—					
1921–1930	12·5	12·1	13·7	15·1	14·5
1931	12·6	12·3	13·3	14·4	14·5
1932	12·4	12·0	13·5	14·1	14·5
1933	12·5	12·3	13·2	14·3	13·5
1934	12·0	11·8	12·9	13·7	13·0
1935	12·1	11·7	13·2	14·4	14·0
Deaths of Infants under 1 *year.*					
1935	46,906	34,092	6,754	2,136	3,924
Per 1,000 live births :—					
1921–1930	74	72	89	81	70
1931	69	66	82	73	69
1932	69	65	86	83	72
1933	66	64	81	80	65
1934	62	59	78	70	63
1935	61	57	77	86	67

Births.—The live births registered in the year 1935 numbered 769,645, and were in the proportion of 15·4 per 1,000 of the total population. This rate was 0·1 below the corresponding rate in 1934 and 3·4 per 1,000 below the average in the ten years 1921–1930.

Deaths.—The deaths registered in the year 1935 numbered 602,813, and were in the proportion of 12·1 per 1,000 of the total population. This rate was 0·1 per 1,000 above the corresponding rate in 1934, and 0·4 below the average in the ten years 1921–1930.

Infant Mortality.—The deaths of infants under one year of age during the year 1935 numbered 46,906, representing a rate of 61 per 1,000 live births. This rate was 1 per 1,000 below that recorded in 1934 and 13 per 1,000 below the average in the ten years 1921–1930.

BIRTHS AND DEATHS AT SEA.

Marine Register Book.—In accordance with the Births and Deaths Registration Act of 1874 and the Merchant Shipping Act of 1894, Commanding Officers of ships trading to or from British ports are required to transmit returns of all births and deaths occurring on board their ships to the Registrar-General of Shipping and Seamen, who furnishes certified copies of such returns to the Registrars-General of Births and Deaths for England, Scotland, Northern Ireland and the Irish Free State. Similar returns are furnished to the Registrars-General of Births and Deaths by Officers in command of His Majesty's ships. The returns of births and deaths at sea received by the Registrar-General constitute the "Marine Register Book." During the year 1935 this register was increased by the addition of 58 entries of birth and 981 entries of death.

REGISTRATIONS OF BIRTHS, DEATHS AND MARRIAGES.

Progress of Registration.—The names in the alphabetical indexes of births, deaths and marriages recorded in the national registers of England and Wales were increased during the year 1935 by 1,775,229, this addition raising the total of names in the indexes, which at the end of 1935 embraced a period of 98½ years, to 166,656,369 (Table T).

Searches and Certificates.—Besides the certified copies of the registered births, deaths and marriages kept in England and Wales pursuant to the Registration Acts, a large number of other registers and records are deposited in this Office under statute or other arrangement. A revised list of these various registers and records will be found on pages 149–155 of the Review for 1925. Searches may be made in any of these registers, and certificates obtained on payment of the prescribed fees.

Table CXXIV affords an indication of the extent to which the copies of the records kept in this Office have been utilized by the public for legal evidence of births, deaths and marriages since 1866.

The 443,783 gratuitous searches during 1935 comprise 39,494 searches made for the purpose of verifying the ages of persons aged 70 and upwards claiming old age (non-contributory) pensions and 232,086 for persons claiming pensions under the Old Age Contributory Pensions Acts, 1925 and 1929; 86,608 for verification purposes in connexion with claims to widows' and orphans' pensions under the Widows', Orphans', etc., Acts, 1925 and 1929; 27,892 to assist dependents of men of H.M. Forces to produce evidence of marriage

Table CXXIV.

Years.	Total Searches.	Gratuitous Searches.	Searches paid for by Fees.	Certificates Issued.	Amount Received. £	s.	d.
1866 (52 weeks) ..	12,135	—	12,135	10,017	1,860	15	6
1875 (52 weeks) ..	26,356	—	26,356	20,282	3,879	15	6
1885 (52 weeks) ..	36,450	—	36,450	27,682	5,317	13	6
1895 (52 weeks) ..	53,289	—	53,289	35,727	7,200	12	6
1905 (52 weeks) ..	65,142	—	65,142	50,310	9,611	9	0
1906 (52 weeks) ..	64,340	—	64,340	49,429	9,458	6	0
1907 (52 weeks) ..	69,249	—	69,249	53,058	10,194	9	0
1908 (53 weeks) ..	72,370	—	72,370	54,870	10,550	8	0
1909 (52 weeks) ..	132,169	58,626*	73,543	54,674	10,568	8	0
1910 (52 weeks) ..	126,716	51,347	75,369	57,019	10,939	5	6
1911 (52 weeks) ..	140,496	65,491	75,005	56,347	10,875	6	0
1912 (52 weeks) ..	149,752	69,151	80,601	61,143	11,752	6	0
1913 (52 weeks) ..	150,540	71,225†	79,315	60,356	11,613	19	0
1914 (53 weeks) ..	188,040	104,593	83,447	65,817	12,482	11	6
1915 (52 weeks) ..	202,939	118,788	84,151	69,746	13,007	10	0
1916 (52 weeks) ..	303,334	197,669	105,665	88,265	16,379	17	0
1917 (52 weeks) ..	272,199	177,403	94,796	80,374	14,859	14	0
1918 (52 weeks) ..	255,462	146,504	108,958	90,898	16,889	0	0
1919 (52 weeks) ..	301,913	170,670	131,243	107,067	20,017	14	6
1920 (53 weeks) ..	284,194	149,447	134,747	108,684	20,415	0	0
1921 (52 weeks) ..	258,461	131,167	127,294	99,911	18,949	10	6
1922 (52 weeks) ..	263,047	143,088	119,959	90,400	19,028	12	6
1923 (52 weeks) ..	269,822	144,118	125,704	93,701	20,875	16	0
1924 (52 weeks) ..	337,521	178,990	158,531	121,890	27,109	15	0
1925 (53 weeks) ..	488,781	339,790	148,991	115,378	25,610	2	6
1926 (52 weeks) ..	541,916	407,687	134,229	105,560	23,305	6	6
1927 (52 weeks) ..	1,002,345	854,084	148,261	115,009	25,733	16	0
1928 (52 weeks) ..	600,678	452,953	147,725	114,731	25,678	17	0
1929 (52 weeks) ..	550,742	402,853	147,889	116,768	25,903	18	0
1930 (52 weeks) ..	1,207,344	1,053,047	154,297	121,549	26,964	12	0
1931 (53 weeks) ..	651,414	509,267	142,147	109,163	24,323	1	6
1932 (52 weeks) ..	598,624	464,985	133,639	104,420	23,086	13	0
1933 (52 weeks) ..	591,668	455,664	136,004	108,050	23,790	11	0
1934 (52 weeks)	562,849	424,943	137,906	111,265	24,378	14	6
1935 (52 weeks) ..	591,056	443,783	147,273	119,351	26,221	9	6

* Including some searches made in 1908.

† In addition, there were 91,917 gratuitous searches made for National Insurance Audit purposes.

and of the births of children in connexion with claims to naval and military pensions, separation allowances, etc., and to verify the ages of certain classes of youths and men in connexion with service in the Army, Navy and Air Force; 40,639 for verification of age, etc., in connexion with National Health and Unemployment Insurance; and 17,064 for other public purposes.

Offences against the Registration Acts.—In 1935 ten persons, on prosecution by order of the Registrar-General, were convicted of offences in connexion with registration. The offences for which convictions were obtained were as under :—

(*a*) For failing to register a birth 9

(*b*) For failing to re-register a birth under the Legitimacy Act 1

Proceedings were taken, also, by the Director of Public Prosecutions or by the police under the Perjury Act, 1911, in a number of cases where false information had been given (1) by an informant in regard to the particulars required to be registered in an entry of birth, stillbirth, marriage or death or (2) for the purpose of procuring marriage.

RE-REGISTRATION OF BIRTHS UNDER THE LEGITIMACY ACT, 1926.

Under the Legitimacy Act, 1926, an illegitimate child of parents who married after the birth of the child was, subject to certain conditions, legitimated; and the Act contained incidental provision to enable the births of such children to be re-registered. During the year 1935 authority was issued for the re-registration of the births of 2,956 children, being 139 less than the preceding year.

The number of authorities issued during each quarter is as follows :—

Quarter.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
March	1,265	1,401	1,075	996	981	854	752	722	774
June	1,256	1,170	1,105	1,001	908	762	724	777	790
September ..	1,381	1,242	933	1,006	797	709	718	798	701
December ..	1,593	1,070	933	986	825	819	774	798	691
Totals ..	5,495	4,883	4,046	3,989	3,511	3,144	2,968	3,095	2,956

ADOPTION OF CHILDREN UNDER THE ADOPTION OF CHILDREN ACT, 1926.

The Adoption of Children Act, 1926, provided for the legal adoption of children by Order of the Court, and established a system of registration of such adoptions in an Adoption Register to be kept by the Registrar-General. The number of children whose adoption was registered during 1935 is 4,852. Table CXXV furnishes an analysis of the Adoption Orders made by reference to the several classes of Courts and the quarterly distribution of the total figure.

Table CXXV.

Year.	Number of Adoption Orders dealt with.				Corresponding number of children, *i.e.*, Entries made in Adopted Children Register.				
	Total.	High Court.	County Court.	Court of Summary Jurisdiction.	Year's Total.	March Quarter.	June Quarter.	September Quarter.	December Quarter.
1927 ..	2,943	133	184	2,626	2,967	329	990	774	874
1928 ..	3,278	124	236	2,918	3,303	851	844	705	903
1929 ..	3,294	72	224	2,998	3,307	722	787	857	941
1930 ..	4,511	74	317	4,120	4,517	1,084	1,196	983	1,254
1931 ..	4,119	68	274	3,777	4,127	873	1,049	1,046	1,159
1932 ..	4,465	38	264	4,163	4,467	1,073	1,178	1,000	1,216
1933 ..	4,524	61	262	4,201	4,528	1,029	1,258	1,004	1,237
1934 ..	4,756	45	290	4,421	4,758	1,063	1,265	1,075	1,355
1935 ...	4,844	64	342	4,438	4,852	1,174	1,261	1,073	1,344

PARLIAMENTARY AND LOCAL GOVERNMENT ELECTORS.

The returns of Parliamentary and Local Government Electors published in Tables U and V summarise the Register of Electors compiled under the Representation of the People (Equal Franchise) Act of 1928 in respect of the qualifying period of three months ending on the 1st June, 1935.

The particulars have been taken from statements furnished to the Registrar-General by the Registration Officers of the several areas, or in the case of a University forming the whole or part of a University constituency, by the Chancellor, Registrar or other officer dealing with Parliamentary registration.

Registration Officers were instructed that the return of Parliamentary Electors should be the net total of individual Parliamentary Electors in each constituency, all duplicate entries being omitted from the count. In the case of Local Government Electors the number of names on the register was to be given. The instructions further directed that the names of " out voters " (that is, persons whose names appear twice in the Register, by reason of a claim under Rule 24 of the First Schedule to the 1918 Act) should be counted once only in respect of that qualification.

Table U refers to Parliamentary electors, and shows for each Parliamentary constituency in England and Wales, including the University constituencies, the numbers of males and females on the Register, and also the numbers registered in respect of business premises qualifications and the numbers on the absent voters list.

Table V refers to Local Government electors, and shows the numbers of each sex registered in respect of every local government area, *i.e.*, county borough, metropolitan borough, municipal borough, urban district and rural district in England and Wales.

The figures for the whole country are summarised in Table CXXVI and are shown in conjunction with the figures of previous Registers made since the passing of the 1918 Act.

Table CXXVI.—Parliamentary and Local Government Electors, 1918-1935.

Register.	Parliamentary Register (including University Constituencies).					Local Government Register.		
	Persons.	Males.	Females.	Business Premises Qualifications. — Males only up to 1928. Persons from 1929 (included in Cols. *b-d*).	Persons on Absent Voters' List (included in Cols. *b-d*).	Persons.	Males.	Females.
a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*
1918 (Autumn)	17,222,983	10,281,054	6,941,929	159,013	3,362,028	13,930,130	6,998,665	6,931,465
1919 ,,	17,465,638	10,234,887	7,230,751	205,461	1,157,061	14,361,123	7,176,019	7,185,104
1920 ,,	17,584,552	10,176,750	7,407,802	203,471	254,866	14,712,453	7,364,912	7,347,541
1921 ,,	17,795,784	10,237,344	7,558,440	194,737	185,227	15,019,348	7,527,861	7,491,487
1922 ,,	18,001,692	10,312,248	7,689,444	199,904	162,901	15,322,625	7,700,108	7,622,517
1923 ,,	18,388,833	10,498,179	7,890,654	208,694	151,953	15,691,962	7,873,461	7,818,501
1924 ,,	18,806,842	10,719,922	8,086,920	211,257	165,564	16,015,033	8,007,384	8,007,649
1925 ,,	19,167,275	10,897,545	8,269,730	217,509	167,406	16,345,290	8,157,607	8,187,683
1926 ,,	19,346,954	10,982,128	8,364,826	206,199	161,460	16,574,549	8,284,181	8,290,368
1927 ,,	19,585,972	11,094,031	8,491,941	205,538	155,436	16,865,666	8,444,718	8,420,948
1928 ,,	19,866,649	11,226,396	8,640,253	205,793	154,432	17,179,487	8,608,017	8,571,470
1929 (Spring)	25,095,793	11,866,794	13,228,999	371,594	174,731	18,620,395	8,825,225	9,795,170
1930 (Autumn)	25,730,507	12,101,108	13,629,399	364,762	174,270	18,879,147	8,905,768	9,973,379
1931 ,,	26,135,944	12,288,852	13,847,092	365,090	174,274	19,156,018	9,036,870	10,119,148
1932 ,,	26,439,713	12,440,109	13,999,604	367,684	172,234	19,418,156	9,160,409	10,257,747
1933 ,,	26,715,526	12,578,340	14,137,186	365,734	168,684	19,659,678	9,274,801	10,384,877
1934 ,,	27,031,162	12,735,465	14,295,697	367,912	166,102	19,984,911	9,428,765	10,556,146
1935 ,,	27,395,836	12,911,650	14,484,186	367,797	164,751	20,352,389	9,602,772	10,749,617

It will be observed that the sex distribution of the electorate which, in respect of the Parliamentary Register, was formerly in the proportion of about 1·3 men to each woman, was completely altered by The Representation of the People (Equal Franchise) Act of 1928. That Act, which placed women on the same footing as men in regard to the franchise, added about 4½ million women to the Parliamentary electorate and nearly 1¼ million to the Local Government electorate, and as a consequence women now outnumber men by approximately 12 per cent. in the case of each. The somewhat abnormal increase in the male electorate between 1928 and 1929—an interval of six months, it should be noted, in place of the usual 12 months period—cannot be explained by the new Act which left the male franchise unaltered apart from a trifling addition—approximately 3,700—in respect of men registered in respect of their wives' occupation of business premises, and must

be mainly ascribed to the special procedure, adopted for the first time in connexion with the 1929 register, of the service of a compulsory form of return which disclosed and made good omissions from the registers on the pre-1928 Act franchise.

Including a certain amount of plural representation in the case of those persons registered in more than one constituency by reason of their possessing the necessary residence or business qualification, or being entitled to be registered in respect of a University constituency, the total Parliamentary electorate of 27,395,836 represents 67·4 per cent. of the estimated total population, or 66·2 per cent. of the male and 68·5 per cent. of the female population; in the case of the rather more restricted Local Government franchise, the numbers are somewhat less and the proportions correspondingly lower, the total electorate being 50·1 per cent. of the whole population, or 49·2 per cent. and 50·8 per cent. in the case of males and females separately.

Of the total of the Parliamentary Register, the bulk, viz. 27,288,328, represents the aggregate voting strength in the 509 geographical constituencies into which England and Wales is divided, the balance of 107,508 representing the five University constituencies. Eleven of the Boroughs, and three University constituencies, however, each return two members, so that the total representation in Parliament is by 528 members, 520 in respect of the geographical divisions, with an average electorate of 52,478 per member and eight in respect of the Universities, with an average electorate of 13,439.

MISCELLANEOUS.

Other tables appearing in Part II of the Statistical Review which have not formed the subject of special comment in the foregoing pages are :—

Table W, showing the Population, Births, Deaths, Infant Mortality and Marriages, with Rates in British Islands and Dominions, 1935.

Tables X and Y, showing the census populations respectively of the British Empire, Dominions, etc., and of Foreign Countries.

Appendix, showing changes in boundaries of various local government districts and the areas and populations involved.

WEATHER OF THE YEAR 1935.
ENGLAND AND WALES.

(*Contributed by the Air Ministry.*)

The weather of the year 1935 was very variable and many interesting features occurred. Among the most notable were the

severe frost and unusual snowfall of mid-May, the warm, sunny and mainly very dry period during the summer holidays from about June 20th to August 22nd, the excessive and frequent rainfall of the three autumn months, the violent gales of September 16th–18th and October 19th and the severe frost and widespread fog of the period December 17th–24th.

A feature of the year was its general mildness, the deviation from the average temperature for the country as a whole being +0·9°F. The long warm period from about June 21st to August 22nd and the two severely cold spells from May 12th–19th and December 17th–24th are particularly noteworthy. An interesting cold spell occurred from March 8th–11th; it was accompanied by easterly winds of continental origin. The cold spell of May 12th–19th was exceptional; temperature in the screen fell to 25°F. or below at numerous stations and on the 17th, 17°F. was registered at Rickmansworth and 20°F. at Cantref. The lateness and severity of the frost caused widespread damage to early vegetables, fruit and trees. During the severely cold spell of December 17th–24th, screen minima below 15°F. were registered at a number of stations and 7°F. was recorded at Mayfield and Rickmansworth on the 24th. Notable warm spells included June 21st–25th and around June 29th, July 9th–16th, July 22nd–28th, August 5th–11th and around August 22nd. Among high maxima were 88°F. at Manchester on June 22nd, at Brighton and London (Camden Square) on June 24th and at Huddersfield on June 29th, 92°F. at Attenborough, 91°F. at Worcester and 90°F. at Wakefield and Huddersfield on July 13th and 89°F. at numerous stations in the eastern half of the country on August 22nd.

The general precipitation of England and Wales expressed as a percentage of the average for the period 1881–1915 was 114. In England, less than the average rainfall was recorded in an area bordering the Wash and extending southward to Ely, Cambridgeshire, and in a few small, scattered areas elsewhere. Falls of more than 130 per cent. were chiefly confined to parts of southern England but were also recorded at one or two isolated stations elsewhere. Over Wales the variation was from rather less than the average in the extreme south-west to over 120 per cent. at Lake Vyrnwy, Montgomeryshire. With regard to individual months, over the country as a whole, the first six months were alternately unusually dry and excessively wet, July was the driest month of the year and August was rather dry. The autumn months, September to November inclusive, were conspicuously wet, the percentage of the average for the 3 months being over 170. Up to the end of August, rainfall over the country was in general less than the average, but the persistent rains of the autumn months and of the last week in December resulted in widespread floods at the end of the year, especially in the Midlands and the south of England.

Sunshine aggregates exceeded the average in all districts except England, S.W. and the Channel Islands, the percentage of the average

varying from 96 in the Channel Islands to 110 in the Midlands. With reference to the average, July, August and December were on the whole the sunniest months and February, April and October the dullest, though there were decided variations in different districts. May was exceptionally sunny in north-west England and November unusually dull in north-east England. The excessive sunshine in July was general and very marked; at some stations it was the sunniest July on record and at many places in east and south-east England more than 300 hours were registered.

Further information.—Tables relating to meteorological elements are given in Part I (Tables 30–32). A description of the weather of each month appears in the Quarterly Return of the Registrar-General and a summary of the observations at Greenwich for each month of the year appears in Table XI of the Return for the fourth quarter.

Charts showing the distribution of pressure, temperature, sunshine and rainfall for the year, together with summaries of the observations at numerous stations will be found in the Annual Summary of the Monthly Weather Report issued by the Meteorological Office.

A list of the publications of the Meteorological Office will be found in " List M " issued by H.M. Stationery Office.

SUMMARISED REFERENCE TO SPECIAL STUDIES OR OTHER NON-ANNUAL FEATURES INCLUDED IN THIS REVIEW.

Distribution throughout the Country of Infant Mortality, 1921–35 (p. 27).

Mortality rates from various causes and at different periods of the first year of life are compared for 3 quinquennial periods 1921–25, 1926–30 and 1931–35, in the county boroughs, other urban districts and rural districts. The amount of decline in mortality from all causes since 1921–25 ranged from about 5 per cent. during the first month of life to 30 per cent. during the second half of the first year, and was appreciably greater in urban than rural areas at 9–12 months. Tuberculosis at 6–12 months, syphilis at ages under 3 months, infant diarrhœa during the first month of life, and convulsions throughout the first year declined to a greater extent in urban than in rural areas, whereas injury at birth and atelectasis increased to a greater extent in urban than rural areas.

Causes of High Infant Mortality in the County Boroughs (p. 29).

When comparison is made between the causes of infant mortality during 1935 in the county boroughs with highest and in those with the lowest total infant rates, it is found that whilst

nearly all the natural causes of death contributed to the high rates in the former group the relative excess was greatest for measles, whooping cough, bronchitis, pneumonia and diarrhœa, these causes giving a combined rate of 8 per 1,000 live births in the towns which recorded total rates below 40, compared with 39 in the towns which recorded total rates of 90 or over.

Certification of Deaths from Multiple Causes (p. 43).

A sample of 9,892 death certificates was classified according to the number of causes of death mentioned and the manner of their entry on the certificate. It was found that 57 per cent. had a single cause and 43 per cent. had more than one cause entered, and it was estimated that in not more than 3 per cent. were multiple causes entered in such a way that the certificates failed to indicate which cause was regarded by the certifier as the essential one. Hitherto a system of rules has been used to select the cause required for purposes of statistical classification, but during 1936–40 an additional tabulation of deaths in accordance with the certifier's preference will be carried out in preparation for the change to the latter method of selection in 1941.

Tuberculosis Mortality from 1851 to 1935 (p. 64).

Tables are given showing the death rates in decennial periods from 1851–60 to 1901–10 and then in quinquennial periods to 1931–35 and single years from 1931 to 1935. From all forms of tuberculosis combined the mortality of children under 5 has fallen during the 80 years to about one-ninth of its former value and of children aged 5–15 to less than one fifth. At 15–25 male mortality has declined to one quarter and female mortality to less than one third, whilst at 25–35 the rates for each sex have fallen to one quarter of those in 1851–60; at 35–65 male rates have fallen to about one third and female rates to less than one fifth, whilst at ages over 65 mortality of each sex has declined to one third or less. The standardised death rates from respiratory tuberculosis were 28 per cent. lower in 1935 for each sex than the corresponding rates for 1921–30, and for non-respiratory tuberculosis the decline amounted to 39 per cent. for males and 41 per cent. for females.

Local Distribution of Tuberculosis Mortality, 1931–35 (p. 71).

Standardised mortality figures for respiratory tuberculosis at ages 15–35 and 35 upwards in each sex are tabulated for each county borough and county aggregate of urban or rural districts. For young adult males the county borough ratios ranged from 56 in Southport to 280 in South Shields, and for young adult females from 50 in Burton-on-Trent to 240 in Merthyr Tydfil. Standardised mortality ratios from non-respiratory tuberculosis amongst persons of all ages ranged from 67 in Canterbury, Smethwick and West Bromwich to 300 in South Shields.

Amongst the English county aggregates of rural districts Hereford had the highest mortality from respiratory tuberculosis in young adult females, and Durham for respiratory tuberculosis in young adult males and also for non-respiratory tuberculosis, but several of the Welsh counties, notably Caernarvonshire, gave rates in excess of any English county.

Cancer Mortality according to Site, Sex and Age, 1911–35 (p. 88).

Rates of mortality at various ages in 3 periods 1911–20, 1921–30 and 1931–35 are compared for cancer of separate sites (Table LXV). The sites for which the recorded mortality has continued to increase since 1921–30 at advanced ages although stationary or declining in middle age are the œsophagus, larynx and rectum for both sexes, the mouth, tonsil and pharynx for males, and the stomach, bladder and gall bladder for females. For some of these sites it seems necessary to conclude that the average age of incidence of cancer is becoming later. Sites for which cancer mortality continued to increase at almost every age included the lung and breast.

Tabulations of Deaths in Certain International Groups during 1931–35 with Detail of the Descriptions of the Disease used by the Certifier.

Such tabulations classifying the deaths by sex and age as well as by cause have been included for cerebro-spinal fever (p. 60), diseases due to helminths (p. 75), mycotic diseases (p. 75), diseases of the pituitary (p. 99), and thymus gland (p. 99), for splenic and other anæmias (p. 103), chronic poisoning (p. 108), for diseases of the arteries, veins and lymphatics (p. 114), and of the tonsils and throat (p. 116).

Mortality from Hodgkin's Disease (p. 104).

Examination of the death rates attributed to this cause since 1911–20 at various ages shows a rise in the equivalent average rate at ages under 65 from 11 to 19 per million for males and from 6 to 9 for females. Regional distribution of mortality during 1911–30 was remarkably uniform and except for a slight excess at certain ages in London no effect of urbanisation on the recorded death rate was evident.

Mortality from Disseminated Sclerosis (p. 109).

Comparison of death rates during 1934 and 1935 in Greater London, the county boroughs, other urban districts and rural districts at various ages reveals a lower level of mortality for each sex in Greater London than in the rural areas, and a difference between the age distributions of deaths amongst males and females.

Special Investigations relating to Maternal Deaths.

As a result of special enquiries regarding maternal deaths during 1935 a table has been prepared showing the numbers of deaths accompanied by a live birth, still birth or abortion or which occurred in the pregnant state for each cause of death (p. 127.) A similar classification has been made for the married women (with separation also of multiple births) according to the number of previous confinements (p. 132). The first of these tabulations makes it possible to complete the separation of abortion from other maternal deaths and corrected rates from maternal causes without abortion are given in Table XC. A separate table showing the numbers of deaths of married and other women from abortion recorded in each region of England and Wales during 1926–30 and 1931–35 is given on page 133.

Suicidal, Homicidal or Accidental Poisoning (p. 135).

Classification of the deaths during the last 12 years due to poisoning by solid, liquid or gaseous substances shows that in 1933–35, although the suicide rate by the use of solid and liquid poisons had almost ceased to rise, the resort to gaseous poisons, chiefly coal gas, for this purpose was still increasing rapidly compared with previous years. The poisons which showed the most important increases since 1930–32 as suicidal agents were coal gas, mineral acids, barbiturates, nicotine and its preparations, aspirin, opium derivatives, ammonia and potassium chromate and bichromate. The slight increase between 1930–32 and 1933–35 in the number of accidental deaths due to solid and liquid poisons was more than explained by deaths due to the barbiturates and some increase also occurred in accidental deaths due to coal gas amongst women.

Mortality by Suicide and Other Violence in Separate Areas of the Country, 1931–35 (p. 139).

Standardised mortality by suicide, which in 1911–20 was highest in London but was elsewhere unaffected by urbanisation, ranged in 1931–35 from 115 per cent. of the national rate in London, and 106 in the county boroughs to 88 in the rural areas. For other forms of violence male mortality which showed very slight variation with urbanisation in 1911–20 ranged in 1931–35 from 115 per cent. of the national rate in rural areas to 97 in London and 94 in the county boroughs, whereas female mortality showed, though to a less degree than in 1911–20, an urban excess, rural areas having a ratio of 91 compared with 119 for London. In 1935 the cause principally responsible for the excess of mortality amongst males resident in rural areas was road transport, other contributory causes being accidents in mines or quarries or by machinery and accidental drowning. Female mortality caused by road transport was, in contrast with males, greatest for

residents in Greater London. Analysis of the total mortality in 1935 by violence other than suicide, shows that for children under 5 the greater freedom from fatal accident enjoyed by the rural child in 1911–20 has almost disappeared, and at 5–15 it has been replaced by a greater mortality risk in the rural districts than in the towns. At ages 25–55 the female risk which in 1911–20 was greatest for town dwellers has become greatest for residents in rural districts, but after 55 a reversal to a large urban excess occurs. For males the greater risk to rural dwellers persists up to age 65. Separate mortality ratios based on 1931–35 deaths are tabulated both for suicide and other forms of violence for each separate county borough and for each county aggregate of urban and rural districts.

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