THE

REGISTRAR-GENERAL'S

STATISTICAL REVIEW

OF

ENGLAND AND WALES

FOR THE YEAR

1930

(New Annual Series, No. 10.)

TEXT.

LONDON
PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. STATIONERY OFFICE at the following addresses
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff
15, Donegall Square West, Belfast
or through any Bookseller

1932

Price 2*s.* 6*d.* Net.

70-141-3-30

THE

REGISTRAR-GENERAL'S

STATISTICAL REVIEW

OF

ENGLAND AND WALES

FOR THE YEAR

1930

(New Annual Series, No. 10)

TEXT

LONDON
PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. STATIONERY OFFICE at the following addresses
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh
York Street, Manchester; 1, St. Andrew's Crescent, Cardiff
15, Donegall Square West, Belfast
or through any Bookseller

1932

Price 2*s.* 6*d.* Net

70–141–3–30

TABLE OF CONTENTS.

TEXT.

(9325) Wt. 22579/S.D.76 875 6/32 Hw G 4/15.

LIST OF CORRIGENDA IN THE STATISTICAL REVIEW.

YEAR 1922.

TABLES: PART I.—MEDICAL.

Table 4 (Page 15). Cause 102 (1) Males 1922. For 334 *read* 335; Cause 102 (2) Males 1922, For 435 *read* 434.
Table 14 (Page 78). Tonbridge R.D. Adjusted Population. For 17,499 *read* 17,490.

TABLES: PART II.—CIVIL.

Table E. (Page 23). Tonbridge R.D. Adjusted Population. For 17,499 *read* 17,490.

YEAR 1926.

TABLES: PART I.—MEDICAL.

Table 14 (Page 89). *Footnote, Shropshire, Municipal Boroughs and Urban Districts. For 113,000 *read* 113,100.
Table 20 (Page 324). Essex. Aggregate of Urban Districts, Cause 10, Females All Ages. For 250 *read* 205.

TABLES: PART II.—CIVIL.

Table E. (Page 34). *Footnote, Shropshire, Municipal Boroughs and Urban Districts. For 113,000 *read* 113,100.

YEAR 1927.

TABLES: PART I.—MEDICAL.

Table 22 (Page 427). Cause 176, Others, Insert *
* Footnote. For * Gnat bite 2 M 3 F *read* 2 M 1 F.

YEAR 1928.

TABLES: PART I.—MEDICAL.

Table 14 (Page 62). † Footnote. Rural Districts—England and Wales. For 8,057,100 *read* 8,057,000.
Table 17 (Page 179). Heading of Table. For 1927 *read* 1928.

YEAR 1929.

TABLES: PART I.—MEDICAL.

Table 11 (Page 54). Tuberculosis of Nervous System. Illegitimate Infants, All Urban Districts, 6-9 months. For 0·22 *read* 0·18, Total under 1 year. For 0·75 *read* 0·70.
Table 14 (Page 82). * Footnote, Add Kent–Milton R.D. 9,950.
Table 20 (Page 302). Nottingham, Cause 5, Males age 1. For Blank *read* 3.

TABLES: PART II.—CIVIL.

Table E. (Page 23). * Footnote. Add Kent–Milton R.D. 9,950.

STATISTICAL REVIEW, 1930.

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 455,427 persons were registered in England and Wales during 1930, 234,010 of these being males and 221,417 females.

This number is 14 per cent. below that for 1929, and with the exception of those registered in 1923 and 1926 is the lowest number recorded since 1862, when the population was only 51 per cent. of that in 1930.

Deaths of civilians, including all deaths of females and 99·80 per cent. of those of males, are referred in tabulation to their administrative area of residence, and therefore figure in all tables relating to portions of the country. During the war and subsequent years, it was found, however, that similar treatment could not be satisfactorily applied to the deaths of non-civilians, which are therefore still excluded from all tables relating to local areas. Table 17, accordingly, so far as it refers to England and Wales as a whole, includes all deaths registered, but when referring to the population as subdivided by class of area includes only deaths of civilians; and the same restriction to civilian mortality applies to all tables embodying distinction of local area.

Death-Rate.—The 455,427 deaths correspond to a rate of 11·4 per 1,000 of the estimated population. When standardized* to correct for the deviation of the sex and age distribution of the population, as shown in Table LXXVII, from that of the standard population of 1901, this death-rate is reduced to 9·6.

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

* The term "standardized death-rate" means the death-rate corrected for differences of sex and age constitution of the population. For a description of the direct method employed for this "standardization" *see* the Annual Report for 1911 (pages xxvii-xxxi). 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. (*See* Annual Report for 1913, page xx.)

to correct any wrong impression which might arise from this fact, and 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 XXI, as well as those based on the 1901 English standard, which is that always used elsewhere in this Review. It will be seen that use of the less favourable standard increased the rate from 9·6 to 10·7 per thousand.

The rate of 9·6 per 1,000, 17 per cent. below that for 1929, is seen from Table 1 (Part 1) to be the lowest hitherto recorded, an event which has occurred in four other years during the decennium just ended.

The following table, derived from Table XXI, shows that, compared with 1929, the decrease was greatest at the two extremes of life and least at the intermediate ages up to 35—the period of life at which mortality is lowest and most stable.

Table I.—England and Wales.—Mortality at various Ages in 1930 per cent. of that in 1929.

	Males.	*Females.*	*Persons.*
All ages (standardized)	85	82	84
0—	78	74	76
5—	92	94	93
10—	90	91	91
15—	95	92	94
20—	93	89	91
25—	91	93	92
35—	85	88	86
45—	87	87	87
55—	89	86	88
65—	86	82	84
75—	84	81	82
85—	77	76	76

The causes of death chiefly responsible for this decrease may be gathered from Table 5A. They are influenza, whooping cough, respiratory diseases, and diseases of the heart, which in the aggregate account for rather more than 80 per cent. of the total decrease for both males and females; these diseases were responsible for 94 per cent. of the increase in the death-rate for 1929. With their high incidence at the two extremes of life when mortality is high and subject to wider fluctuations than at the intermediate ages, they play an important part in determining the general death-rate for the year.

* Annuaire International de Statistique, 1916, p. viii.

Mortality of different portions of the year.—While the death-rate for the year as a whole established a new low record, a lower rate than that in the separate quarters has been recorded in earlier years. As in 1921, 1923, 1926 and 1928, the four other years of the last decennium with hitherto lowest rates, so in 1930 the low mortality for the year was due to an exceptionally low rate during the first quarter.

The contribution of the four quarters to the year's mortality during the last 80 years is shown in Table II.

Table II.—Quarterly Death-rates in each quinquennium 1851–1930 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

It will be seen that throughout the 80 years covered by the table, the highest quarterly rates were recorded in the March quarter and with one exception (1896–1900, a period of high diarrhœal mortality), the lowest in the September quarter, the former varying from 10 to 31 per cent. above and the latter from 1 to 24 per cent. below the yearly rate. The rates for the June and December quarters have, on the other hand, remained remarkably constant throughout the period, their ratios to the yearly rate, taken as 100, varying only from equality to 94 in the June quarter and, excluding 1916–20, from 101 to 96 in the December quarter. In the several quinquennia, excluding 1916–20 when the December mortality was exceptionally high in consequence of the influenza epidemic of 1918, the rates in these two quarters approximate very closely, and for the 92 years 1838–1930 the mean rate for the December quarter is but 0·4 per 1,000 above that recorded in the June quarter (Table 2).

It will also be observed that during the quinquennia from 1851–1900, the ratio of the mortality in the March and September quarters, while subjected to wide fluctuations, showed no general tendency to increase or decrease. After this period the excess ratio in the March quarter rose continuously to no less than 31 per cent. in 1926–30, while the mortality in the September quarter declined rapidly to 76 per cent. of the yearly figure in 1916–20, since when it has shown but little variation.

The present stability of the death-rate in the last three quarters of the year is more apparent from the experience during the last ten years (Table 2). The average mortality in these quarters during the decennium ranged from 10·7 to 11·6, or less than 1 per 1,000, while the death-rate in the March quarter fluctuated between 13·2 and 20·9 per 1,000. Should these tendencies continue, the mortality experienced in the March quarter will determine the death-rate for the year.

Table III.—England and Wales.—Mortality of Males per cent. of that of Females at Various Ages from 1841–45 onwards. (*See* Table 3).

	All Ages Standardized.	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	85–
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
1921 ..	122	125	104	100	104	113	114	125	130	134	128	118	113
1922 ..	122	123	104	94	104	116	113	130	129	132	126	119	108
1923 ..	123	124	105	100	104	113	118	131	132	132	127	120	113
1924 ..	122	122	109	94	100	110	111	130	134	132	127	119	109
1925 ..	123	124	104	100	104	106	115	131	135	135	129	121	108
1926 ..	123	124	109	100	104	107	112	133	135	134	129	123	111
1927 ..	124	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 ..	123	122	113	100	108	110	111	139	143	134	126	117	103
1930 ..	126	128	110	104	109	112	111	133	144	139	133	121	103

Mortality of each sex.—The excess of male over female mortality in 1930 reached 26 per cent., the highest excess yet recorded. Comparing the sex rates age by age, male excess occurred at every age and was greater than in the previous year at all age groups except 5–10, 25–45, and 85 years and upwards, and at ages from 45 to 75 the excess was the highest shown in the Table. These

changes recorded in Table III are derived from Table 3, with substitution for 1911–15 and 1916–20 of rates based on total male population and deaths registered in this country for those in Table 3, which deal with civilian males only.

Table III shows that male excess is consistently low in childhood (5–20), when during last century the rate for females was frequently the higher, and then rises to a maximum in middle life, after which it falls again with advancing age.

During the quinquennium 1926–30, the male excess at "all ages" reached the high level attained during the war. At ages under 15 and from 35–55 years, the excess is the highest during the 90 years covered in Table III, the age-group 10–15 showing a definite male excess for the first time. The maximum disparity in sex mortality is reached in the age-group 45–55, and this occurs in no fewer than 13 of the 18 quinquennia for which data are available. Only in extreme old age has the female mortality not declined more than the male.

The causes of death accounting for this large male excess may be gathered from Table 5A, in which the mortality disadvantage of females arising from their greater 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 2,221 per million, are seen to be, in order of importance, accident (373), cancer of organs other than those of reproductive function (364), pneumonia (308), heart disease (220), tuberculosis (193), and arterio-sclerosis (137). These six causes jointly contribute 72 per cent. of the total male excess.

Infant Mortality.

Of the 455,427 deaths registered during the year, 38,908, or 8·5 per cent., were those of infants under one year of age.

The rate of infant mortality resulting from these deaths is 60 per 1,000 live births; this rate is 14 per 1,000 below that of the previous year and 5 per 1,000 less than the previously lowest rate recorded in 1928.

The rates in the four quarters of the year were 77, 57, 46 and 61 respectively, and these were all lower than the rates hitherto recorded in the same quarter of the year. The combination of the four low rates has yielded the lowest yearly rate.

Table IV affords a ready means of tracing the changes in the quarterly incidence of infantile mortality during the last 60 years. While the lowest death-rate at "all ages" has, with one exception, been recorded in the September quarter (Table II), it is remarkable that until 1901–05, and again, but to a very slight degree, in 1911–15, this quarter produced the highest infantile mortality. Thus, 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 IV.—Average Rate of Infantile Mortality by Quarters in Quinquennia, 1871–1930.

	Year.	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

Since the beginning of the present century, this experience has undergone a remarkable change. In all four quarters, the infant death-rate fell in each successive quinquennium, but with great inequality. Comparing 1926–30 with 1896–1900, the fall ranged from 36 per cent. in the March quarter, 52 in the June, and 53 in the December, to no less than 75 per cent. in the September quarter. This precipitate decline, due in a large measure to the fall in the mortality from epidemic diarrhœa, has so reduced the mortality in the third quarter that it now yields the lowest quarterly rate, while the March quarter, with its lower rate of decrease, yields the highest.

It has been pointed out in previous Reviews that for the years 1915–22 the conventional statement of infant mortality (deaths under one year of age registered in the year per thousand live births registered in the same year) was an unreliable measure of the extent of infantile mortality, owing to violent fluctuations in the birth-rate during, or immediately preceding, those years. In the Report for 1920 a method was described for obtaining a more exact statement of infant mortality by stating the deaths in proportion, not to the births registered in the same year, but to all the infants born alive during the same three-monthly periods as those which died. The results of this correction are applied in Table V (rates in brackets), where it may be seen that after the period of violent fluctuations of the birth-rate came to an end the effect of this revision of the crude rate was much less. As in 1926 it had become evident that the correction, which was without effect in two of the three preceding years, was no longer required, it was then discontinued ; but it is still necessary to retain the restated rates for earlier years in the table in order to secure any accuracy in statement of the recent history of infant mortality.

Table V.—England and Wales : Infant Mortality, distinguishing Mortality from Diarrhœal Diseases, 1861–1930.

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.	Year.	Diarrhœal Diseases.	Other Causes.	All Causes.
1861–65	15	136	151	1911	36 (36)	94 (93)	130 (129)	1921	14 (14)	69 (67)	83 (81)
1866–70	20	137	157	1912	8 (8)	87 (87)	95 (95)	1922	6 (5)	71 (70)	77 (75)
1871–75	19	134	153	1913	19 (19)	89 (90)	108 (109)	1923	7 (7)	62 (62)	69 (69)
1876–80	16	129	145	1914	17 (17)	88 (87)	105 (104)	1924	6 (6)	69 (68)	75 (74)
1881–85	14	125	139	1915	15 (15)	95 (91)	110 (106)	1925	7 (7)	68 (68)	75 (75)
1886–90	17	128	145								
1891–95	20	131	151	1916	11 (10)	80 (81)	91 (91)	1926	8	62	70
1896–00	31	125	156	1917	10 (9)	86 (82)	96 (91)	1927	6	64	70
1901–05	23	115	138	1918	10 (10)	87 (88)	97 (98)	1928	6	59	65
1906–10	18	99	117	1919	9 (9)	80 (84)	89 (93)	1929	7	67	74
1911–15	19 (19)	91 (90)	110 (109)	1920	8 (9)	72 (76)	80 (85)	1930	5	55	60
1916–20	9 (9)	81 (82)	90 (91)								
1921–25	8 (8)	68 (67)	76 (75)								
1926–30	6	62	68								

It will be seen from Table V that the decline of 7 per 1,000 births between 1921–25 and 1926–30 was lower than that recorded in the two preceding quinquennia, and, in view of the low level now reached, it is probable that any further fall in future years will be at a decreasing rate.

When compared with 1929 the decline in 1930 is seen from Table VI to apply to all stages of infancy, except the first day of life, at which period the rate has remained stationary for three years ; at every age-group after the first week, the rate was the lowest yet recorded.

Table VI shows that the fall during the five quinquennia for which detailed age distinction is now available has been continuous at every age-group except 1–7 days, at which age the rate in 1926–30 was slightly in excess of that for the preceding five years. During the first month of life the fall was 21 per cent., but at the later age-groups the average fall was slightly over 50 per cent., reaching a maximum of 56 per cent. at 3–6 months. The maximum decline in the two preceding quinquennia also occurred at this age. The decline of the mortality during the first week was as low as 10·4 per cent., but it is probable that the high proportion of deaths at this age of non-viable infants with but little prospect of surviving birth renders the mortality less susceptible to the influences and efforts which have effected the substantial reductions at later periods of the first year.

Distribution of Infant Mortality.—Table VII shows how infant mortality was distributed in 1930 between the sexes and throughout the country.

The rates for the county boroughs and for the North are, as usual, in considerable excess, the highest rate in the table for infants of both sexes being 75 for the Northern county boroughs and the lowest 44 for the rural districts of the South. In

Table VI.—England and Wales: Age Distribution of Infant Mortality, 1881-1930.

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
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
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
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

* Corrected rates—see page 6.

each year from 1911 onwards the rate for the Northern county boroughs has been the highest in the table, and in each year except 1923 that for the rural districts of the South has been the lowest. For each class of area and for each sex mortality in 1930 decreased regularly from the North to the South of England, a statement applying also to each of the preceding 19 years.

The comparisons suggested by Table VII are facilitated by Table VIII, the chief features of which are also very constant from year to year, the greatest excess for the North being

transferred from county boroughs to rural districts when comparison is made with the average for districts of similar type and not for the country as a whole, while in the South a similar change in point of view transfers the lowest ratio from rural districts to county boroughs.

Table VII.—Distribution of Infant Mortality, 1930.*

	Males.					Females.					Both Sexes.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	66	—	66	—	—	52	—	52	—	—	59	—	59
County Boroughs ..	86	69	59	75	77	63	52	49	63	58	75	61	54	69	68
Other Urban Districts	74	60	52	75	64	56	43	38	57	47	65	52	45	66	56
Rural Districts ..	71	55	51	73	60	54	45	37	57	46	63	50	44	65	53
All Areas	80	62	59	74	68	60	46	45	58	51	70	54	52	67	60

The extent of the fall in infant mortality during the past twenty years, for which alone its distribution by administrative areas can be compared, but which cover much the greater part of the total fall since the commencement of the century (Table VI), has been fairly uniform in different classes of area and parts of the country, Table IX showing that, as compared with the rates of about fifteen years earlier, the average reduction in 1930 of 45 per cent. is not widely departed from by any of the sections of the population compared.

The fall, as in the two previous years, is seen to be greatest in the small towns, which prior to 1928 had not registered the greatest decline since 1918, whereas the London rate's reduction below the 1911–15 standard was the greatest for the four classes of area in each year 1923–27.

* The "North" includes the administrative counties and county boroughs corresponding to the registration counties in the eighth, ninth, and tenth "registration divisions" of the Registrar-General, *i.e.*, Lancashire, Cheshire, and Yorkshire, and counties north of them. The "South" includes England south of the Thames, with the whole of the County of London and the five south-western counties, forming the first, second, and fifth registration divisions. "Wales" corresponds to the eleventh or Welsh registration division and so includes Monmouthshire. All the rest of the country, corresponding to the third, fourth, sixth, and seventh registration divisions, is included in the Midland area. The counties in the four areas are as follows:—

North.	Midlands.		South.	Wales.
Cheshire.	Middlesex.	Gloucestershire.	London.	Monmouthshire.
Lancashire.	Hertfordshire.	Herefordshire.	Surrey.	Glamorganshire.
Yorks, West Riding	Buckinghamshire.	Shropshire.	Kent.	Carmarthenshire.
,, East Riding.	Oxfordshire.	Staffordshire.	Sussex, East.	Pembrokeshire.
,, North Riding.	Northamptonshire.	Worcestershire.	,, West.	Cardiganshire.
Durham.	Soke of Peterborough.	Warwickshire.	Southampton.	Brecknockshire.
Northumberland.	Huntingdonshire.	Leicestershire.	Isle of Wight.	Radnorshire.
Cumberland.	Bedfordshire.	Rutlandshire.	Berkshire.	Montgomeryshire.
Westmorland.	Cambridgeshire.	Lincolnshire,	Wiltshire.	Flintshire.
	Isle of Ely.	Parts of Holland.	Dorsetshire.	Denbighshire.
	Essex.	,, Kesteven.	Devonshire.	Merionethshire.
	Suffolk, East.	,, Lindsey.	Cornwall.	Caernarvonshire.
	,, West.	Nottinghamshire.	Somersetshire.	Anglesey.
	Norfolk.	Derbyshire.		

Table VIII.—Proportionate Distribution of Infant Mortality, 1930. (Both Sexes).

	Mortality per cent. of that in England and Wales.					Mortality per cent. of that in England and Wales in the same class of Area.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	99	—	99	—	—	—	—	—
County Boroughs	124	101	90	115	113	110	89	80	102	100
Other Urban Districts	109	87	75	110	93	116	93	80	118	100
Rural Districts	105	83	73	109	89	118	94	83	123	100
All Areas	117	91	87	111	100	—	—	—	—	—

Note.—These percentages are based on the rates in Table XIII.

Table IX.—Distribution of the Recent Fall of Infant Mortality in England and Wales.

Percentage Reduction of Rate for 1930 *compared with that for* 1911–15 *in each case.*

	North	*Midlands*	*South*	*Wales*	*England and Wales*
London	—	—	46	—	46
County Boroughs ..	43	50	43	43	45
Other Urban Districts ..	47	47	46	46	48
Rural Districts	43	40	40	36	41
All Areas	44	47	45	42	45

Distribution of the Fall in Mortality of Various Stages of Infancy.—The reduction of mortality at various stages of infancy in the four classes of area distinguished is outlined for the period covered by this form of tabulation in Table X.

As in each of the eight preceding years this reduction was greatest, outside London, in the case of the small towns at 3–6 months, at which age their mortality decline has been greater than that for the other classes of area in each of the last seventeen years, and this applies also to ages 4 weeks–3 months, and 6–12 months for the last three years.

London, on the other hand, holds a commanding advantage in regard to the first four weeks of life, at which age not only is its mortality lowest amongst the four classes of area compared, as in every other year from 1911 onwards, but its reduction of 29·4 per cent. as compared with 1911–15 is also by far the greatest, the county boroughs coming next with 21·7 per cent., followed by the urban and rural districts with 20·5 and 16·3 respectively. As a result of this differential fall in London "neo-natal" mortality, its advantage over the country at large at this age has increased from 12·3 per cent. in 1916–20 and 18·0 per cent. in 1921–25 to 21·8 in 1930 (24·4 in 1927), as shown in Table XI.

Table X.—Infant Mortality in Relation to Urbanization.

Mortality (per 1,000 Births) at various Stages of Infancy in different Classes of Area per 1,000 of that for 1911–15.

	Under 4 Weeks.				4 Weeks to 3 Months.				3–6 Months.			
	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	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
1926 ..	743	821	825	824	519	589	546	622	548	556	485	521
1927 ..	714	828	848	844	448	531	512	623	476	516	466	503
1928 ..	718	798	801	813	544	537	497	543	598	500	387	449
1929 ..	756	829	844	893	553	572	544	632	581	580	483	534
1930 ..	706	783	795	837	460	507	437	487	491	425	329	387

	6–9 Months.				9–12 Months.				Total under 1 Year.			
	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	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
1926 ..	501	562	502	541	513	571	497	536	591	654	624	671
1927 ..	504	547	509	580	456	603	549	637	547	640	630	692
1928 ..	583	458	415	434	577	488	406	468	620	599	564	619
1929 ..	676	647	548	600	652	700	592	629	656	689	649	721
1930 ..	474	370	345	371	450	387	350	406	544	547	523	594

Table XI.—Infant Mortality in Relation to Urbanization.

Mortality (per 1,000 Births) at various Stages of Infancy in different Classes of Area compared with that for England and Wales at the same Age, taken as 1,000.

	Under 4 Weeks.				4 Weeks–3 Months.				3–6 Months.			
	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.
1911–15 ..	878	1,068	998	966	1,022	1,147	972	790	1,075	1,164	966	735
1916–20 ..	877	1,061	989	987	1,050	1,144	945	812	1,169	1,178	915	730
1921–25 ..	820	1,066	1,004	982	924	1,156	960	837	1,115	1,204	910	726
1926–30 ..	783	1,064	1,007	996	963	1,171	920	858	1,194	1,237	856	727
1926 ..	798	1,073	1,008	974	925	1,179	926	858	1,118	1,228	888	727
1927 ..	756	1,067	1,021	984	862	1,147	937	927	1,038	1,218	913	748
1928 ..	791	1,070	1,004	985	1,057	1,171	917	815	1,376	1,245	800	706
1929 ..	788	1,051	1,001	1,023	989	1,148	926	875	1,153	1,246	861	724
1930 ..	782	1,055	1,001	1,019	988	1,220	892	807	1,335	1,251	803	718

	6–9 Months.				9–12 Months.				Total under 1 Year.			
	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.
1911–15 ..	1,049	1,188	964	717	1,081	1,197	958	688	992	1,135	977	818
1916–20 ..	1,072	1,204	919	738	1,102	1,209	927	699	1,008	1,131	953	848
1921–25 ..	1,032	1,221	931	711	1,049	1,261	900	679	935	1,144	961	850
1926–30 ..	1,141	1,224	889	723	1,094	1,259	876	705	947	1,146	943	871
1926 ..	986	1,253	907	729	1,035	1,275	890	689	916	1,158	951	856
1927 ..	987	1,213	916	777	862	1,260	919	766	853	1,142	968	890
1928 ..	1,345	1,195	879	684	1,330	1,244	830	686	1,036	1,144	929	853
1929 ..	1,158	1,255	862	703	1,084	1,289	873	666	958	1,151	934	870
1930 ..	1,328	1,175	888	711	1,264	1,204	870	726	987	1,133	934	887

In later infancy the London rate compares much less favourably with the general average. It has been in excess at 3–6 months in each year 1911–30, this excess being generally, as in 1930, accounted for largely by diarrhœa. In 1930 78 per cent. of the London excess at this age was so caused.

Table XII.—Deaths during various Parts of the first year of Life, 1930.

			Days.		Weeks.				Months.					
			0-1	1-7	0-1	1-2	2-3	3-4	Total under 4 weeks.	4 weeks to 3 m'nths	3-6	6-9	9-12	Total under one Year.
England and Wales.	All Infants	M	3,861	4,412	8,273	1,420	1,127	837	11,657	3,772	2,945	2,204	2,009	22,587
		F	2,883	3,111	5,994	1,061	769	579	8,403	2,484	2,119	1,729	1,586	16,321
		P	6,744	7,523	14,267	2,481	1,896	1,416	20,060	6,256	5,064	3,933	3,595	38,908
	Legitimate	M	3,491	4,107	7,598	1,319	1,047	781	10,745	3,417	2,676	2,062	1,883	20,783
		F	2,575	2,900	5,475	980	695	536	7,686	2,260	1,944	1,616	1,512	15,018
		P	6,066	7,007	13,073	2,299	1,742	1,317	18,431	5,677	4,620	3,678	3,395	35,801
	Illegitimate	M	370	305	675	101	80	56	912	355	269	142	126	1,804
		F	308	211	519	81	74	43	717	224	175	113	74	1,303
		P	678	516	1,194	182	154	99	1,629	579	444	255	200	3,107
All Areas.	North ..		2,496	3,062	5,558	1,015	805	575	7,953	2,521	2,086	1,597	1,480	15,637
	Midlands		2,213	2,326	4,539	757	570	469	6,335	1,825	1,390	1,126	1,036	11,712
	South ..		1,524	1,568	3,092	507	340	263	4,202	1,429	1,247	937	820	8,635
	Wales ..		511	567	1,078	202	181	109	1,570	481	341	273	259	2,924
London			619	604	1,223	210	147	99	1,679	661	724	559	486	4,109
County Boroughs	England & Wales		2,409	2,738	5,147	949	721	579	7,396	2,668	2,216	1,615	1,512	15,407
	North ..		1,323	1,627	2,950	569	438	336	4,293	1,600	1,366	973	908	9,140
	Midlands		755	800	1,555	266	194	171	2,186	722	603	459	422	4,392
	South ..		235	196	431	71	41	48	591	226	160	119	118	1,214
	Wales ..		96	115	211	43	48	24	326	120	87	64	64	661
Other Urban Districts	England & Wales		2,297	2,609	4,906	844	684	477	6,911	1,921	1,399	1,202	1,077	12,510
	North ..		770	1,003	1,773	307	259	165	2,504	656	508	455	413	4,536
	Midlands		901	906	1,807	311	246	187	2,551	706	518	443	403	4,621
	South ..		366	439	805	135	87	71	1,098	328	221	161	133	1,941
	Wales ..		260	261	521	91	92	54	758	231	152	143	128	1,412
Rural Districts	England & Wales		1,419	1,572	2,991	478	344	261	4,074	1,006	725	557	520	6,882
	North ..		403	432	835	139	108	74	1,156	265	212	169	159	1,961
	Midlands		557	620	1,177	180	130	111	1,598	397	269	224	211	2,699
	South ..		304	329	633	91	65	45	834	214	142	98	83	1,371
	Wales ..		155	191	346	68	41	31	486	130	102	66	67	851
England and Wales	1st Quarter		1,699	2,165	3,864	779	621	469	5,733	2,154	1,635	1,376	1,310	12,208
	2nd ,,		1,726	1,967	3,693	594	460	353	5,100	1,394	1,132	1,011	1,015	9,652
	3rd ,,		1,636	1,632	3,268	497	342	254	4,361	1,129	932	588	530	7,540
	4th ,,		1,683	1,759	3,442	611	473	340	4,866	1,579	1,365	958	740	9,508

Tables XII and XIII continue the analysis of infant mortality by detail of age, initiated in 1905 with distinction of registration counties mainly urban and mainly rural in character, and expanded in 1917 to the degree of geographical distinction now in use, but curtailed in detail of age (after the first four weeks of life) in 1926. 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 13.

Table XIII.—Infant Mortality at various Ages, 1930.

Rates per 1,000 (Live) Births.

			Days.		Weeks.				Months.					
			0-1	1-7	0-1	1-2	2-3	3-4	Total under 4 weeks	4 weeks to 3 m'nths	3-6	6-9	9-12	Total under one year.
England and Wales.	All Infants ..	M	11·7	13·3	25·0	4·3	3·4	2·5	35·2	11·4	8·9	6·7	6·1	68·2
		F	9·1	9·8	18·9	3·3	2·4	1·8	26·5	7·8	6·7	5·4	5·0	51·4
		P	10·4	11·6	22·0	3·8	2·9	2·2	30·9	9·6	7·8	6·1	5·5	60·0
	Legitimate ..	M	11·0	13·0	24·0	4·2	3·3	2·5	34·0	10·8	8·5	6·5	6·0	65·7
		F	8·5	9·6	18·1	3·2	2·3	1·8	25·4	7·5	6·4	5·3	5·0	49·6
		P	9·8	11·3	21·1	3·7	2·8	2·1	29·8	9·2	7·5	5·9	5·5	57·8
	Illegitimate ..	M	24·3	20·1	44·4	6·6	5·3	3·7	60·0	23·4	17·7	9·3	8·3	118·7
		F	21·3	14·6	35·8	5·6	5·1	3·0	49·5	15·5	12·1	7·8	5·1	89·9
		P	22·8	17·4	40·2	6·1	5·2	3·3	54·9	19·5	15·0	8·6	6·7	104·7
All Areas.	North		11·2	13·7	24·9	4·5	3·6	2·6	35·6	11·3	9·4	7·2	6·6	70·1
	Midlands ..		10·3	10·8	21·1	3·5	2·6	2·2	29·4	8·5	6·5	5·2	4·8	54·3
	South		9·2	9·4	18·6	3·0	2·0	1·6	25·3	8·6	7·5	5·6	4·9	51·9
	Wales		11·6	12·9	24·5	4·6	4·1	2·5	35·7	10·9	7·8	6·2	5·9	66·5
London..			8·9	8·7	17·6	3·0	2·1	1·4	24·2	9·5	10·4	8·0	7·0	59·2
County Boroughs	England and Wales ..		10·6	12·1	22·7	4·2	3·2	2·6	32·6	11·8	9·8	7·1	6·7	67·9
	North		10·8	13·3	24·1	4·6	3·6	2·7	35·1	13·1	11·2	7·9	7·4	74·6
	Midlands ..		10·4	11·1	21·5	3·7	2·7	2·4	30·2	10·0	8·3	6·3	5·8	60·7
	South		10·5	8·8	19·2	3·2	1·8	2·1	26·4	10·1	7·1	5·3	5·3	54·2
	Wales		10·0	12·0	22·0	4·5	5·0	2·5	34·0	12·5	9·1	6·7	6·7	69·0
Other Urban Districts	England and Wales ..		10·3	11·7	22·0	3·8	3·1	2·1	31·0	8·6	6·3	5·4	4·8	56·0
	North		11·1	14·4	25·5	4·4	3·7	2·4	36·0	9·4	7·3	6·5	5·9	65·2
	Midlands ..		10·1	10·2	20·3	3·5	2·8	2·1	28·6	7·9	5·8	5·0	4·5	51·9
	South		8·5	10·2	18·6	3·1	2·0	1·6	25·4	7·6	5·1	3·7	3·1	44·9
	Wales		12·2	12·2	24·4	4·3	4·3	2·5	35·5	10·8	7·1	6·7	6·0	66·1
Rural Districts	England and Wales ..		11·0	12·2	23·1	3·7	2·7	2·0	31·5	7·8	5·6	4·3	4·0	53·2
	North		12·9	13·9	26·8	4·5	3·5	2·4	37·1	8·5	6·8	5·4	5·1	63·0
	Midlands ..		10·3	11·5	21·8	3·3	2·4	2·1	29·6	7·3	5·0	4·1	3·9	49·9
	South		9·8	10·6	20·3	2·9	2·1	1·4	26·8	6·9	4·6	3·1	2·7	44·0
	Wales		11·9	14·7	26·6	5·2	3·2	2·4	37·4	10·0	7·9	5·1	5·2	65·5

The features of Table XIII closely resemble those of its predecessors, showing, in addition to increase of mortality with urbanization, almost constant increase also from the South to the North of England from the first day of life onwards in all classes of area. To this rule the experience in 1930 furnishes a few exceptions, viz., general excess in rural districts at ages under a week, and Southern excess over Midlands in the county boroughs at 4 weeks–3 months and in all areas at all age-groups over 4 weeks. The latter excess is consequent on the inclusion of London in the Southern area, its rates at three of the four constituent age-groups being higher than those for the county boroughs.

Urban excess, on the other hand, is not as a rule present from birth, but tends to increase throughout the later months of infancy. In 1930 the maximum difference between the county boroughs and rural districts occurred at 3–6 months. For the first day of life, however, the highest rate in Table XIII, as in many previous years, is that of the Northern rural districts. In most years the London rate for the first day is well below average, and in 1930 the only lower rate is that for the smaller towns of

the South. During the remainder of the first week of life, also, mortality is very much the same in town and country, the contrast at this age being between London and the rest of England and Wales.

The extent of these differences is better seen in Table XIV, where the rates in Table XIII are shown as percentages of those for England and Wales at the same age.

Table XIV.—Infant Mortality at various Ages, in different Classes of Area and Sections of the Country, per cent. of that of all Infants of the same Age in England and Wales, 1930.

		Days.		Weeks.				Months.					Total under one year.
		0–1	1–7	0–1	1–2	2–3	3–4	Total under 4 weeks.	4 weeks to 3 months	3–6	6–9	9–12	
England and Wales	P	100	100	100	100	100	100	100	100	100	100	100	100
	M	113	115	114	113	117	114	114	119	114	110	111	114
	F	88	84	86	87	83	82	86	81	86	89	91	86
All Areas													
North		108	118	113	118	124	118	115	118	121	118	120	117
Midlands		99	93	96	92	90	100	95	89	83	85	87	91
South		88	81	85	79	69	73	82	90	96	92	89	87
Wales		112	111	111	121	141	114	116	114	100	102	107	111
London		86	75	80	79	72	64	78	99	133	131	127	99
County Boroughs—													
England and Wales		102	104	103	111	110	118	106	123	126	116	122	113
North		104	115	110	121	124	123	114	136	144	130	135	124
Midlands		100	96	98	97	93	109	98	104	106	103	105	101
South		101	76	87	84	62	95	85	105	91	87	96	90
Wales		96	103	100	118	172	114	110	130	117	110	122	115
Other Urban Districts—													
England and Wales		99	101	100	100	107	95	100	90	81	89	87	93
North		107	124	116	116	128	109	117	98	94	107	107	109
Midlands		97	88	92	92	97	95	93	82	74	82	82	87
South		82	88	85	82	69	73	82	79	65	61	56	75
Wales		117	105	111	113	148	114	115	113	91	110	109	110
Rural Districts—													
England and Wales		106	105	105	97	93	91	102	81	72	70	73	89
North		124	120	122	118	121	109	120	89	87	89	93	105
Midlands		99	99	99	87	83	95	96	76	64	67	71	83
South		94	91	92	76	72	64	87	72	59	51	49	73
Wales		114	127	121	137	110	109	121	104	101	84	95	109

Deaths occurring immediately after birth.—The separate tabulation of deaths registered as occurring within 30 minutes of birth, first published in the Review for 1928, is repeated for 1930 in Table XV.

The table shows that this very early mortality displays in 1930 the same startling differential incidence upon the illegitimate as in 1928 and 1929, especially so far as those causes of death are concerned which imply, or are likely to mask, the operation of violence or neglect. For violence and lack of care as a whole a rate of 6,266 per million for illegitimate infants compares with one of 78 for the legitimate ; 79 per cent. of all such deaths under 24 hours occurred within this first half hour, as against 16 per cent. for mortality generally, so that the risk represented by violence and lack of care is one applying especially to this first half-hour of life.

Of the 186 deaths of illegitimate infants assigned to these headings 116 or 62 per cent. relate to abandoned infants of unknown parentage.

Table XV.—England and Wales, 1930.
Mortality of the first 30 Minutes of Life.

International List Numbers	Cause of Death.	All Infants.	Legitimate.			Illegitimate.		
			Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
		Deaths.						
79, 80	Convulsions	2	1	—	1	—	1	1
159	Congenital malformations	66	31	31	62	2	2	4
160 (1)	Congenital debility	46	27	15	42	3	1	4
161 (1)	Premature birth	433	227	173	400	15	18	33
161 (2)	Injury at birth	187	78	84	162	15	10	25
162 (2)	Atelectasis	101	51	44	95	5	1	6
160 (2), 162(1, 3)	Other diseases peculiar to early infancy	4	2	1	3	1	—	1
163	Lack of care	177	23	23	46	66	65	131
180	Accidental suffocation	14	—	—	—	8	6	14
197–199	Homicide	28	—	1	1	19	8	27
	Other forms of violence	15	1	—	1	7	7	14
	Violence and lack of care	*234*	*24*	*24*	*48*	*100*	*86*	*186*
	Other causes	21	—	6	6	8	7	15
	All causes	1,094	441	378	819	149	126	275
		Mortality per Million (live) Births.						
79, 80	Convulsions	3	3	—	2	—	69	34
159	Congenital malformations	102	98	102	100	132	138	135
160 (1)	Congenital debility	71	85	50	68	197	69	135
161 (1)	Premature birth	667	718	571	646	987	1,243	1,112
161 (2)	Injury at birth	288	247	277	262	987	690	842
162 (2)	Atelectasis	156	161	145	153	329	69	202
160 (2), 162(1,3)	Other diseases peculiar to early infancy	6	6	3	5	66	—	34
163	Lack of care	273	73	76	74	4,343	4,487	4,413
180	Accidental suffocation	22	—	—	—	526	414	472
197–199	Homicide	43	—	3	2	1,250	552	910
	Other forms of violence	23	3	—	2	461	483	472
	Violence and lack of care	*361*	*76*	*79*	*78*	*6,581*	*5,937*	*6,266*
	Other causes	32	—	20	10	526	483	505
	All causes	1,686	1,395	1,248	1,323	9,805	8,698	9,265
		Percentage of Total under 24 hours.						
79, 80	Convulsions	3	4	—	2	—	100	25
159	Congenital malformations	13	12	14	13	20	29	24
160 (1)	Congenital debility	13	14	11	13	16	8	13
161 (1)	Premature birth	10	10	11	10	9	13	10
161 (2)	Injury at birth	31	25	34	29	56	63	58
162 (2)	Atelectasis	19	18	21	19	36	8	23
160 (2), 162(1, 3)	Other diseases peculiar to early infancy	8	7	6	6	50	—	33
163	Lack of care	86	85	82	84	89	83	86
180	Accidental suffocation	35	—	—	—	89	67	78
197–199	Homicide	85	—	50	50	90	80	87
	Other forms of violence	88	100	—	100	88	88	88
	Violence and lack of care	*79*	*62*	*59*	*60*	*89*	*82*	*86*
	Other causes	28	—	19	11	73	70	71
	All causes	16	13	15	14	40	41	41

Causes of Infant Mortality.—The causes of infant mortality are set forth in Tables 8–12, which compare the records of 1930 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 has been prepared the comparison in Table XVI between the mortality from the chief causes distinguished at various ages in 1930 and 1925–29, and from all causes in 1930 and 1929.

Table XVI.—England and Wales : Comparison of Infant Mortality Rates (per 1,000 Live Births) in 1930 with those of recently preceding years.

	Under 4 weeks.	4 weeks to 3 months.	3–6 months.	6–9 months.	9–12 months.	Under 1 year.
	Increase or Decrease of Mortality in 1930, per cent. of that in 1929.					
	− 6	− 17	− 27	− 39	− 41	− 19
	Increase or Decrease of Mortality in 1930, per cent. of that in 1925–29.					
	− 4	− 16	− 24	− 32	− 33	− 15
	Increase or Decrease from various Causes, as compared with 1925–29.					
Measles (7)	—	− 0·01	—	+ 0·03	+ 0·10	+ 0·13
Whooping cough (9)	− 0·03	− 0·22	− 0·35	− 0·47	− 0·47	− 1·53
Influenza (11)	− 0·05	− 0·09	− 0·11	− 0·16	− 0·14	− 0·55
Tuberculosis, all forms (31–37)	− 0·01	− 0·01	− 0·07	− 0·06	− 0·08	− 0·24
Convulsions (80)	− 0·34	− 0·20	− 0·16	− 0·12	− 0·09	− 0·91
Bronchitis and pneumonia (99–101)	− 0·23	− 0·73	− 0·98	− 1·34	− 1·58	− 4·86
Diarrhœa and enteritis (113)	− 0·06	− 0·13	− 0·55	− 0·42	− 0·29	− 1·45
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	− 0·60	− 0·29	− 0·28	− 0·10	− 0·01	− 1·28
Congenital defects (malformations and atelectasis) (159, 162 : 2).	*+ 0·36*	*+ 0·08*	*+ 0·01*	*− 0·02*	*+ 0·01*	*+ 0·46*
Congenital debility, sclerema and icterus (160).	*− 0·63*	*− 0·32*	*− 0·24*	*− 0·07*	*− 0·02*	*− 1·27*
Premature birth (161 : 1)	*− 0·35*	*− 0·06*	*− 0·05*	*− 0·02*	*− 0·01*	*− 0·47*
Injury at birth (161 : 2)	+ 0·34	− 0·02	—	—	—	+ 0·34
Suffocation—in bed or not stated how (180 part).	− 0·02	− 0·03	+ 0·02	—	+ 0·01	− 0·03
Other causes	− 0·16	− 0·12	− 0·03	− 0·14	− 0·13	− 0·56
All causes	− 1·16	− 1·82	− 2·48	− 2·79	− 2·70	−10·95
	Percentage Increase or Decrease as compared with 1925–29.					
Measles (7)	—	− 25	—	+ 8	+ 14	+ 10
Whooping cough (9)	− 37	− 39	− 53	− 57	− 53	− 51
Influenza (11)	− 71	− 69	− 69	− 80	− 74	− 73
Tuberculosis, all forms (31–37)	− 50	− 11	− 25	− 17	− 20	− 21
Convulsions (80)	− 22	− 32	− 36	− 40	− 41	− 29
Bronchitis and pneumonia (99–101)	− 17	− 24	− 27	− 35	− 43	− 31
Diarrhœa and enteritis (113)	− 9	− 8	− 24	− 31	− 35	− 21
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	− 3	− 8	− 22	− 24	− 5	− 4
Congenital defects (malformations and atelectasis) (159, 162 : 2).	*+ 8*	*+ 7*	*+ 2*	*− 10*	*+ 9*	*+ 7*
Congenital debility, sclerema and icterus (160)	*− 20*	*− 27*	*− 37*	*− 37*	*− 22*	*− 24*
Premature birth (161 : 1)	*− 2*	*− 4*	*− 28*	*− 67*	*− 64*	*− 3*
Injury at birth (161 : 2)	+ 20	− 50	—	—	—	+ 19
Suffocation—in bed or not stated how (180 part).	− 8	− 17	+ 20	—	+100	− 5
Other causes	− 7	− 9	− 2	− 12	− 12	− 8
All causes	− 4	− 16	− 24	− 32	− 33	− 15

Note.—The percentages in this table are based on rates per 100,000 live births, and differ on this account from those derivable from Table VI.

The decrease of 19 per cent. between 1929 and 1930 is seen to have been shared by all stages of infancy, but to have applied particularly to its later months, which are those most affected by environmental influences (*cf.* the contrast between town and country in Table XIV).

Of the separate headings in the table, three only show increases as compared with the average rates for the preceding five years. The slight increase (0·13) from measles was due to an epidemic in London, while the larger increases from congenital malformations (0·46) and injury at birth (0·34) continue the tendency to increase which the mortality from these causes has

exhibited for some years, their mortality in 1930 being the highest recorded in Table 9. The most important decreases were from bronchitis and pneumonia (4·86), from whooping cough (1·53) and from diarrhœa and enteritis (1·45), and resulted from the mild winter and wet summer of 1930, the former being favourable to low respiratory and the latter to low diarrhœal mortality. The death-rates from these causes are the lowest recorded in Table 9.

Table XVII, which contrasts the mortality of male with that of female, and of legitimate with that of illegitimate infants, shows that the excess in mortality of males, which had increased with the fall of infant mortality during the present century to 32 per cent. in 1928, and fallen, with its rise in 1929, to 28 per cent., increased in 1930 to a maximum of 33 per cent. It was, as usual, greatest in the first few weeks, and especially the second and third months of life, and greater for the legitimate than the illegitimate.

This male excess is shared, as usual, by all the causes distinguished in Table XVII except whooping cough, its extent ranging from 22 per cent. for tuberculosis to 55 for congenital debility, and convulsions.

Excess for the illegitimate is, as usual, very much greater for syphilis than for any other cause distinguished in the table.

Table XVII.—England and Wales : Infant Mortality by Sex and Legitimacy, 1930.

		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	35·18	26·47	33·98	25·37	60·02	49·50	133	134	121	177	195
	4 weeks—3 months	11·38	7·83	10·81	7·46	23·36	15·46	145	145	151	216	207
	3–6 months	8·89	6·68	8·46	6·42	17·70	12·08	133	132	147	209	188
	6–9 ,,	6·65	5·45	6·52	5·33	9·34	7·80	122	122	120	143	146
	9–12 ,,	6·06	5·00	5·96	4·99	8·29	5·11	121	119	162	139	102
	Total under 1 year	68·16	51·42	65·73	49·57	118·72	89·95	133	133	132	181	181
All ages under one year.	Measles (7)	1·58	1·19	1·54	1·19	2·50	1·17	133	129	214	162	98
	Whooping cough (9)	1·37	1·61	1·36	1·61	1·45	1·66	85	84	87	107	103
	Tuberculosis, all forms (31–37)	0·99	0·81	0·98	0·81	1·25	0·90	122	121	139	128	111
	Syphilis (38)	0·64	0·47	0·55	0·38	2·43	2·28	136	145	107	442	600
	Convulsions (80)	2·71	1·75	2·65	1·73	3·95	2·35	155	153	168	149	136
	Bronchitis and pneumonia (99–101).	12·04	9·10	11·81	9·01	16·79	11·05	132	131	152	142	123
	Diarrhœa and enteritis (113)	6·39	4·43	5·98	4·13	14·94	10·63	144	145	141	250	257
	Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	31·98	24·47	31·03	23·61	51·92	42·45	131	131	122	167	180
	Congenital defects (malformations and atelectasis) (159, 162 : 2).	*7·72*	*5·89*	*7·69*	*5·86*	*8·49*	*6·77*	*131*	*131*	*125*	*110*	*116*
	Congenital debility, sclerema and icterus (160).	*4·80*	*3·09*	*4·49*	*2·90*	*11·38*	*7·04*	*155*	*155*	*162*	*253*	*243*
	Premature birth (161 : 1)	*19·46*	*15·48*	*18·85*	*14·85*	*32·05*	*28·65*	*126*	*127*	*112*	*170*	*193*
	Other causes	10·46	7·59	9·83	7·10	23·49	17·46	138	138	135	239	246
	All causes	68·16	51·42	65·73	49·57	118·72	89·95	133	133	132	181	181

Distribution throughout the country of Infant Mortality from various causes.—Table XVIII, which is derived from Table 12, furnishes an analysis by cause of the differences in total mortality under one year of age shown in Tables VII and VIII.

The greatest departures from the average mortality of the whole country in Table 12 are furnished on one side by the county boroughs of the North, with excesses under every cause distinguished, aggregating to 14·66 deaths per 1,000 live births,

Table XVIII.—Comparison of Infant Mortality from the Principal Causes in different Classes of Area and Sections of the Country, 1930.

—	Measles (7).	Whooping cough (9).	Tuberculosis, all forms (31–37).	Syphilis (38).	Convulsions (80).	Bronchitis and Pneumonia (39–101).	Diarrhœa and Enteritis (113).	Congenital Malformations (159).	Congenital Debility & Sclerema (160 : 1).	Premature Birth (161 : 1).	Injury at Birth (161 : 2).	Suffocation—in bed, or not stated how (180 pt.).	Other Causes.	All Causes.
Differences from Rates for England and Wales per 100,000 Live Births.														
All Areas—														
North	+ 16	+ 36	+19	+ 17	+ 91	+261	+ 94	+ 36	+ 83	+276	+ 9	+ 3	+ 70	+ 1,011
Midlands	− 43	− 14	− 4	− 10	− 62	−159	− 83	− 7	− 49	− 57	− 7	− 4	− 63	− 562
South	+ 50	− 56	−12	− 8	−125	−164	+ 5	− 50	− 76	−358	− 1	+ 5	− 13	− 803
Wales	− 59	+ 92	−29	− 3	+318	+ 73	− 92	+ 42	+105	+236	− 17	− 7	− 2	+ 657
London	+173	− 60	−11	− 2	−155	+ 91	+364	− 78	−124	−380	+ 2	− 3	+103	− 80
County Boroughs—														
England and Wales	+ 28	+ 33	+25	+ 23	+ 1	+245	+160	+ 1	+ 45	+148	+ 10	+ 4	+ 74	+ 797
North	+ 55	+ 49	+26	+ 34	+ 76	+438	+249	+ 9	+100	+275	+ 3	+11	+141	+ 1,466
Midlands	− 23	+ 24	+34	+ 13	− 98	+ 24	+ 89	+ 1	− 39	+ 14	+ 28	− 2	+ 10	+ 75
South	+ 53	− 51	+13	− 1	−139	−136	− 34	− 54	− 17	−233	+ 40	+ 3	− 20	− 576
Wales	+ 7	+ 91	−27	+ 8	+120	+337	+ 10	+ 16	+110	+419	−106	−34	− 53	+ 898
Other Urban Districts—														
England and Wales	− 32	− 26	− 5	− 7	+ 20	−118	−135	+ 13	− 2	− 47	− 9	+ 1	− 47	− 394
North	− 21	+ 1	+19	+ 11	+100	+ 82	− 84	+ 86	+ 44	+241	+ 33	− 6	+ 20	+ 526
Midlands	− 26	− 55	−11	− 22	− 60	−198	−114	− 15	− 56	−146	− 26	− 7	− 76	− 812
South	− 44	− 77	−21	− 11	−101	−380	−279	− 51	− 45	−424	− 18	+26	− 84	− 1,509
Wales	− 64	+108	−29	+ 6	+342	+101	− 98	+ 25	+167	+192	− 60	+11	− 88	+ 613
Rural Districts—														
England and Wales	− 88	+ 18	−28	− 24	+ 48	−275	−243	+ 18	− 10	+ 26	− 4	− 6	−107	− 675
North	− 59	+ 63	−10	− 36	+129	− 35	−116	+ 32	+104	+356	− 20	−10	− 95	+ 303
Midlands	− 98	+ 3	−42	− 18	− 15	−338	−262	− 5	− 52	− 6	− 21	− 1	−149	− 1,004
South	− 94	− 21	−23	− 23	− 80	−450	−373	+ 16	− 53	−309	− 11	− 7	−167	− 1,595
Wales	−101	+ 67	−28	− 24	+423	−167	−158	+ 89	—	+173	+121	−17	+175	+ 553
Rates per cent. of those for England and Wales.														
All Areas—														
North	112	124	121	131	141	125	117	107	124	116	104	105	108	117
Midlands	69	91	96	82	72	85	85	99	86	97	97	93	93	91
South	136	62	87	85	44	85	101	91	78	80	100	109	98	87
Wales	58	162	68	95	242	107	83	108	131	113	92	87	100	111
London	224	60	88	96	31	109	167	85	63	78	101	95	112	99
County Boroughs—														
England and Wales	120	122	128	142	100	123	129	100	113	108	105	107	109	113
North	140	133	129	162	134	141	146	102	129	116	101	120	116	124
Midlands	83	116	138	124	56	102	116	100	88	101	113	96	101	101
South	138	66	114	98	38	87	94	90	95	87	119	105	98	90
Wales	105	161	70	115	154	132	102	103	132	124	50	38	94	115
Other Urban Districts—														
England and Wales	77	83	94	87	109	89	75	102	99	97	96	102	95	93
North	85	101	121	120	145	108	85	116	113	114	116	89	102	109
Midlands	81	63	88	60	73	81	79	97	83	92	88	87	91	87
South	68	48	77	80	55	64	49	90	87	76	91	147	90	75
Wales	54	172	68	111	253	110	82	105	149	111	71	120	90	110
Rural Districts—														
England and Wales	37	112	69	56	121	74	55	103	97	101	98	89	87	89
North	58	142	89	35	158	97	79	106	131	120	90	82	89	105
Midlands	29	102	53	67	93	68	52	99	85	100	90	98	83	83
South	32	86	74	58	64	58	31	103	84	82	95	87	80	73
Wales	27	145	69	56	289	84	71	117	100	110	158	69	120	109

an excess of 24 per cent. over the average for England and Wales; and on the other by the rural districts of the South, with comparatively favourable experience under every head distinguished, except congenital malformations, yielding a total rate 27 per cent. lower than the general average.

As usual, three causes contribute more than any other to these differences, the three being bronchitis and pneumonia, diarrhœa, and premature birth. This was the case also in each of the eight preceding years, so the predominant influence of these causes in determining local variations of infant mortality is evident. Jointly they account in 1930 for 66 per cent. of the divergence in the county boroughs of the North above the mean, and for 71 per cent. of that in the rural districts of the South below it. Much the most potent influence is that of bronchitis and pneumonia, which is always of chief importance.

Mortality from bronchitis and pneumonia (considered jointly because of evidence of interchangeability between these forms of return) is very greatly and consistently in excess in the North of England, particularly in its great towns. During the last thirteen years the Northern excess over the general average, 25 per cent. in 1930, has varied only between 24 and 41 per cent., while in the same period excess for the Northern county boroughs, 41 per cent. in 1930, has ranged from 31 to 57 per cent. Urbanization also is a powerful factor in promoting this, like most other forms of infant mortality. During each of the fourteen years 1917–30 excess for the county boroughs has been recorded, varying from 11 to 28 per cent. (23 in 1930), while the rate for the rural districts has been as constantly below the mean, the difference ranging from 14 to 35 per cent. (26 in 1930). In the South this rural advantage has generally amounted to about 50 per cent. (42 in 1930).

The constancy of both these features of the distribution of respiratory mortality in infancy—increase from South to North and from the country to the great towns—is remarkable. The fourteen years for which comparison can be made present no exception in any class of area to the rule of increase from South to North, nor, for the country at large, to that of increase from rural to city life.

Mortality from diarrhœa increases from South to North in about the average degree applying to all causes generally. No exception to the rule has occurred for any class of area in any of the last fourteen years. But the extent of its increase with urbanization is outstanding, the range of its deviations from average in Table XVIII being greater than for either bronchitis and pneumonia or premature birth. During the last fourteen years excess for the county boroughs (over England and Wales) has varied between 16 and 41 per cent., while the rates for the urban and rural districts have been uniformly below the general average, especially the latter. In thirteen of these fourteen years the

lowest rate of all has been that for the rural districts of the South, which has ranged from 46 to 71 per cent. below average. London diarrhœa mortality is uniformly high, its excess over the general average having ranged during 1911–30 from 10 to 69 per cent. This excess is greatest at 3–6 months, the age of greatest diarrhœal mortality, at which age London excess has ranged during 1911–30 from 13 to 117 per cent., the latter occurring in 1930.

The third chief cause of local differences in infant mortality, premature birth, is more closely associated with geographical position than with urbanization, there being no exception in its case to the rule of increase from South to North in any class of area in any of the fourteen years 1917–30. The association with urbanization, on the other hand, is much less constant, being manifested chiefly in the form of excess for the county boroughs. The low London rates, which have varied from 75 to 94 per cent. of those for England and Wales, also indicate the slight degree of association with urbanization.

Next to prematurity, bronchitis and pneumonia, and diarrhœa, which in each of the last eight years (Table 9) have ranked in this order as the principal causes of infant mortality, come, for 1930, congenital malformations, congenital debility, and convulsions. Congenital malformations is steadily increasing in importance amongst the causes of infant deaths, its mortality having risen year by year from 4·16 in 1923 to 5·27 per 1,000 births in 1930 (Table 9). This increase affects all sections of the population to much the same extent, but mortality tends to be highest in the North and in Wales and comparatively low in the Metropolis.

Congenital debility and convulsions, on the other hand, are seen from Table 9 to be rapidly losing their old numerical importance, the rate for each in 1930 being only about 40 per cent. of that ten years earlier.

It may be presumed that much of this decline is due in each case to transfer to other forms of certification. Both convulsions and congenital debility are comparatively rare forms of return in London, where the convulsions rate in 1930 is less than a third of that for England and Wales, while in Wales it is regularly in excess. The county boroughs rate, on the other hand, is consistently somewhat above average, in consequence of Northern excess, and with few exceptions this mortality decreases with much regularity from North to South.

In view of the increasing importance of congenital malformations as a cause of infantile mortality, Table XIX has been prepared to show the trend of mortality from this cause in the several classes of area and geographical divisions of the country during the past ten years.

Table XIX.—Deaths of Infants under One Year of Age from Congenital Malformations per 1,000 Registered Live Births, 1921–1930.

Year.	England and Wales.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	North.	Midlands.	South including London.	Wales.
1921 ..	3·98	3·98	3·93	4·03	3·98	4·25	3·77	3·84	4·03
1922 ..	4·22	3·97	4·34	4·27	4·06	4·31	4·12	4·05	4·80
1923 ..	4·16	3·86	4·09	4·39	4·11	4·49	4·07	3·84	4·12
1924 ..	4·20	3·51	4·27	4·30	4·30	4·59	3·93	3·90	4·41
1925 ..	4·58	3·99	4·55	4·78	4·62	4·86	4·40	4·39	4·64
1926 ..	4·58	3·72	4·79	4·66	4·57	4·94	4·63	3·97	4·73
1927 ..	4·77	4·03	4·84	4·89	4·86	5·17	4·67	4·11	5·63
1928 ..	4·92	4·22	4·94	5·00	5·14	5·28	4·64	4·52	5·89
1929 ..	5·20	4·57	5·16	5·44	5·22	5·45	5·19	4·91	5·16
1930 ..	5·27	4·49	5·28	5·40	5·45	5·63	5·20	4·77	5·69

Table XX.—Deaths of Infants under One Year of Age from various Malformations per 1,000 Registered Live Births, 1928–30.

		England and Wales.	London.	North.	Midlands.	South, excluding London.	Wales.
Congenital hydrocephalus ..	M.	0·42	0·34	0·41	0·42	0·46	0·49
	F.	0·33	0·34	0·30	0·30	0·42	0·36
Congenital heart disease ..	M.	2·50	2·38	2·47	2·47	2·64	2·67
	F.	2·02	1·92	2·06	1·98	1·98	2·22
Cleft palate, hare lip ..	M.	0·25	0·21	0·24	0·27	0·20	0·33
	F.	0·22	0·26	0·23	0·23	0·19	0·12
Imperforate anus	M.	0·20	0·16	0·23	0·19	0·12	0·25
	F.	0·06	0·09	0·06	0·05	0·06	0·03
Pyloric stenosis	M.	0·74	0·69	0·75	0·81	0·73	0·51
	F.	0·24	0·11	0·23	0·27	0·29	0·18
Spina bifida	M.	1·09	0·56	1·30	0·99	0·94	1·62
	F.	1·47	0·71	1·94	1·26	1·15	2·01
Other defined malformations	M.	1·06	1·08	0·97	1·11	1·23	0·96
	F.	0·89	1·07	0·84	0·92	0·95	0·60
Malformations unqualified ..	M.	0·16	0·09	0·18	0·15	0·16	0·16
	F.	0·11	0·11	0·11	0·11	0·11	0·21

The death-rates in Table XIX show that the increase in the mortality is common to all divisions of the country. The rates in the North and Wales are consistently higher than in the South and Midlands. In London the rate is consistently lower than in

the other classes of area ; in the urban and rural areas the variations from year to year are very slight and show no appreciable excess in either class of area.

In Table XX the comparison is continued in greater detail by showing the mortality in the several geographical divisions from the principal types of malformation recorded in the Death Registers. This extended tabulation was first undertaken in 1928 ; the rates in the Table have, therefore, been based on the deaths in the three years 1928–30 for which the data are available. These rates afford the means of determining the extent to which the mortality from the several types of malformations contribute to the variations in the regional mortality from all forms of malformations.

The outstanding feature of Table XX is the magnitude of the variations in the mortality from spina bifida in the several regions, which largely accounts for the inequalities in the regional rates for all malformations. The extent of these differences may be better appreciated from the following statement in which the regional rates by sex for spina bifida and all other malformations jointly are expressed as ratios of the rates in England and Wales taken as 100.

		England and Wales.	London.	North.	Midlands.	South, excluding London.	Wales.
Spina bifida	M.	100	51	119	91	86	149
	F.	100	48	132	86	78	137
Other malformations ..	M.	100	93	98	102	104	101
	F.	100	101	99	100	103	96

For spina bifida the excess in the North and Wales amounts to about 25 and 45 per cent. respectively, while in London the rate is about one-half of that in the country as a whole and one-third of that in Wales. In contrast with these differences, the greatest deviation in the local rates from " All other malformations " is only 7 per cent. for males in London.

For the other forms of malformations distinguished in the Table the London rates are slightly below, while those for Wales, pyloric stenosis excepted, are in excess of the corresponding rates for the whole country.

As deaths from spina bifida were distinguished in the list of causes of death in use prior to 1901, they have been tabulated for the geographical divisions in respect of the quinquennium 1896–1900, in order to ascertain whether the experience of an earlier period would show the same features as that of 1928–30.

For 1896–1900 the deaths relate to those occurring in registration counties, while for 1928–30 they relate to administrative counties and are fully corrected for those occurring away from the usual residence of the parents. The differences due to this change of practice are probably not of sufficient magnitude to render the figures unsuitable for comparison, as only extensive areas are being dealt with.

The mortality based on the deaths from spina bifida in 1896–1900 was as follows :—

		Deaths per 1,000 *births.*	*Rates per cent. of England and Wales.*
England and Wales ..	M.	0·66	100
	F.	0·82	100
London	M.	0·61	92
	F.	0·64	78
North	M.	0·70	106
	F.	0·92	112
Midlands	M.	0·60	91
	F.	0·77	94
South, excluding London	M.	0·66	100
	F.	0·82	100
Wales	M.	0·81	123
	F.	0·92	112

For this period the regional rates do not exhibit variations so great as in 1928–30, but as in the latter period the rates show a considerable excess in the North and in Wales, the latter again experiencing the highest mortality. London also records the lowest death-rate but this is only slightly below that for the Midlands. In view of the high fatality rate of this form of malformation, the high mortality rates in the North and Wales may be taken as evidence of greater frequency of this malformation in these areas.

The rates in Table XX also afford evidence of the sex incidence of the mortality from the six forms of malformation distinguished. Spina bifida is the only form with a lower mortality for males than for females (74 for males against 100 for females), while the male excess for the other forms ranges from 14 per cent. for cleft palate, hare lip, 24 for heart disease and 27 for hydrocephalus to 208 for pyloric stenosis and 233 per cent. for imperforate anus.

Mortality at Ages over One Year.

Table XXI 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 1929 and 1930, and, in order to provide means of comparison with the most recent pre-war experience, for 1911–14.

Table XXI.—England and Wales: Mortality from all Causes per Million Population, 1911–14, 1929, and 1930. (Total deaths registered.)

	Males.			Females.			Persons.		
	1911–14.	1929.	1930.	1911–14.	1929.	1930.	1911–14.	1929.	1930.
All Ages:									
Crude	14,890	14,229	12,268	13,065	12,724	10,680	13,948	13,444	11,441
Standardized A	14,841	12,714	10,767	12,260	10,372	8,546	13,475	11,472	9,586
Standardized B	15,911	13,799	11,654	13,713	11,959	9,801	14,779	12,843	10,689
0–..	40,588	26,281	20,458	33,917	21,589	16,004	37,270	23,961	18,255
5–..	3,304	2,600	2,392	3,255	2,319	2,170	3,279	2,461	2,282
10–..	1,972	1,745	1,578	2,055	1,672	1,516	2,014	1,709	1,547
15–..	2,942	2,661	2,538	2,683	2,531	2,338	2,811	2,596	2,438
20–..	3,721	3,364	3,119	3,200	3,106	2,776	3,450	3,235	2,948
25–..	4,912	3,918	3,574	4,057	3,468	3,220	4,464	3,678	3,387
35–..	8,033	6,762	5,725	6,437	4,885	4,305	7,205	5,741	4,951
45–..	14,808	12,922	11,217	11,363	8,960	7,801	13,018	10,808	9,386
55–..	29,767	25,863	22,980	22,471	19,255	16,555	25,905	22,389	19,596
65–..	62,844	65,701	56,695	50,722	51,993	42,560	56,124	58,164	48,934
75–..	135,490	154,203	129,095	114,126	131,374	106,311	122,694	140,498	115,433
85 and upwards	271,337	335,678	257,300	237,360	327,227	249,468	249,201	330,061	252,129

A. English Standard (Population of England and Wales, 1901). B. International Standard.
(*See* pages 1 and 2.)

At every age distinguished in Table XXI, mortality was lower in 1930 than in 1929, to the extent shown for each sex in Table I, and at every age-group for each sex, with the sole exception of females aged 85 years and upwards, it was lower than before the war.

Table XXII.—England and Wales: Mortality at various ages from all causes in 1929 and 1930 per cent. of that for the same sex and age in 1911–14.

	Males.		Females.		Both Sexes.	
	1929.	1930.	1929.	1930.	1929.	1930.
All Ages:						
Crude	95·6	82·4	97·4	81·7	96·4	82·0
Standardized A ..	85·7	72·5	84·6	69·7	85·1	71·1
Standardized B ..	86·7	73·2	87·2	71·5	86·9	72·3
0—	65	50	64	47	64	49
5—	79	72	71	67	75	70
10—	88	80	81	74	85	77
15—	90	86	94	87	92	87
20—	90	84	97	87	94	85
25—	80	73	85	79	82	76
35—	84	71	76	67	80	69
45—	87	76	79	69	83	72
55—	87	77	86	74	86	76
65—	105	90	103	84	104	87
75—	114	95	115	93	115	94
85—	124	95	138	105	132	101

The extent of the fall at the various ages can be better appreciated from Table XXII, in which the mortality in 1929 and 1930 is expressed as a percentage of the rate in the pre-war period 1911–14.

At " all ages " for both sexes the decline in the crude death-rate amounts to 18 per cent., which on standardization according to the English standard is increased to 29 per cent. The fall is much greater at 0–5 than at any higher age, amounting in 1930 to about 50 per cent. for males and 53 for females, while at the later ages the decrease in the male rate ranges from 5 per cent. at ages above 75 to 29 at 35–45 and in the female rate from 7 per cent. at 75–85 to 33 at 5–10 and 35–45.

After infancy the fall very rapidly decreases with advancing age up to early maturity, reaching a minimum of 14 per cent. for males at 15–20 and of 13 per cent. for females at 15–25.

After this age another period of increasing decline sets in, which reaches its maximum of 29 per cent. for males and of 33 per cent. for females at 35–45. Thereafter the decrease recorded becomes progressively less for each sex.

Mortality at age 0–5 (Table XXI) is very imperfectly measured during recent years by the crude rate for all these ages jointly. When the birth-rate is falling fast, as during the war and since 1920, the proportion to the whole group aged 0–5 of infants under one year of age is abnormally low, and the crude death-rate of the group tends to fall merely because the effect of the high mortality of these infants is less in consequence of their smaller numbers. When the birth-rate rises, the opposite effect is produced, and allowance by standardization for these changes in the composition of the population at risk increases the death-rate in the first case, and reduces it in the second.

Table XXIII measures the effect of this influence of changes in the birth-rate upon the mortality of early life immediately before the war and from 1917 onwards. It shows that in all these years the fall of the birth-rate has caused some under-statement of mortality at 0–5 for each sex except during the three years 1920–22, when its temporary rise after the war reversed the process. The fall of 51 per cent. shown for this mortality in Table XXII is seen to be slightly overstated from this cause, being reduced to 49 per cent. when allowance is made for its influence. But this influence, which was greatest during the years 1918–21, when its effect upon the crude rate varied from a reduction of 11 per cent. to an increase of 12 per cent., has become of less importance as the birth-rate has become more stable of late years, its effect in 1930 being to increase crude mortality by 4 per cent. The crude rate, accordingly, as recorded in Table 3, now again provides a measure of the movement of this mortality sufficiently accurate for practical purposes. It shows that recent rates are quite without parallel in the past, no quinquennium before 1916–20 returning less than double the rate for 1930.

Table XXIII.—England and Wales: Comparison of Crude and Standardized Death-Rates per 1,000 living at Age 0–5, 1911–14 and 1917–30.

——	Males.		Females.		Both Sexes.	
	Crude.	Stand-ardized.	Crude.	Stand-ardized.	Crude.	Stand-ardized.
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	28·8	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

Table XXIV.—England and Wales.—Mortality per 1,000 living (both sexes) in each of the first Five Years of Life, 1911–14, 1929, and 1930.

Year of Life.	1911–14.	1929.	1930.	1930 per cent. of	
				1911–14.	1929.
0–1	118·16	77·83	63·68	53·9	81·8
1–2	34·06	23·55	13·72	40·3	58·3
2–3	13·68	10·04	6·22	45·5	62·0
3–4	8·32	5·73	4·17	50·1	72·8
4–5	6·14	4·16	3·59	58·5	86·3
0–5 Crude ..	37·27	23·96	18·25	49·0	76·2
0–5 Stand ..	37·52	25·19	19·07	50·8	75·7
1–5 Crude ..	15·62	10·68	6·87	44·0	64·3
1–5 Stand ..	15·54	10·86	6·92	44·5	63·7

Mortality at 1–5.—The causes of the great decline in mortality at 0–5 recorded in Table 3 have been for the most part already dealt with, as 70 per cent. of deaths under 5 in 1930 occurred in the first year of life. But, as shown by Table XXIV, mortality has fallen more rapidly in the years immediately following infancy than in the first year of life itself, so the features of the changes in progress at these ages also seem to call for some consideration.

The fall of mortality in recent years has generally been greater in the years of life immediately succeeding infancy than in the first year itself, but the experience of 1929, with its severe cold, proved an exception to this rule, which, however, with the milder winter, is re-established in 1930. Table XXIV shows that compared with the pre-war period the decline was least in the fifth year and greatest in the second, while from the second to the fourth years it was greater than in the first year of life. When compared with 1929, the fall is also at its maximum in the second year, which showed the highest increase in 1929, when compared with 1928. This year of life was shown in the Review for 1923 (page 26) to be the age of maximum susceptibility to environment.

The distribution throughout the country of mortality at these ages is shown in Table XXV, which may be compared with Tables VII and VIII (Infant Mortality). The greatest excess over the general average recorded in Table XXV is one of 41 per cent. for the county boroughs of the North at 1–2 years, while

Table XXV.—Distribution of Mortality in Early Childhood, 1930.

——	1—2 years.					2—5 years. (Mean Annual Mortality.)				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
Deaths per 1,000 Living (Both Sexes).										
London	—	—	18·53	—	18·53	—	—	4·70	—	4·70
County Boroughs	19·29	13·21	13·42	16·70	16·64	5·77	4·51	4·77	5·19	5·24
Other Urban Districts ..	14·63	10·94	7·83	13·26	11·73	5·44	4·38	3·46	4·97	4·60
Rural Districts	12·68	7·93	8·18	11·62	9·49	4·71	3·35	2·77	4·18	3·62
All Areas	16·89	10·92	13·15	13·52	13·72	5·52	4·16	4·04	4·79	4·64
Mortality per cent. of that in England and Wales.										
London	—	—	135	—	135	—	—	101	—	101
County Boroughs	141	96	98	122	121	124	97	103	112	113
Other Urban Districts ..	107	80	57	97	85	117	94	75	107	99
Rural Districts	92	58	60	85	69	102	72	60	90	78
All Areas	123	80	96	99	100	119	90	87	103	100
Mortality per cent. of that in England and Wales in the same class of Area.										
County Boroughs	116	79	81	100	100	110	86	91	99	100
Other Urban Districts ..	125	93	67	113	100	118	95	75	108	100
Rural Districts	134	84	86	122	100	130	93	77	115	100

the most favourable position occupied by any of the populations compared is that of 43 per cent. below the general average by the urban districts of the South at the same age. The excess of 35 per cent. for London, against only 5 per cent. in the previous year, was largely due to the prevalence of measles, which is most fatal at this age; in 1922 and 1928, when this disease was epidemic, excesses of 48 and 39 per cent. respectively were recorded in London.

The association of a favourable environmental change with a very large reduction of mortality at age 1–2 in years of favourable conditions has been pointed out in previous Reviews. It is to be expected that the most susceptible age should show most loss when environmental conditions become worse (see the Text volume for 1929) as well as most gain when they improve, and thus the extreme meteorological contrasts between 1928 and 1929, and 1929 and 1930, may be regarded as natural experiments confirming the inference drawn from the contemporaneous sectional population contrasts of Table XXV.

At both 1–2 and 2–5 years the general type of mortality distribution is the same as that persistently maintained for infant mortality, and illustrated by Tables VII and VIII, but the experience of 1930 provides three exceptions to the rule of decrease from North to South—county boroughs at both ages, and all areas and rural districts at 1–2.

The lower section of the table shows that the Northern excess, both at 1–2 and at 2–5, was highest in the rural districts. In each of the last nine years, 1922–30, for which the facts have been tabulated in this form, the same regular gradation of the Northern excess at 1–2 as shown for 1930 in Table XXV, from a rural maximum to a county borough minimum, has been met with, so the special danger to child life at this age of Northern rural environment seems well established. The advantage of the South, on the other hand, was greatest in the small towns at both ages.

The chief causes of death at ages 1–5 are set forth in Table XXVI, which also provides comparison with 1929 and with 1911–14.

Table XXVI.—England and Wales : Deaths from Various Causes per Million living at Ages 1–5 Years in 1911–14, 1929, and 1930. (Both Sexes.)

Cause of Death.	Death-rate.			Cause of Death.	Death-rate.		
	1911–14.	1929.	1930.		1911–14.	1929.	1930.
7. Measles	2,673	965	1,142	98: 2. Laryngitis	152	39	41
8. Scarlet fever	373	102	116	99. Bronchitis	872	415	221
9. Whooping cough ..	1,216	1,411	401	100. Broncho-pneumonia	2,170	2,889	1,228
10. Diphtheria	781	533	552	101. Pneumonia (Lobar and not otherwise defined).	866	636	343
11. Influenza	60	495	50	Other Respiratory Diseases	140	82	58
31. Tuberculosis of Respiratory System.	237	134	101	112 : 1. Inflammation of the Stomach.	94	24	20
32. Tuberculosis of Nervous System.	705	406	374	113 & 114. Diarrhœa and Enteritis.	1,639	419	276
33. Tuberculosis of Intestines and Peritoneum.	391	111	96	128. Acute Nephritis ..	89	38	31
34–37. Other Tuberculous Diseases.	288	143	130	159. Congenital malformations.	85	85	80
56. Rickets	172	89	78	179. Burns and Scalds ..	360	247	200
71. Meningitis	451	138	111	Other Violence	274	271	286
80. Convulsions	460	117	89	Other Causes	1,071	889	847
				All Causes	15,619	10,677	6,872

This table shows the causes through which the favourable weather conditions in 1930 operated in decreasing mortality at these susceptible (page 27) ages from 10,677 per million in 1929 to 6,872, or by 36 per cent. These are, as might be expected, mainly respiratory, influenza furnishing the largest decrease of all (89·9 per cent.) and, next to it, whooping cough, broncho-pneumonia, bronchitis and pneumonia (lobar and undefined). Together these five causes account for nearly the whole (95 per cent.) of the year's decrease. Measles is the only cause in the table showing an appreciable increase (18 per cent.) and this excess occurred chiefly in London and the South.

Among the greatest decreases since 1911–14, on the other hand, have been those of deaths figuring under certain forms of return now rapidly passing out of use, convulsions, inflammation of the stomach, meningitis and laryngitis heading the list. Diarrhœa, scarlet fever (with acute nephritis) and all forms of tuberculosis are also falling fast, but the acute specific infections, which accounted for 33 per cent. of the total mortality both in 1930 and in 1911–14 still constitute a great risk at these ages.

Mortality of the Aged.—The rapid increase of late years in the relative importance of this section of the population forms an outstanding feature of our vital statistics at the present time. Persons over 70 years of age were 297 per 10,000 total population in 1911, 344 in 1921, and in 1930 are estimated at 393 per 10,000 (Table LXXVII). This table indicates an increase, since 1921, of 5 per cent. at ages under 70, whereas that for ages over 70 is 20 per cent.

Compared with 1929, the fall in the mortality at ages over 70 amounts to 17 per cent. and is equal to that for " all ages ". The decline is shared, but to a varying extent, by all the causes distinguished in Table XXVII, with the sole exception of cancer, the mortality from which is equal to that in 1929.

Although the total mortality at this age, in 1930, approximates very closely to that in 1928, the death-rate from heart disease increased from 24·1 to 29·3 per 1,000, while that from diseases of the blood vessels decreased from 19·9 to 16·8 and that from bronchitis from 8·3 to 6·9 per 1,000. The movement in opposite directions of the mortality from these related causes is to some extent due to observed changes in the fashion of certification. The terms myocarditis and myocardial degeneration are supplanting cardiac failure and syncope especially in conjunction with chronic bronchitis. Similarly the term cardio-vascular degeneration is being employed in place of the separate statement of arterio-sclerosis and cardiac disease. Both these changes tend to inflate the mortality from heart disease at the expense of arterio-sclerosis and bronchitis.

Table XXVII.—England and Wales: Mortality over 70 Years of Age in 1911–20, 1921–30, 1928, 1929, and 1930, from the Chief Causes of Death.

	Deaths from each Cause per 1,000 Total Deaths.					Mortality per 1,000 Living.				
	1911–20.	1921–30.	1928.	1929.	1930.	1911–20.	1921–30.	1928.	1929.	1930.
MALES.										
Influenza (11)	20	26	12	49	9	2·3	2·8	1·3	6·2	0·9
Cancer (43–49)	81	107	116	103	122	9·4	11·8	12·5	12·9	13·0
Heart Diseases (87–90)	149	204	229	261	287	17·2	22·7	24·6	32·7	30·7
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	147	186	211	165	170	16·9	20·6	22·8	20·6	18·2
Bronchitis (99)	137	110	82	96	71	15·9	12·1	8·9	12·1	7·6
Pneumonia (100, 101)	34	35	32	39	31	4·0	3·9	3·5	4·9	3·3
Chronic Nephritis (129)	29	29	33	32	36	3·3	3·2	3·6	4·0	3·9
Old Age (164)	223	140	111	100	100	25·7	15·5	11·9	12·6	10·7
Other Causes	180	163	174	155	174	20·8	18·2	18·7	19·5	18·7
All Causes	1,000	1,000	1,000	1,000	1,000	115·5	110·8	107·7	125·6	107·1
FEMALES.										
Influenza (11)	24	31	14	63	9	2·3	3·0	1·3	7·1	0·9
Cancer (43–49)	87	105	115	98	120	8·7	10·2	10·7	11·1	11·0
Heart Diseases (87–90)	154	223	256	275	308	15·2	21·6	23·7	31·0	28·3
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	139	171	193	150	171	13·7	16·5	17·9	16·9	15·7
Bronchitis (99)	149	117	86	109	70	14·8	11·4	7·9	12·3	6·5
Pneumonia (100, 101)	32	34	30	39	30	3·2	3·3	2·8	4·4	2·8
Chronic Nephritis (129)	21	23	27	24	30	2·1	2·2	2·5	2·7	2·8
Old Age (164)	249	165	136	121	123	24·6	16·0	12·6	13·6	11·3
Other Causes	145	131	143	121	139	14·4	12·7	13·2	13·7	12·7
All Causes	1,000	1,000	1,000	1,000	1,000	99·0	97·0	92·6	112·6	91·9
PERSONS.										
Influenza (11)	22	29	13	57	9	2·3	3·0	1·3	6·7	0·9
Cancer (43–49)	85	106	116	100	121	9·0	10·8	11·4	11·8	11·8
Heart Diseases (87–90)	152	215	243	269	298	16·0	22·0	24·1	31·7	29·3
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	142	177	201	156	171	15·1	18·2	19·9	18·4	16·8
Bronchitis (99)	144	114	84	103	70	15·2	11·7	8·3	12·2	6·9
Pneumonia (100, 101)	33	34	31	39	31	3·5	3·5	3·1	4·6	3·0
Chronic Nephritis (129)	24	26	30	28	33	2·6	2·6	3·0	3·3	3·2
Old Age (164)	237	154	125	112	113	25·0	15·8	12·3	13·2	11·1
Other Causes	161	145	157	136	154	17·0	15·0	15·5	16·1	15·2
All Causes	1,000	1,000	1,000	1,000	1,000	105·8	102·7	98·9	118·0	98·2

Increasing precision in certification is responsible for the substantial decline in the number of deaths from senile decay; between 1911–20 and 1930 the deaths so returned decreased from a quarter to a ninth of the total deaths over 70 years of age.

Centenarians.—Among the deaths registered during the year there were 61 of reputed centenarians, 18 of whom were males and 43 females. In the preceding three years the numbers were 84, 84 and 98 respectively. Particulars of the ages returned and of the classes of area concerned are given in Table XXVIII.

Table XXVIII.—England and Wales. Age at Death of Centenarians, 1930.

	Males.									Females.								
	100 and over	100	101	102	103	104	105	106	107	100 and over	100	101	102	103	104	105	106	107
London	2	1	1	—	—	—	—	—	—	5	2	1	1	1	—	—	—	—
County Boroughs	3	2	1	—	—	—	—	—	—	14	5	2	5	2	—	—	—	—
Other Urban Districts	8	3	1	1	1	1	—	1	—	13	4	3	3	1	2	—	—	—
Rural Districts	5	2	2	—	1	—	—	—	—	11	6	1	1	1	1	—	1	—
All Areas	18	8	5	1	2	1	—	1	—	43	17	7	10	5	3	—	1	—

CAUSES OF DEATH.

The causes of death of males and females at 18 groups of ages are stated in Table 17 for the whole country, for London, for county boroughs in the aggregate, for other urban districts in the aggregate, and for rural districts in the aggregate; and in Table 17A further detail of age is shown for all causes of significance at ages 0–5. In Table 18 deaths from each cause distinguished are tabulated by month of occurrence and by sex, but not by age. This table differs from all others in referring to date of occurrence and not of registration. So far as they relate to the whole country these tables include all deaths, but deaths of non-civilians are excluded from all tables relating to portions of the country (*see* page 1). The causes and ages for non-civilians are stated in Table 19 for the country as a whole. Table 17 includes the full International List of causes of death, as revised in 1920. 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 1921–30. The relation of this list to the detailed and condensed International Lists, as revised by the International Commission which met for the purpose at Paris in 1920, is as follows:—

	Short List of Registrar-General.	Corresponding Number. Detailed International List.	Corresponding Number. Abridged International List.
1	Enteric fever	1	1
2	Small-pox	6	4
3	Measles	7	5
4	Scarlet fever	8	6
5	Whooping cough	9	7

Short List of Registrar-General.		Corresponding Number. Detailed International List.	Corresponding Number. Abridged International List.
6	Diphtheria	10	8
7	Influenza	11	9
8	Encephalitis lethargica	23	12 pt.
9	Meningococcal meningitis	24	12 pt.
10	Tuberculosis of respiratory system	31	13
11	Other tuberculous diseases	32–37	14 & 15
12	Cancer, malignant disease	43–49	16
13	Rheumatic fever	51	37 pt.
14	Diabetes	57	37 pt.
15	Cerebral hæmorrhage, &c.	74 & 75*a*	18 pt. / 37 pt.
16	Heart disease	87–90	19
17	Arterio-sclerosis	91*b*	37 pt.
18	Bronchitis	99	20 & 21
19	Pneumonia (all forms)	100 & 101	22 & 23 pt.
20	Other respiratory diseases	97, 98 & 102–107	23 pt.
21	Ulcer of stomach or duodenum	111	24 pt.
22	Diarrhœa, &c. (under 2 years)	113	25
23	Appendicitis and typhlitis	117	26
24	Cirrhosis of liver	122	28
25	Acute and chronic nephritis	128 & 129	29
26	Puerperal sepsis	146	31
27	Other accidents and diseases of pregnancy and parturition	143–145 & 147–150	32
28	Congenital debility and malformation, premature birth	159–161	33
29	Suicide	165–174	36
30	Other deaths from violence	175–203	35
31	Other defined diseases	2–5, 12–22, 25–30, 38–42, 50, 52–56, 58–73, 75*b*–86, 91*a*, 91*c*–96, 108–110, 112, 114–116, 118–121, 123–127, 130–142, 151–158, 162–164	2, 3, 10, 11, 12 pt., 17, 18 pt., 25 pt., 25 bis, 27, 30, 34, & 37 pt.
32	Causes ill-defined or unknown	204 & 205	38

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" (1920 Revision),* which should be consulted in all cases where it is desired to ascertain the precise significance of any heading in the lists.

In Table 20 deaths of civilians are shown for different classes of area in various sections 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 above. For other administrative areas of over 10,000 population in 1921 deaths of civilians are shown in Table 21, arranged by sex and short list of causes, but without distinction of age.

* Copies may be obtained from H.M. Stationery Office. Price 2*s*. net.

In addition to the above tables, which relate exclusively to the year 1930 (except Table 18, which deals with the twelve months Oct. 1929–Sept. 1930), Table 4 contains a statement of the number of deaths registered in each year 1920–30 from each cause distinguished in Table 17, so far as available, with distinction of sex but not of age; while Table 5 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 to population. But the crude rates in Table 5 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 5 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 5A has now been 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 (page 1). Owing to the clerical labour involved in the preparation of these rates the list of causes in Table 5A is much shorter than that in Table 5, and rates are shown only for males and females separately, and not for both sexes jointly. Tables Nos. 8 and 9 state the mortality during the eleven years 1920–30 of infants under one year of age from the causes of chief importance at that age, but without distinction of sex.

1. **Enteric Fever.**—The number of deaths classified to this heading during 1930 was 313. Of these, 56, or 18 per cent., were ascribed to paratyphoid infection, as against 55, or 14 per cent., in 1929, and only 6, or 0·25 per cent., in 1911, the first year for which the information is available.

The standardized rates corresponding to these deaths, 7 per million persons living (Table 6), 8 for males and 7 for females (Table 5A), are the lowest yet recorded.

Table 6 shows that 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 50 times that for 1930.

The history of this remarkable fall is recorded in Table 6, with allowance by standardization for changes in the type of population at different periods, but mortality from this cause is little affected by standardization, the crude rate (Table 5), for each year from 1920 on, being almost the same as the standardized (Table 6). The rate remained almost stationary at about twenty-five times the present figure during the last decade of last century, when diarrhœal mortality was also heavy (Table V), then fell from 198 in 1899 to 15 in 1919, and then, after a further pause, from 13 in 1924 to 7 in 1930.

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

Table XXIX.—Enteric Fever, 1930 : Mortality per Million Civilian Population.

Class of Area.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	6	—	6
County Boroughs ..	9	6	7	2	7
Other Urban Districts	12	8	6	6	9
Rural Districts ..	16	6	6	5	8
All Areas	11	7	6	5	8

The highest rate for 1930 is that for the rural districts of the North, the smaller towns of the North coming next. Excess of mortality in the small towns has been the general rule during the last twenty years, in a large proportion of which the highest rate of all has been that of the Northern towns. In the Midlands, South and London the rate showed but little variation.

Prevalence (Table 23) and fatality (Table XXXI) were much the same in 1930 as in other recent years, though both have decreased greatly from the levels of 20 years ago. Their distribution throughout the various sections of the population in 1930 is shown in Table XXX.

Table XXX.—Enteric Fever, 1930 : Prevalence and Fatality.*

Class of Area.	Cases per 1,000,000 Population.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	70	—	70	—	—	85	—	85
County Boroughs	68	65	93	56	69	131	91	74	32	107
Other Urban Districts ..	72	82	96	50	79	159	102	64	111	109
Rural Districts	76	88	79	40	78	212	72	74	125	106
All Areas	70	78	82	48	74	152	91	75	95	105

* Excluding non-civilian cases and deaths but including cases in Port Sanitary Districts.

As in other recent years prevalence was highest in the South and fatality in the North. The proportion of paratyphoid to total notifications ranged from 17·5 in Wales, 25·9 in the North, 30·9 in the South to 32·9 in the Midlands.

The highest mortality rates recorded in Table 7 are, for counties of over 100,000 population, 24 per million in Cumberland and 20 in Nottinghamshire. The county boroughs with highest rates are West Hartlepool (58), also highest in 1929, Sunderland (43), Canterbury (42), and Wakefield (34).

6. **Small-pox.**—The deaths allocated to this cause numbered 28, somewhat fewer than in 1927, 1928 and 1929, but more than in any of the other years since 1920 (Table 4). The mortality record for this disease is contained in Table 6, which shows that the standardized rate for 1930 was only 1 per million, as in ten other years since the 1901–05 epidemic. In the remaining fourteen of these years the rate has been less than 0·5 per million, as indicated by 0 in the table.

The type of disease prevalent in 1930 remained mild to a degree unprecedented in the official records before 1923, when the fatality rate suddenly fell from 27·7 to 2·8 per 1,000 cases. Since 1923 the rate has shown but slight fluctuations, reaching 4·3 in 1928 ; the rate in 1930 was 2·4 per 1,000 notified cases (Table XXXI).

Table XXXI.—England and Wales : Fatality of certain Infectious Diseases (Deaths per 1,000 Notified Cases), 1911–30.*

Year.	1. Enteric Fever.	6. Small-pox.	8. Scarlet Fever.	10. Diphtheria.	21. Erysipelas.	22. Poliomyelitis.	23. Encephalitis Lethargica.	24. Meningococcal 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

* 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 of small-pox cases in some years are too small to yield significant rates, but their basis of fact can be inferred from Table 4, and the rates quoted serve to bring out the extremely mild type of disease prevalent in 1921–30. 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 XXXI. 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 meningococcal meningitis, 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.

The counties (with county boroughs) returning highest rates of prevalence, with the rates per 1,000 population in each case, are seen from Table 28 to have been—Leicestershire, 3·35 ; London, 1·15 ; Monmouthshire, 1·11 ; and Essex, 0·89.

7. **Measles.**—The deaths registered from this cause numbered 4,188, corresponding to a mortality of 105 per million population. But allowance for decreased proportion of children in the present population increases the rate on standardization from 119 to 165 for males and from 93 to 142 for females. The death-rate for children under 15 years of age, 431 per million, is seen from Table 6 to have been higher than in 1919, 1921, and 1926–1929, but lower than in all recent years other than these. During last century this rate was on an altogether higher level. It was several times that for 1930, which was first approached during 1916–20.

The distribution throughout the country of mortality from measles is stated in Table XXXII in the form of death-rates per 100,000 living at ages 0–5. Deaths at these ages in 1930 formed 88 per cent. of the total, and statement in this form prevents the comparison being prejudiced by varying proportions of children in the populations compared.

Table XXXII.—Measles, 1930 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	287	—	287
County Boroughs ..	160	105	186	112	143
Other Urban Districts	103	100	67	74	92
Rural Districts ..	59	37	34	38	42
All Areas	128	86	170	71	121

This table demonstrates, as usual, to what an extent measles mortality is promoted by city life. The increase shown for 1930 from rural districts to small towns, and from these to county boroughs, is common to the experience of each of the 20 years, 1911–30, for which the facts are available. It has applied to the North of England in each of the 20 years, with two exceptions, and to the Midlands in each of these years except 1921. For the South there have been seven exceptions. The rule of increase from South to North is also of very general application, but does not apply in 1930.

The increase of mortality from rural districts to large towns in 1930 was as usual accompanied, and presumably largely explained, by a higher average age at death in the former than in the latter. The proportion of total deaths occurring at ages over two years was as follows in each of the classes of area compared in Table XXXII : rural districts 49 per cent., urban districts 44, county boroughs 39, and London 31 per cent.. In the total population the proportion was 39 per cent.. The effect of sparseness of population in delaying infection by measles is evident

from these figures, for though there are no national records of the ages of children attacked, it may be assumed with confidence that where attacks occur earliest in life the proportion of deaths during the first two years will be greatest. As the differential fatality of measles for young children is well known, the lower mortality of the rural districts must be largely explained by later infection.

Table 7 shows that, of administrative counties with over 100,000 population, London returned the highest death-rate, 234 per million, or 2¼ times the rate in England and Wales, Southampton 132, and Essex 125, coming next. The highest county borough rates were—Wigan 541, Chester 462, and Portsmouth 433.

8. **Scarlet Fever.**—Mortality from this cause remained low in 1930, although slightly higher than the experience of the four preceding years. Table 6 shows that for the fifth year in succession the year's mortality was lower than any recorded prior to 1926, with the exception of 1917.

The same table also shows that for fifteen years in succession this rate has been much lower than any recorded previous to this period (*i.e.*, to 1916), the mortality being now trifling compared with that prevalent a generation ago.

The progress of the decline from the maximum decennial rate of 1861–70 (Table 6) 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 ; 1928, 19 ; 1929, 22, and 1930, 24. Thus the mortality of 1930 was only about 2 per cent. of that experienced 60 years earlier.

Table XXXI shows that the decrease in fatality of cases of this disease, which has been observed for many years, was replaced in 1929 and 1930 by slight increases, from 5·7 in 1928 to 6·0 and 6·7 deaths per 1,000 cases notified. But this rate is only about one-third of that at the commencement of the record in 1911, when the notifications were first tabulated, scarlet fever and smallpox showing much the greatest declines of fatality in the table.

Table XXXIII.—Scarlet Fever, 1930 : Mortality per Million Living at Ages under 15 years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	94	—	94
County Boroughs ..	85	57	64	7	70
Other Urban Districts	73	49	48	46	56
Rural Districts ..	66	33	49	74	49
All Areas	79	48	69	46	64

The distribution of mortality recorded in Table XXXIII follows the general type which has been noted for the last 20 years. Mortality tends to increase with urbanization for England and Wales generally, and from South to North in each class of area. The second of these rules, which is of less constant application than the first, applies only to the smaller towns in 1930, but during 1911–30 it has been broken only eight times for the county boroughs, four times for the urban, and seven times for the rural districts. Increase, for the country as a whole, with urbanization, from rural districts to county boroughs, has occurred in each of the 20 years except 1918 and 1926. In 1930 the death-rate in London is extremely high, being nearly 50 per cent. in excess of that in the country as a whole.

Table XXXIV shows that, as has usually been the case in recent years, prevalence was at a maximum in London. As in the two previous years it was lowest in the rural districts of Wales. Fatality, on the other hand, was fairly uniform throughout England and the comparative equality of the rate in all classes of area suggests a more or less uniform standard of diagnosis throughout the country.

Table XXXIV.—Scarlet Fever, 1930 : Prevalence and Fatality.

	Cases per 10,000 Population aged 0–15 years.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	164	—	164	—	—	7	—	7
County Boroughs	136	103	118	80	121	7	6	7	1	7
Other Urban Districts ..	119	119	95	82	111	7	5	7	6	6
Rural Districts	101	90	88	68	90	8	6	7	14	7
All Areas	126	107	125	78	116	7	6	7	7	7

Broadly speaking, about half the deaths from scarlet fever are of young children under 5 years of age. In 1930 this proportion, 40 per cent., was lower than in any year prior to 1929 since the record of age at death started in 1848. During last century it was much higher than of late years, varying from 60·1 (1893) to 68·3 (1895). For 1901–05 and the five succeeding quinquennia it has stood as follows :—60·6, 58·4, 54·0, 48·4, 48·6 and 42·4. The progressive reduction to about 40 per cent. in 1929 and 1930 is probably related to the remarkable fall of mortality recorded in Table 6, later incidence involving greater prospect of recovery. (It was shown in the Report for 1886 that fatality is at its maximum in infancy, and falls rapidly with increase of age, being very much less over than under the age of five.)

In Table XXXIV of the Review for 1928 the proportion of deaths at 0–5 was shown to have consistently increased, in the past, from rural districts to county boroughs, generally reaching its maximum in London, and along with this a general tendency to increase from South to North was noted for each class of area.

Table XXXV shows that in these respects 1930 on the whole resembles earlier years.

Table XXXV.—Scarlet Fever, 1930. Deaths at 0–5 per 1,000 at all Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	563	—	563
County Boroughs.. ..	462	371	357	1,000	429
Other Urban Districts ..	372	314	286	529	346
Rural Districts	389	182	345	316	297
All Areas	426	305	451	432	401*

* Based on civilians only.

The juvenile ratio is once more lowest in the rural districts and highest in London, and county boroughs and smaller towns show increase from South to North, so the general correspondence between the distribution of the tendency to early death and of mortality, pointed out for earlier years in 1928, holds good also for 1929 and 1930.

Table 7 shows that, amongst counties with over 100,000 population, mortality was highest in Denbighshire (108 deaths per million as compared with an average of 18 for all counties) and Yorkshire, West Riding (28). These counties also showed the highest rates in 1929.

The highest rates amongst the county boroughs (average 20) are those of Bootle (102) and Derby (70).

9. Whooping Cough.—The deaths allocated to this heading numbered 2,037 (897 males and 1,140 females). The excess for females is shown by Table 4 to be a constant feature of this disease, and tends to increase with age.

The death-rate of 211 per million living at ages under 15 is the lowest yet recorded and as in 1919, when the previous lowest mortality was registered, it occurred in a year following one of exceptionally high mortality. The mortality from this cause reached a maximum of 1,511 per million living at ages under 15 for the five years 1866–70, since when, with a single exception, it has progressively declined to 387 in 1926–30, the total decline over the whole period amounting to 74 per cent. (Table 6.)

The distribution of mortality from this cause is indicated in Table XXXVI.

Table XXXVI.—Whooping Cough, 1930 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	36	—	36
County Boroughs ..	88	79	34	110	81
Other Urban Districts	65	50	42	86	57
Rural Districts ..	82	51	46	91	62
All Areas	80	60	39	92	64

The rule of increase of mortality with urbanization was broken in 1930 for the third time since 1911, but that of increase from South to North, which is not so frequent, was maintained. Compared with 1929 the decrease of mortality was very general in all areas and ranged from 40 per cent. in the county boroughs of Wales to 89 per cent. in London.

Table XXXVII shows the proportion of total deaths occurring in the first year of life in the country as a whole and in the different classes of area. In 1930 the proportion in the urban districts was definitely below that in the county boroughs, thus furnishing the first exception since 1911 to the rule of decline in the proportion with increasing urbanization from rural districts to county boroughs. During each of the last eleven years, except 1921 and 1928, the proportion of early deaths has been higher in Wales than in any of the three sections of England.

Table XXXVII.—Whooping Cough, Age at Death as affected by Urbanization : Deaths under One Year of Age per cent. of those at All Ages in each Year 1921–1930 inclusive.

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
London	43	33	47	38	43	44	41	44	38	48
County Boroughs ..	47	40	42	41	42	45	40	45	36	46
Other Urban Districts	53	43	47	46	47	45	44	48	43	45
Rural Districts ..	59	50	51	49	51	54	49	54	49	53
All Areas	50	41	46	43	45	47	43	47	40	47

The proportion of deaths under one year has been invariably higher for males during the 83 years under review, the difference being usually slight.

10. **Diphtheria.**—The 3,497 deaths in 1930 include 1,725 of males and 1,772 of females. This excess of varying magnitude for females is a very constant feature of the returns and is reflected in the generally higher standardized death-rate for females in Table 5A, which shows that the risk of death is actually somewhat greater for females, though the crude death-rate (Table 5) is generally higher for males. For 1930 the crude rates were 90 and 85 per million for males and females respectively, and the standardized 117 and 120.

The history of diphtheria mortality is best expressed by the death-rate from diphtheria and croup at ages under 15 in Table 6, as 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. With the exception of a fall in 1927, the rates show a constant increase since 1924, when the mortality reached its lowest level (231 per million). The rate for 1930, 340 per million aged 0–15, is higher than in any of the seven preceding years, but is only about one-fourth of the maximum rates during the years 1856–65, or one-third of that marking the secondary peak of 1893.

Table XXXVIII shows that diphtheria mortality varied little in each class of area in England, while in Wales the rate in the rural districts equalled that in the county boroughs. The London rate, which in 1929 was below the average for the first time since 1915, is the highest in the English areas.

Table XXXVIII.—Diphtheria, 1930 : Mortality per 100,000 living at Ages under 15 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	42	—	42
County Boroughs ..	40	34	38	44	38
Other Urban Districts	27	36	31	42	33
Rural Districts ..	26	21	20	44	24
All Areas	34	32	35	43	34

For the country as a whole, the rate in 1930 increased regularly with urbanization, as also in eleven more of the nineteen years (1911–30) for which this comparison can now be made. In five of these years this increase applied, without exception, to each of the three sections of England compared. Of late years, therefore, diphtheria has been chiefly an urban disease, though during the first 26 years of its recorded mortality in this country, 1855–80, this was greatest in the less densely populated areas. Possibly the disease was earlier recognised in the towns than in the country. There is, indeed, much evidence to

suggest that diphtheria is still much more freely returned in some sections of the population than in others. Thus the frequency of its notification is shown by Table XXXIX to have been at a maximum in London in 1930, as in each of the 14 preceding years.

So persistent a contrast suggests a varying standard of diagnosis. Apparently, in the North of England fewer deaths from diphtheria are preceded by notification, and therefore those so certified must form a larger proportion of the notifications. In London, on the other hand, where notification reaches its maximum, the proportion of deaths to cases notified was lower in 1930 than in any other section of the population (Table XXXIX), as has been the case now in each of the last six years. Deaths appear to vary much less in frequency throughout the country than notifications.

From 1911 onwards prevalence, as defined in Table XXXIX, has increased from 43 for England and Wales in 1911 to 77 in 1930, while fatality has fallen from 103 in 1911 (and 107 in 1915) to 47 in 1930. Thus the temporal contrast corresponds with that between the North of England (and Wales) and London, and is probably due to the same cause—increasing completeness of notification.

Table XXXIX.—Diphtheria, 1930 : Prevalence and Fatality.

	Cases per 10,000 Population aged 0–15 years.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	132	—	132	—	—	33	—	33
County Boroughs	77	87	88	116	83	54	42	46	38	48
Other Urban Districts ..	45	83	71	92	70	66	46	48	48	51
Rural Districts	43	46	47	86	50	65	51	54	60	56
All Areas	62	75	94	95	77	58	46	40	48	47

It will be seen that the excess of prevalence in London falls into line with large excess for great towns over small, and for small towns over rural areas, in all parts of England. Fatality, on the other hand, is higher in the rural districts, as it is lower in London, than in the other towns, great or small, of England and Wales.

Table 7 shows that the counties of highest mortality in 1930 were Denbighshire (285 per million), Pembrokeshire (186), Lincolnshire, Holland (154), and Wiltshire (145). The highest rates among county boroughs (average 99) are those for Canterbury (338), Merthyr Tydfil (310) and Chester (292). Merthyr Tydfil also returned an exceptionally high rate for 1929.

11. **Influenza.**—The deaths assigned to this cause numbered 5,019, 2,742 of males and 2,277 of females. The resultant crude mortality rate of 126 per million, is reduced on standardization, by allowance for the increased age of the population to 101 (Table 6), 119 for males and 83 for females (Table 5A). These rates are the lowest recorded since the reappearance of influenza in epidemic form in 1890, the previous lowest rates for persons having been 113 in 1911 and 122 in 1896 (Table 6). But these rates are considerably higher than the experience prior to the 1890 epidemic when the average annual rate for the 15 preceding years (1875–1889) was about 6 per million, ranging from 19 in 1875 to 2 per million in 1889.

Attention has been drawn in previous Reviews to the heavy mortality in the first quarter of the year. In this respect, although influenza was not epidemic, the experience of 1930 is much the same as in other years since the great epidemic of 1918–19, but the mortality in the latter nine months of the year is much lower than in any of the previous nine years shown in Table XL.

Table XL.—England and Wales, 1921–30.—Influenza Mortality per million Population during the first 3 and last 9 Months of each Year.

	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

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

Table XLI.—Influenza, 1930 : Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	83	—	83
County Boroughs ..	139	104	102	164	125
Other Urban Districts ..	154	116	99	194	131
Rural Districts	157	129	132	211	144
All Areas	147	115	99	193	127

The highest rate in the table is that for the Welsh rural districts, while the lowest rate was recorded in London. Mortality generally was highest in the rural districts, decreasing with urbanization to a minimum in London, the rural maximum occurring in each of the four regional areas.

In this respect the mortality from influenza contrasts with the incidence of the infantile epidemic diseases which follow an almost constant rule of increase with urbanization and from the South to the North. In 14 of the 20 years, 1911–30, for which comparison is possible, the highest mortality from influenza has been recorded in the rural districts and was a constant feature of the returns from 1911 to 1917 inclusive. In only two (1918 and 1920) of the 20 years did the mortality follow the rule of increase with urbanization. The general epidemic experience of increase from South to North occurred in seven of the 12 years following the great epidemic, but in six of the seven years 1911–17 the increase was from North to South. London returned the lowest mortality in six of the last seven years and in no year was the highest mortality recorded in the Metropolis.

The separate tabulation of deaths from influenza with stated respiratory complications (mostly pneumonia) affords the means of comparing the varying proportions of deaths so returned in the several classes of area.

Table XLII.—Deaths from Influenza with stated Respiratory Complications (11*a*) per cent. of all Deaths from Influenza (11).

	England and Wales.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.
Oct. 1918–Mar. 1919	80	85	81	79	78
1926	61	70	67	58	55
1927	69	79	73	69	64
1928	64	71	68	62	58
1929	75	84	78	73	68
1930	63	73	67	60	57

It will be seen from Table XLII that the proportion is lowest in the rural areas and increases with urbanization to a maximum in London, so that the frequent rural excess of total mortality from influenza, especially in years of low mortality, is partly due to the higher mortality in this class of area from influenza without statement of respiratory disease. During the great epidemic of 1918–19, the proportion of influenza deaths with respiratory complications varied but little in the several classes of area ranging only from 85 per cent. in London to 78 per cent. in the rural areas. In the later years for which the figures are shown in the statement, the decline was much greater in the rural than in urban areas ; in London and the county boroughs the proportion in the epidemic of 1929 was almost as high as in 1918–19.

This excess of recorded mortality from uncomplicated influenza in rural areas suggests a wider connotation of the term than in urban practice.

23. **Encephalitis Lethargica.**—Deaths attributed to this disease numbered 916, 437 of males and 479 of females, yielding standardized death-rates of 21 per million for males and 21 for females. For each sex these are the lowest rates since 1923 (Table 5A). The 738 notifications (Table 27), are fewer than in any year since 1922, and are considerably less than deaths, yielding a fatality rate of 1,241 deaths per 1,000 notifications. This rate has exhibited wide fluctuations since 1919, reaching 742 per 1,000 notifications in 1922, thereafter declining rapidly to a minimum of 279 in 1924, and then rising in each successive year to 1,241 in 1930. This later increase is probably due to the inclusion from year to year of an increasing number of deaths from chronic forms of the disease contracted in earlier years which tends to vitiate the relation between the deaths registered and the new cases of the disease notified during the year. It is also possible that some deaths certified as due to the disease were not recognized and notified as such during life.

Table XLIII.—Encephalitis Lethargica, 1930 : Prevalence and Fatality. (Civilians only.)

	Cases per 1,000,000 Population.					Deaths per 100 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London ..	—	—	14	—	14	—	—	120	—	120
County Boroughs	22	14	12	7	18	125	127	194	75	129
Other Urban Districts.	19	17	25	22	20	164	115	92	132	125
Rural Districts	23	18	24	11	20	124	120	106	144	118
All Areas ..	21	16	19	16	19	136	120	112	129	125

Fatality and prevalence were highest in the North ; in London both fatality and especially prevalence are, as in earlier years, below the general average and the table suggests the likelihood that the disease may be very much over-diagnosed elsewhere.

Table XLIV.— Encephalitis Lethargica, 1930 : Crude Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	16	—	16
County Boroughs ..	27	18	23	5	23
Other Urban Districts.	32	19	23	29	25
Rural Districts ..	29	22	26	16	24
All Areas	29	20	21	20	23

As in each of the seven preceding years the highest mortality in 1930 was recorded in the North. The London rate, on the other hand, has been generally below average, its percentage ratio to that for England and Wales during 1921–29 having been as follows:—1921, 84; 1922, 122; 1923, 79; 1924, 92; 1925, 80; 1926, 59; 1927, 59; 1928, 41; 1929, 54; 1930, 70.

25. Other Epidemic Diseases.—The number of deaths so classified in 1930 was 81, chiefly composed of 27 from German measles and 47 from varicella, particulars of which are included in Table 17. Of the other seven deaths (all males) from miscellaneous infections, three were ascribed to blackwater fever, and one each to glandular fever, kala-azar, yaws, and "Asiatic (parenteric) fever."

31–37. Tuberculosis.—The deaths assigned to tuberculous affections in the aggregate number 35,745—19,786 of males and 15,959 of females—2,245 less than those so classified in the previous year.

The standardized death-rate resulting from these figures, 872 per million persons (males 974, females 781), is the lowest yet recorded (Table 6), and is 37 per million below the previous lowest rate in 1928, the male rate falling below 1,000 per million for the first time. Compared with 1929 the male rate shows a decline of 8 against 5 per cent. for females.

The decrease in the number of deaths occurred mainly in the first quarter of the year (Table 18), the number being 2,040 less than in the first quarter of 1929; in the June and September quarters the decreases were 295 and 25 respectively, followed by a slight increase of 167 in the fourth quarter.

Table XLV.—England and Wales: Mortality from Tuberculosis (All Forms) per Million Population, 1912–14, 1928, 1929 and 1930.

	Males.				Females.				Persons.			
	1912–14	1928	1929	1930	1912–14	1928	1929	1930	1912–14	1928	1929	1930
All Ages (Crude)	1,571	1,067	1,122	1,037	1,169	800	809	770	1,364	928	959	898
All Ages (Stand-ardized)	1,542	1,015	1,057	974	1,174	812	820	781	1,349	909	932	872
0–	2,081	911	935	818	1,717	748	762	685	1,900	830	849	752
5–	572	325	301	270	580	311	293	302	576	318	297	286
10–	447	265	278	224	687	403	384	350	568	334	331	286
15–	939	788	787	777	1,226	1,195	1,156	1,157	1,084	991	971	967
20–	1,501	1,204	1,225	1,165	1,381	1,397	1,472	1,361	1,439	1,301	1,349	1,263
25–	1,816	1,301	1,298	1,240	1,403	1,159	1,172	1,154	1,599	1,225	1,231	1,195
35–	2,189	1,505	1,590	1,402	1,374	820	840	793	1,767	1,133	1,182	1,070
45–	2,384	1,626	1,819	1,667	1,185	647	669	616	1,762	1,106	1,205	1,104
55–	2,213	1,318	1,448	1,341	967	552	555	528	1,553	916	979	913
65–	1,378	917	986	931	752	471	481	418	1,031	672	708	649
75 and up ..	586	375	411	389	440	311	290	284	498	336	337	325

It will be seen from Table 6 that epidemics of influenza tend to arrest the decline in tuberculosis mortality, while in the year following the epidemic the death-rate shows a substantial fall. This fluctuation of the decline may be caused by tuberculous persons succumbing to influenza, who would otherwise have survived for a longer period.

The decrease in 1930 applies to all the age-groups shown in Table XLV for both males and females with the exception of 5–10 and 15–20 for females, and is greatest in infancy, at 10–15 and at ages 35–75.

In order to give a somewhat longer range view of the reduction of tuberculosis mortality as it affects individuals of varying sex and age, Table XLVI is continued from previous reviews.

Table XLVI.—England and Wales: Mortality from Tuberculosis in 1930, per cent. of that in 1912–14.

	Males.	Females.	Persons.
All Ages (Crude)	66	66	66
All Ages (Stand-ardized.)	63	67	65
0–	39	40	40
5–	47	52	50
10–	50	51	50
15–	83	94	89
20–	78	99	88
25–	68	82	75
35–	64	58	61
45–	70	52	63
55–	61	55	59
65–	68	56	63
75–	66	65	65

In this table the mortality of the year under review is compared at each age with the most exacting pre-war standard available—the rates for 1912–14, after which war and influenza brought about a temporary increase. The fall since 1912–14 is seen to be slightly increased on standardization, from 34 to 35 per cent. for persons of both sexes, a trifling decrease (34 to 33 per cent.) for females being more than counterbalanced by an increase from 34 to 37 per cent. for males. Reduction is greatest and to almost the same extent for both sexes in childhood and least in youth.

The minimum decline for males occurs at the age-group 15–20 and for females at 20–25, the latter being below the pre-war standard for the first time since 1915. At these two age-groups, the decline for males is greatly in excess of that for females.

After 25 the rate of decline accelerates rapidly especially for females, whose rates have fallen more than those of males at all ages over 35. For each of these five age-groups the rate for the sexes jointly is now less than two-thirds what it was immediately before the war.

The recent history of tuberculosis mortality in this country, since the time of its large apparent increase by the great influenza epidemic of 1918–19, is set forth in Table XLVII. The death-rates shown for total and for respiratory tuberculosis are in each case compared with those extrapolated from the curve of declining mortality for the years 1866–1914, when, as discussed in the Review for 1921, the rate of fall recorded was remarkably constant.

Table XLVII. England and Wales: Mortality from Tuberculosis in each Year 1920–30.

Standardized Rates per Million and Comparison of these with those predictable on the assumption of continuance of fall since 1866-1914 at the same rate as during that Period (see Review for 1921, Diagram 4).

	Recorded Mortality (Standardized).						Mortality calculated by Prolongation of the Curve of decline during 1866–1914.						Recorded Mortality per cent. of calculated.					
	All Forms.			Respiratory.			All Forms.			Respiratory.			All Forms.			Respiratory.		
	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
1920	1,248	1,010	1,123	940	737	833	1,264	955	1,101	991	693	833	99	106	102	95	106	100
1921	1,233	1,011	1,117	944	757	845	1,221	927	1,065	970	681	816	101	109	105	97	111	104
1922	1,241	985	1,107	963	745	848	1,177	899	1,029	949	670	801	105	110	108	101	111	106
1923	1,164	942	1,049	900	707	798	1,134	871	994	929	660	785	103	108	106	97	107	102
1924	1,156	934	1,039	904	708	801	1,090	844	958	909	651	771	106	111	108	99	109	104
1925	1,143	904	1,017	895	691	788	1,046	817	923	890	642	756	109	111	110	101	108	104
1926	1,058	839	942	829	638	730	1,002	791	888	871	635	743	106	106	106	95	100	98
1927	1,061	854	952	838	660	744	958	766	853	852	628	730	111	111	112	98	105	102
1928	1,015	812	909	803	625	709	913	741	818	833	623	718	111	110	111	96	100	99
1929	1,057	820	932	846	641	738	869	716	784	815	618	707	122	115	119	104	104	104
1930	974	781	872	775	606	685	824	692	750	798	614	696	118	113	116	97	99	98

While the rates both for respiratory and for total tuberculosis have continued for both sexes to fall since the war at much the same steady rate as before it, the ratio of recorded to calculated mortality for all forms of tuberculosis, although lower than in 1929, is still higher for both sexes in 1930 than in the years 1920–28. For respiratory tuberculosis the persons rate is again below the 1866–1914 standard, the female rate attaining this position for the first time. The close agreement shown for 1920 between recorded and calculated rates shows how quickly after the war all trace of the increase of mortality which accompanied it disappeared.

The 29,414 deaths from respiratory tubercle form 82 per cent. of the total allocated to tuberculosis, and 6·5 per cent. of those from all causes.

The distribution of this mortality by class of area as well as by sex and age is shown in Table XLVIII.

Table XLVIII.—Tuberculosis of the Respiratory System.—Civilian Mortality at Different Ages, 1930.

	Mortality per 100,000 Civilians Living at Various Age Groups.						Ratio per cent. of Mortality in England and Wales.				
	England and Wales.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	All Urban Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	All Urban Districts.
MALES.											
All Ages—											
Crude	87	114	109	76	55	95	131	125	87	63	109
Standardized ..	78	99	98	69	52	85	127	126	88	67	109
0—	12	12	17	11	6	14	100	142	92	50	117
5—	7	6	9	6	4	7	86	129	86	57	100
15—	83	95	99	78	58	89	114	119	94	70	107
25—	114	129	131	106	88	120	113	115	93	77	105
35—	131	155	157	116	98	139	118	120	89	75	106
45—	158	214	213	128	88	176	135	135	81	56	111
55—	125	204	173	101	59	145	163	138	81	47	116
65—	83	159	121	64	38	99	192	146	77	46	119
75 & up ..	31	71	40	24	19	36	229	129	77	61	116
FEMALES.											
All Ages—											
Crude	62	65	72	57	54	64	105	116	92	87	103
Standardized ..	61	60	69	55	55	62	98	113	90	90	102
0—	10	10	16	7	6	11	100	160	70	60	110
5—	13	11	16	12	12	13	85	123	92	92	100
15—	111	114	121	106	96	114	103	109	95	86	103
25—	105	94	118	99	101	106	90	112	94	96	101
35—	73	77	83	62	72	73	105	114	85	99	100
45—	56	58	67	48	48	57	104	120	86	86	102
55—	45	54	56	36	40	47	120	124	80	89	104
65—	33	38	40	29	29	35	115	121	88	88	106
75 & up ..	20	25	19	21	18	21	125	95	105	90	105
PERSONS.											
All Ages—											
Crude	74	87	90	66	55	79	118	122	89	74	107
Standardized ..	69	78	83	62	54	73	113	120	90	78	106
0—	11	11	17	9	6	12	100	155	82	55	109
5—	10	8	2	9	8	10	80	120	90	80	100
15—	97	105	110	92	76	102	108	113	95	78	105
25—	109	110	124	102	95	113	101	114	94	87	104
35—	99	111	117	86	84	103	112	118	87	85	104
45—	103	128	135	85	67	112	124	131	83	65	109
55—	83	124	111	67	49	93	149	134	81	59	112
65—	56	91	76	45	33	63	163	136	80	59	113
75 & up ..	24	42	27	22	19	27	175	113	92	79	113

The relation of phthisis mortality to urbanization is expressed by the decline of the standardized rate for persons from 78 per 100,000 in London and 83 in the county boroughs to a minimum of 54 in the rural districts, the latter being 22 per cent. below the general average, and the county borough maximum 20 per cent. above it.

As in previous years (1921–29) for which this comparison has been made, the experience of females in London has been much superior to that of males, their rate being 2 per cent. below average, whereas that for London males is 27 per cent. in excess. Urbanization, in fact, increases phthisis mortality

much more for males than for females. As in other years also, this applies particularly to the higher ages. The contrast between a low early mortality in London and a high rate in the county boroughs is also a recurrent feature, the recorded mortality of early life generally being consistently much higher in the county boroughs than in London, and that of later life lower. Taking the London rate as 100 at each age, the ratios for the county boroughs (both sexes) for each of the eight recent years for which this table has been published are as follows :—

	1922	1923	1924	1926	1927	1928	1929	1930
0– ..	164	129	175	244	210	138	146	155
5– ..	157	146	140	160	178	160	140	150
15– ..	101	109	108	108	102	97	104	105
25– ..	106	108	108	111	113	109	109	113
35– ..	106	104	107	115	105	108	102	105
45– ..	85	91	88	99	101	102	98	105
55– ..	75	90	86	89	97	88	91	90
65– ..	67	81	93	80	74	100	93	84
75– ..	41	72	53	75	66	64	49	64

This relationship, however, has not existed in its present form for very long. In both 1911 and 1913, for which similar tables were published, the London rate at 0–5 was in considerable excess of that for the county boroughs. But in each of those years, as recently, London mortality was uniformly higher throughout later life, the excess setting in earlier, at 30 instead of 45 or 55.

If it may be assumed that the returns are most accurate in London, where hospital and other facilities for accurate certification are probably at a maximum, then it would seem that elsewhere there is a tendency to over-diagnosis of phthisis in childhood and to its under-diagnosis in old age, when certainty of recognition becomes difficult, and when English mortality rates are particularly low compared with those of other countries.

Table 7 shows that, as in 1927, 1928 and 1929, London returned the highest crude death-rate (872 per million) from phthisis amongst the English counties, though in Wales four higher rates were recorded. Amongst counties of over 100,000 population the lowest rates were those of Derbyshire, 427 ; Shropshire, 436 ; Cambridgeshire, 445 ; Suffolk West, 460 ; Surrey, 492 and Wiltshire, 492.

The highest county borough rates were those for Middlesbrough, 1,364 ; Salford, 1,256 ; South Shields, 1,245 ; and Liverpool, 1,223. South Shields returned the highest rate in 1928 and 1929. The Bath rate, 364, was lowest.

The death-rates from all the forms of non-respiratory tuberculosis mortality distinguished continue to fall rapidly, as may be seen from Table 5, although the crude rates in this table somewhat exaggerate the fall, which is due partly to the decreasing proportion of young children in the population. Even, however,

when allowance has been made for this by standardization in Table 5A the rate of fall remains much higher for non-respiratory than for respiratory tubercle. It is greatest of all for tuberculosis of the intestines and peritoneum—for males from 65 in 1920 (111 in 1915) to 34 in 1930, and for females from 67 in 1920 (98 in 1915) to 32 in 1930. During this period a formerly much favoured form of return—tabes mesenterica, classified to this title, has practically passed out of use.

The rapidity with which non-respiratory tuberculosis mortality in general continues to fall may be gathered from Table XLVII. During the eleven years covered by this table the standardized rate for both sexes has fallen without interruption from 290 to 187 per million or by 36 per cent., whereas that from the respiratory form of the disease has fallen only by 18 per cent. During these eleven years the proportion of non-respiratory to total (standardized) mortality has fallen from 26 to 21 per cent.

42 (1). **Vaccinia.**—Only four deaths were assigned to this heading in 1930 and of these two males, aged 10 and 71 years, and a female aged 4 years, were returned after post-mortem examination as being associated with encephalitis against 13 in 1928 and 11 in 1929. The fourth death was of a female aged 13 years from protein shock following an injection of anti-diphtheritic serum.

Two other deaths from infection of vaccination wounds were classed to pyæmia and septicæmia, in conformity with the international rule of assignment in such cases.

43–49. **Cancer.**—The deaths ascribed to cancer during 1930 number 57,883—26,916 of males and 30,967 of females. For both sexes these numbers are the highest yet recorded.

Of these deaths 48,875 were referred to carcinoma, 2,718 to sarcoma, and 6,290 to "cancer" not otherwise defined. These are the largest numbers yet recorded for total cancer and for carcinoma, but not for sarcoma, which of late years has accounted for a somewhat smaller proportion of the total cancer deaths than heretofore. Indeed, its ratio of 47 per 1,000 total cancer deaths in 1930 is the lowest yet returned.

The standardized death-rate for males in 1930 amounts to 1,031 per million, and that for females to 987. Table 5A shows that during the last three years the increase in the mortality has been arrested, the male rate having remained stationary while that for females shows an actual decrease. Table XLI,* in the 1927 volume, shows that since, in 1924, the standardized rate for males first exceeded that for females, this excess has been maintained. The crude death-rate is seen from Table 5 to be in constant excess each year for females. But this is because of their greater age, and when this is allowed for by standardization, Table 5A shows the rate for males as constantly in excess during 1924–30.

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

Attention was directed in the 1925 "Text" volume (p. 101) to the absence of seasonal variations in the mortality from cancer, and this is further exemplified by the experience in the March quarters of 1929 and 1930, when, notwithstanding the widely different meteorological conditions, the deaths were almost equal (14,480 in 1929 and 14,409 in 1930).

The mortality from cancer as a whole is compared by sex and age in Table L for England and Wales and its chief classes of area, and in somewhat greater detail in Table XLIX for England and Wales only, with record of the degree of difference in sex mortality at the various ages.

Table XLIX.—England and Wales: Mortality from Cancer (All Sites), 1930.

	Mortality per Million.			Sex Ratio.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
All Ages { Crude ..	1,411	1,494	1,454	970	1,028	1,000
All Ages { Standardized	1,031	987	1,003	1,028	984	1,000
0—	28	33	30	915	1,085	1,000
5—	17	15	16	1,075	925	1,000
15—	47	35	41	1,149	853	1,000
25—	111	153	134	828	1,142	1,000
35—	442	748	608	727	1,230	1,000
45—	1,634	2,054	1,859	879	1,105	1,000
55—	4,535	4,141	4,327	1,048	957	1,000
65—	10,130	7,783	8,841	1,146	880	1,000
75—	14,004	12,405	13,034	1,074	952	1,000

From 25 years, at which age the mortality becomes significant, up to 55 the female exceeds the male rate, but from 55 years to the end of life the male rates are in excess, the maximum divergence occurring at 65–75 years. 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 is specially common at each age between 25 and 65; *i.e.* accounts for a larger proportion of the total deaths of women at each of these ages than at all ages jointly (*see* the Statistical Review for 1929 page 57). The percentage share of the breast and uterus in the total cancer mortality of females, is :—

All ages	0–	25–	35–	45–	55–	65–	75–	85–
33·6	3·6	36·4	53·7	47·0	35·8	25·3	23·0	28·0

The rates per million males and females from cancer of sites other than the breast and genital organs in 1930 compare as follows :—

	All Ages (Standardized)	0–	25–	35–	45–	55–	65–	75–	85–
Males ..	958	29	103	419	1,586	4,314	9,268	12,592	11,267
Females ..	594	22	82	295	939	2,428	5,491	8,881	10,034
Male excess (per cent.)	61	33	25	42	69	78	69	42	12

Thus mortality from sites other than those associated with reproduction was higher for males than for females at every age, the excess reaching a maximum of 78 per cent. at age 55–65 years.

Table L.—Cancer.—Death-rates per 100,000 Living, 1901–10, 1911–20, 1921–30, 1929* and 1930*.

Age.	England and Wales.					1930.				
	1901–10	1911–20	1921–30	1929.	1930.	London.	County Boroughs	Other Urban Districts	Rural Districts	All Urban Districts
MALES.										
All Ages— Crude ..	77	99	129	140	142	165	141	139	138	143
Standardized.	78	90	100	103	103	125	114	101	83	110
0– ..	2	2	2	2	2	2	2	2	2	2
15– ..	4	4	5	5	5	5	4	5	4	5
25– ..	11	11	12	12	11	13	12	10	11	11
35– ..	41	42	42	43	44	60	45	41	40	45
45– ..	155	168	163	158	164	213	175	158	127	173
55– ..	390	444	472	463	453	548	527	430	347	486
65– ..	668	800	955	998	1,013	1,152	1,163	1,010	803	1,089
75 and up.	787	973	1,276	1,429	1,400	1,770	1,446	1,455	1,201	1,495
FEMALES.										
All Ages— Crude ..	103	117	139	148	149	151	149	147	155	148
Standardized.	94	96	99	100	99	102	108	96	88	102
0– ..	2	2	2	2	2	3	2	2	2	2
15– ..	3	3	4	4	3	6	4	2	4	3
25– ..	17	16	16	16	15	18	16	15	13	16
35– ..	85	79	76	74	75	71	81	71	71	76
45– ..	232	227	214	208	205	208	229	196	183	211
55– ..	441	438	424	410	414	413	454	408	368	427
65– ..	666	711	774	816	778	790	865	762	690	806
75 and up.	790	919	1.131	1,233	1,240	1,413	1,336	1,216	1,106	1,289
PERSONS.										
All Ages— Crude ..	90	108	134	144	146	157	145	143	146	146
Standardized.	87	93	99	101	100	112	111	98	86	105
0– ..	2	2	2	2	2	2	2	2	2	2
15– ..	4	4	4	4	4	5	4	4	4	4
25– ..	14	13	14	14	13	16	14	12	12	14
35– ..	64	61	60	60	61	66	65	58	57	62
45– ..	195	198	190	184	186	210	203	179	157	193
55– ..	417	441	446	435	433	476	488	419	357	455
65– ..	667	751	855	897	884	947	997	872	744	931
75 and up.	789	940	1,187	1,310	1,303	1,540	1,377	1,307	1,148	1,366

* Civilians only.

Table L contains the usual annual statement of cancer mortality distribution by sex, age, and class of area, and resembles closely those for earlier years.

As usual, the mortality recorded is highest in London and the county boroughs, and lowest in the rural districts. The standardized rate for persons of both sexes declines regularly, with each decrease of urbanization, from the one extreme to the other. This is a very constant rule to which the fourteen years now available for comparison (1911–14 and 1921–30) have furnished but one exception. During these years the London rate has ranged from 110 to 115 per cent. of that for England and Wales, that for the county boroughs from 105 to 111, that for the smaller towns from 97 to 100, and that for the rural districts from 84 to 90. Such an association with urban life at once suggests that cancer may be most met with in the towns because hospital and other facilities for its recognition are there greatest. As between the two sexes, urban excess is much greater for males than for females.

The availability of the death-rates for a third decennium affords the means of reviewing the trend of cancer mortality by sex and age during the last 30 years. Comparison is facilitated by reference to the following statement in which the rates for 1911–20 and 1921–30 in Table L are expressed as percentages of the corresponding rates in 1901–10 :—

	Males.			Females.		
	1901–10.	1911–20.	1921–30.	1901–10.	1911–20.	1921–30.
All Ages—						
Crude ..	100	129	168	100	114	135
Standardized	100	115	128	100	102	105
0–	100	100	100	100	100	100
15–	100	100	125	100	100	133
25–	100	100	109	100	94	94
35–	100	102	102	100	93	89
45–	100	108	105	100	98	92
55–	100	114	121	100	99	96
65–	100	120	143	100	107	116
75 and up ..	100	124	162	100	116	143

The crude death-rate at all ages for males in 1921–30 is 68 per cent. and the female rate 35 per cent. higher than the respective rates in 1901–10, but if standardized rates are compared these excesses are reduced to 28 and 5 per cent. respectively. These great differences in the rate of increase as shown by comparing crude and standardized rates emphasises the desirability of restricting comparison to the latter rates which take into account the rapidly increasing proportion of elderly persons in the population and so correct the exaggerated impression conveyed when crude rates are compared

The trend of the sex death-rates at the several age-groups are widely different. At only one age-group (45–55) does the male rate show an absolute decline between two decennia ; at 55–65 there is evidence of a slackening in the rate of increase, but at the higher age-groups the increase since 1901–10 is progressive. Throughout the three decennia the female rate shows a decline at ages 25–65, which, however, becomes less with advancing age. At the higher age-groups the rates show progressive increases, as for males, but to a lesser extent.

Cancer by Site.—The parts of the body affected by fatal cancer in 1930 are shown in Table LI in greater detail than that provided by the international classification, six out of its seven headings (Nos. 43–49) relating to cancer being subdivided according to a scheme approved by the Director of the Imperial Cancer Research Fund.

Table LI.—England and Wales, 1930—Sites of Fatal Cancer.

		All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85
		DEATHS OF MALES.															
	All Sites	**26,916**	**43**	**57**	**166**	**329**	**393**	**700**	**1,364**	**2,374**	**3,524**	**4,418**	**5,046**	**4,214**	**2,736**	**1,156**	**396**
43	Lip	286	—	—	—	—	1	—	4	10	24	30	48	60	58	28	23
	Tongue	1,095	—	—	1	1	4	6	33	105	163	224	240	169	102	38	9
	Mouth and tonsil ..	782	—	1	4	3	8	13	23	72	120	156	161	119	65	27	10
	Jaw	438	—	3	5	9	3	6	17	41	57	80	94	64	36	22	1
	Total	2,601	—	4	10	13	16	25	77	228	364	490	543	412	261	115	43
44	Pharynx	312	—	1	1	3	3	6	12	29	43	51	78	45	26	13	1
	Œsophagus	1,669	—	—	—	2	7	17	47	145	270	365	341	251	150	60	14
	Stomach	6,156	—	1	7	65	113	188	422	577	838	1,011	1,178	936	558	208	54
	Liver and gall bladder..	1,497	3	—	5	14	10	40	64	110	200	231	294	233	185	84	24
	Total	9,634	3	2	13	84	133	251	545	861	1,351	1,658	1,891	1,465	919	365	93
45	Mesentery and peritoneum	119	2	1	6	7	9	8	6	15	16	16	19	11	2	1	—
	Intestines	3,583	1	3	10	29	31	78	144	278	411	521	741	643	449	185	59
	Rectum and anus ..	2,916	—	1	7	29	28	50	117	234	385	483	567	509	326	134	46
	Total	6,618	3	5	23	65	68	136	267	527	812	1,020	1,327	1,163	777	320	105
47	Breast	60	—	—	—	2	2	—	—	6	11	11	8	7	8	4	1
48	Penis	162	—	—	—	—	2	6	6	12	13	20	28	36	20	17	2
	Scrotum	60	—	—	—	—	—	1	5	5	5	11	13	8	8	2	2
	Other skin	627	—	1	3	13	2	10	13	29	47	72	86	115	114	69	53
	Total	849	—	1	3	13	4	17	24	46	65	103	127	159	142	88	57
49	Larynx	852	—	—	4	—	7	11	43	86	152	172	169	123	56	23	6
	Lung and pleura ..	1,056	—	3	9	29	42	81	120	165	203	169	112	83	28	11	1
	Pancreas	770	—	—	1	4	10	30	55	90	106	117	147	92	77	32	9
	Kidneys and suprarenal glands	315	24	11	7	11	7	9	28	33	49	56	36	27	15	2	—
	Bladder	833	3	1	1	4	6	13	35	77	92	147	147	139	106	49	13
	Prostate	1,434	—	—	2	—	4	6	10	43	94	210	306	362	241	104	52
	Testis	143	—	3	15	24	21	15	4	8	5	7	11	9	5	5	1
	Brain and meninges ..	90	2	4	7	12	5	8	16	16	9	6	1	1	2	1	—
	Bones (jaw excepted) ..	400	2	11	39	27	20	34	25	39	41	52	40	39	23	6	2
	Other specified organs..	792	5	9	24	34	37	43	80	98	118	109	109	74	33	14	5
	Abdominal cavity, organ unspecified	94	—	1	3	—	1	6	1	9	4	20	12	19	13	3	2
	Other and undefined ..	375	1	2	5	7	10	15	24	42	48	71	60	40	30	14	6
	Total	7,154	37	45	117	152	170	271	451	706	921	1,136	1,150	1,008	629	264	97

Table LI.—England and Wales, 1930—Sites of Fatal Cancer.—*cont.*

		All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF FEMALES.															
	All Sites	30,967	50	48	123	508	806	1,413	2,251	3,176	3,845	4,230	4,481	4,181	3,262	1,753	840
43	Lip	23	—	—	—	—	—	—	2	—	1	4	1	8	4	2	1
	Tongue	115	—	—	—	2	2	1	4	8	20	16	15	19	16	6	6
	Mouth and tonsil ..	119	—	1	—	6	2	1	9	15	10	16	15	17	12	8	7
	Jaw	168	—	—	—	3	5	4	15	23	29	23	17	17	18	8	6
	Total	425	—	1	—	11	9	6	30	46	60	59	48	61	50	24	20
44	Pharynx	94	1	1	1	2	4	5	13	17	8	11	9	4	7	6	5
	Œsophagus	591	—	—	—	4	10	25	43	67	80	92	84	79	62	33	12
	Stomach	5,241	—	—	4	62	78	166	259	427	536	713	908	951	691	315	131
	Liver and gall bladder ..	2,032	—	1	4	14	20	39	78	143	210	290	364	367	276	164	62
	Total	7,958	1	2	9	82	112	235	393	654	834	1,106	1,365	1,401	1,036	518	210
45	Mesentery and peritoneum	199	6	2	2	4	6	5	11	20	35	34	30	24	2	5	3
	Intestines	4,493	—	1	11	44	55	105	192	303	424	611	737	793	683	363	171
	Rectum and anus ..	1,903	—	—	11	45	35	49	88	161	231	274	305	296	247	116	45
	Total	6,595	6	3	24	93	96	159	291	484	690	919	1,072	1,113	942	484	219
46	Ovary and Fallopian tube	1,253	—	5	23	44	50	89	158	190	196	163	156	89	59	23	8
	Uterus	4,354	—	1	5	114	233	357	503	606	619	590	494	397	268	116	51
	Vagina and vulva ..	392	2	—	1	6	5	9	21	25	37	55	63	50	56	50	12
	Total	5,999	2	6	29	164	288	455	682	821	852	808	713	536	383	189	71
47	Breast	6,052	1	—	1	71	197	404	605	838	877	803	736	566	455	314	184
48	Skin	447	2	1	2	7	4	14	15	12	34	41	61	73	70	49	62
49	Larynx	265	—	—	—	3	7	12	28	42	53	35	37	25	14	6	3
	Lung and pleura ..	433	—	2	2	8	20	32	36	46	83	55	57	49	35	5	3
	Pancreas	771	—	—	—	5	13	15	42	60	108	130	138	114	86	43	17
	Kidneys and suprarenal glands	238	21	11	2	9	5	9	11	24	33	31	28	20	18	9	7
	Bladder	376	—	—	—	—	5	5	18	26	42	54	66	60	59	31	10
	Brain and meninges ..	70	2	4	5	8	8	8	11	6	11	2	4	—	—	1	—
	Bones (jaw excepted) ..	326	6	12	29	12	12	13	18	30	39	50	32	27	23	22	1
	Other specified organs ..	600	9	6	16	22	20	26	41	56	84	86	73	70	50	26	15
	Abdominal cavity, organ unspecified	205	—	—	—	5	4	6	9	9	22	27	26	42	27	16	12
	Other and undefined ..	207	—	—	4	8	6	14	21	22	23	24	25	24	14	16	6
	Total	3,491	38	35	58	80	100	140	235	321	498	494	486	431	326	175	74

The facts as to cancer mortality distribution by sex, age and site contained in Table LI are summed up for each site in Table LII, which compares total mortality in 1930 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 1930 are, for males—lung 6·8 per million, intestine 2·6, rectum 2·6, mouth and tonsil 1·7, testis 1·5, mediastinum 1·0, and, for females, pancreas 3·8, lung 2·0, rectum 1·6, ovary 1·5, and larynx 0·9.

Table LII.—Cancer Mortality.—Rates per Million Population (Standardized) for the more important Sites for each Sex 1901–10, 1911–20, 1921–30, 1926, 1927, 1928, 1929 and 1930.

	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
	All Sites.		Lip.		Tongue.		Mouth and Tonsil.		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
1926	1,011	995	10·6	0·6	43·7	3·7	29·6	4·1	21·0	6·9
1927	1,018	984	11·9	1·0	46·6	4·3	29·5	3·4	21·1	6·0
1928	1,032	1,000	12·3	0·7	45·5	4·2	30·5	3·5	19·6	5·5
1929	1,031	999	10·4	0·6	41·8	4·1	27·6	3·5	19·2	6·5
1930	1,031	987	11·3	0·7	40·6	3·5	29·3	3·8	16·7	5·3
	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
1926	13·1	3·1	65·4	17·8	222·2	163·2	61·2	59·8	9·1	17·7
1927	13·2	2·8	60·7	18·0	229·0	157·0	55·8	52·1	8·3	17·6
1928	12·6	2·9	64·3	18·7	227·4	161·5	51·8	52·6	9·5	16·9
1929	13·8	2·8	62·3	18·3	237·2	164·6	52·3	50·6	9·4	17·6
1930	11·8	3·2	61·8	18·6	233·7	162·8	47·7	45·4	9·5	17·1
	Mesentery and Peritoneum.		Intestine.		Rectum.		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
1926	5·6	9·3	131·5	135·4	107·2	59·7	—	35·7	—	156·4
1927	4·8	7·3	132·0	131·8	105·7	60·3	—	38·9	—	155·1
1928	5·8	7·3	132·5	138·5	105·7	58·0	—	39·2	—	154·9
1929	4·4	7·2	134·3	138·6	108·0	58·3	—	40·8	—	150·3
1930	4·9	6·6	136·9	138·4	110·6	59·9	—	42·3	—	143·9
	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
1926	1·7	184·3	7·5	4·8	6·9	—	2·7	—	18·1	9·3
1927	1·6	193·5	6·5	5·2	6·4	—	3·0	—	18·8	10·3
1928	1·9	196·2	9·0	5·7	6·1	—	3·1	—	18·2	9·9
1929	1·8	195·7	9·5	5·0	5·7	—	2·7	—	18·2	10·7
1930	2·3	194·5	9·1	4·6	6·3	—	2·3	—	16·1	9·0
	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
1926	33·5	7·3	23·3	9·2	26·0	21·2	11·4	8·8	30·0	11·1
1927	31·7	6·9	26·8	9·7	30·3	20·4	12·2	9·6	30·5	11·6
1928	31·8	7·6	32·0	10·4	28·8	21·0	12·5	9·0	32·0	11·9
1929	31·4	7·6	33·4	11·9	30·3	20·0	13·2	9·6	32·3	12·3
1930	31·6	8·5	40·2	13·9	29 4	23·8	13·0	8·7	31·8	11·5
	Prostate.		Testis.		Bones.		Mediastinum.			
1901–10	11·8	—	?	—	?	?	8·1	4·5		
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		
1926	47·9	—	5·2	—	17·3	13·1	13·3	6·0		
1927	47·8	—	7·1	—	18·1	11·7	12·9	6·0		
1928	53·8	—	6·3	—	18·6	14·6	13·3	5·4		
1929	56·4	—	5·2	—	17·6	14·6	12·1	5·6		
1930	54·9	—	6·7	—	17·3	12·0	13·1	5·3		

The addition to Table LII of the mortality rates for the decennium 1921–30 permits of the study of the trend of mortality from cancer of the several sites during the last 30 years. The sites showing the greatest increase or decrease in 1921–30 compared with 1901–10 are set out below, but these changes should be reviewed in conjunction with the rates shown in the table for the last five years, which, in some cases, reveal changes in the trend of mortality masked by the experience for the entire decennium.

Increase or decrease per cent. between 1901–10 and 1921–30 :—

Males.

Increase.	*Decrease.*
304 Prostate.	34 Mesentery and peritoneum.
147 Lung.	30 Liver.*
97 Intestine.	10 Lip.
81 Pancreas.	
56 Mediastinum.	
47 Gall bladder.*	
39 Kidney and supra-renals.	
32 Stomach.	
32 Rectum.	
31 Larynx.*	

Females.

88 Ovary and Fallopian tube.	49 Mesentery and peritoneum.
80 Intestine.	38 Liver.*
65 Pancreas.	14 Tongue.
43 Gall bladder.*	9 Uterus.*
37 Lung.	
29 Mediastinum.	

The phenomenal increase in the mortality from cancer of the prostate suggests greater accuracy of diagnosis. The natural inference that, in earlier years, malignancy may have been overlooked and the cause returned as simple hypertrophy is, to some extent, discounted by the collateral increase in the recorded mortality from this cause (Table 5A). It is possible, however, in view of the advanced age at which these deaths occur, that formerly both malignant and non-malignant prostatic disease may have been returned as old age.

The increase in cancer of the lung occurred for both males and females mainly between 1911–20 and 1921–30, during which period male mortality was doubled. The rapidity of this increase and also that for mediastinum occurring during the same period suggests improved means of diagnosis. Excepting rectum and larynx, all sites in both sexes showing high rates of increase, are included in the group of inaccessible sites in the Report for 1926 (p. 66). It is therefore probable that these increases may, in some measure, be due to improvement in diagnosis, and in the case of intestinal and gastric cancer to continued decrease of certification from secondary cancer of liver and mesentery and peritoneum.

* Increase or decrease between 1911–20 and 1921–30.

The increase in the mortality from cancer of the larynx and rectum may, in view of their greater accessibility, be more real than that from the other sites. The rate of increase from rectal cancer in both sexes, but more especially among females, is less between 1911–20 and 1921–30 than between 1901–10 and 1911–20.

Mortality from cancer of the breast—the most frequent site in females and accounting for about one-fifth of their total cancer mortality—shows a progressive increase, which although of lesser magnitude is relatively of greater importance than the higher rates of increase for sites of lesser frequency. In 1911–20 the mortality was 8 per cent. higher than in the previous decennium and for 1921–30 the rate of increase rose further to 11 per cent. Improvement in certification evidenced by the decrease (greater for females than for males) in the recorded mortality from cancer of the liver so frequently secondary to mammary cancer, and the fall in the birth-rate with a consequent increase in the non-parous among whom the mortality is greatly in excess of that for the parous (*see* " Text " volume for 1923, p. 70) are possible factors contributing to the increased mortality, while on the other hand it is not unreasonable to assume that some saving of life has been effected by the publicity given to the advantages of early operation and the more thorough methods of surgical treatment.

Increasing improvement of certification in statement of the primary growth accounts largely for the decrease in mortality from cancer of the liver and mesentery and peritoneum in both sexes. Lip is the only other site showing a continuous decrease in the male rate, and tongue and uterus in the female. The female mortality from lingual cancer is extremely low compared with its greater frequency among males and is therefore not of great significance. The male rate, although higher in 1921–30 than in 1901–10, is lower than in 1911–20 and has shown a continuous decline in each year since 1927.

The fall between 1911–20 and 1921–30 of 9 per cent. in the mortality from uterine cancer—the third site in order of frequency—is of much greater significance. No other site of similar importance shows such a decline for either sex. The fall increases from 9 per cent. at ages 35–45 to a maximum of 15 per cent. at 45–65, after which it is almost stationary at 65–75, with a slight tendency to increase at the later ages, which may be due to increasing recognition of the disease in the aged. Improvement in treatment may be a factor of special importance, but as mortality is considerably higher for married than for unmarried females (" Text " volume 1923, p. 70), the increasing numbers of non-parous women among the former consequent on the declining birth-rate, may also have contributed to the decline.

50. **Tumours not returned as malignant.**—As in other recent years all deaths from tumours not definitely stated to be malignant have been assembled in Table LIII. These numbered 3,134, the tumour being returned as benign in 1,799 instances, and its nature

Table LIII.—England and Wales, 1930 : Deaths attributed to Tumours not returned as Malignant.

Part affected.	All Ages.		0–		15–		35–		45–		55–		65–		75–	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Tumours classed with other disease of organ affected.																
84.2. Cerebral tumour	666	607	63	62	120	121	120	98	187	147	131	119	39	48	6	12
Cyst	21	13	1	1	10	8	6	—	1	2	1	1	1	1	1	—
Fibroma	2	3	—	—	—	1	—	—	1	1	1	1	—	—	—	—
Angioma	3	3	—	1	1	1	1	—	1	—	—	—	—	1	—	—
Neuroma	3	—	—	—	2	—	—	—		—	—	—	—	—	—	—
Hæmangioma	2	1	—	—	1	—	1	—	—	—	—	1	—	—	—	—
Glioma	206	131	15	21	32	26	42	27	66	37	41	13	9	6	1	1
Other benign	2	3	—	—	2	—	—	—	—	2	—	1	—	—	—	—
Nature unstated	427	453	47	39	72	85	70	71	117	105	88	102	29	40	4	11
In 85. Eye.	6	1	6	—	—	—	—	—	—	—	—	1	—	—	—	—
Glioma	6	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—
Adenoma	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
In 135. Prostate	256	—	—	—	—	—	—	—	4	—	46	—	107	—	99	—
Adenoma	244	—	—	—	—	—	—	—	4	—	41	—	104	—	95	—
Fibroadenoma	6	—	—	—	—	—	—	—	—	—	2	—	2	—	2	—
Fibroid	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Myoadenoma	4	—	—	—	—	—	—	—	—	—	2	—	1	—	1	—
Myoma	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
137. Ovarian tumour	—	318	—	—	—	30	—	46	—	53	—	70	—	64	—	55
Cyst	—	280	—	—	—	27	—	44	—	46	—	63	—	55	—	45
Cystadenoma	—	7	—	—	—	—	—	1	—	2	—	2	—	1	—	1
Fibroid	—	4	—	—	—	1	—	1	—	—	—	—	—	1	—	1
Papilloma	—	3	—	—	—	—	—	—	—	1	—	2	—	—	—	—
Other benign	—	6	—	—	—	1	—	—	—	2	—	—	—	2	—	1
Nature unstated	—	18	—	—	—	1	—	—	—	2	—	3	—	5	—	7
139. Uterine tumour	—	421	—	—	—	24	—	125	—	167	—	44	—	29	—	32
Fibroid, Fibromyoma and Myoma ..	—	394	—	—	—	20	—	120	—	157	—	42	—	27	—	28
Polypus	—	16	—	—	—	2	—	4	—	7	—	1	—	1	—	1
Dermoid cyst	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Nature unstated	—	10	—	—	—	1	—	1	—	3	—	1	—	1	—	3
In 141.2. Other female genital organs ..	—	6	—	—	—	1	—	1	—	2	—	1	—	1	—	—
Broad ligament cyst	—	2	—	—	—	1	—	—	—	1	—	—	—	—	—	—
Fibroid, fibromyoma	—	4	—	—	—	—	—	1	—	1	—	1	—	1	—	—
50. Tumours not classed with other disease of organ or part affected.																
Pituitary gland .. Adenoma ..	1	5	—	—	—	2	1	2	—	—	—	1	—	—	—	—
Cyst	2	5	—	1	1	—	—	2	1	2	—	—	—	—	—	—
Other benign ..	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—
Nature unstated	9	22	1	—	2	7	2	5	1	2	2	5	1	1	—	2
Pineal Body .. Non-malignant ..	1	2	—	1	—	1	—	—	—	—	—	—	—	—	1	—
Nature unstated	2	3	1	—	1	1	—	2	—	—	—	—	—	—	—	—
Thyroid .. .. Adenoma ..	9	44	—	—	1	2	—	4	—	6	2	16	6	14	—	2
Other benign ..	2	2	—	—	—	1	—	—	1	—	—	—	—	1	1	—
Nature unstated	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Spinal cord .. Glioma	5	1	—	—	1	—	1	—	1	1	2	—	—	—	—	—
Other benign ..	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Nature unstated	8	8	—	—	1	2	1	1	1	—	2	4	3	1	—	—
Nose .. .. Polypus	11	10	—	—	1	—	1	—	6	3	—	4	3	2	—	1
Other benign ..	2	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Larynx .. .. Papilloma ..	3	2	2	2	—	—	—	—	—	—	—	—	—	—	1	—
Nature unstated	2	1	—	—	1	—	—	—	1	—	—	1	—	—	—	—
Pharynx .. Non-malignant ..	1	1	—	1	—	—	1	—	—	—	—	—	—	—	—	—
Nature unstated	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—
Mediastinum .. Non-malignant ..	—	2	—	—	—	—	—	—	—	1	—	—	—	1	—	—
Nature unstated	78	34	1	—	1	1	3	3	20	6	30	10	20	11	3	3

Table LIII.—England and Wales, 1930 : Deaths attributed to Tumours not returned as Malignant—*continued.*

Part affected.	All Ages.		0–		15–		35–		45–		55–		65–		75–	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
50. *Tumours not classed with other disease of organ or part affected*—contd.																
Lung .. .. Non-malignant ..	2	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—
Nature unstated ..	57	21	—	—	—	2	5	—	14	8	24	7	11	4	3	—
Parotid .. .. Non-malignant ..	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nature unstated	5	—	—	—	—	—	1	—	—	—	3	—	—	—	1	—
Oesophagus .. Non-malignant ..	1	2	—	—	—	—	—	1	1	1	—	—	—	—	—	—
Nature unstated	1	2	—	—	—	—	—	—	—	—	—	—	—	1	1	1
Intestines .. Papilloma ..	—	3	—	—	—	—	—	2	—	—	—	1	—	—	—	—
Polypus	2	1	1	—	—	—	—	—	—	1	—	—	1	—	—	—
Other benign ..	—	2	—	—	—	—	—	1	—	—	—	—	—	1	—	—
Nature unstated	12	16	—	—	—	—	1	—	3	—	1	1	5	6	2	9
Rectum .. .. Papilloma ..	—	3	—	—	—	—	—	—	—	1	—	—	—	2	—	—
Polypus	3	2	—	—	—	—	—	—	—	—	—	—	1	—	2	2
Nature unstated	2	2	—	—	—	—	—	—	1	—	—	—	1	1	—	1
Liver .. .. Non-malignant ..	—	2	—	—	—	—	—	1	—	—	—	1	—	—	—	—
Nature unstated	4	5	—	—	—	—	—	—	—	2	—	—	3	2	1	1
Pancreas .. Cyst	6	7	1	—	—	—	—	—	1	3	1	—	2	4	1	—
Nature unstated	4	3	—	—	—	—	—	—	1	—	1	—	2	1	—	2
Kidney .. .. Cyst	2	4	—	1	—	—	—	—	—	—	—	2	2	—	—	1
Other benign ..	—	5	—	1	—	—	—	—	—	1	—	—	—	1	—	2
Nature unstated	6	10	1	1	—	—	—	—	1	1	1	2	2	2	1	4
Bladder .. .. Papilloma ..	106	32	—	—	—	—	6	1	22	4	25	4	27	7	26	16
Other benign ..	1	2	—	—	—	—	—	—	—	—	—	—	1	1	—	1
Nature unstated	15	10	—	—	—	1	—	—	1	1	5	—	4	3	5	5
Prostate .. .. Nature unstated	7	—	—	—	—	—	—	—	—	—	1	—	4	—	2	—
Breast .. .. Adenoma, Cystadenoma ..	—	6	—	—	—	—	—	—	—	1	—	1	—	2	—	2
Other benign ..	—	7	—	—	—	1	—	1	—	1	—	2	—	—	—	2
Jaw .. .. Non-malignant ..	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Nature unstated	2	1	—	—	—	—	—	—	—	—	—	1	1	—	1	—
Spine .. .. Non-malignant ..	—	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—
Nature unstated	8	7	1	—	1	1	—	—	2	2	3	2	1	2	—	—
Neck .. .. Cyst	2	1	—	—	—	1	—	—	—	—	1	—	1	—	—	—
Other benign ..	3	2	—	—	—	—	—	—	1	1	—	—	1	—	1	1
Nature unstated	2	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—
Thorax .. .. Non-malignant ..	1	1	1	—	—	—	—	1	—	—	—	—	—	—	—	—
Nature unstated	4	8	—	1	1	1	—	1	—	2	1	1	1	2	1	—
Abdomen .. Non-malignant ..	1	2	—	—	—	—	—	—	—	—	—	2	—	—	1	—
Nature unstated	8	24	1	—	1	1	1	1	—	3	2	1	3	4	—	14
Other sites .. Non-malignant ..	34	46	3	3	4	8	5	5	5	10	8	6	6	6	3	8
Nature unstated	11	11	1	1	1	—	1	1	1	1	4	1	2	3	1	4
Site not stated .. Non-malignant ..	1	2	—	2	—	—	—	—	—	—	1	—	—	—	—	—
Total (50)	452	401	16	16	21	33	30	35	87	67	122	76	116	89	60	85
Total, all tumours	1380	1754	85	78	141	209	150	305	278	436	299	311	262	231	165	184
„ benign tumours ..	710	1089	33	36	59	108	66	220	115	298	130	170	168	140	139	117
„ nature unstated ..	670	665	52	42	82	101	84	85	163	138	169	141	94	91	26	67

in the remaining 1,335 being unstated. "Adenoma" of the prostate is classed to No. 135, diseases of the prostate, rather than to this heading because the deaths so returned seem to be of the nature of prostatic hypertrophy. The rapid increase suggests change in medical nomenclature rather than in incidence of the disease. A similarly rapid increase in the number of deaths from adenoma of the thyroid is probably due to the same cause. Other sites of rapid increase of late years include the pituitary gland and lung. Deaths ascribed to pituitary tumour have grown from 7 in 1913 to 46 in 1930. Deaths from tumour of the lung increased from numbers ranging between 11 and 21 during 1912–19 to 80 in 1930. Like lung cancer, which also increased rapidly at the same time (Table LII), they affect males much more than females. The ratio of malignant to benign tumours of the mediastinum, lungs, and abdominal organs suggest that a large proportion of those returned as of unknown nature were probably malignant.

57. Diabetes.—The deaths allocated to this disease numbered 5,659, 2,317 of males and 3,342 of females, corresponding to standardized death-rates of 93 for males and 108 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 rate for each sex is slightly lower than in 1929, that for males having decreased from 95 to 93 per million and that for females from 111 to 108. Except for 1929, the rate for males is the highest since 1922 (101) and that for females higher than in any other year since 1910.

Table LIV.—England and Wales: Mortality from Diabetes in 1920–22 and in subsequent years.

	Standardized Rates.			0–	15–	25–	35–	45–	55–	65–	75–
	All ages	0–55	55–								
Death-Rates per Million Living.											
Males:—											
1920–22 ..	93·7	47·9	477·5	14	42	60	69	133	309	661	772
1923 ..	89·7	38·0	523·6	11	33	48	60	99	322	744	876
1924 ..	86·0	34·5	517·8	9	29	38	52	110	322	696	944
1925 ..	81·4	32·0	496·2	11	22	43	43	93	286	698	928
1926 ..	86·1	32·8	533·8	13	28	36	48	90	325	741	950
1927 ..	87·8	32·2	554·4	11	31	41	40	84	330	767	1,025
1928 ..	91·1	30·2	602·5	13	25	33	38	91	331	898	1,081
1929 ..	95·1	35·1	598·9	12	25	36	62	105	327	859	1,161
1930 ..	92·7	31·1	609·6	10	24	38	41	98	338	861	1,192
Females:—											
1920–22 ..	90·1	43·1	483·9	16	35	48	62	124	355	656	632
1923 ..	94·1	40·9	540·3	11	30	44	59	142	389	735	733
1924 ..	88·5	32·2	561·2	11	28	32	47	99	390	774	797
1925 ..	93·8	34·6	591·3	11	30	32	53	111	394	858	811
1926 ..	90·6	31·7	585·6	9	25	35	51	99	400	831	807
1927 ..	101·1	32·8	674·7	11	25	32	45	113	464	883	1,092
1928 ..	101·3	34·0	666·9	11	26	33	41	127	419	966	1,027
1929 ..	110·6	34·7	747·8	11	22	31	52	132	479	1,033	1,236
1930 ..	107·6	30·9	752·3	11	18	27	44	123	464	1,081	1,220

Table LIV.—England and Wales: Mortality from Diabetes in 1920–22 and in subsequent years—*continued.*

	Standardized Rates.			0–	15–	25–	35–	45–	55–	65–	75–
	All ages	0–55	55–								
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
Females:—											
1923 ..	104	95	112	69	86	92	95	115	110	112	116
1924 ..	98	75	116	69	80	67	76	80	110	118	126
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

Since 1922 the increase has been confined to the higher ages, as shown by the comparison in Table LIV of death-rates at various ages in subsequent years with those for 1920–22 (before the introduction of insulin in 1923).

Since the introduction of insulin in 1923 the mortality of males has fallen at all ages under 55 to an extent ranging from 26 per cent. at 45–55 to 43 at 15–25, or 35 per cent. altogether, and that of females of the same ages to a somewhat smaller extent. At ages under 35, the fall in the female mortality is greater than among males, but this is outweighed by a much smaller decrease at 45–55. But the effect of this large reduction, which was shown in the Review for 1928 to have been closely associated with the use of insulin, applying as it does only to the period subsequent to the introduction of the new remedy in 1923, has been masked in the total death-rate by large increases of mortality for each sex at all ages over 55. In 1930 the rate for females of 75 and over was almost double that of the three years before the introduction of insulin, so, as there were large increases also at 55–65 and 65–75, the insulin reduction at 0–55 is converted into an increase of 19 per cent. in total mortality. In males the senile increase has been much smaller, and as the decrease at ages under 55 is greater than for females the resultant mortality at all ages is slightly below that for 1920–22.

As pointed out in previous Reviews (1925, 1928) the course of senile diabetes mortality has been closely related to the food supply, falling during the period of restriction in 1916–18, and rising almost continuously since this ended. It seems probable, therefore, that the mortality ascribed to diabetes at the higher ages is mainly of dietetic origin and that, so long as the conditions

leading to its increase continue, the effect of insulin in reducing the mortality of early and middle life will continue to be masked in the total death-rate by the senile increase.

In the United States experience has been very similar in regard to increase of total mortality since the introduction of insulin, chiefly applying to females of the higher ages, with reduction for young males after insulin came into use.*

58 (a). **Pernicious Anæmia.**—As a new and effective treatment for this disease came into use in this country towards the close of 1927 the record of its recent mortality is of special interest at the present time.

Table LV.—England and Wales, 1921–30.—Mortality of Males and Females from Pernicious Anæmia. Death-rates per million living in each Year.

	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	Males.									
All Ages (Standardized).	46	50	44	45	46	47	45	30	32	35
0– ..	5	5	4	4	4	4	5	5	4	5
5– ..	3	3	4	2	4	1	2	3	4	2
15– ..	6	8	7	9	7	8	5	7	4	4
25– ..	16	16	14	8	16	15	13	12	9	9
35– ..	38	51	43	32	33	42	32	17	20	25
45– ..	108	116	101	103	102	111	83	53	50	59
55– ..	236	240	212	226	224	219	236	126	141	174
65– ..	292	345	301	355	345	345	370	269	298	295
75– ..	204	177	188	174	236	199	230	187	269	245
	Females.									
All Ages (Standardized).	60	59	54	57	57	61	56	39	39	42
0– ..	7	8	5	6	5	7	6	6	4	5
5– ..	4	4	3	3	3	1	4	2	3	1
15– ..	13	10	12	12	15	16	10	10	8	6
25– ..	34	33	31	27	28	26	26	16	15	20
35– ..	77	69	64	70	62	74	60	38	36	39
45– ..	131	129	130	129	126	135	132	72	76	80
55– ..	269	259	227	254	244	264	242	178	170	182
65– ..	309	347	286	317	362	394	353	281	301	300
75– ..	174	226	191	216	200	202	224	187	224	284

First distinguished in tabulation from other forms of anæmia in 1920 these deaths yielded standardized rates in 1921 of 46 per million males and 60 per million females, which by 1926 had increased slightly to 47 and 61 (Table 5A). These rates fell immediately upon the introduction of the new liver treatment

* Statistical Bulletin of the Metropolitan Life Insurance Co., Jan. 1929.

to 45 and 30 in 1927 and 1928 for males and to 56 and 39 for females, since when the rates have increased slightly to 35 and 42 per million in 1930. For each sex, therefore an appreciable immediate fall is recorded, but without evidence of further progress. For each sex this fall has been greatest in middle life (at about 45–55 for males and 35–45 for females), and definitely smaller at 65–75, the age of highest mortality. In each year 1921–30 mortality has been higher for females (Table 5A).

The death-rates per million living at each age are shown in Table LV for each sex from 1921 onwards.

66. **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 LVI.

Although the conditions of medical certification can scarcely be expected to admit of a full and reliable return of deaths due, in part or altogether, to alcoholism, experience has shown that the figures in Table LVI and its predecessors have in the past fluctuated in remarkable harmony with other indices of alcoholic intemperance, and are thus not without value as indicative of at least the relative extent of this form of mortality in different years, even though they cannot be taken as measuring it absolutely. During the past half century the mortality rates corresponding to Table LVI and its predecessors have fluctuated in close correspondence with the records of consumption of alcohol. (*See* Diagram II in Report for 1929.)

These deaths make up a total of 647 as against 94 classed to heading 66 as directly due to alcohol. The former number is 185 less than that for 1929. Of late years the number of deaths from other causes specified as of alcoholic origin has tended to increase, especially since the introduction of a new form of death certificate in 1927. From 384 in 1926, the last complete year in which the old form of certificate was in use, these deaths increased to 644 in 1927, and to 755 in 1928, but afterwards declined to 698 in 1929 and to 553 in 1930.

No similar increase, however, occurred in the number of deaths attributed solely to alcoholism without mention of other causes. If, as was suggested in the " Text " volume for 1927 (p. 71), the new form of medical certificate may have tended to promote elaboration of certification, recent experience would appear to indicate that such tendency is not being maintained.

74. **Cerebral Hæmorrhage, Apoplexy, etc.**—The number of deaths assigned to this heading which had shown a substantial decrease in 1927 and 1928 when compared with the immediately preceding years, increased in 1929, in common with other diseases

Table LVI.—England and Wales, 1930 : Deaths from or connected with Alcoholism.

		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.
66.	Deaths attributed solely to alcoholism	49	45	—	—	2	3	15	3	15	12	9	20	5	6	3	1
	Deaths attributed to other causes in conjunction with alcoholism—																
11.	Influenza	6	—	—	—	1	—	—	—	4	—	1	—	—	—	—	—
21.	Erysipelas	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—
31.	Tuberculosis of the respiratory system	5	3	—	—	1	—	—	1	3	1	1	—	—	1	—	—
38.	Specific aortitis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
41 (2)	Septicæmia	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—
43–49	Cancer	6	2	—	—	—	—	—	—	—	—	4	1	1	—	1	1
52 (3)	Gout	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
52 (2)	Osteo-arthritis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
57.	Diabetes	3	5	—	—	—	—	—	—	1	2	2	1	—	2	—	—
60 (*a*)	Exophthalmic goitre	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
69 (1)	Purpura	2	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—
70 (2)	Encephalitis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
72.	Tabes dorsalis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
73.	Myelitis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
74.	Cerebral hæmorrhage, apoplexy, etc.	7	11	—	—	1	—	—	1	1	5	2	3	3	1	—	1
77.	Other forms of insanity	—	3	—	—	—	—	—	—	—	1	—	1	—	1	—	—
78.	Epilepsy	3	1	—	—	—	—	—	—	—	—	3	1	—	—	—	—
82 (2)	Neuritis	9	14	—	—	—	—	3	5	1	1	1	7	4	—	—	1
88 (1)	Infective Endocarditis	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
88 (3)	Acute myocarditis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
89.	Angina pectoris	3	—	—	—	1	—	—	—	—	—	2	—	—	—	—	—
90 (1–4)	Valvular disease of heart	4	6	—	—	—	—	—	—	2	2	1	1	1	2	—	1
90 (5)	Fatty heart	6	8	—	—	—	—	—	1	2	4	1	1	3	2	—	—
90 (6)	Cardiac dilatation	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—
90 (7)	Other or unspecified myocardial disease	25	9	—	—	—	—	4	1	7	1	7	2	7	4	—	1
90 (8)	Auricular fibrillation	2	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—
90 (9)	Undefined heart disease	2	2	—	—	—	—	—	—	1	1	—	1	1	—	—	—
91 (*b*)	Arterio-sclerosis	14	5	—	—	—	—	1	—	—	1	7	4	5	—	1	—
91 (*c*)	Other diseases of the arteries	1	1	—	—	—	—	—	—	—	—	1	1	—	—	—	—
93.	Piles	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
99.	Bronchitis	4	3	—	—	—	—	—	2	1	—	2	1	1	—	—	—
100.	Broncho-pneumonia	11	4	—	—	—	—	2	1	4	—	—	2	3	1	2	—
101 (*a*)	Lobar-pneumonia	22	2	—	—	—	—	7	1	6	—	7	—	2	1	—	—
102.	Pleurisy	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
	Other diseases of the respiratory system	2	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—
108 (1)	Pyorrhœa alveolaris	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
109 (2)	Pharyngitis	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
111.	Ulcer of the stomach and duodenum	6	—	—	—	—	—	—	—	3	—	2	—	1	—	—	—
112 (1)	Inflammation of the stomach	6	4	—	—	—	—	3	—	1	3	—	1	1	—	1	—
113–114	Diarrhœa and enteritis	5	1	—	—	—	—	—	—	2	—	—	1	1	—	2	—
118 (*a*)	Hernia	1	1	—	—	—	—	—	—	1	1	—	—	—	—	—	—
118 (*b*)	Intestinal obstruction	1	1	—	—	—	—	—	—	1	—	—	1	—	—	—	—
122 (*a*)	Cirrhosis of the liver	144	71	—	1	1	—	12	12	34	21	58	21	29	13	10	3
124.	Other diseases of the liver	—	2	—	—	—	—	—	1	—	—	—	—	—	1	—	—
125.	Acute hæmorrhagic pancreatitis	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
128–129	Nephritis	17	9	—	—	—	1	1	—	7	1	3	4	4	1	2	2
131.	Pyelonephritis	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
153 (1)	Cellulitis of the chest wall	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
158.	Myalgia	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
165–174	Suicide	8	1	—	—	1	—	2	—	1	—	3	—	1	1	—	—
185.	Injury by fall	14	3	—	—	—	—	2	—	6	1	3	—	3	1	—	1
188.	Injury by crushing (vehicles, railway, etc.)	4	1	—	—	—	—	—	1	1	—	1	—	2	—	—	—
	Other violence	9	5	—	—	2	—	2	—	2	—	1	4	2	—	—	1
	Total	421	226	—	1	10	4	56	32	113	59	133	79	86	38	23	13

of later life, to 25,215 (males 11,101, females 14,114), and has, in 1930, again shown a decrease, the number of deaths being 24,142 (10,405 males and 13,737 females) (Table 4). The true incidence of this disease since 1926 is somewhat masked by increased precision in certification due in some measure to the introduction in 1927 of the new form of medical certificate which has encouraged statement of the disease causing the hæmorrhage and so resulted in a transfer of deaths from cerebral hæmorrhage to arterio-sclerosis, myocardial disease and chronic nephritis, three of the chief diseases with which cerebral hæmorrhage is most frequently associated in the certification of causes of death. It is difficult to estimate the extent of the transfer to myocardial disease and chronic nephritis, but any vitiation of comparability with past records in respect of arterio-sclerosis can to a great extent be overcome by adding the deaths from cerebral hæmorrhage associated with arterio-sclerosis (No. 91*b* : 1), separately tabulated since 1921, to those from cerebral hæmorrhage without statement of cause.

The crude death-rate from the combined headings (Nos. 74 and 91*b* : 1) was 829 for males and 910 for females. When standardized, however, to eliminate the effect of the increasing age of the population, the male rate of 615 and the female rate of 568 per million are the lowest during the ten years for which the tabulated results are available.

For the age-group 45–55, the earliest at which the mortality from this cause becomes significant, the female death-rate has exceeded that for males in every year from 1911 onwards ; at the age-groups 55–65, 65–75 and 75 years and upwards, the male rate has with few exceptions been in excess of the female, the excess increasing with advancing age.

87–90. **Heart Diseases.**—The number of deaths allocated to this cause, 90,103, 42,961 of males and 47,142 of females, was as usual larger than for any other item in the list of causes.

These numbers are equal to crude death rates per million of 2,252 for males and 2,274 for females, which, apart from the experience of 1929 with its exceptionally severe winter, are the highest recorded for each sex during the present century. When standardized, these rates are considerably reduced to 1,706 for males and 1,486 for females, but still remain in this form the second highest for each sex during 1920–30 (Table 5A).

As it has been pointed out in previous Reviews (1926–29) that the recent increase of crude mortality (Table 5) from heart diseases is due, among other causes, to the increasing age of the population and to rapid increase of the record of myocardial degeneration in certification of the deaths of old people, Table LVII has been repeated to show how the rates quoted above for 1930 have been affected by these influences, 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 (Table 5A) that portion of it for which myocardial disease (90 (7)) at ages over 65 was responsible in each year 1921–30.

Table LVII.—Deaths in Standard Million from Heart Diseases (87–90), at all ages, and from " Other or Unspecified Myocardial disease " (90(7)) at ages over 65 in each year 1921–30 ; also the mortality in each year from Heart Diseases other than senile myocarditis.

	Males.			Females.		
	87–90. All Heart Diseases.	90 (7). " Other or Unspecified myocardial disease " Aged 65 and upwards.	Col. 1 less col. 2.	87–90. All Heart Diseases.	90 (7) "Other or Unspecified myocardial disease " Aged 65 and upwards.	Col. 4 less col. 5.
	(1)	(2)	(3)	(4)	(5)	(6)
1921 ..	1,203	154	1,049	1,107	145	962
1922 ..	1,301	198	1,103	1,218	187	1,031
1923 ..	1,210	210	1,000	1,129	195	934
1924 ..	1,267	254	1,013	1,181	229	952
1925 ..	1,322	313	1,009	1,220	278	942
1926 ..	1,298	337	961	1,188	304	884
1927 ..	1,412	399	1,013	1,303	360	943
1928 ..	1,474	456	1,018	1,349	413	936
1929 ..	1,835	693	1,142	1,658	619	1,039
1930 ..	1,706	648	1,058	1,486	562	924
	Figures 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

The general mortality experience of 1930, as shown by the quarterly death-rates from all causes (Table 2) and the sex rates at ages (Table 3), is very similar to that of 1928. A corresponding approximation of the mortality from heart diseases might reasonably be expected, but reference to Table 5 shows that the latter increased from 1,951 in 1928 to 2,264 per million in 1930, which, although lower than the abnormally high rate in 1929, is considerably higher than in any previous year shown in the Table. When

allowance is made for the disturbing influences mentioned above, the increase of 359 per million in the crude death-rate for males is reduced to 40 per million and the increase of 270 for females to a decrease of 12 per million.

Table LVII also shows how rapid has been the increase for each sex of mortality ascribed to senile myocarditis, the rates for 1930 being nearly 40 per cent. in excess of those for 1928.

The contribution of the latter to total heart disease mortality has changed as follows during these ten years :—

Deaths in Standard Million from Myocarditis, aged 65 years and upwards, per cent. of those from all Diseases of the Heart.

	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930
Males	13	15	17	20	24	26	28	31	38	38
Females	13	15	17	19	23	26	28	31	37	38

91(*b*). **Arterio-sclerosis.**—The deaths from this cause were first distinguished in 1911, when they numbered 3,675. In each successive year the number increased, reaching a total of 25,753 in 1928. Notwithstanding the severe climatic conditions of 1929, which caused an abnormal increase in the mortality of elderly persons, the number of deaths fell to 20,987 and further declined to 18,925 in 1930.

A change of such magnitude in medical terminology has naturally vitiated the comparability of certain other headings in the list of causes of death. The heavy incidence of the disease in persons of advanced age and the decline during the same period of the deaths assigned to senile decay, suggests that many of the deaths which formerly would have been certified as due to the latter cause are now returned as due to arterio-sclerosis. The tendency to more precise certification has further increased the mortality by transference to this heading of deaths from cerebral hæmorrhage. Comparability has, however, further been disturbed, but in the contrary direction, by a change in classification, introduced in 1929. For some years past the term " cardiovascular degeneration " and the joint statement of arterio-sclerosis and cardiac or myocardial degeneration have appeared with increasing frequency on medical certificates. The former is assigned by international usage to heart disease, but the separate statement of the two diseases has, by the operation of the selective rules for joint causes, been assigned to the disease entered as primary on the medical certificate. In consequence of the increased frequency of the use of the compounded term (1,060 deaths in 1925 and 2,229 deaths in 1930) it was decided to assign both forms of statement to heart disease.

This change of practice accounts in great measure for the recent decline of the deaths assigned to this heading. The standardized death-rate for males in 1930 is 398 and for females 261 per million, both rates being considerably lower than the experience of recent years (Table 5A).

97–107. **Diseases of the Respiratory System.**—The total number of deaths allocated to these diseases was 51,917, or no fewer than 31,434 less than in 1929. The standardized death-rates, 1,438 per million for males and 958 for females, are the lowest recorded for either sex, and are 211 and 193 per million, respectively, below the previous record of 1928 (Table 5A). In both years, circumstances favourable to a low respiratory mortality—mild winter and low incidence of epidemic influenza—prevailed and each was preceded by a year of high general mortality with epidemic influenza. Compared with 1929 the decrease in the number of deaths from respiratory diseases occurring in the March quarter amounted to 58 per cent. against only 12 per cent. in the remaining three quarters.

Attention was drawn in 1928 and in 1929 to the influence of meteorological conditions on the sex mortality from respiratory diseases, unfavourable conditions usually causing a proportionally higher increase in the female death-rate with a consequent decrease in the male-female mortality ratio and *vice versa* when favourable conditions prevail.

Standardized Mortality (per Million) from Respiratory Diseases.

	(*a*) Males.	(*b*) Females.	Ratio (*a*) per 1,000 (*b*).
1921	2,176	1,609	1,353
1922	2,510	1,896	1,324
1923	1,973	1,451	1,360
1924	2,217	1,682	1,318
1925	2,108	1,572	1,341
1926	1,851	1,349	1,372
1927	2,060	1,513	1,361
1928	1,649	1,151	1,432
1929	2,258	1,670	1,352
1930	1,438	958	1,501

The experience of 1930 further confirms this tendency of the male-female sex ratio to move in the opposite direction to mortality. It will be observed that the new record of low respiratory mortality for each sex has in turn established a new high record of 1,501 in the sex ratio, which is 69 per 1,000 in excess of the previous record of 1928.

The following statement shows the variations in excess of male mortality at different periods of life for the quinquennium, 1926–30 :—

0–	5–	15–	25–	35–	45–	55–	65–	75 and upwards.
1,254	1,166	1,704	1,822	2,366	2,562	1,716	1,338	1,098

It is higher in infancy than at 5–15. From this age—the beginning of the working period of life—it rises rapidly at each successive age-group to a maximum at 45–55, after which it decreases, at first even more rapidly, to a minimum in extreme old age. For the seven years 1919–25 the maximum excess occurred at ages 35–45, but since then has shifted to 45–55.

129. **Chronic Nephritis.**—The increase of mortality attributed to this cause, noted for 1927, 1928 and 1929, as having followed steady reduction during the twelve previous years, was arrested in 1930, the standardized rate for males falling from 297 to 289 per million, and for females from 237 to 234 (Table 5A). These rates still remain for each sex well below the maximum attained in 1913–15 (392 for males and 287 for females). The crude rates (Table 5) are subject to considerable reduction on standardization, as this form of mortality chiefly affects the increasing proportion of elderly persons in our population.

143–150. **The Puerperal State.**—The number of deaths assigned to pregnancy or childbirth was 2,854 (Tables 4, 17 and LXII), corresponding to a rate of 4·40 per 1,000 (live) births. Inclusion of the 774 deaths in Table LXIV, which were classified to non-puerperal headings, raises the proportion to 5·59 deaths stated to have been caused by, or associated with, pregnancy and childbirth for every 1,000 (live) births.

In addition to these deaths 67 others 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. As these deaths resulted from illegal interference with the pregnancy, it has not been the practice to include them in the maternal mortality rate, but as their occurrence is of some importance, mention is now made of them to complete the record of deaths associated with abortion. Their inclusion with the other maternal deaths would raise the rate to 5·70 per 1,000 (live) births.

For comparison of the deaths definitely assigned to pregnancy and childbirth with those so classed for years prior to 1911 deduction is required of 157 deaths from puerperal nephritis and albuminuria (Table LXII), which before that date were not distinguished as puerperal. The resultant rate of 4·16 deaths per 1,000 live births is compared in Table LVIII with similar rates for the preceding thirty-nine years, before which the comparability of the figures is doubtful.

Table LVIII.—England and Wales. Mortality of Women in or associated with Childbirth per Thousand Children born alive, 1891–1930.

Year.	Classification in use from 1911 onwards.				Classification in use before 1911.				Total Maternal Mortality.
	Puerperal Sepsis.	Other Puerperal causes.	Total Puerperal Mortality.	*Non-puerperal causes.	Puerperal Sepsis.	Other Puerperal causes.	Total Puerperal Mortality.	†Non-puerperal 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
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	1·33	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	2·53	3·91	1·09	1·46	2·25	3·71	1·29	5·00
1922	1·38	2·43	3·81	1·35	1·46	2·12	3·58	1·58	5·16
1923	1·30	2·51	3·81	1·01	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

* 774 deaths in 1930 (Table LXIV).
† 774 deaths in Table LXIV and 157 from puerperal nephritis and albuminuria.

It will be seen from Table LVIII that the mortality from puerperal sepsis (1·92 per 1,000 live births) is the highest recorded since the adoption of the International List in 1911 and shows a continuous increase since 1927. Higher rates were, however, recorded for the three quinquennia, 1891–1905, on the old system of classification. The mortality from non-septic conditions, which had decreased from 2·63 in 1928 to 2·53 in 1929, shows a further decline to 2·48, and is lower than in any year since 1922.

The decrease in the maternal deaths associated with influenza from 155 in 1929 to 23 in 1930, largely accounts for the decrease in the mortality from non-puerperal causes. The total maternal mortality based on all deaths with mention of a puerperal cause but excluding those from criminal abortion was 5·59 per 1,000 live births against 5·82 in 1929.

The total " puerperal mortality " rate for 1926–30 is, however, higher than that recorded in the three preceding quinquennia. It should be remembered that the risk of death is greater for primiparæ than for multiparæ. The increase in the proportion of first-born children therefore tends to raise the crude puerperal mortality expressed as a simple ratio of deaths to births and so

must tend to mask any reduction which may have resulted from maternal welfare schemes and other national and local efforts to reduce the risk of childbirth. It is, however, doubtful whether this factor is of major importance.* The national registers afford no information respecting the changing proportion of first-born infants, but from figures available for the original birth registration area of the United States† the proportion increased from 27·7 in 1917 to 30·9 per cent. in 1928.

Reliable statistics of stillbirths are now becoming available and as the total births, *i.e.*, live and stillbirths provide a closer approximation to the number of women exposed to the risk of dying from puerperal conditions than live births alone, the maternal mortality rate will in future be calculated on both bases, and will continue to be published on the two bases for a sufficient period to enable statistical continuity to be assured.

TABLE LIX. England and Wales. Mortality of Women in or associated with Childbirth per Thousand Children born alive, and per Thousand Total Births (Live born and Still born).

	Per 1,000 live births.					Per 1,000 total births.				
	Puerperal Sepsis.	Other puerperal causes.	Total puerperal mortality.	Non-puerperal causes.	Total maternal mortality.	Puerperal Sepsis.	Other Puerperal causes.	Total puerperal mortality.	Non-puerperal causes.	Total maternal mortality.
1928	1·79	2·63	4·42	1·20	5·62	1·72	2·52	4·25	1·15	5·39
1929	1·80	2·53	4·33	1·49	5·82	1·73	2·43	4·16	1·43	5·59
1930	1·92	2·48	4·40	1·19	5·59	1·84	2·38	4·22	1·14	5·36

It will be observed that while the rates on the wider basis are obviously lower than those based on live births the ratio of the 1930 to the 1929 mortality remains practically unchanged.

The distribution throughout the country of the mortality ascribed to childbirth is outlined in Table LX.

As regards the distinction between town and country, a tendency may as usual be noted for mortality from sepsis to increase, and for that from other causes to decrease, with urbanization. The London rate has been lowest in the table for non-septic causes during eleven of the twelve years, 1919–30, for which this table has been prepared, but its advantage for sepsis is confined to 1927 and 1928, before which the London septic rate was frequently above average.

* Reports on Public Health and Medical Subjects, No. 25, 1924, pp. 6–10.

† Statistical Bulletin No. 12, December 1931, of The Metropolitan Life Insurance Co.

During the years 1919–30 the all puerperal causes rate for Wales has been uniformly above the average for England and Wales to an extent varying from 19 to 43 per cent. The Welsh excess in 1930, 27 per cent., is, as always, much greater for non-septic causes than for sepsis, though even for sepsis no exception has yet occurred (from 1919 onwards) to the rule of Welsh excess. For non-septic causes this amounts to 42 per cent. in 1930.

Table LX.—Distribution throughout England and Wales of Mortality of Women in Childbirth, per Thousand Children Born Alive, distinguishing Septic and Other Causes, 1930.

——	North.	Mid-lands.	South.	Wales.	England and Wales.
Sepsis.					
London	—	—	1·93	—	1·93
County Boroughs ..	2·16	1·82	1·61	2·40	2·01
Other Urban Districts..	2·17	1·68	1·34	2·20	1·82
Rural Districts	1·93	1·96	1·96	1·62	1·92
All Areas	2·13	1·80	1·74	2·07	1·92
Other Causes.					
London	—	—	1·40	—	1·40
County Boroughs ..	2·74	1·85	1·88	2·71	2·37
Other Urban Districts..	3·74	2·12	2·68	3·42	2·86
Rural Districts	2·83	2·59	1·73	4·31	2·61
All Areas	3·07	2·15	1·86	3·53	2·48
All Causes.					
London	—	—	3·33	—	3·33
County Boroughs ..	4·90	3·68	3·48	5·11	4·38
Other Urban Districts..	5·91	3·80	4·02	5·62	4·68
Rural Districts	4·75	4·55	3·69	5·93	4·53
All Areas	5·19	3·95	3·60	5·60	4·40

Table LXI compares the mortality in 1926–30 with that in 1911–20 from the constituent headings of the group of puerperal causes in the Detailed List of Causes of Death. These details afford the means of analysing the extent to which these causes individually contribute to the total puerperal mortality of the five geographical divisions of the country during the two periods.

Notwithstanding the more intensive efforts made in recent years to combat puerperal mortality the rates for the later period show no appreciable decline in the mortality from non-septic causes in any of the regional areas.

Table LXI.—Puerperal Mortality from various causes per 1,000 live births, 1911–20 and 1926–30.

		England and Wales.	London.	North.	Mid-lands.	South excluding London.	Wales.
143a. Abortion	1911–20	0·14	0·09	0·16	0·14	0·11	0·18
	1926–30	0·11	0·10	0·14	0·09	0·08	0·18
143b. Ectopic gestation	1911–20	0·09	0·10	0·08	0·09	0·10	0·07
	1926–30	0·13	0·15	0·14	0·12	0·14	0·11
143c. Other accidents of pregnancy	1911–20	0·17	0·13	0·20	0·16	0·13	0·23
	1926–30	0·20	0·11	0·28	0·15	0·14	0·29
144. Puerperal hæmorrhage ..	1911–20	0·55	0·34	0·62	0·52	0·53	0·76
	1926–30	0·50	0·34	0·61	0·43	0·45	0·70
145. Other accidents of childbirth	1911–20	0·44	0·29	0·54	0·39	0·34	0·66
	1926–30	0·48	0·31	0·53	0·44	0·43	0·61
147 (1). Puerperal phlegmasia alba dolens not returned as septic	1911–20	0·07	0·04	0·08	0·05	0·07	0·10
	1926–30	0·04	0·01	0·05	0·04	0·03	0·06
147 (2). Puerperal embolism and sudden death	1911–20	0·30	0·16	0·33	0·29	0·33	0·40
	1926–30	0·25	0·14	0·30	0·22	0·25	0·34
148. Puerperal albuminuria and convulsions	1911–20	0·79	0·45	0·94	0·65	0·75	1·27
	1926–30	0·79	0·51	0·88	0·67	0·75	1·41
149. Puerperal insanity ..	1911–20	0·04	0·02	0·04	0·04	0·04	0·07
	1926–30	0·03	0·02	0·04	0·02	0·02	0·05
150. Puerperal diseases of the breast	1911–20	0·01	0·01	0·02	0·01	0·01	0·01
	1926–30	0·01	0·01	0·01	0·01	0·01	0·01
Non-septic causes	1911–20	2·60	1·63	3·01	2·34	2·41	3·75
	1926–30	2·54	1·70	2·98	2·19	2·30	3·76
146. Puerperal sepsis	1911–20	1·46	1·54	1·54	1·35	1·32	1·67
	1926–30	1·73	1·66	1·92	1·61	1·53	1·88
Total puerperal causes ..	1911–20	4·06	3·17	4·55	3·69	3·73	5·42
	1926–30	4·27	3·36	4·90	3·80	3·83	5 64

Of the causes distinguished in the Table, ectopic gestation stands alone in causing a higher mortality in the later period in all areas. It is probable, however, that this recorded increase is due to greater accuracy in diagnosis, which is suggested by its being the sole cause with the highest mortality in London.

Phlegmasia alba dolens and embolism—both of minor importance in their contribution to the total puerperal mortality—show a decline in all areas. The former condition has been the subject of enquiry since 1925, and the decline in the deaths assigned to this heading is probably due to the frequent acknowledgment of its septic origin. The decrease in the deaths from embolism is doubtless associated with improvement in diagnosis. In 1928 in only 14 per cent. of the deaths assigned to this cause was the condition verified by post mortem examination (Table LXIX, Text Volume, 1928), and in the absence of such verification, this form of return is not above suspicion.

Of the remaining causes distinguished in the Table, puerperal hæmorrhage, other accidents of childbirth and puerperal albuminuria and convulsions, which in the aggregate account for nearly 70 per cent. of the total non-septic mortality, show considerable local variations in their areal incidence. From each of them the minimum mortality is recorded in London and the maximum in Wales, the mortality in the latter area from hæmorrhage and other accidents of childbirth being rather more

than double and that from puerperal albuminuria and convulsions nearly three times as great as in London. In the North, the mortality from these causes jointly although lower than in Wales is nearly twice as high as in London. Reference to Table XCVIII shows that the stillbirth rate is considerably higher in Wales than in other areas and lowest in London.

There can be little doubt that London owes its favourable position to the more adequate provision of lying-in accommodation in its many Hospitals and other institutions. The following statement of the percentage of live births occurring in institutions in the several regions compiled from Table LXXXI of the Text volume for 1927 emphasises the commanding advantage of London in this respect over the remainder of the country :—

	All Births.	*Legitimate.*	*Illegitimate.*
England and Wales ..	15·0	13·9	36·5
London	37·3	34·0	69·9
North	13·0	12·1	32·2
Midlands	11·5	10·9	28·7
South (excluding London)	15·2	14·2	35·2
Wales	4·6	3·9	22·0

If the mortality experience of the metropolitan lying-in hospitals, which from the figures shown in the footnotes on page 106 of the Interim Report of the Departmental Committee on Maternal Mortality and Morbidity may be taken as approximately one per 1,000 births, be assumed to represent the unavoidable risk of maternity then a substantial reduction in the present abnormally high mortality in the North and in Wales might reasonably be expected to result from the provision of increased facilities for skilled attention and nursing during pregnancy and the puerperium.

Mention may also be made of the influence of the high proportion of institutional births on the neo-natal mortality in London. The fact that more than one-third of the infants born in London pass the most critical period of their existence in lying-in institutions, where they receive every care and attention, cannot be disregarded as an important factor in contributing to lessen mortality during the first few weeks of life, which, as has been frequently indicated in these Reports (*see also* page 10 and Table XIII), is considerably lower than that experienced in other parts of the country. It will be seen from Table XCVIII that the proportion of stillbirths in London is also lower than in other regional areas.

Compared with 1911–20, the mortality from puerperal sepsis during 1926–30 shows an appreciable increase in all areas, but the local rates for both periods do not exhibit the marked variations noted in respect of non-septic conditions. Thus, while in Wales the risk of dying from a non-septic cause is double that in London, the risk of dying from sepsis is almost equal.

It has been frequently alleged that the increase in mortality from puerperal sepsis may be due to increase in the proportion of deaths from septic abortion, but no absolute statistical proof of this assertion is available from the record in the death registers as many of the medical certificates contain no mention of whether the sepsis followed abortion or delivery at term. The number of deaths classified to puerperal sepsis and stated to have occurred after abortion and the percentage of such deaths to the total deaths from puerperal sepsis for the years 1926–30 are as follows :—

1926	222	20·0
1927	215	21·0
1928	224	18·9
1929	238	20·6
1930	300	24·1

Except for the sudden increase in 1930, the deaths show but little variation during the four years 1926–29. Had the total deaths from septic abortion shown an appreciable progressive increase during this period, it would not be unreasonable to expect some evidence of such increase in the number of deaths so returned on the medical certificates.

These percentages are, however, slightly in excess of that in the series of 1,596 deaths from puerperal causes occuring between November, 1928 and April, 1930, investigated by the Departmental Committee on Maternal Mortality and Morbidity. Of these 1,596 deaths, 759 resulted from sepsis, of which 143 or only 18·8 per cent. occurred after abortion. It would appear, therefore, that for the country as a whole the record of deaths from septic abortion is reasonably complete.

The percentage of deaths from sepsis definitely returned as following abortion shows wide variations in the several geographical regions and classes of area as will be seen from the following statement relating to the year 1930 :—

London	35·1	London	35·1
North	23·2	County boroughs ..	24·6
Midlands	21·1	Other urban districts ..	23·2
South (excluding London)	20·0	Rural districts ..	19·0
Wales	33·0		

It will be seen from this statement that the percentage of deaths from septic abortion so returned on the medical certificates increases with urbanization. This urban excess may, however, be associated with the greater precision in certification of the higher proportion of urban deaths occurring in institutions. The London figure shows a much greater excess over that for the county boroughs than the latter shows over the percentage for urban or rural districts. It is surprising that the recorded percentage of these deaths in the North and Midland areas with their higher proportions of urban population is lower than in Wales, which approximates very closely to the London percentage.

The London experience is, however, much lower than that in Berlin where in the three years 1910–12* 67·4 per cent. of the deaths from sepsis followed abortion, increasing to 81·2 per cent. for 1922–24†.

These figures reveal the varying extent to which stated abortion contributes to the total mortality from puerperal sepsis in the several regions and so render the regional death-rates when related to births only (the nearest available approximation to the lives at risk) unsuitable for comparison with each other.

If the necessary data were available it would be preferable to relate the deaths from septic abortion to abortions and those following parturition to confinements, and so to determine the degree to which each of these two components contributes to the mortality from sepsis and the trend of their respective death-rates.

Table LXII gives particulars of deaths ascribed to the puerperal state with a statement of the civil condition of the deceased.

Table LXII.—England and Wales, 1930 : Deaths of Women Classed to Pregnancy and Childbearing.

Cause of Death.	All Ages.	Civil Condition.			Ages.						
		Single.	Married.	Widowed.	15–	20–	25–	30–	35–	40–	45 and upwards
143. (*a*) Abortion‡	65	2	60	3	1	3	11	14	21	15	—
(*b*) Ectopic gestation	73	4	68	1	—	2	14	27	18	11	1
(*c*) *Other accidents of pregnancy* :—	*141*	*14*	*126*	*1*	*6*	*20*	*29*	*30*	*32*	*22*	*2*
Accidental hæmorrhage	10	1	9	—	—	1	2	2	3	1	1
Ante-partum hæmorrhage	49	3	46	—	1	2	6	10	16	14	—
Chorea	6	3	3	—	1	3	1	1	—	—	—
Uncontrollable vomiting	60	5	54	1	3	14	15	13	10	5	—
Hydatid mole	9	1	8	—	1	—	4	—	2	1	1
Incarcerated gravid uterus	1	—	1	—	—	—	—	—	1	—	—
Retroverted gravid uterus	2	—	2	—	—	—	—	2	—	—	—
Hydramnios	2	—	2	—	—	—	—	1	—	1	—
Hysteria of pregnancy	1	—	1	—	—	—	1	—	—	—	—
"Pregnancy" unqualified	1	1	—	—	—	—	—	1	—	—	—
144. *Puerperal hæmorrhage* :—	*348*	*16*	*329*	*3*	*5*	*36*	*71*	*93*	*75*	*61*	*7*
Placenta prævia	162	5	156	1	2	12	28	41	43	32	4
Adherent or retained placenta	66	4	60	2	1	7	13	23	13	9	—
Accidental hæmorrhage	11	—	11	—	—	—	1	4	1	5	—
Post partum hæmorrhage	109	7	102	—	2	17	29	25	18	15	3
145. *Other accidents or abnormalities of childbirth* :—	*294*	*15*	*277*	*2*	*9*	*28*	*85*	*65*	*74*	*28*	*5*
Contracted pelvis	67	4	63	—	5	9	22	12	12	6	1
Craniotomy	1	1	—	—	—	—	1	—	—	—	—
Instrumental delivery	2	—	2	—	—	1	—	—	1	—	—
Malpresentation	26	2	24	—	—	1	7	7	6	4	1
Version	3	—	3	—	—	—	1	—	1	1	—
Impacted fœtus	1	—	1	—	—	—	—	—	—	1	—
Abnormal fœtus	12	1	11	—	—	—	3	1	6	2	—
Difficult and prolonged labour	67	2	64	1	4	6	20	16	16	4	1

‡ Besides these 65 deaths from abortion there were 300 (Single 26, Married 271, Widowed 3) others from abortion with sepsis which in accordance with the international scheme, are classified to puerperal sepsis, and 67 (Single 12, Married 45, Widowed 8 and Divorced 2) from criminal abortion (see Table 22 Part I).

* Statistisches Jahrbuch der Stadt Berlin, 32nd year (1908–1911) p. 143.

† Mitteilungen des Statistischen Amts der Stadt Berlin Nr. 4 Dezember, 1924, pp. 10 and 11.

Table LXII.—England and Wales, 1930 : Deaths of Women Classed to Pregnancy and Childbearing—*continued*.

Cause of Death.	All Ages.	Civil Condition.			Ages.						
		Single.	Married.	Widowed.	15–	20–	25–	30–	35–	40–	45 and upwards
145. *Other accidents or abnormalities of childbirth*—cont.											
Cæsarean section (reason unstated)†	5	—	5	—	—	—	1	—	3	—	1
Rupture of Cæsarean scar	3	—	3	—	—	—	2	—	1	—	—
Rupture of uterus	28	2	25	1	—	1	8	7	8	4	—
Rupture of spleen	1	—	1	—	—	—	—	1	—	—	—
Rupture of bladder	1	—	1	—	—	—	—	—	1	—	—
Laceration of uterus	2	—	2	—	—	—	—	—	1	1	—
Laceration of perineum	3	—	3	—	—	1	—	—	1	—	1
Inversion of uterus	6	—	6	—	—	4	1	1	—	—	—
Uterine inertia	6	—	6	—	—	1	1	4	—	—	—
Contraction of uterus	1	—	1	—	—	—	1	—	—	—	—
Rigid os uteri	1	—	1	—	—	—	1	—	—	—	—
Adherent and retained placenta	9	1	8	—	—	1	2	2	3	1	—
Prolapsed cord	1	—	1	—	—	—	—	1	—	—	—
Childbirth apart from above complications :—											
With secondary causes as follows :—											
Anæmia	11	1	10	—	—	1	1	3	6	—	—
Meningitis	1	—	1	—	—	—	—	—	1	—	—
Acute myocarditis	1	—	1	—	—	—	1	—	—	—	—
Bronchitis	1	—	1	—	—	—	1	—	—	—	—
Broncho-pneumonia	4	—	4	—	—	1	—	—	2	1	—
Pneumonia	10	1	9	—	—	—	4	3	2	1	—
Pulmonary œdema	1	—	1	—	—	—	1	—	—	—	—
Dilatation of stomach	1	—	1	—	—	—	—	—	—	1	—
Hæmatemesis	1	—	1	—	—	1	—	—	—	—	—
Gastro enteritis	2	—	2	—	—	—	1	1	—	—	—
Without stated secondary cause	15	—	15	—	—	—	5	6	3	1	—
146. *Puerperal sepsis* :—	*1243*	*79*	*1152*	*12*	*26*	*208*	*316*	*339*	*241*	*101*	*12*
scarlet fever	6	—	6	—	—	1	1	2	1	—	1
streptococcal infection	36	1	35	—	—	2	9	14	4	6	1
pneumococcal infection	5	1	4	—	—	1	2	1	—	1	—
staphylococcal infection	5	—	5	—	—	—	1	3	1	—	—
bacillus coli infection	9	—	9	—	—	3	1	3	2	—	—
gas gangrene	4	—	3	1	—	—	—	3	1	—	—
septic phlegmasia alba dolens, phlebitis, thrombosis	41	2	38	1	—	3	9	12	12	5	—
septic pneumonia	18	1	17	—	1	4	3	7	2	1	—
septic endocarditis	14	2	12	—	—	2	6	1	4	1	—
septicæmia	548	30	514	4	10	89	133	151	113	47	5
sepsis	98	9	87	2	1	18	25	26	20	8	—
septic intoxication, sapræmia	36	4	32	—	2	6	9	4	12	3	—
pelvic peritonitis	17	1	16	—	1	5	7	2	2	—	—
peritonitis	104	9	94	1	5	23	21	32	16	6	1
salpingitis	17	—	17	—	—	5	4	3	2	2	1
metritis	6	—	6	—	—	3	3	—	—	—	—
endometritis	62	7	55	—	2	13	18	15	10	3	1
parametritis	14	2	11	1	—	2	3	4	4	1	—
erysipelas	4	1	3	—	1	—	—	2	1	—	—
pyæmia	29	1	28	—	—	3	12	6	5	2	1
pelvic cellulitis	36	2	33	1	—	7	7	10	11	1	—
cellulitis	2	—	2	—	—	—	—	—	—	2	—
pelvic abscess	15	—	15	—	—	1	3	4	4	3	—
other specified septic conditions	15	1	14	—	—	3	3	4	4	1	—
puerperal fever	102	5	96	1	3	14	36	30	10	8	1
147. (1) Puerperal phlegmasia alba dolens, not returned as septic	23	—	23	—	1	—	3	6	9	4	—
(2) Puerperal embolism and sudden death	167	9	157	1	3	23	39	49	39	12	2
148. *Puerperal albuminuria and convulsions* :—	*467*	*34*	*427*	*6*	*16*	*80*	*118*	*110*	*95*	*43*	*5*
Puerperal nephritis, albuminuria, etc.	157	10	145	2	6	20	39	41	33	14	4
Puerperal convulsions	310	24	282	4	10	60	79	69	62	29	1
149. Puerperal insanity	25	2	22	1	1	2	11	4	1	6	—
150. Puerperal diseases of the breast	8	—	8	—	1	1	4	1	1	—	—
Total	2,854				69	403	701	738	606	303	34
Single		175	—	—	28	66	30	20	22	8	1
Married		—	2,649	—	41	337	667	710	575	288	31
Widowed		—	—	30	—	—	4	8	9	7	2

† In addition, Cæsarean section was stated to have been performed in the case of 87 deaths included in other headings in this table—Ante partum hæmorrhage 1, Hydramnios 2, Placenta prævia 11, accidental hæmorrhage 1, Contracted pelvis 43, Malpresentation 4, Abnormal fœtus 1, Difficult labour 13, Rupture of uterus 1, Removal dead fœtus 1, Prolapsed cord 1, Puerperal albuminuria and convulsions 8.

The records of cases of puerperal fever notified are collated with those of births and of deaths from this cause in Table LXIII.

The proportion to live births of cases notified has risen from 30 in 1927 to 40. This proportion may have been affected by the compulsory notification of "puerperal pyrexia," which was in force throughout the year, having commenced on October 1, 1926. But as the rate of 40 in 1930 compares with 26–38 in the eleven preceding years, it seems unlikely that any effect of the change upon the number of notifications of puerperal fever can have been of great importance. The records of notifications under both headings will be found in Tables 26–28, but as those for puerperal fever are evidently much more comparable with those of previous years under this head as they stand than if supplemented by the figures for puerperal pyrexia they will for the present be considered alone.

In the county boroughs, except those of the South, and in the urban districts of the North and Midlands, the notifications ratio is much higher in 1930 than in 1929, while in the remaining English divisions the rate shows no appreciable change. In Wales the rate was higher than in 1929 in the county boroughs and rural districts, but lower in the urban districts other than county boroughs.

Table LXIII.—Puerperal Fever (Puerperal Sepsis), 1930: Prevalence and Fatality.

	Cases notified per 10,000 Live Births.					Deaths per 1,000 Cases notified.				
	North.	Mid-lands.	South.	Wales.	England and Wales.	North.	Mid-lands.	South.	Wales.	England and Wales.
London	—	—	43	—	43	—	—	451	—	451
County Boroughs ..	53	51	37	84	52	404	358	434	284	384
Other Urban Districts ..	32	34	27	27	31	677	493	504	810	580
Rural Districts	30	33	28	32	31	645	602	693	500	622
All Areas	43	39	35	41	40	490	457	496	503	481

As in each of the preceding eleven years, for which it has been prepared, Table LXIII shows large urban excess in the proportion of cases of puerperal sepsis notified—much larger than the urban excess for deaths in Table LX. As a rule there is a greater tendency in the rural districts than in the towns to leave unnotified cases of puerperal sepsis which ultimately prove fatal. In the rural districts of Wales, indeed, deaths have exceeded notifications in several years.

As in 1928 and 1929 the fatality ratio, or proportion of deaths to notifications, was lower in the county boroughs of the Midlands than in any other section of Table LXIII, except the county boroughs of Wales. The Midland county boroughs were also lowest in five of the nine preceding years, so as the cases notified appear to be mildest in this section of the population it may be that for it notification is most complete.

Table LXIV shows the causes of deaths stated to have been complicated by the existence of the puerperal state. The largest numbers in this table are—lobar pneumonia 87, mitral disease 84, respiratory tuberculosis 73, chronic nephritis 69, and other or unspecified valvular disease 47. For heart disease of all forms the total is 225. These deaths are of much the same type year after year, heart disease, pneumonia (conceivably septic), and influenza when epidemic, generally figuring prominently in the table. Of 69 deaths of females at all ages from acute yellow atrophy of the liver, and 57 at 15–45 (Table 17), 35 were stated to have been associated with pregnancy or childbearing.

Table LXIV.—England and Wales, 1930: Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith.

	Cause of Death.	All Ages.	Ages.						
			15–	20–	25–	30–	35–	40–	45 and upwards
1	Enteric fever	2	—	—	—	—	2	—	—
7	Measles.	2	—	—	—	1	—	1	—
8	Scarlet fever	9	—	2	6	1	—	—	—
10	Diphtheria	3	—	—	2	1	—	—	—
11	Influenza	23	2	1	4	4	9	3	—
29	Tetanus	1	—	—	1	—	—	—	—
31	Tuberculosis of respiratory system	73	1	10	28	19	11	4	—
32–37	Other forms of tuberculosis	10	—	1	5	4	—	—	—
38	Syphilis	7	—	—	1	—	4	1	1
43–49	Cancer	5	—	1	2	—	1	1	—
51	Rheumatic fever ..	9	—	—	7	1	1	—	—
52 (2)	Rheumatoid arthritis ..	2	—	—	—	1	1	—	—
57	Diabetes	11	1	1	1	3	3	2	—
58 (*a*)	Pernicious anæmia ..	11	—	—	1	4	3	3	—
58 (*b*)	Anæmia	1	—	—	—	1	—	—	—
60 (*a*)	Exophthalmic goitre ..	7	—	1	2	—	3	1	—
65 (*a*)	Leukæmia	3	1	1	—	1	—	—	—
71	Idiopathic meningitis ..	1	—	1	—	—	—	—	—
74	Cerebral hæmorrhage ..	5	—	2	—	1	—	1	1
76	General paralysis of the insane	1	—	—	—	1	—	—	—
78	Epilepsy	8	1	2	2	—	3	—	—
84 (3)	Disseminated sclerosis	1	—	—	—	—	—	1	—
86 (2)	Otitis media	1	—	—	—	1	—	—	—
87	Pericarditis	3	—	1	—	—	1	1	—
88 (1)	Infective endocarditis ..	4	—	—	1	2	1	—	—
88 (2)	Other acute endocarditis	5	—	—	1	2	2	—	—
88 (3)	Myocarditis	18	—	1	3	2	7	5	—
90 (2)	Mitral valve disease ..	84	2	8	27	24	14	9	—
90 (1–3–4)	Other or unspecified valvular disease ..	47	—	9	7	10	14	7	—
90 (5)	Fatty heart	28	—	1	9	6	4	7	1
90 (6–7)	Other or unspecified myocardial disease ..	18	—	1	4	3	5	5	—
90 (8–9)	Heart disease undefined	18	—	2	2	5	8	1	—
91 (*b*)	Arterio sclerosis	1	—	—	—	—	—	1	—
92	Embolism and thrombosis (not cerebral) ..	2	—	—	—	1	1	—	—
93	Diseases of the veins ..	9	—	—	1	2	2	4	—

Table LXIV.—England and Wales, 1930 : Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith—*continued.*

Cause of Death.	All Ages.	Ages.						
		15–	20–	25–	30–	35–	40–	45 and upwards–
98 (2) Laryngitis	2	—	1	—	—	1	—	—
99 Bronchitis	12	—	1	2	2	5	2	—
100 Broncho-pneumonia ..	14	1	—	5	1	5	2	—
101 (*a*) Lobar pneumonia ..	87	1	7	23	15	18	22	1
101 (*b*) Pneumonia (type not stated)..	10	—	3	1	3	3	—	—
102 (1) Empyema thoracis ..	1	—	—	—	—	—	1	—
102 (2) Other pleurisy	4	—	—	1	1	2	—	—
105 Asthma	5	—	—	—	1	4	—	—
108 (1) Diseases of the teeth and gums	3	—	1	—	1	—	1	—
108 (2) Cellulitis of the neck ..	1	—	—	—	—	1	—	—
111 Ulcer of the stomach ..	3	—	1	—	1	1	—	—
112 (1) Gastritis	1	—	—	—	—	1	—	—
112 (2) Acute dilatation of the stomach	1	—	—	1	—	—	—	—
117 Appendicitis	17	—	3	6	6	1	1	—
118 (*a*) Strangulated hernia ..	1	—	—	1	—	—	—	—
118 (*b*) Intestinal obstruction ..	38	—	3	6	10	12	7	—
119 Diverticulum of colon ..	1	—	—	—	1	—	—	—
120 Acute yellow atrophy of liver	35	3	6	12	6	5	3	—
122 (*b*) Fatty degeneration of liver	1	—	—	—	—	1	—	—
129 Chronic nephritis ..	69	—	10	17	15	13	12	2
131 Other diseases of the kidneys and annexa ..	3	—	—	1	1	1	—	—
132 Urinary calculi	1	—	—	—	1	—	—	—
133 (1) Cystitis	2	—	—	—	2	—	—	—
137 Cysts and other tumours of the ovary not returned as malignant ..	5	—	—	2	1	1	1	—
139 Tumours of the uterus not returned as malignant	16	—	—	2	3	5	6	—
152 Furunculosis	1	—	—	—	—	1	—	—
165-203 Violence	6	—	2	2	1	1	—	—
204 Syncope (pregnant) ..	1	—	1	—	—	—	—	—
Total	774†	13	85	199	173	182	116	6
Single	46	6	8	16	7	4	5	—
Married	719	7	77	181	165	175	108	6
Widowed	9	—	—	2	1	3	3	—

† Of these 774 deaths, 184 were stated to be associated with pregnancy, 77 with abortion, 46 with premature delivery, 7 with delivery at full term, and 460 with childbirth

188 (2). **Crushing by Motor Vehicles (not on railways).**—In the 1924 "Text" Volume, pp. 104–111, attention is directed to some of the characteristics of this large and increasing group of deaths. Since 1930 was the last year before the new Road Traffic Act (1930) came into force, it has been thought desirable again to examine the facts in some detail.

Apart from 62 deaths caused by aircraft, there were 6,342 accidental deaths attributed to mechanically-propelled vehicles in 1930, 4,745 of males and 1,597 of females. The rate of mortality per million persons was 159, more than twice the rate in 1924, and almost eight times the rate in 1911. In order of numerical magnitude this sub-group is exceeded by only 9 of the 32 large groups (excluding No. 31, "other defined diseases"), forming the short list in use in this Department. In Table LXV, the allocation

Table LXV.—England and Wales, 1925–30—Deaths caused by Various Types of Road Motor Vehicles in each year per cent. of All Deaths caused by such Vehicles.

	1925	1926.	1927.	1928.	1929.	1930.	1925–30.
Motor car	29	29	29	30	29	26	28
Motor van, lorry, steam waggon, etc.	24	21	21	18	20	20	21
Electric tram	3	2	2	2	2	1	2
Motor omnibus	11	10	10	11	10	11	10
Motor cycle	16	19	21	20	20	20	20
Others	17	19	17	19	19	22	19
All road vehicles	100	100	100	100	100	100	100

of deaths to the different types of mechanically-propelled road vehicles is shown. The deaths classified as "Others" are made up as follows (the figures in brackets are those recorded for 1924) :—

Motor cabs, 50 (57).

Motor char-a-bancs, 101 (54).

Motor, other or undefined vehicles, 23 (60).

Motor collisions involving a motor vehicle, vehicle causing death not stated, 1,201 (281).

It is regrettable that the last of these items is so large, since the lack of specification of the vehicle causing death renders the analysis of Table LXV less complete than it would otherwise have been. The most striking feature of this Table is the increased share of the motor cycle in the total mortality. In 1924, motor cycles were associated with 12 per cent. of the deaths, in 1930 with 20 per cent. of the deaths, which had themselves been more than doubled, so that in the six years the actual number of deaths associated with this form of road vehicle has been more than trebled. The proportional mortality chargeable to the ill-defined group "Others" has also increased, while motor cars, motor vans, and electric trams, have all been relatively less deadly.

In Table LXVI the age distribution of deaths associated with each type of vehicle for the six years, 1925–30, is shown. It will be noted that motor cycles were associated with the deaths

of 2,752 young men between the ages of 15 and 35, that is, 2·8 times the number killed in the 14 years 1911–24. The corresponding numbers of young women are 316 and 79, a fourfold increase.

Table LXVI.—England and Wales, 1925–30—Deaths caused by Mechanically-propelled Road Vehicles.

		All Ages.	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–
ACCIDENT.													
Motor car	M.	5,370	408	921	264	227	302	414	429	577	700	683	445
	F.	2,935	240	487	107	82	99	143	197	326	455	497	302
Motor van, lorry, steam waggon, etc. ..	M.	4,534	484	824	492	446	291	381	323	351	402	333	207
	F.	1,442	222	365	95	86	48	80	67	91	132	153	103
Electric tramcar ..	M.	351	15	12	3	6	7	27	35	49	57	82	58
	F.	186	16	12	4	3	7	4	10	22	22	44	42
Motor omnibus ..	M.	2,109	194	321	173	207	126	206	160	222	211	187	102
	F.	928	105	168	60	66	60	59	67	94	102	104	43
Motor cycle	M.	4,730	79	114	40	464	1,210	1,078	441	392	356	346	210
	F.	1,027	70	47	15	94	110	112	57	102	157	163	100
Others	M.	4,704	45	104	173	690	1,171	995	529	462	307	177	51
	F.	816	28	38	35	101	137	124	91	84	69	78	31
All motor road vehicles	M.	21798	1,225	2,296	1,145	2,040	3,107	3,101	1,917	2,053	2,033	1,808	1,073
	F.	7,334	681	1,117	316	432	461	522	489	719	937	1,039	621
SUICIDE.													
Motor vehicles ..	M.	57	—	—	—	1	2	7	17	15	11	4	—
	F.	3	—	—	—	—	—	—	1	1	1	—	—
MANSLAUGHTER.													
Motor vehicles ..	M.	163	2	3	7	17	23	22	30	22	17	17	3
	F.	72	—	9	3	4	8	4	5	15	9	11	4
MURDER.													
Motor Vehicles ..	M.	2	—	—	1	—	—	—	—	—	1	—	—
	F.	—	—	—	—	—	—	—	—	—	—	—	—

In Table LXVII are set out the proportions at various ages of deaths accidentally caused by each type of vehicle. Comparison with the similar table for 1911–24 brings out the following points.

Motor cycles, with their superior manœuvring capacity, continue to cause relatively few deaths of young children, their advantage in this respect being almost the same as in 1911–24. Electric tramcars, with their immense braking power and fixed location (the column of "Others" is incomparable, since it includes so large a proportion of collisions) killed proportionately fewer children during the period under review than they did in 1911–24. Motor omnibuses were associated with practically the same proportion of deaths in the age group 5–10, and more deaths in the age-group 0–5, than in 1911–24. Motor vans and lorries occupy substantially the same position as in 1911–24, while motor cars, although still killing a large proportion of young children, have improved their position. In 1911–24, 31 per cent. of the deaths associated with motor cars were of children under

Table LXVII.—England and Wales, 1925–30—Accidental Deaths at Various Ages caused by Different Types of Motor Road Vehicles, per 1,000 at All Ages, caused by the same Type of Vehicle.

Age.	All Vehicles.	Motor Car.	Motor Van, Lorry, Steam Waggon, etc.	Electric Tram-car.	Motor Omni-bus.	Motor Cycle.	Other or unstated Vehicles (including collisions).
0– ..	65	78	118	58	98	26	13
5– ..	117	170	200	45	161	28	26
10– ..	50	45	98	13	77	10	38
15– ..	85	37	89	17	90	97	143
20– ..	122	48	57	26	61	228	237
25– ..	125	67	77	58	87	207	203
35– ..	83	75	65	84	75	87	112
45– ..	95	109	74	132	104	86	99
55– ..	102	139	89	147	103	89	68
65– ..	98	142	81	234	96	88	46
75– ..	58	90	52	186	48	54	15
All Ages ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000

10, in 1925–30, 24·8 per cent. The danger of motor cycles to their riders—who presumably consist largely of young adults—is again brought out. In 1911–24, only 13·2 per cent. of the deaths associated with motor cars and 45·2 per cent. of the deaths associated with motor cycles were of persons aged 15–35; in 1925–30 the former percentage increased to 15·2, the latter to

Table LXVIII.—England and Wales, 1925–30—Deaths accidentally caused at Various Ages by Different Types of Motor Vehicles per 1,000 Deaths at the same Age caused by all Motor Vehicles.

Age.	Motor Car.	Motor Van, Lorry, Steam Waggon, etc.	Electric Tram-car.	Motor Omni-bus.	Motor Cycle.	Other or Unstated Vehicles (including Collisions).	All Vehicles.
0– ..	340	371	16	157	78	38	1,000
5– ..	413	348	7	143	47	42	1,000
10– ..	254	402	5	160	38	141	1,000
15– ..	125	215	4	110	226	320	1,000
20– ..	112	95	4	52	370	367	1,000
25– ..	154	127	9	73	328	309	1,000
35– ..	260	162	19	94	207	258	1,000
45– ..	326	159	26	114	178	197	1,000
55– ..	389	180	27	105	173	126	1,000
65– ..	415	171	44	102	179	89	1,000
75– ..	441	183	59	86	183	48	1,000
All Ages ..	285	205	18	104	198	190	1,000

53·2. These contrasts are brought out again in Table LXVIII, from which we learn that, while motor cycles are associated with only 19·8 per cent. of all deaths, they account for 37 per cent. of the deaths in the age-group 20–25, and 32·8 per cent. of the deaths in the age-group 25–30: in 1911–24, the corresponding percentages were 10·0, 28·4 and 23·7. In Table LXIX, the sex

Table LXIX.—England and Wales, 1925–30—Percentage at Various Ages, of Males and Females accidentally killed by different Types of Motor Vehicles.

Age.	Motor Car.		Motor Van, Lorry, Steam Waggon, etc.		Electric Tramcar.		Motor Omnibus.		Motor Cycle.		Other or unstated Vehicles (including collisions).		All Vehicles.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0– ..	63	37	69	31	48	52	65	35	53	47	62	38	64	36
5– ..	65	35	69	31	50	50	66	34	71	29	73	27	67	33
10– ..	71	29	84	16	43	57	74	26	73	27	83	17	78	22
15– ..	73	27	84	16	67	33	76	24	83	17	87	13	83	17
20– ..	75	25	86	14	50	50	68	32	92	8	90	10	87	13
25– ..	74	26	83	17	87	13	78	22	91	9	89	11	86	14
35– ..	69	31	83	17	78	22	70	30	89	11	85	15	80	20
45– ..	64	36	79	21	69	31	70	30	79	21	85	15	74	26
55– ..	61	39	75	25	72	28	67	33	69	31	82	18	68	32
65– ..	58	42	69	31	65	35	64	36	68	32	69	31	64	36
75– ..	60	40	67	33	58	42	70	30	68	32	62	38	63	37
All Ages ..	65	35	76	24	65	35	69	31	82	18	85	15	75	25

proportions at different ages of fatal accidents associated with different types of mechanically-propelled road vehicles are set out. The figures do not differ materially from those of the 1911–24 Table, and the comment made in the 1924 "Text" volume is still appropriate, viz., that the very high proportion of deaths of young adult males in the record of motor cycles, and the high proportion in that of motor vans, lorries, etc., suggest that the former deaths are mainly those of riders, and the latter those of men and boys employed on the lorries.

The most striking feature of this comparison of 1925–30 and 1911–24 is, of course, the very large absolute increase in the number of fatal accidents, especially perhaps of fatal accidents to young persons, attributable to the growing use of mechanical road transport. It is not proposed to enter here upon the question whether, *in proportion to the number of vehicles in use or to the user of such vehicles*, mechanical transport is becoming more or less dangerous. To do so would involve an appeal to statistical data for the compilation of which the Registrar-General has no responsibility, and such an inquiry might be more advantageously carried out when experience of the effects of recent legislation has been gained. It is, however, within the province of this *Review* to point out that deaths of this class now form one of the major groups in our statistics of deaths, and that no indication is afforded that the rate of mortality is near its maximum.

204, 205. **Ill-defined Causes of Death.**—These headings in the International List of Causes of Death, to which 747 deaths have been allocated, exclude the ill-defined diseases of infancy and old age, 160 (1) and 164 (2). In the more comprehensive sense resulting from their inclusion, the deaths from ill-defined causes in 1930 numbered 19,174, or 4·21 per cent. of the total, as compared with 4·20 in 1929 and 9·67 in 1911.

Table LXX.—England and Wales, 1930: Replies to Inquiries respecting Indefinitely Certified Causes of Death.

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to certain headings.
Croup	18	18	Diphtheria 2, Laryngismus stridulus 2, Laryngitis 7.
Membranous laryngitis	1	1	Diphtheria 1.
Pyæmia, septicæmia, etc.	181	140	Diseases of the teeth and gums 11, Tonsillitis 7, Puerperal sepsis 6, Diseases of the skin 21,
Tuberculosis ..	106	106	Tuberculosis of the respiratory system 60, Tuberculosis of the intestines 4, Tuberculosis of joints 6, Tuberculosis of bones 5, Tuberculosis of the lymphatic system 4, Disseminated tuberculosis 18, other forms of tubercle 5.
Cancer (part or organ not stated)	1,080	1,023	Part or organ stated in 1,018 cases.
Cerebral tumour (P.M. cases)	205	191	Tuberculosis of the central nervous system 6, Syphilis 6, Cancer 57, Glioma 75.
Tumour of other sites	774	606	Syphilis 5, Cancer 447.
Rheumatism ..	493	493	Rheumatic fever 181, Chronic rheumatism 3, Osteo-arthritis 8, Rheumatic heart disease 276.
Encephalitis ..	185	154	Influenza 15, Polio-encephalitis 2, Encephalitis lethargica 50, Syphilis 7, Cerebral abscess 1. Other forms of encephalitis 32, Meningitis 7.
Basal or basic meningitis	34	32	Meningococcal meningitis 8, Tuberculosis of the central nervous system 10, Meningitis—other forms 6.
Posterior or post basal or post basic meningitis	53	48	Influenza 1, Poliomyelitis 1, Meningococcal meningitis 34, Tuberculosis of the central nervous system 4.
Cerebro spinal meningitis	134	129	Measles 1, Influenza 2, Meningococcal meningitis 100, Tuberculosis of the central nervous system 3, Syphilis 2, Meningitis—other forms 13.
Spinal sclerosis ..	7	7	Syphilis 1, Diseases of the spinal cord 2, Disseminated sclerosis 4.

Table LXX.—England and Wales, 1930: Replies to Inquiries respecting Indefinitely Certified Causes of Death—*continued.*

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to certain headings.
Cerebral sclerosis ..	10	10	Syphilis 1. Arterio sclerosis 3.
Paraplegia	30	22	Syphilis 2. Diseases of spinal cord 11.
General paralysis (outside asylums)	32	30	General paralysis of insane 24.
Paralysis	14	14	Cerebral hæmorrhage, etc., 5.
Aortitis, arteritis and endarteritis	122	110	Syphilis 52, Arterio sclerosis 8.
Fibroid phthisis ..	79	77	Tuberculosis of the respiratory system 63, Chronic interstitial pneumonia 8.
Hæmoptysis ..	32	30	Tuberculosis of respiratory system 16.
Stomatitis	22	21	Thrush, aphthous stomatitis, 8.
Stricture of œsophagus	34	28	Cancer 14.
Hæmatemesis ..	24	16	Ulcer of stomach or duodenum 5.
Pyloric obstruction, stenosis, etc.	46	37	Cancer 4, Ulcer of stomach or duodenum 21.
Jaundice	57	47	Enteric fever 1, Syphilis 2, Cancer 9.
Peritonitis	85	78	Tuberculosis of peritoneum 3, Gonococcal infection 2, Cancer 2, Ulcer of stomach 7, Appendicitis 12, Intestinal obstruction 8, Diseases of female genital organs 15, Puerperal sepsis 4.
Pemphigus of infants	104	97	Syphilis 18.
Hydrocephalus ..	91	84	Meningococcal meningitis 1, Tuberculosis of the central nervous system 8, Syphilis 2, Congenital hydrocephalus 47.
Violence	519	505	Precise form of suicide 71, Injury by drowning 4, Injury by fall 68, Injury in mines and quarries 40, Injury by machines 7, Injury by crushing 187.
Syncope, heart failure (ages 1–70)	89	73	Influenza 3, Diseases of the heart 51.
Operation	487	471	Diphtheria 2, Cancer 37, Ulcer of the stomach and duodenum 46, Appendicitis 14, Hernia, intestinal obstruction 32, Biliary calculi 42, Diseases of the prostate 18, Ovarian tumour 12, Uterine tumour 42, Violence 10.
Other indefinite forms of certificate	2,070	1,803	———
Total ..	7,218	6,501	———

Inquiries sent to medical practitioners and coroners requesting further information as to indefinitely certified deaths amounted to 7,858, and to these 7,218 replies were received, with results to classification, some of the most important of which are set out in Table LXX.

The total additions to certain definite headings resulting from these enquiries were as follows:—To influenza 44; to encephalitis lethargica 52; to meningococcal meningitis 146; to tuberculosis of the respiratory system 200; to other forms of tuberculosis 127; to venereal diseases 157; to cancer 634; to diseases of the spinal cord 31; to general paralysis of the insane 29; to disseminated sclerosis 9; to arterio-sclerosis 40; to ulcer of the stomach or duodenum 128; to appendicitis and typhlitis 53; to biliary calculi 61; to diseases of the prostate 39; to puerperal sepsis 63; and to congenital malformations 75.

In addition to the foregoing, 1,429 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 1,010 replies received to these inquiries, 450 amended the original certification.

Anæsthetics.—The usual annual statement is continued of deaths during or connected with the administration of an anæsthetic. This is obtained by secondary tabulation of these deaths, since the primary tabulation, represented by Table 17, classifies all such deaths to the disease or injury on account of which the anæsthetic was administered.

The total number of deaths in Table LXXI, 707, is 23 less than in 1929 but is still more than double that of any year prior to 1916. During the 19 years for which fully comparable figures can be stated these deaths first increased slowly from 276 in 1911 to 336 in 1922 (366 in 1920) and then rapidly to 730 in 1929.

For the years before 1911 the record is contained in the tables of accidental deaths, but certain causes—strangulated hernia and cancer—were at this time preferred in tabulation to the anæsthetic used. In 1930 the 707 deaths included 91 associated with cancer, and 44 with hernia. So for comparison with the years prior to 1911 the number of deaths should be reduced to 572. But during 1901–10 the deaths ranged from 133 (1901) to 234 (1910).

Subject to allowance, on the scale indicated by this reduction, for the more comprehensive nature of the figures from 1911 onwards, the records of the present century may be compared as in Table LXXII.

Table LXXI.—England and Wales, 1930: Deaths under or connected with the Administration of various Anæsthetics.

Anæsthetic.		Age.														
		All Ages	0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Chloroform	M.	51	4	4	3	–	2	2	3	3	4	2	5	3	11	5
	F.	37	1	1	4	–	2	3	6	4	8	3	2	1	1	1
Chloroform and ether	M.	115	2	5	5	6	7	10	7	3	10	5	8	12	21	14
	F.	87	2	1	2	5	6	4	6	5	16	6	9	6	13	6
Chloroform, ether and ethyl chloride	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
	F.	3	–	1	–	–	–	–	–	1	1	–	–	–	–	–
Chloroform, ether, and novocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Chloroform and novocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Chloroform, oxygen and atropin	M.	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–
Ether	M.	126	9	16	14	3	4	6	2	8	4	2	4	11	27	16
	F.	130	4	7	16	5	4	7	9	5	9	13	14	19	8	10
Ether and ethyl chloride	M.	16	1	3	3	–	1	1	–	–	1	1	2	–	1	2
	F.	16	–	4	4	2	1	–	–	–	3	–	1	–	1	–
Ethyl chloride	M.	6	–	2	3	–	–	–	–	–	–	1	–	–	–	–
	F.	4	–	1	–	1	–	1	–	–	–	–	–	–	–	1
Ether, morphine and atropin	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Ether and novocaine	M.	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–
Ether and duracaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
A.C.E. mixture	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
	F.	3	–	1	–	–	–	–	1	–	–	–	1	–	–	–
Nitrous oxide	M.	23	1	–	4	–	4	1	2	1	–	1	1	2	4	2
	F.	18	–	1	–	–	–	1	2	3	2	–	–	3	3	3
Stovaine	M.	4	–	–	–	–	–	–	–	–	–	1	–	–	1	2
	F.	3	–	–	–	–	1	–	–	–	–	1	–	–	1	–
Morphia and stovaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Novocaine	M.	10	1	2	–	–	–	–	1	–	–	–	–	1	–	5
	F.	10	1	–	–	–	1	–	–	–	–	2	–	–	4	2
Novocaine and adrenalin	F.	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
Cocaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Tutocaine	F.	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–
Spinocaine	M.	2	–	–	–	–	–	–	1	–	–	–	–	–	–	1
Spinocaine, morphia, lyoscine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Spinocaine and novocaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Planocaine, gas and oxygen	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Pencaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–
	F.	2	–	–	–	–	1	–	–	–	–	–	–	1	–	–
Avertin	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Kind not stated	M.	11	–	1	–	–	–	1	1	–	–	2	–	2	1	3
	F.	12	–	2	–	–	–	–	1	1	–	2	1	–	1	4
Total	M.	375	18	33	32	9	18	21	18	16	19	15	20	32	68	56
	F.	332	8	19	26	13	16	17	25	20	39	27	28	30	35	29

The increase since 1911–15 is very general in its application to sex and age, but affects chiefly the aged of both sexes. It is least for males of 25–45.

Table LXXII.—England and Wales: Deaths under or associated with Anæsthesia, 1901-30.

Year.	Males.									Females.								
	All ages	0–	5–	15–	25–	35–	45–	55–	65–	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
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

* Excluding deaths from cancer and strangulated hernia—*see* page 87.

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
1921	122	100	126	114	80	68	142	188	300	115	114	135	107	150	95	106	110	60
1922	111	97	91	114	45	96	125	219	180	130	114	88	80	181	141	144	120	200
1923	157	150	161	207	85	136	146	213	270	159	157	135	93	144	145	178	230	300
1924	147	170	130	150	125	75	175	244	160	159	186	65	200	181	141	117	180	360
1925	149	143	109	121	115	100	163	281	290	166	157	82	100	269	145	161	230	300
1926	183	190	187	164	145	121	163	269	380	216	229	129	193	219	200	283	230	280
1927	196	143	222	179	100	107	175	438	470	231	171	165	193	288	214	222	350	380
1928	230	210	178	214	115	154	229	419	620	234	207	124	180	275	205	244	330	580
1929	248	220	265	221	125	154	263	400	610	272	250	206	180	325	236	278	430	440
1930	225	170	178	279	170	121	217	425	560	286	193	229	220	281	300	322	350	580

In 1930 deaths of females were in excess at ages 25–50, and of males at other ages.

The anæsthetic agents recorded on death certificates have altered greatly during the present century. The following statement records the proportion, per cent. of all deaths under anæsthetics of stated type, associated with the exclusive administration at different periods of chloroform, ether, chloroform and ether, and alcohol, chloroform and ether (A.C.E. mixture) respectively :—

	Chloroform.	*Ether.*	*Chloroform and ether.*	*A.C.E.*	*Other or mixed.*
1901–05	84	7	2	3	4
1906–10	76	9	8	2	5
1911–15	62	14	15	4	5
1916–20	45	19	27	3	6
1921–25	23	28	34	4	11
1926–30	16	35	30	1	18
1927	18	30	30	2	20
1928	18	36	32	1	13
1929	15	37	29	1	18
1930	13	37	30	1	19

So far as these figures can be taken as any indication of the type of anæsthetic chiefly used, as to which their exclusive association with fatalities makes them an unreliable guide, the increase of deaths under anæsthesia has occurred notwithstanding very general substitution of the safer agent, ether, for the more dangerous chloroform, which was associated with over four-fifths of the deaths at the beginning of the century, but with less than one-eighth in 1930. The increased proportion of fatalities with "other or mixed" anæsthetics is associated with rapidly increasing record of the use of certain agents, especially ethyl chloride, stovaine, and novocaine, which till recently were rarely mentioned on death certificates.

Proportions of deaths, per 10,000 under anæsthetics of stated type, associated with ethyl chloride, alone and in combination, and with nitrous oxide, stovaine, and novocaine as the only anæsthetic used, have been as follows at the periods stated :—

	Ethyl Chloride		*Nitrous Oxide.*	*Stovaine.*	*Novocaine.*
	Alone.	*In combination.*			
1916–20 ..	155	36	146	91	9
1921–25 ..	157	151	308	186	81
1926–30 ..	160	504	500	125	196
1926 ..	134	363	286	172	57
1927 ..	246	704	563	158	141
1928 ..	142	300	474	79	237
1929 ..	141	465	536	127	212
1930 ..	146	526	599	102	292

It need scarcely be pointed out that these proportions must 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 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 very rapidly, but cannot be stated. 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, and, this being so, it seems possible that the increase of this type of death may be partly dependent upon increase of boldness in operative surgery.

Of the 707 deaths in Table LXXII, 572 (81 per cent.) were classed to the 22 headings enumerated in Table LXXIII, the remainder being of very varied causation and included non-malignant tumours 21, and peritonitis 6. The composition of this list changes little from year to year. In 1930, however, the deaths from exophthalmic goitre suddenly rose to 15, against 3, 7 and 6 in the three preceding years.

The conditions chiefly calling for anæsthesia in these cases are set out in Table LXXIII—the list being arranged in the order of the titles of the International List to which the deaths were assigned :—

Table LXXIII.—England and Wales.—Classification of Deaths under or associated with Anæsthesia, 1930.

	Cause to which Death was assigned.	Males	Females		Cause to which Death was assigned.	Males	Females
32–36	Non-respiratory tuberculosis ..	11	3	118 *b*	Intestinal obstruction ..	24	16
43–49	Cancer	61	30	123	Biliary calculi ..	3	14
60 *a*	Exophthalmic goitre	—	15	124 (pt)	Diseases of the gall bladder ..	3	6
86 (1)	Diseases of the mastoid sinus	7	11	134 *a*	Stricture of the urethra ..	2	—
97	Diseases of the nasal fossæ and annexa ..	4	3	135	Diseases of the prostate ..	9	—
102 (1)	Empyema ..	10	2	136 (pt)	Circumcision ..	2	—
108 (1) (pt)	Extraction of teeth	15	8	139 (pt)	Uterine fibroids	—	11
109 (1)	Tonsillitis and adenoid vegetations ..	30	20	143–149	Childbirth and abortion ..	—	48
111	Gastric and duodenal ulcer ..	40	5	155 (1)	Acute infective osteo-myelitis	2	1
117	Appendicitis ..	35	23	159	Congenital malformations ..	10	8
118 *a*	Hernia	24	20	165-203	Violence ..	29	7

The proportion of these deaths reported from different classes of institutions, etc., in various sections of the country, is stated in the following table, 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, the registration counties of former Annual Reports (before 1911) being grouped into five sections of the country on the lines indicated in the footnote to Table VII on page 9.

The features of Table LXXIV have changed little during 1925–30, the only years for which it has been published. During these years the proportion of hospital deaths has varied only from 80 per cent. of the total in 1926 to 76 in 1930, 73 in 1929 and 72 in each of the other three years; for poor-law institutions the percentage has been 8–13 in different years; for mental hospitals never over 1; for nursing homes 4–7; and for non-institutional deaths 7–10.

The distribution is equally stable for the sections of the country distinguished, the North furnishing 31–35 per cent. of the deaths in each of the six years, London 20–28, the remainder of the South 12–18, and Wales 3–6 per cent. These proportions, being evidently in general correspondence with the respective populations, do not seem to suggest any markedly contrasted incidence of the deaths.

Table LXXIV.—Deaths under Anæsthetics Registered in 1930. Distribution by Part of Country and Place of Occurrence.

		Hospitals.	Poor Law Institutions.	Mental Hospitals.	Nursing Homes.	Elsewhere.	Total.
North ..	M.	90	13	—	2	7	112
	F.	82	16	—	5	10	113
Midlands	M.	73	11	—	1	11	96
	F.	62	9	1	4	7	83
London ..	M.	65	12	—	1	2	0
	F.	55	8	—	2	1	66
Remainder of South	M.	48	5	—	12	3	68
	F.	28	8	—	6	4	46
Wales ..	M.	15	1	—	—	3	19
	F.	19	—	—	2	3	24
England and Wales	M.	291	42	—	16	26	375
	F.	246	41	1	19	25	332

Status Lymphaticus and Anæsthetics.—The deaths from status lymphaticus primarily classified to diseases of the thymus in Table 17, which have shown a tendency to increase in recent years and reached a maximum of 202 in 1929 fell somewhat precipitately to 138 in 1930. In addition to these 138 deaths, there were 58 deaths under anæsthetics in the case of which record was made of the presence of this condition, 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 ..	33	12	8	2	3	3	2	3
Females ..	25	6	6	2	4	1	3	3

MEDICAL CERTIFICATION.

Reference may be made to the section under this head in the corresponding volume of the Statistical Review for 1928, as indicating the circumstances in which it has been arranged to include statistics on this subject as a regular annual feature of the Review. As stated therein, the figures for 1928 were given with a special degree of elaboration intended to serve as a datum line for similarly exhaustive comparisons on periodical occasions in the future ; and for the present and other intermediate years less detail is proposed to be given. It will be borne in mind that the Regulations require a death to be reported to the Coroner if the medical attendant certifying the cause of death had seen the deceased neither after death nor within 14 days before death.

In Table LXXV figures are given bearing upon the extent to which death registration and burial take place on the strength of the certificate of a medical attendant who has seen the body of the deceased after death. In any statistical analysis it is necessary for all practical purposes to group with such cases those where the death was the subject of a Coroner's inquest or post mortem examination, or came under review by a Coroner prior to registration and burial. These cases are therefore included under the head of " seen."

Table LXXV.—Summary of Certification of Deaths Registered During the Year 1930.

	Registered Medical Practitioner.	Inquest or Coroner's P.M. without Inquest.	Other cases reviewed by Coroner.*	Total deaths registered.	
				Number.	Percentage.
Seen after death ..	193,521	39,080	4,411	237,012	52·0
Not seen after death	217,078	—	—	217,078	47·7
No statement ..	1,337	—	—	1,337	0·3
	411,936	39,080	4,411	455,427	100·0

* Cases without certificate of registered medical practitioner in attendance (which since 1914 must be referred by Registrar to Coroner) where Coroner declined to hold inquest.

The above statement shows that in 1930 the proportion of " seen " cases was 52·0 per cent. of the total deaths registered ; in 1928 and 1929 the corresponding percentage was 51·0 and 49·7. The improvement applied to all four quarters but was greater in the first than in the second half of the year.

The continuous decline in the number of certificates without indication of whether the body was seen or not seen after death from 2,108 in 1928 and 1,711 in 1929, to 1,337 in 1930, tends to confirm the supposition that this is a temporary feature which should disappear in future returns and which is mainly due to the inception of the new procedure.

In the cases returned above as " not seen " the great majority of the deceased persons were, of course, seen alive by the medical attendant on the day of death or on the day before. Figures are not available for 1929 or 1930 ; but for 1928 it was stated that " if these cases, totalling to 41 per cent. of the total deaths, are added to those seen after death, as conforming to a standard which satisfies reasonable requirements, the proportion of such cases is increased to 92 per cent. Further, if those ' seen alive ' within two days are added, the total is increased to 96 per cent."

Of the 47·7 per cent., or 217,078 deaths in all, included above as "not seen" after death, a substantial proportion, viz., 65,392, took place in hospitals and other residential institutions.

As the field for any enlargement of the proportion of cases "seen" after death is limited to the cases of deaths certified by medical practitioners it will be of interest to analyse such cases in more detail.

Table LXXVI.—Comparison of Proportions of "seen" and "not seen" in Institutions and in Private Practice (Coroners' Cases Excluded). 1928–30.

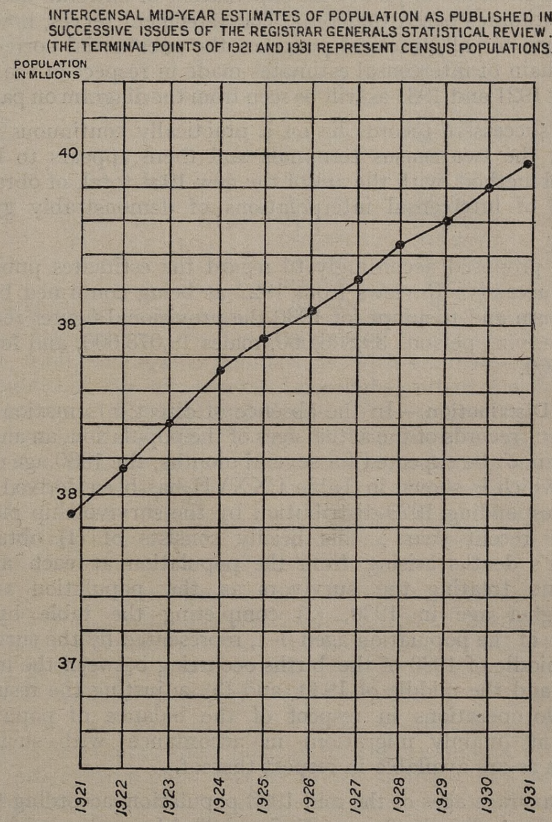
		Poor Law Institutions.		Voluntary Hospitals.		Private Practice.	
		Seen.	Not Seen.	Seen.	Not Seen.	Seen.	Not Seen.
		%	%	%	%	%	%
March Quarter	1928	35·3	64·7	70·2	29·8	42·8	57·2
	1929	32·0	68·0	69·8	30·2	41·6	58·4
	1930	34·4	65·6	69·6	30·4	43·3	56·7
June Quarter..	1928	36·7	63·3	69·7	30·3	41·6	58·4
	1929	35·8	64·2	70·0	30·0	41·0	59·0
	1930	34·6	65·4	69·4	30·6	43·2	56·8
September Quarter	1928	37·1	62·9	69·9	30·1	42·3	57·7
	1929	36·2	63·8	69·4	30·6	42·1	57·9
	1930	34·5	65·5	71·0	29·0	44·1	55·9
December Quarter	1928	36·7	63·3	69·6	30·4	44·0	56·0
	1929	35·3	64·7	69·9	30·1	43·9	56·1
	1930	35·6	64·4	71·4	28·6	45·5	54·5
Year	1928	36·4	63·6	69·8	30·2	42·7	57·3
	1929	34·2	65·8	69·8	30·2	42·0	58·0
	1930	34·8	65·2	70·3	29·7	44·0	56·0

Note.—The statutory notice of death respecting all deaths in Mental Institutions provides for a statement of marks of violence found on the body; and in view of this provision all deaths in these institutions have been classed as "seen" after death.

The percentage of "seen" cases for the three years for which the figures have been tabulated show but little variation from year to year. Compared with the experience of 1929, the proportions in 1930 are higher for each of the three classes distinguished, and in respect of the voluntary hospitals and private practice are also higher than those for 1928.

POPULATION.

Since the publication of the previous issue of this Review, the fourteenth decennial Census of the population of England and Wales has been taken and the result has been to disclose a total population, as at the 26th April, 1931, of 39,947,931 persons, of which 19,138,844 were males and 20,809,087 females. It was explained in the Preliminary Census Report announcing these figures that they were of a provisional character in that they were compiled from unrevised summaries furnished by local census officers; judging by past experience, they will not be found to be materially different from the final figures which will be issued in due course after detailed examination of the individual returns.



Owing to the proximity of the Census, it had been deemed advisable to delay the formal announcement of figures for 1930—the year to which this Review relates—in order that full advantage might be taken of the new material about to come to hand; this

was almost essential in the interest of local sub-divisions of the country in which considerable population changes were anticipated in respect of the nine not uneventful years that had elapsed since the date of the last Census. Figures for Departmental use had, however, been prepared for the country as a whole on the basis adopted for previous intercensal years and these estimated the population at 39,806,000 persons (males 19,075,000 and females 20,731,000) as at 30th June, 1930, while a further extension to April, 1931, forecasted the total at the Census date at 39,950,000.

The closeness of the agreement between the forecast and the realised census figure is, of course, largely an accident ; the quality of the intercensal records, in particular those relating to migration, is not of an order to justify an expectation of extreme accuracy in the estimates based thereon. The agreement serves, however, to confirm for all practical purposes the substantial correctness of the chain of intercensal estimates made in respect of the years between 1921 and 1931 as will be seen from the diagram on page 97.

The successive records lie on a practically continuous curve between the two census terminals and there appears to be no practical method, with the aid of the new 1931 total, of obtaining a series of intercensal interpolations of demonstrably greater validity.

It is proposed accordingly to regard the estimates published in the successive Reviews from 1922 as being confirmed by the 1931 return and to adopt for 1930 the provisional figures referred to above, viz., persons 39,806,000, males 19,075,000, and females 20,731,000.

Age Distribution.—In the absence of direct information from the Census records of the actual ages of the population, an analysis which cannot be expected for several months, the 1930 age distribution which is shown in Table LXXVII has been derived from the corresponding 1929 distribution by the survivorship method used in recent years ; this briefly consists of (1) obtaining the year's deaths arising from the population at each age in 1929, and treating the survivors as the population at the next higher age in 1930, (2) completing the table by the addition of the population aged 0–1, represented by the survivors at the middle of 1930 of the births occurring between the middle of 1929 and the middle of 1930, and (3) adjusting the results of these two operations in respect of the balance of population movement (mainly migration) in accordance with such age statistics as are available in respect thereof.

The average ages of the mid-1930 population according to the estimated age distribution are 31·5 and 33·1 for males and females respectively, as compared with averages of 29·9 and 31·2 at the last census, representing increases in the average age of 1·6 and 1·9 during the nine years. Between 1911 and 1921 the average ages increased by 1·9 and 2·1 respectively.

Table LXXVII.—England and Wales.—Estimated Age Distribution of the Population—Mid-1930.

Age-Group.	Persons.	Males.	Females.
All ages	39,806,000	19,075,000	20,731,000
0—	611,020	308,940	302,080
1—	600,230	303,850	296,380
2—	594,180	300,450	293,730
3—	612,970	309,180	303,790
4—	630,900	318,380	312,520
0—	3,049,300	1,540,800	1,508,500
5—	3,448,900	1,743,800	1,705,100
10—	3,102,600	1,566,500	1,536,100
15—	3,500,300	1,753,800	1,746,500
20—	3,557,100	1,782,100	1,775,000
25—	3,303,600	1,608,900	1,694,700
30—	2,964,500	1,344,300	1,620,200
35—	2,836,200	1,284,000	1,552,200
40—	2,607,500	1,191,500	1,416,000
45—	2,595,000	1,195,600	1,399,400
50—	2,334,400	1,092,000	1,242,400
55—	2,113,100	1,003,100	1,110,000
60—	1,588,200	748,300	839,900
65—	1,240,500	568,800	671,700
70—	786,600	345,300	441,300
75—	481,400	199,600	281,800
80—	208,500	76,600	131,900
85 & upwards	88,300	30,000	58,300

Local Populations.—In the preliminary report on the Census of 1931, total enumerated populations, with sex distinction, have been published for all counties, boroughs, urban districts and rural districts in England and Wales. It is to be observed that the figures so issued refer to the *de facto* populations, i.e., the populations actually found within the several areas on Census night, and that, as is pointed out in the introduction to the report, these, for a variety of reasons, may, in some areas, differ from the corresponding figures to be obtained from a classification based upon the residence of the individuals concerned.

In the vital statistics covered by the Registrar-General's Annual Report, births and deaths are classified strictly by residence and the annual estimates of population, representing the exposed to risk in each case, are designed to reflect as far as possible a residence distribution of population.

In order, therefore, that the Census figures may adequately serve their function of guide posts in the chain of annual estimates, the *de facto* returns must first be reviewed and where necessary, modified with a view to securing that the resulting distribution shall conform as nearly as is possible to the residence principle. The steps taken towards that end in respect of the 1921 Census were fully set out in the Annual Report for 1921 ; and, owing to the exceptional circumstances which attended the taking of that Census, considerable divergence between Census and

resident population was disclosed in a number of areas. The necessary 1931 modifications will no doubt prove to be on a smaller scale, but their exact nature and incidence will not be finally known until the returns received in respect of the "usual residence" question on the 1931 Census Schedule have been analysed.

Meanwhile, in order to avoid undue delay in the issue of 1930 and 1931 estimates, provisional residence adjustments have been made to the 1931 Census figures which will probably satisfy the majority of local requirements for the time being. These have taken the form of eliminating from the enumerated populations all persons whose "usual residences" as returned at the Census were recognised by the local registrars as being outside the boundaries of the area of enumeration (borough, urban district or rural district), and redistributing such visitors by (*a*) crediting areas containing boarding schools with numbers corresponding to their absent boarders as ascertained from a special local enquiry and (*b*) distributing the balance of visitors over all areas in proportion to their populations.

The new Census data available in this form enable the estimates once again to be brought into close accord with facts and at the same time provide an opportunity of obtaining some idea of the error which has been introduced by the current procedure governing their computation during the past intercensal period. The methods used in the preparation of the successive years' estimates have been described in each year's Annual Review and broadly consist in adding to the 1921 resident population of an area, the excess of births over deaths related to that area and then modifying the result in respect of such migration movement as can be indirectly inferred from change in the registers of electors.

In a majority of the 1,800 odd areas for which annual estimates have to be made, it is reasonable to assume, in the first instance, that the intercensal population movements have been steady and continuous between the terminal Census points of 1921 and 1931, and, on this assumption, an arithmetical projection of the movement estimated to have occurred between 1921 and 1929, the last year for which estimates have been issued, up to 26th April, 1931, ought to reproduce the 1931 resident populations within a small margin. An initial test of this nature was made and the resulting difference margins, expressed as percentages of the 1931 populations, exhibited the distribution shown in Table LXXVIII.

It will be observed that in 1,302 of the 1,801 areas examined, the hypothetical error, by the continuity test, is less than 5 per cent., in 371 cases it is between 5 per cent. and 10 per cent., and in 128 it exceeds 10 per cent. The average divergence for all areas is ± 4·4 per cent.

Table LXXVIII.—Areas classified according to whether expected 1931 Population is in excess or defect of actual 1931 Population.

Type of Area.	Expected in excess by					Expected in defect by					Total excess areas.	Total defect areas.
	20% or more.	15%–20%.	10%–15%.	5%–10%.	under 5%	under 5%.	5%–10%.	10%–15%.	15%–20%.	20% or more.		
Administrative counties entire	—	—	—	4	36	19	2	—	—	—	40	21
Metropolitan boroughs*	—	—	—	6	13	10	—	1	—	—	19	11
County boroughs and urban areas; population greater than 50,000	—	—	1	10	41	48	13	1	2	—	52	64
Urban areas; population 20,000–50,000 ..	—	—	4	17	66	66	13	6	5	3	87	93
Urban areas; population less than 20,000	9	9	31	129	324	239	65	12	2	3	502	321
Rural areas	5	5	14	90	319	176	28	11	2	2	433	219
Total individual areas ..	14	14	50	252	763	539	119	31	11	8	1,093	708
No. of areas challenging official estimates ..	1	2	3	18	97	78	16	6	2	3	121	105

* Includes the Temples as a separate area.

So far as the table throws light on the intercensal figures, the fact that in 1,093 areas the projection is in excess of the actual as compared with 708 in which it is lower suggests that deficiencies, where they occur, are individually of a higher order than the excesses, since the aggregate of deficiencies and excesses are, of necessity, identical.

Further, from the last two columns of the table it might be inferred that estimate deficiencies are slightly more frequent in the case of county boroughs and large towns and that the converse overestimation appears in respect of rural areas.

From the bottom line of the table in which the test has been limited to areas in which the departmental estimates have been challenged by the local authorities concerned, it will be seen that the general distribution of divergencies is very similar to the distribution for all other areas. Almost without exception the disputed figure was alleged to be deficient and the complaints were frequently accompanied by alternative locally prepared estimates of a most extravagant character. Actually, the average divergence brought out for these areas is a shade lower than that for all areas (±4·3 per cent. as compared with ±4·4 per cent.) from which and from the nature of the corresponding distributions it may be inferred that the quality of the estimates in respect of them is neither worse nor better than in respect of other areas of the country. It is rarely possible to compute satisfactory estimates from isolated local records. The populations concerned are subject to interaction and reaction with neighbouring and more distant populations, and unless the whole can be subjected to common and simultaneous treatment there is great danger that a general perspective of the movements will be lacking and a tendency introduced to assume that individual units are increasing at a much faster rate than can be justified from a wider and more comprehensive examination.

Considering once more the analysis of Table LXXVIII it is clear that, though the average divergence may be regarded as not unreasonable having regard to the quality of the data upon which the estimates have to be constructed, there are apparently a large number of areas which are not satisfied by the test applied. That, however, was to be expected ; the continuity assumption is only valid as a general test and a very limited experience of population movements would lead to the expectation of many misfits. In these cases further and more individual examination was necessary to establish the adequacy of the estimates and the table will have accomplished its object in identifying the areas for which further investigation is necessary. The further processes employed were too varied and extensive to permit of detailed description here. It may be stated that the successive estimates were examined by reference to housing returns, electoral records and any other local information in the possession of the Department and that in many of the more extreme cases it was found that apparent irregularities in the progress of the intercensal estimates were parallelled by corresponding irregularities in the housing or electoral records which were often sufficient to indicate a high probability of uneven growth in the population itself and to explain accordingly a large portion of the apparent discrepancy produced by the continuity assumption.

Beyond a general examination of this nature it is impossible to go. No means are available for determining, finally and conclusively, what the actual population of a specific area was at a given intercensal date and how closely therefore the facts were reflected by the estimate. It is only from the assembled records of a large number of areas that a collective idea of the success or otherwise of the processes employed may be obtained ; altogether, the investigation suggests that the real error or unexplainable discrepancy would, if it could be ultimately determined, be found to be considerably less than half the continuity divergence of Table LXXVIII both in range and average amount, and that in respect of a full ten-year census interval. With the improvement in the migration index which should follow the extension of the electoral franchise to cover virtually the whole adult population and with the possible shortening of the census interval to a period of five instead of ten years, there should be little room for serious error in future estimates of population save in exceptional circumstances.

1930 Estimates of Population.—In view of the facts that the 1931 populations derived from the preliminary census returns are themselves of a provisional nature only and that there would be much uncertainty in any attempt to adjust the estimates of 1929 and earlier years, the 1930 local population estimates shown in Tables 14 and E have in all cases been obtained by simple arithmetical interpolation between the published 1929 estimates and the provisional 1931 figures referred to above.

Non-Civilian Population.—It will be observed in the tables in which the estimated local populations are given (Table 14 and Table E) that the local deaths and death-rates refer to civilians only and in conjunction with these a civilian population should preferably be used instead of a total

Table LXXIX.—Estimated Civilian Population by Sex and Age in the middle of the Year 1930.*
(Figures given to the nearest hundred.)

		All Ages.	0–	5–	15–	25–	35–	45–	55–	65–	75 and upwards.
All areas :—											
England and Wales ..	M	18,904,0	1,540,8	3,310,3	3,443,8	2,904,4	2,450,5	2,282,5	1,751,4	914,1	306,2
	F	20,731,0	1,508,5	3,241,2	3,521,5	3,314,9	2,968,2	2,641,8	1,949,9	1,113,0	472,0
North	M	6,339,0	524,7	1,111,7	1,190,1	1,002,5	840,8	766,5	557,5	270,9	74,3
	F	6,798,3	516,9	1,093,6	1,190,6	1,109,9	988,4	858,3	606,7	321,1	112,8
Midlands	M	6,272,4	506,8	1,107,9	1,151,5	942,6	802,4	746,2	583,9	316,6	114,5
	F	6,792,2	493,4	1,082,5	1,150,5	1,062,9	958,5	854,5	639,4	379,5	171,0
South	M	4,974,9	399,8	850,2	851,6	746,9	638,1	616,6	499,6	272,0	100,3
	F	5,835,4	390,3	828,3	947,3	933,3	844,2	776,7	596,9	354,4	164,0
Wales	M	1,321,6	109,5	240,5	252,7	213,6	169,8	153,4	110,4	54,6	17,1
	F	1,305,1	107,9	236,8	233,1	208,8	177,1	152,3	106,9	58,0	24,2
London	M	2,028,6	170,2	345,2	361,6	326,4	266,6	250,1	187,7	92,5	28,3
	F	2,359,4	166,2	342,3	415,8	402,7	341,8	302,1	216,8	120,6	51,1
County Borough :	M	6,307,6	533,6	1,118,0	1,157,4	1,005,4	847,9	766,8	542,7	261,4	74,4
	F	6,969,4	524,6	1,107,7	1,238,8	1,148,7	1,014,5	870,3	609,2	328,7	126,9
North	M	3,356,7	285,5	590,8	626,3	539,5	455,1	411,1	284,5	130,9	33,0
	F	3,657,6	281,1	585,3	653,9	608,1	538,0	457,9	314,2	162,8	56,3
Midlands	M	2,025,9	171,3	365,3	374,2	320,8	270,3	242,1	171,2	85,4	25,4
	F	2,237,1	168,1	363,0	405,0	368,3	320,8	273,1	190,6	105,5	42,7
South	M	646,3	53,4	112,8	103,2	96,2	85,4	81,6	65,1	35,1	13,4
	F	799,2	52,4	110,6	126,7	125,2	117,7	108,3	83,8	50,2	24,3
Wales	M	278,8	23,4	49,1	53,7	48,9	37,2	32,0	21,9	10,0	2,6
	F	275,5	23,0	48,8	53,2	47,1	38,0	31,0	20,6	10,2	3,6
Other Urban Districts: ..	M	6,643,9	523,8	1,177,4	1,206,3	1,021,3	870,2	808,8	613,8	317,3	105,0
	F	7,377,4	514,1	1,152,4	1,253,8	1,174,4	1,064,7	950,3	699,5	398,9	169,3
North	M	2,088,0	165,3	363,6	391,2	331,3	279,1	254,5	186,5	91,6	24,8
	F	2,243,3	162,9	358,3	387,7	365,9	327,7	288,0	205,9	109,4	37,5
Midlands	M	2,606,5	204,3	465,2	477,8	396,5	339,0	314,3	240,0	125,8	43,6
	F	2,891,0	199,6	454,0	498,1	456,3	415,1	368,9	270,4	158,0	70,6
South	M	1,310,1	100,6	227,6	214,7	189,6	168,7	165,5	136,8	76,7	30,0
	F	1,612,0	98,2	220,5	252,9	250,0	236,0	220,9	175,1	106,9	51,5
Wales	M	639,4	53,6	121,0	122,6	104,0	83,4	74,5	50,5	23,2	6,6
	F	631,1	53,4	119,6	115,1	102,2	85,9	72,5	48,1	24,6	9,7
Rural Districts:	M	3,927,9	313,2	669,7	720,6	552,5	466,3	457,0	407,2	242,9	98,5
	F	4,024,8	303,6	638,8	613,1	589,1	547,2	519,1	424,4	264,8	124,7
North	M	894,4	73,9	157,3	172,6	131,8	106,6	100,8	86,5	48,4	16,5
	F	897,4	72,9	150,0	149,0	135,9	122,7	112,4	86,6	48,9	19,0
Midlands	M	1,640,1	131,2	277,4	299,5	225,3	193,2	189,9	172,7	105,4	45,5
	F	1,664,1	125,7	265,5	247,4	238,3	222,6	212,5	178,4	116,0	57,7
South	M	990,0	75,6	164,6	172,0	134,7	117,4	119,4	110,0	67,7	28,6
	F	1,064,8	73,5	154,9	151,9	155,4	148,7	145,4	121,2	76,7	37,1
Wales	M	403,4	32,5	70,4	76,4	60,7	49,1	47,0	38,0	21,4	7,9
	F	398,5	31,5	68,4	64,8	59,5	53,2	48,8	38,2	23,2	10,9

* Adjusted to allow for changes in boundary during the year.

population containing a number of non-civilians. In the majority of areas, the two populations are practically identical, and no special measures have been necessary in respect of them, but in areas in which the non-civilians were numerous, estimates of civilian populations have been provided in addition to total populations and are shown in footnotes appended to the tables.

Institutions.—In the Census classification of population according to residence, the populations of institutions, *e.g.* Workhouses, Infirmaries, Hospitals, Asylums, etc., have been 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 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, 1930.—Sex and age distributions have been prepared for the large aggregates shown in Table LXXIX. The populations at ages under five were obtained by the survivorship method (*see* page 98), and for later ages the total populations estimated by the method described in the preceding section were distributed in accordance with the census age and sex distribution of the unit, the resulting figures being thereafter modified to allow for the change between 1921 and 1930 of 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 1890 in Table A.

MARRIAGES.

The marriages registered in England and Wales during the year 1930 numbered 315,109, corresponding to a rate of 15·8 persons married per 1,000 of the population of all ages and conditions. The number so registered is 1,793, or 0·57 per cent. more than the number registered in 1929, and represents an increase of 0·01 in the proportion married per 1,000 population.

The current rate thus shows no significant change from that of last year. It is actually higher than any recorded since 1921 and is somewhat above the general level of pre-war rates, from which it must be assumed that the burden and responsibility of marriage under modern conditions presses no more heavily upon the newly wedded than it did twenty or thirty years ago, notwithstanding the prevailing economic depression.

The preference for the third quarter, noticeable in the records since the beginning of the present century, was maintained in 1930, the marriages in this period being 31 per cent. of the total, while the fourth, formerly the outstanding favourite, now ranks third out of the four. The rate for the first quarter, representing 15·5 per cent. of the year's marriages, retained its customary place in being lower than that of either of the later quarters.

It may be observed here that by the Age of Marriage Act, 1929, the minimum age at which marriage may be contracted was made 16 in respect of each sex as from the 10th May in place of the hitherto recognised minimum of 14 and 12 for males and females respectively. The numbers involved are of course insignificant and the change has no material influence on the continuity of the statistical record.

In the following table the marriages both of the current year and of a series of past periods 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 of the behaviour 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 marriageability of the population, so that, from one point of view, the male ratios might be regarded as providing the better indexes to the variations which have occurred from time to time in the incidence of marriage.

Table LXXX.—England and Wales. Annual Number of Marriages of Men and Women per 1,000 Unmarried Population of each Sex aged 15 and over, 1871–1930.

NOTE.—The annual numbers of marriages have been taken as the average of the three years about each Census prior to 1921. During the 1921 period the marriage-rates were changing rapidly and it has been deemed preferable to show the rates for this period by individual years.

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
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

Fluctuations of the general Marriage-rate in different Sections of the Country.—In Tables LXXXI and LXXXII comparison is made of the year's marriages and marriage-rates in large geographical sections of the country, and an analysis of recent rates in Registration Counties is shown in Table LXXXIII.

Table LXXXI.—Marriages of each year in Geographical Sections of the Country : 1914–1930.

	North.	Midlands.	South.	Wales.	England and Wales.
1914 ..	100,926	87,695	85,728	20,052	294,401
1915 ..	115,694	109,844	113,868	21,479	360,885
1916 ..	90,287	84,895	87,322	17,342	279,846
1917 ..	83,151	78,761	80,356	16,587	258,855
1918 ..	92,381	87,798	89,928	17,056	287,163
1919 ..	125,863	111,180	107,971	24,397	369,411
1920 ..	136,443	114,942	102,930	25,667	379,982
1921 ..	110,864	97,218	91,831	20,939	320,852
1922 ..	101,335	91,657	86,610	19,922	299,524
1923 ..	99,640	89,483	83,152	20,133	292,408
1924 ..	100,400	92,035	84,252	19,729	296,416
1925 ..	99,301	92,172	84,882	19,334	295,689
1926 ..	89,777	89,146	84,617	16,320	279,860
1927 ..	102,245	97,750	88,867	19,508	308,370
1928 ..	98,642	96,381	89,499	18,706	303,228
1929 ..	102,058	101,130	90,981	19,147	313,316
1930 ..	101,777	101,588	92,528	19,216	315,109

Table LXXXII.—Marriage-rate per 1,000 Unmarried Population aged 15 and over in Geographical Sections of the Country.

	Rate per 1,000 Unmarried Population aged 15 and over.			Ratio of local rate to England and Wales rate (taken as 1,000).		
	1921	1929	1930	1921	1929	1930
Males						
England and Wales	60·4	55·2	55·6	1,000	1,000	1,000
North	61·6	53·7	53·8	1,020	973	968
Midlands ..	60·1	56·6	56·3	995	1,025	1,013
South (including London)	62·2	58·8	60·2	1,030	1,065	1,083
Wales	49·5	43·7	44·9	820	792	808
London ..	71·7	69·0	70·8	1,187	1,250	1,273
Females						
England and Wales	45·8	41·9	42·0	1,000	1,000	1,000
North	48·7	42·4	42·3	1,063	1,012	1,007
Midlands ..	46·1	43·5	42·9	1,007	1,038	1,021
South (including London)	41·8	39·5	40·1	913	943	955
Wales ..	49·5	43·7	44·6	1,081	1,043	1,062
London ..	46·5	44·7	45·6	1,015	1,067	1,086

Table LXXXIII.—Marriage-rate per 1,000 Unmarried Population —All Marriages and Marriages of Minors separately—in Registration Counties, 1921 and 1930.

Area.	All Marriages.				Minors.			
	Persons married per 1,000 unmarried population of the age of 15 and over.		Ratio to England and Wales rate.		Persons married per 1,000 unmarried population 15–21.		Ratio to England and Wales rate.	
	1921	1930	1921	1930	1921	1930	1921	1930
England and Wales ..	**52·1**	**47·8**	**1,000**	**1,000**	**15·6**	**15·1**	**1,000**	**1,000**
North	**54·4**	**47·3**	**1,044**	**990**	**17·7**	**15·3**	**1,135**	**1,013**
Cheshire	48·3	43·0	927	900	13·2	13·0	846	861
Lancashire	54·1	46·3	1,038	969	15·0	13·8	962	914
Yorkshire, West Riding	56·3	48·6	1,081	1,017	19·1	16·2	1,224	1,073
,, East Riding	56·1	50·9	1,077	1,065	19·7	18·8	1,263	1,245
,, North Riding	47·3	44·5	908	931	18·5	16·6	1,186	1,099
Durham	60·7	53·5	1,165	1,119	25·1	18·6	1,609	1,232
Northumberland ..	52·7	46·2	1,012	967	19·3	14·9	1,237	987
Cumberland	46·9	43·0	900	900	17·3	15·5	1,109	1,026
Westmorland	43·4	34·7	833	726	10·7	9·9	686	656
Midlands	**52·2**	**48·7**	**1,002**	**1,019**	**14·8**	**14·9**	**949**	**987**
Middlesex	50·2	48·5	964	1,015	11·8	13·6	756	901
Hertfordshire	44·7	40·8	858	854	12·2	12·6	782	834
Buckinghamshire ..	45·2	44·5	868	931	10·5	14·3	673	947
Oxfordshire	44·8	41·7	860	872	10·8	15·4	692	1,020
Northamptonshire ..	53·7	46·1	1,031	964	14·2	13·5	910	894
Huntingdonshire ..	54·9	39·6	1,054	828	18·0	14·1	1,154	934
Bedfordshire	50·7	44·3	973	927	14·2	12·7	910	841
Cambridgeshire ..	49·6	43·0	952	900	15·6	17·2	1,000	1,139
Essex	53·5	47·2	1,027	987	12·3	12·4	788	821
Suffolk	48·7	45·1	935	944	14·7	15·0	942	993
Norfolk	49·6	46·0	952	962	14·3	16·1	917	1,066
Gloucestershire ..	49·8	46·5	956	973	11·0	11·0	705	728
Herefordshire	42·7	39·1	820	818	8·5	11·7	545	775
Shropshire	45·7	42·1	877	881	10·7	12·4	686	821
Staffordshire	57·0	53·3	1,094	1,115	17·9	14·9	1,147	987
Worcestershire	49·2	46·1	944	964	13·6	13·5	872	894
Warwickshire	50·7	53·7	973	1,123	14·0	16·1	897	1,066
Leicestershire	58·9	48·4	1,131	1,013	17·5	15·1	1,122	1,000
Rutlandshire	39·4	41·5	756	868	6·2	10·4	397	689
Lincolnshire	54·3	49·3	1,042	1,031	19·4	20·0	1,244	1,325
Nottinghamshire ..	58·0	54·4	1,113	1,138	22·4	20·0	1,436	1,325
Derbyshire	56·9	52·6	1,092	1,100	18·2	18·4	1,167	1,219
South (including London)	**50·0**	**48·1**	**960**	**1,006**	**13·6**	**15·1**	**872**	**1,000**
London	56·4	55·5	1,083	1,161	15·5	16·5	994	1,093
Surrey	43·9	41·0	843	858	10·4	12·5	667	828
Kent	45·9	45·3	881	948	13·5	14·8	865	980
Sussex	39·4	38·5	756	805	11·5	13·6	737	901
Hampshire	48·5	47·2	931	987	13·7	15·6	878	1,033
Berkshire	46·1	44·9	885	939	11·8	14·2	756	940
Wiltshire	50·8	44·8	975	937	12·2	12·0	782	795
Dorsetshire	46·0	42·4	883	887	11·8	14·9	756	987
Devonshire	46·7	44·2	896	925	13·1	15·6	840	1,033
Cornwall	41·5	42·1	797	881	11·9	16·5	763	1,093
Somersetshire	46·0	41·6	883	870	11·0	12·4	705	821
Wales	**49·5**	**44·7**	**950**	**935**	**16·4**	**14·5**	**1,051**	**960**
Monmouthshire ..	53·8	51·4	1,033	1,075	18·5	16·7	1,186	1,106
Glamorganshire ..	56·6	50·0	1,086	1,046	19·8	16·1	1,269	1,066
Carmarthenshire ..	46·5	38·6	893	808	15·8	15·3	1,013	1,013
Pembrokeshire	43·3	37·5	831	785	12·2	13·6	782	901
Cardiganshire	29·6	25·7	568	538	5·7	8·4	365	556
Brecknockshire ..	46·0	39·1	883	818	11·8	11·0	756	728
Radnorshire	36·0	32·1	691	672	8·7	13·5	558	894
Montgomeryshire ..	38·9	34·5	747	722	8·7	10·2	558	675
Flintshire	40·8	36·4	783	762	8·5	8·4	545	556
Denbighshire	43·1	41·9	827	877	11·2	10·6	718	702
Merionethshire	34·4	30·1	660	630	6·9	8·3	442	550
Caernarvonshire ..	36·9	36·6	708	766	8·2	10·1	526	669
Anglesey	33·4	37·1	641	776	7·4	7·8	474	517

The determination of marriage-rates for localities is not wholly satisfactory for several reasons. 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. Again, it has only been possible till now to tabulate marriages by registration areas, while the available estimates of population for years other than census years refer to administrative areas. The populations upon which the rates for such years are based have, therefore, to be derived from the estimated populations of the corresponding aggregates of administrative counties and county boroughs on the assumption of a ratio between the population of the registration and administrative areas. Any error so introduced is probably small and not likely to have any appreciable effect upon the rates quoted.

The order of the sectional frequencies is generally associated inversely with the masculinity of the several areas, the male rate being highest where the proportion of men in the population is lowest, thus accounting for the apparent contrasts produced by Wales on the one hand, which returns the lowest male frequency and the highest but one female frequency, or by the South on the other, where conditions are reversed. London females furnish the chief exception to this rule in exhibiting the highest female marriage rate notwithstanding their excess of numbers in the general population The range of variation amongst females is, as usual, much less than amongst males in the several sections; this may be due to a greater constancy in the marriage force in the case of the weaker sex or it may signify little more than that they have the greater share in determining where the marriage is to take place.

From the county analysis in Table LXXXIII it will be seen that the 1930 marriage-rate was highest in London, where it exceeded the mean for the country by 16·1 per cent. followed in order by Nottinghamshire, Warwickshire, Durham, Staffordshire and Derbyshire, with excesses in the neighbourhood of 10–14 per cent. Rural counties, with few exceptions, retain their customary place at the other end of the list.

Marriage-rates by ages, which should provide an even more exact statement of the incidence and intensity of marriage, are shown in Table LXXXIV. In connexion with this table, it is necessary to state that the ascertainment of age rates, in years other than those in which the distribution of the population by sex, marital condition and age is definitely known by means of a census enumeration, involves a degree of estimation of population detail in which the margin of error may be not insignificant,

particularly towards the end of an intercensal period, owing to the absence of a complete record of the movements between the single, married and widowed sections of the population. Nevertheless, no study of the marriage tendencies in a population can proceed without reference to these factors, and the possibility of the crude rates being made the basis of erroneous inferences justifies the inclusion of the following series of age rates, though they must be regarded as provisional approximations only, requiring amendment in the light of the new Census material, when the necessary analysis has been made.

It will be observed from the last column of Table LXXXIV 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, such improvement as is shown by the 1930 frequencies is wholly confined to the single members of each sex. In both the widowed sections the rates are lower and mark a further stage in the almost unbroken decline since 1921. On this basis of comparison the marriage frequencies of bachelors and spinsters are markedly higher than they were for a number of years before the war—while the reverse is the case amongst widows whose frequencies are incomparably lower than any hitherto recorded for this class in the table.

From the age analysis shown in the earlier columns of Table LXXXIV, it will be seen that the bachelors' increase is almost wholly located in the age-group 25–35 and that amongst spinsters it is at ages below 35 that improvement has occurred. The maintenance of the marriage-rate of young spinsters at a point well in excess of the corresponding rates of pre-war years, in spite of their diminished opportunities for marriage, has been a feature of the returns of recent years. With bachelors also, the rate for the age period 25–35, at which practically one-half of the marriages of this class take place, is higher than that of any preceding year shown in the table while at all higher ages it is well in excess of pre-war experience.

Widowers' and widows' rates show a consistent fall in all the age divisions identified except that in respect of widows under 20 years of age, where, of course, the numbers involved are too small to yield consistent records. Except within the age-group 25–35 the widowers' rates are largely in excess of the corresponding bachelors' rates, so that it may be said that remarriages in the case of males are relatively more frequent than first marriages.

Table LXXXIV.—England and Wales. Annual Marriage-rate per 1,000 Bachelors, Widowers, Spinsters, and Widows respectively at each of several Age Periods, 1871–1930.

NOTE.—The annual numbers of marriages have been taken as the average of the three years about each Census prior to 1921.

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	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
1922	2·9	85·5	156·5	58·7	18·7	5·3	58·1	930	61·7	942
1923	2·6	82·7	155·8	57·1	17·2	4·7	56·3	901	61·1	921
1924	2·5	80·5	160·2	57·1	17·2	4·9	56·0	896	60·7	923
1925	2·4	78·5	163·2	57·6	17·0	5·4	55·7	891	60·6	919
1926	2·6	71·8	158·6	54·5	16·6	4·9	52·6	842	60·4	871
1927	2·8	76·5	180·2	58·1	17·5	6·2	57·8	925	60·5	955
1928	2·9	73·1	183·5	56·8	17·4	6·1	57·0	912	60·3	945
1929	2·9	73·1	198·1	56·6	17·1	5·6	58·8	941	60·2	977
1930	3·1	72·5	209·5	56·4	17·1	5·7	59·6	954	59·7	998
				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
1922	—	136·0	204·7	140·5	65·7	14·3	39·3	881	43·7	899
1923	27·8	139·5	199·9	135·1	63·3	14·1	37·3	834	42·7	874
1924	—	119·6	195·6	132·3	64·4	14·1	36·6	821	42·1	869
1925	—	125·4	181·8	129·3	63·6	14·8	35·8	803	41·5	863
1926	—	88·5	164·7	121·7	59·5	13·5	32·5	729	40·7	799
1927	—	106·9	169·4	128·7	63·5	14·5	34·2	767	40·3	849
1928	—	93·3	157·1	118·8	61·6	14·0	32·0	717	39·7	806
1929	100·0	94·3	151·9	120·1	61·5	14·4	32·4	726	40·0	810
1930	—	89·5	142·2	115·4	61·0	13·8	30·9	693	39·5	782
				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
1922	13·2	108·2	96·6	24·0	8·1	1·8	50·9	939	53·8	946
1923	12·5	108·2	93·6	23·1	7·8	2·0	49·8	919	53·5	931
1924	12·4	109·8	94·9	22·8	8·0	1·8	50·1	924	53·3	940
1925	12·7	110·4	94·1	22·9	7·9	2·1	50·0	923	53·1	942
1926	12·9	104·0	88·7	21·3	7·6	2·0	47·3	873	52·9	894
1927	14·3	114·4	97·3	23·1	8·2	2·4	51·9	958	52·9	981
1928	14·7	112·6	94·7	22·6	7·7	2·3	50·9	939	52·8	964
1929	15·4	116·0	97·9	22·9	8·0	2·4	52·5	969	52·7	996
1930	16·2	117·8	98·1	22·9	8·0	2·4	52·9	976	52·4	1,010
				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
1922	38·8	145·1	98·9	43·3	15·7	2·3	14·5	806	17·0	853
1923	13·0	143·4	86·2	37·7	14·9	2·2	12·5	694	16.3	767
1924	14·3	143·1	79·7	36·9	15·0	2·3	11·9	661	15·9	748
1925	46·2	123·9	69·8	33·6	14·8	2·4	10·9	606	15·5	703
1926	16·4	109·0	62·5	31·0	13·3	2·3	9·8	544	15·1	649
1927	48·4	96·9	62·9	31·6	14·6	2·6	10·1	561	15·0	673
1928	33·3	86·3	60·1	28·6	14·0	2·6	9·5	528	14·7	646
1929	28·6	89·1	56·4	27·4	13·8	2·6	9·3	517	14·8	628
1930	30·8	79·2	55·8	25·8	13·2	2·4	8·7	483	14·6	596

The same was, until recently, true of females but the maintenance of the rates amongst young spinsters in conjunction with a heavy and continuous fall in respect of widows has destroyed the supremacy of the latter at ages below 35 and only at ages above are the widows' rates materially in excess. 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 LXXXIV; 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 in the case of males are in favour of the widowed.

Table LXXXV.—England and Wales: Proportions of First Marriages and Re-marriages in 1,000 Marriages, 1918–1930.

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

Tables LXXXVI and LXXXVII continue the series shown in previous issues of the Review classifying the marriages of the year by age, 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 LXXXVI.—England and Wales: Mean Ages at Marriage, 1896–1930.

Males.

Year.	All Bride-grooms.	All Bachelor Bride-grooms.	All Widower Bride-grooms.	Bachelors with Spinsters.	Bachelors with Widows.	Widowers with Spinsters.	Widowers with Widows.
1896–1900 ..	28·38	26·63	44·73	26·35	34·12	41·74	49·72
1901–05 ..	28·52	26·90	45·08	26·62	34·09	42·28	49·88
1906–10 ..	28·76	27·19	45·71	26·93	34·70	42·95	50·64
1911–15 ..	29·01	27·49	46·62	27·18	35·73	43·80	51·37
1916–20 ..	29·77	27·92	46·84	27·42	34·78	44·42	50·25
1921–25 ..	29·18	27·47	47·37	27·08	35·73	44·67	51·87
1926–30 ..	29·10	27·36	49·02	27·03	38·20	46·13	54·18
1911 ..	29·03	27·46	46·42	27·19	35·19	43·49	51·46
1912 ..	29·12	27·56	46·77	27·27	35·75	43·96	51·67
1913 ..	29·11	27·56	46·65	27·25	35·68	43·91	51·35
1914 ..	28·94	27·40	46·66	27·05	35·90	43·79	51·39
1915 ..	28·87	27·49	46·61	27·12	36·15	43·86	50·98
1916 ..	29·70	27·93	47·32	27·47	36·20	44·79	51·07
1917 ..	30·04	28·04	47·71	27·52	35·63	45·22	51·23
1918 ..	30·08	28·14	47·74	27·59	35·43	45·38	50·88
1919 ..	29·81	27·99	45·72	27·46	33·36	43·40	48·85
1920 ..	29·20	27·51	45·73	27·04	33·28	43·31	49·24
1921 ..	29·19	27·48	46·60	27·03	34·35	44·06	50·57
1922 ..	29·21	27·54	46·91	27·12	35·24	44·31	51·20
1923 ..	29·15	27·46	47·34	27·09	35·64	44·60	51·98
1924 ..	29·16	27·45	47·72	27·08	36·31	44·95	52·39
1925 ..	29·17	27·42	48·29	27·07	37·13	45·43	53·19
1926 ..	29·14	27·39	48·53	27·04	37·58	45·75	53·47
1927 ..	29·13	27·39	48·77	27·05	38·10	45·80	53·94
1928 ..	29·10	27·37	49·16	27·03	38·42	46·11	54·45
1929 ..	29·08	27·33	49·19	27·02	38·45	46·26	54·45
1930 ..	29·04	27·33	49·44	27·02	38·43	46·73	54·59

Females.

Year.	All Brides.	All Spinster Brides.	All Widow Brides.	Spinsters with Bachelors.	Spinsters with Widowers.	Widows with Bachelors.	Widows with Widowers.
1896–1900 ..	26·21	25·14	40·70	24·62	32·64	35·96	44·99
1901–05 ..	26·36	25·37	40·37	24·88	32·99	35·76	45·09
1906–10 ..	26·59	25·63	41·06	25·14	33·63	36·51	45·82
1911–15 ..	26·77	25·75	41·65	25·27	34·23	37·40	46·57
1916–20 ..	27·14	25·81	38·66	25·24	34·30	34·73	44·74
1921–25 ..	26·69	25·57	40·83	25·00	34·79	36·43	46·48
1926–30 ..	26·58	25·54	44·04	24·95	35·79	39·17	48·65
1911 ..	26·80	25·81	41·74	25·32	34·13	37·01	46·63
1912 ..	26·84	25·85	41·89	25·36	34·25	37·44	46·69
1913 ..	26·80	25·78	41·57	25·29	34·23	37·22	46·59
1914 ..	26·68	25·61	41·64	25·12	34·28	37·53	46·57
1915 ..	26·75	25·71	41·42	25·28	34·28	37·78	46·39
1916 ..	27·17	25·91	40·73	25·36	34·58	36·79	45·85
1917 ..	27·27	25·89	39·66	25·28	34·54	35·40	45·48
1918 ..	27·29	25·92	38·84	25·33	34·59	34·82	44·86
1919 ..	27·16	25·81	36·69	25·24	33·77	33·07	43·36
1920 ..	26·79	25·54	37·36	24·99	34·02	33·56	44·14

Table LXXXVI.—England and Wales: Mean Ages at Marriage, 1896–1930—*continued.*

Females—*continued.*

Year.	All Brides.	All Spinster Brides.	All Widow Brides.	Spinsters with Bachelors.	Spinsters with Widowers.	Widows with Bachelors.	Widows with Widowers.
1921 ..	26·73	25·52	38·83	24·95	34·40	34·83	45·26
1922 ..	26·71	25·57	39·93	25·02	34·53	35·81	45·87
1923 ..	26·66	25·57	40·94	25·01	34·74	36·35	46·66
1924 ..	26·67	25·59	41·69	25·02	34·95	37·19	46·89
1925 ..	26·66	25·59	42·74	25·00	35·34	37·95	47·70
1926 ..	26·63	25·56	43·11	24·97	35·44	38·42	47·90
1927 ..	26·64	25·58	43·81	25·00	35·62	39·05	48·36
1928 ..	26·59	25·53	44·31	24·95	35·77	39·48	48·87
1929 ..	26·56	25·53	44·52	24·93	36·00	39·48	49·03
1930 ..	26·47	25·50	44·43	24·90	36·13	39·44	49·09

Table LXXXVII.—England and Wales: Marriages of Bachelors, Spinsters, Widowers and Widows at Various Ages per 1,000 Marriages at All Ages, 1886–1930.

Period.	All Ages.	Under 18 Years.	18–	19–	20–	Under 21 Years.	21–	25–	30–	35–	40–	45–	50–	55 and up.	Age not stated.
						Bachelors.									
1886–90..	1,000	0	4	20	47	71	424	309	96	33	13	6	3	2	43
1891–95..	1,000	0	3	17	43	63	415	333	108	37	14	6	3	2	19
1896–1900	1,000	0	3	15	39	57	411	346	110	39	15	6	3	2	11
1901–05..	1,000	0	3	13	35	51	390	360	122	41	16	7	3	2	8
1906–10..	1,000	0	3	11	30	44	370	372	132	46	17	8	3	2	6
1911–15..	1,000	0	3	12	28	43	350	373	139	53	21	9	4	3	5
1916–20..	1,000	1	6	13	27	47	332	354	144	62	30	15	6	4	6
1921–25..	1,000	1	4	13	30	48	355	360	133	53	24	12	5	5	5
1926–30..	1,000	1	4	13	28	46	349	392	120	45	21	11	6	6	4
1921 ..	1,000	1	4	15	33	53	350	356	136	55	24	12	5	4	5
1922 ..	1,000	1	4	14	30	49	349	361	136	54	24	12	5	5	5
1923 ..	1,000	1	4	13	29	47	358	359	133	53	24	12	5	4	5
1924 ..	1,000	1	4	13	27	45	361	361	132	51	23	11	6	5	5
1925 ..	1,000	0	4	12	28	44	360	367	129	50	23	11	6	5	5
1926 ..	1,000	1	4	13	29	47	357	372	125	49	22	12	6	5	5
1927 ..	1,000	1	4	13	28	46	354	383	122	46	21	11	6	6	5
1928 ..	1,000	1	4	14	29	48	348	395	117	44	21	11	6	6	4
1929 ..	1,000	1	4	13	27	45	344	406	116	42	20	11	6	6	4
1930 ..	1,000	1	4	13	28	46	341	407	119	41	19	11	6	6	4
						Spinsters.									
1886–90..	1,000	9	37	72	97	215	417	219	62	23	10	5	2	1	46
1891–95..	1,000	7	31	66	94	198	425	241	70	25	11	5	2	1	22
1896–1900	1,000	6	27	59	89	181	434	253	74	26	11	5	2	1	13
1901–05..	1,000	5	23	53	82	163	428	272	79	28	12	5	2	1	10
1906–10..	1,000	5	21	48	75	149	420	284	87	30	12	6	2	2	8
1911–15..	1,000	6	23	47	70	146	402	292	94	34	14	7	3	2	6
1916–20..	1,000	6	23	48	72	149	402	275	94	39	17	9	4	3	8
1921–25..	1,000	7	25	51	72	155	411	280	87	32	14	8	4	3	6
1926–30..	1,000	11	28	50	70	159	410	282	82	31	14	8	4	4	6
1921 ..	1,000	7	27	54	76	164	406	274	86	33	15	8	4	3	7
1922 ..	1,000	7	26	51	73	157	404	282	88	33	15	8	3	3	7
1923 ..	1,000	7	25	49	72	153	412	279	87	33	14	8	4	3	7
1924 ..	1,000	7	25	49	70	151	414	281	87	32	14	8	4	3	6
1925 ..	1,000	8	25	49	70	152	413	281	86	32	14	8	4	4	6
1926 ..	1,000	9	28	50	70	157	410	279	86	32	14	8	4	4	6
1927 ..	1,000	9	27	50	69	155	412	282	84	31	14	8	4	4	6
1928 ..	1,000	11	28	51	71	161	411	281	81	31	14	8	4	4	5
1929 ..	1,000	12	28	50	70	160	410	284	80	30	14	8	4	4	6
1930 ..	1,000	13	30	51	70	164	409	282	80	30	14	8	4	4	5

Table LXXXVII.—England and Wales: Marriages of Bachelors, Spinsters, Widowers and Widows at Various Ages per 1,000 Marriages at All Ages, 1886–1930—*continued.*

Period.	All Ages.	Under 21 Years.	21–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70 and up.	Age not stated.
							Widowers.							
1886–90..	1,000	0	13	81	133	151	139	120	94	70	53	27	15	104
1891–95..	1,000	0	12	76	132	153	148	126	106	74	55	29	18	71
1896–1900	1,000	0	10	73	131	158	150	136	109	84	56	30	19	44
1901–05..	1,000	0	10	68	130	155	152	136	116	88	62	32	20	36
1906–10..	1,000	0	8	61	123	153	152	141	119	90	62	37	24	30
1911–15..	1,000	0	7	53	109	151	150	146	125	97	68	41	30	23
1916–20..	1,000	0	7	54	105	138	151	155	130	101	70	39	26	24
1921–25..	1,000	0	8	55	109	137	135	136	126	104	79	51	36	24
1926–30..	1,000	0	6	49	91	117	126	133	133	116	91	66	48	24
1921 ..	1,000	0	8	61	116	142	143	138	120	99	73	46	31	23
1922 ..	1,000	0	8	55	115	142	138	139	121	102	74	48	34	24
1923 ..	1,000	0	8	55	110	140	133	136	124	102	80	51	37	24
1924 ..	1,000	0	7	54	107	129	134	135	132	104	82	52	40	24
1925 ..	1,000	0	8	50	98	128	127	132	133	113	87	58	41	25
1926 ..	1,000	0	6	48	96	123	131	136	131	112	88	59	44	26
1927 ..	1,000	0	6	51	91	121	129	132	135	115	87	63	47	23
1928 ..	1,000	0	6	50	89	115	123	136	133	114	91	70	49	24
1929 ..	1,000	0	6	52	88	114	125	131	131	119	93	68	49	24
1930 ..	1,000	0	5	46	91	113	122	133	133	120	94	68	52	23
							Widows.							
1886–90..	1,000	1	30	119	164	173	145	117	73	46	26	10	3	93
1891–95..	1,000	1	27	115	170	177	157	119	78	47	29	10	4	66
1896–1900	1,000	1	26	113	175	188	157	127	81	50	28	11	3	40
1901–05..	1,000	1	28	122	182	190	158	118	78	47	29	11	4	32
1906–10..	1,000	1	23	106	177	192	160	129	82	52	30	14	6	28
1911–15..	1,000	1	21	98	167	193	171	135	85	51	32	16	11	19
1916–20..	1,000	3	67	189	191	162	126	98	64	41	24	13	6	16
1921–25..	1,000	1	25	134	200	182	138	109	77	52	33	19	11	19
1926–30..	1,000	1	14	76	145	175	156	135	103	75	50	32	19	19
1921 ..	1,000	1	37	179	222	178	122	93	62	42	25	15	8	16
1922 ..	1,000	1	25	148	212	185	135	102	72	49	29	16	8	18
1923 ..	1,000	1	23	125	200	182	140	113	79	53	34	19	12	19
1924 ..	1,000	1	20	104	188	185	150	123	83	56	37	20	14	19
1925 ..	1,000	1	17	89	170	180	152	126	98	65	44	24	13	21
1926 ..	1,000	1	16	84	158	189	153	127	97	66	45	26	17	21
1927 ..	1,000	0	14	75	149	178	159	136	100	72	50	31	17	19
1928 ..	1,000	1	12	76	142	170	156	134	107	79	53	34	18	18
1929 ..	1,000	1	14	71	137	169	155	139	107	80	51	36	21	19
1930 ..	1,000	1	13	73	137	169	156	141	106	76	50	36	22	20

Marriages of Minors.—Of the males married during the year, 13,426, or 4·26 per cent., were under the age of 21, and of the females 48,938, or 15·53 per cent., as compared with 4·18 per cent., and 15·17 per cent. last year respectively. Females, who have always greatly outnumbered the males in this class—in the present year the ratio is about 3½ to 1—naturally show the highest rates and the greatest changes in the rate; they formed 18·8 per 1,000 of the unmarried females aged 15–21 in 1911, were 26·6 in 1920, and are now 24·0, while the corresponding rates for males were 5·5, 8·8 and 6·4 per 1,000 respectively. The 1930 experience presents no exceptional features of statistical consequence; it may be mentioned, however, that as a result of the Age of Marriage Act, 1929, which raised the age of marriage of both sexes to 16 years, no marriages are now scheduled at ages below 16, the current year being the first to be completely affected in this way. In the three years prior to the passing of the Act, marriages under 16 averaged 45 per annum (2 boys and 43 girls), but whether the effect of the Act has been to increase, *pro tanto*, the marriages at higher ages or not, the numbers are immaterial and hardly sufficient to influence the statistical record.

Comparative figures are shown in Table LXXXIX for the period 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 the general age analyses in Table LXXXVIII.

Table LXXXVIII.—England and Wales: Minors Married per 1,000 Marriages at all Ages, 1876–1930.

Year.	Husbands.	Wives.	Year.	Husbands.	Wives.
1876–80 ..	77·8	217·0	1916 ..	36·2	129·1
1881–85 ..	73·0	215·0	1917 ..	41·7	134·2
1886–90 ..	63·2	200·2	1918 ..	42·6	129·0
1891–95 ..	56·2	182·6	1919 ..	43·7	129·4
1896–1900..	51·2	168·0	1920 ..	46·8	142·9
1901–05 ..	46·3	153·1	1921 ..	48·2	149·2
1906–10 ..	40·3	139·4	1922 ..	44·4	144·4
1911–15 ..	39·2	136·6	1923 ..	42·5	142·9
1916–20 ..	42·6	133·3	1924 ..	40·4	140·3
1921–25 ..	43·3	143·9	1925 ..	40·6	142·3
1926–30 ..	42·5	150·5	1926 ..	43·3	147·5
1912 ..	39·2	135·4	1927 ..	41·4	146·1
1913 ..	42·1	143·8	1928 ..	43·5	151·5
1914 ..	41·6	142·5	1929 ..	41·8	151·7
1915 ..	34·8	129·8	1930 ..	42·6	155·3

The proportions of males and females marrying under age are summarised for regions and counties in Tables XC and LXXXIII. Much of the variation there shown is but a reflex of the incidence of the general marriage-rate (Tables LXXXII and LXXXIII) and regard must necessarily be had to the latter in considering how far the former provides evidence of local custom regarding early marriage. For example the highest male rate for 1930 shown in Table XC is that of 7·9 per 1,000 in London which is over 23 per cent. above the average for the country at

Table LXXXIX.—England and Wales: Annual Marriage-rate per 1,000 Unmarried and Widowed Persons in the age-group 15–21 in 1901, 1911 and 1920–30.

Year.	Males.		Females.	
	Rate.	Ratio to 1921.	Rate.	Ratio to 1921.
1901	6·7	87	21·6	92
1911	5·5	71	18·8	80
1920	8·8	114	26·6	114
1921	7·7	100	23·4	100
1922	6·4	83	20·9	89
1923	5·9	77	20·0	85
1924	5·6	73	19·8	85
1925	5·6	73	20·0	85
1926	5·6	73	19·7	84
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

large ; reference to Table LXXXII, however, shows that the corresponding rate for all ages in this area was 27 per cent. in excess, so that under-age marriages, though apparently more numerous than elsewhere, may from this point of view be regarded as subnormal in frequency. Examined in this way the table appears to indicate that the incidence of early marriage is relatively highest amongst males in the North and amongst females in the Southern area outside the metropolis.

Table XC—Marriage-rate of Minors per 1,000 Unmarried Population aged 15–21 in Geographical Sections of the Country, 1921 and 1930.

	Males.				Females.			
	Rate per 1,000 Unmarried Population 15–21.		Ratio of local rate to England and Wales rate.		Rate per 1,000 Unmarried Population 15–21.		Ratio of local rate to England and Wales rate.	
	1921.	1930.	1921.	1930.	1921.	1930.	1921.	1930.
England and Wales.	7·7	6·4	1,000	1,000	23·4	24·0	1,000	1,000
North	9·3	6·8	1,208	1,058	26·1	24·1	1,115	1,004
Midlands ..	7·5	6·4	974	1,002	22·1	23·7	944	988
South (including London)	6·1	6·3	792	992	20·8	23·9	889	996
Wales ..	6·7	4·8	870	750	26·7	25·5	1,141	1,063
London ..	7·8	7·9	1,013	1,238	22·2	24·3	949	1,013

Buildings in which Marriages may be Solemnized.—At the end of the year 1930 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 :—

Established Church and Church in Wales	16,398
All other religious denominations ..	20,069
Total	36,467

The increase upon the numbers at the end of the previous year was :—Established Church and Church in Wales 21, other religious denominations 250. The number of these buildings belonging to the various denominations is shown for each registration county in Table Q.

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 to the Registrar-General, certification for public worship being a necessary preliminary to the registration of a building for the solemnization of marriages.

The number of places of meeting for religious worship on the official register on 31st December, 1930, and the number of buildings registered for the solemnization of marriages are shown in Table XCI.

Table XCI.

Denomination.	Buildings certified to the Registrar-General as meeting-places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*
Roman Catholics	1,820	1,694
Wesleyan Methodists	7,741	4,825
Congregationalists	3,467	3,184
Baptists	3,296	2,981
Primitive Methodists	4,320	2,227
United Methodist Church	1,991	1,353
Calvinistic Methodists	1,373	1,075
Presbyterians	452	454
Unitarians	186	197
New Church	58	62
Catholic Apostolic Church	63	51
Countess of Huntingdon's Connexion	45	40
Salvation Army	1,348	307
Society of Friends	415	†
Jews	287	†
Other Denominations	4,285	1,619
All Denominations	31,147	20,069

* 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.

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 1930, the number of such buildings which had been brought under the operation of the Act, and so remained, was 6,199 out of the total of 20,069. The numbers of these buildings, and the denominations to which they belonged, were as follows :—

2,571	Wesleyan Methodists.
893	Congregationalists.
983	Primitive Methodists.
630	Baptists.
536	United Methodist Church.
155	Calvinistic Methodists.
431	Other Denominations and Unsectarian.
6,199	All Denominations.

Divorces and Remarriages of Divorced Persons. — The annual numbers of marriages dissolved or annulled are shown in Table O and again in Table XCII in terms of the persons involved, for each of the past ten years and the preceding quinquennia back to 1876–80.

During the year 1930, 3,482 divorces and 81 annulments were obtained, the number of persons involved being twice these figures, or a total of 3,563 of each sex. The present figure is materially less than the record achieved in 1928 but with that exception it is higher than any previously recorded.

From Table XCII it will be seen that the number of persons who on remarriage described themselves as divorced shows a decrease but is greater than the corresponding figure recorded for any earlier year other than 1929. The regularity and continuity of the analysis generally confirms the incidence of remarriage tendencies in this class but it should be borne in mind that 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.

3,458 Petitions were filed at the Principal Registry in London and 830 at 38 District Registries. In respect of the former it will be seen that the most frequent duration of marriage at the date of the commencement of the proceedings is from 5–10 years

Table XCII.—England and Wales : Annual Number of Persons Divorced, and of Divorced Persons who Remarried, 1876–1930.

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 inter-marrying.	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 ..		3,115	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
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

with an average of 224 for each of those years of duration, but the maximum is not of particular significance, for this period only accounts for 32 per cent. of the cases, there being 15 per cent. of shorter duration, while in 52 per cent. the marriages have subsisted for 10 years or more. Nearly 41 per cent. of the marriages in question were childless, and in a further 29 per cent. there was one child only.

LIVE BIRTHS.

The live births registered during 1930 numbered 648,811 corresponding to a birth-rate of 16·3 per 1,000 of the population living.

The number of births is 5,138 more than those of 1929, an increase of 0·80 per cent.

The current rate of 16·3 per 1,000 is indentical, to the single place of decimals to which the rate is calculated, with that of last year, and, with that year, shares the lowest position attained in the records of this country. The recent fall in the rate had been showing signs of diminution in immediately preceding years and it might have been inferred from the latest figures that the particular phase of movement associated with post war adjustments was drawing to a close with a tendency towards stabilisation at or about existing levels. From such of the 1931 returns as are available, however, it is clear that a further decline, probably greater than that of any recent year, is to be anticipated and it would be useless to speculate, at the present time, as to where the trough of post war depression may be located. As explained on pages 130-132 the present rate of recruitment is well below that which is necessary if a diminution of the total population is to be avoided in the future.

The birth-rate in this country attained its highest values 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; it is now 16·3 per 1,000, or considerably less than half the maximum figure of 36·3 recorded in 1876. The element of personal control in the matter of reproduction which alone can account for so great a change in the birth-rate over a period of a few decades only must generally frustrate any attempt at statistical forecasting and the most that can be said is that, having regard to current economic and industrial conditions, the birth-rate appears likely for some time to remain low in relation to all earlier periods for which we have reliable records.

The recent history of the birth-rate in this country may be compared with those of other countries of which particulars are at hand by reference to Table XCIII. The record extends

Table XCIII.—British and Foreign Birth-Rates (living born) per 1,000 total population.

Year.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.	Austria.	Belgium.	Czecho Slovakia.	Denmark.	Finland.	France.	Germany.	Hungary.	Italy.
1911	24·4	25·6	23·2		*31·4	22·9	—	26·7	29·1	*18·7	*28·6	34·2	*31·5
1912	24·0	25·9	23·0		*31·3	22·6	—	26·6	29·1	*19·0	*28·3	35·0	*32·4
1913	24·1	25·5	22·8		*29·7	22·4	—	25·6	27·2	*18·8	*27·5	33·8	*31·7
1914	23·8	26·1	22·6		23·3	20·4	—	25·6	26·9	†17·9	*26·8	34·2	*31·1
1915	21·8	23·9	22·0		18·4	16·1	—	24·2	25·4	†11·6	*20·4	23·6	*30·5
1916	21·0	22·9	21·0		14·7	12·9	—	24·4	24·1	†9·5	*15·2	17·0	*24·0
1917	17·8	20·3	19·8		13·9	11·3	—	23·7	24·3	†10·5	*13·9	16·5	*19·5
1918	17·7	20·5	20·0		14·1	11·3	—	24·1	23·8	†12·2	*14·3	16·3	*18·1
1919	18·5	22·0	20·0		18·5	16·3	22·4	22·6	19·2	†12·6	20·0	27·6	*21·4
1920	25·5	28·1	22·2		22·7	22·1	26·8	25·4	25·3	21·4	25·9	31·4	*31·8
1921	22·4	25·2	20·2		23·2	21·8	29·2	24·0	24·3	20·7	25·3	31·8	*30·3
1922	20·4	23·6	23·3	19·5	23·1	20·4	28·2	22·2	23·4	19·3	23·0	30·8	30·2
1923	19·7	23·0	23·9	20·5	22·4	20·4	27·3	22·3	23·7	19·1	21·1	29·2	29·4
1924	18·8	21·9	22·7	21·1	21·6	19·9	25·8	21·8	22·4	18·7	20·5	26·8	28·4
1925	18·3	21·4	22·0	20·8	20·5	19·8	25·1	21·0	22·3	19·0	20·7	28·3	27·8
1926	17·8	21·1	22·5	20·6	19·1	19·0	24·6	20·5	21·7	18·8	19·5	27·3	27·2
1927	16·6	19·9	21·3	20·3	17·8	18·3	23·3	19·6	21·2	18·1	18·4	25·7	26·9
1928	16·7	19·9	20·8	20·1	17·5	18·4	23·3	19·6	21·5	18·2	18·6	26·2	26·2
1929	16·3	19·2	20·4	19·8	16·7	18·1	22·4	18·6	21·0	17·7	17·9	25·0	25·2
1930	16·3	19·5	20·8	19·8	16·8	18·5	22·7	18·7	—	18·1	17·5	24·7	26·0

Year.	Netherlands.	Norway.	Portugal.	Roumania.	Spain.	Sweden.	Switzerland.	Australia.	Canada.‡	New Zealand.	South Africa (Whites).	U.S.A. (Birth Registration Area).	Japan.
1911	27·9	25·7	38·6	*42·3	31·4	24·0	24·2	27·2	—	26·0	32·2	—	34·2
1912	28·1	25·3	34·6	*43·3	31·6	23·8	24·2	28·6	—	26·5	32·2	—	33·3
1913	28·3	25·1	32·9	*42·1	30·4	23·2	23·2	28·2	—	26·1	31·7	—	33·2
1914	28·3	25·1	31·7	*42·8	29·8	22·9	22·4	27·9	—	26·0	30·2	—	33·7
1915	26·3	23·6	31·7	*40·5	30·8	21·6	19·5	27·1	—	25·3	29·3	25·1	33·1
1916	26·6	24·2	31·0	—	29·0	21·2	18·9	26·6	—	25·9	29·3	25·0	32·7
1917	26·2	25·1	30·4	—	28·8	20·9	18·5	26·3	—	25·7	29·0	24·7	32·3
1918	25·0	24·6	28·6	—	29·1	20·3	18·7	25·0	—	23·4	28·6	24·6	32·2
1919	24·4	22·7	27·5	—	28·3	19·8	18·6	23·5	—	21·4	26·9	22·3	31·6
1920	28·3	26·2	33·6	33·2	30·0	23·6	20·9	25·5	26·6	25·1	29·0	23·7	36·2
1921	27·4	24·0	32·5	38·2	30·4	21·5	20·8	25·0	26·4	23·3	28·4	24·3	35·1
1922	25·9	23·1	33·4	37·2	30·5	19·6	19·6	24·7	25·2	23·2	27·5	22·5	34·2
1923	26·0	22·5	33·9	36·4	30·6	18·9	19·4	23·8	23·9	21·9	26·7	22·4	34·9
1924	25·1	21·1	34·0	36·7	30·0	18·1	18·9	23·2	23·7	21·6	26·3	22·6	33·8
1925	24·2	19·5	34·0	35·2	29·4	17·6	18·6	22·9	23·0	21·2	26·5	21·4	34·9
1926	23·8	19·3	—	34·8	30·0	16·8	18·3	22·0	24·8	21·1	26·2	20·6	34·8
1927	23·1	17·8	—	34·1	28·5	16·1	17·6	21·7	24·6	20·3	26·0	20·6	33·6
1928	23·3	17·7	—	34·7	29·7	16·1	17·4	21·3	24·5	19·6	25·8	19·7	34·4
1929	22·8	17·5	—	—	28·9	15·2	17·1	20·3	24·1	19·0	26·2	18·8	33·0
1930	23·0	17·4	—	—	28·9	15·4	17·2	19·9	24·5	18·8	26·4	18·9	—

* Pre-war area.
† 77 departments.
‡ 1926 onwards including Province of Quebec.

over the period from 1911 to 1930 (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 both earlier and later years sufficient to indicate the more prolonged changes which may probably be associated with the events of that period.

Of the countries for which 1930 returns are available, 14 record slight increases in their birth-rates, 5 show decreases and in 2 the experience is similar to that of this country in showing no change. In view of the further experience of this country, however, it is clear that tendencies cannot be discerned from the records of a single year and that it is not possible to say whether the past year's movements herald any change in the falling tendencies noted for most countries in the past decade.

In all the countries listed except France and Japan the current 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, while to-day it is lower than any country save Sweden. The case of France is somewhat exceptional in that the current rate is at about the same level as it was before the war, so that instead of being outstandingly the worst in the series as formerly, it now ranks above England and Wales, Austria, Germany, Norway, Sweden, and Switzerland.

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 less than 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 only reasonably be made in respect of short periods of adjacent years.

In order to exclude the effect of varying population constitution and so obtain a truer statement of fertility change, the method of standardization, described in the 1922 Review and adopted in connexion with the statistics of the years 1922–1929, has been continued to cover the experience of 1930. It consists in (1) adopting the fertility curve or fertility ratios experienced in 1921 as a standard, (2) applying them age by age to the appropriate women in the population in question—for the years subsequent to 1921 estimates of such women have been made for the purpose—and so obtaining a standard number of births, the numbers which would have occurred had the standard birth-rates been operating, and (3) calculating the ratio of the actual births recorded to the standard or expected number; the ratio of

actual to expected is thus an index, comparing in an integral form the actual experience of each period or year with a common standard and, therefore, with one another.

Table XCIV.—England and Wales.—Birth-rates and Fertility, 1871–1930.

	Births per 1,000 Total Population.	Ratio to 1921.	Births per 1,000 Married Women, 15-45.	Ratio to 1921.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Legitimate Births.					
1871 (1870–72) ..	33·3	1,556	292·5	1,659	1,504
1881 (1880–82) ..	32·3	1,509	286·0	1,622	1,481
1891 (1890–92) ..	29·4	1,374	263·8	1,496	1,382
1901 (1900–02) ..	27·5	1,285	235·5	1,336	1,250
1911 (1910–12) ..	23·4	1,093	197·4	1,120	1,102
1921	**21·4**	**1,000**	**176·3**	**1,000**	**1,000**
1922	19·5	911	160·7	912	909
1923	18·9	883	155·3	881	877
1924	18·1	846	148·4	842	835
1925	17·5	818	143·5	814	805
1926	17·0	794	139·8	793	783
1927	15·9	743	130·8	742	732
1928	16·0	748	131·0	743	730
1929	15·5	724	126·6	718	704
1930	15·6	729	126·4	717	701

	Births per 1,000 Total Population.	Ratio to 1921.	Births per 1,000 Unmarried Women, 15-45.	Ratio to 1921.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Illegitimate Births.					
1871 (1870–72) ..	1·96	1,922	17·0	2,152	2,051
1881 (1880–82) ..	1·65	1,618	14·1	1,785	1,688
1891 (1890–92) ..	1·31	1,284	10·5	1,329	1,247
1901 (1900–02) ..	1·12	1,098	8·5	1,076	1,008
1911 (1910–12) ..	1·03	1,010	7·9	1,000	968
1921	**1·02**	**1,000**	**7·9**	**1,000**	**1,000**
1922	0·89	873	7·0	886	937
1923	0·82	804	6·5	823	863
1924	0·78	765	6·2	785	826
1925	0·74	725	5·9	747	790
1926	0·76	745	6·0	759	810
1927	0·74	725	5·9	747	795
1928	0·75	735	6·0	759	815
1929	0·74	725	6·0	759	804
1930	0·75	735	6·0	759	821

	Births per 1,000 Total Population.	Ratio to 1921.	—	—	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
All Births.					
1871 (1870–72) ..	35·3	1,576	—	—	1,527
1881 (1880–82) ..	34·0	1,518	—	—	1,490
1891 (1890–92) ..	30·7	1,371	—	—	1,376
1901 (1900–02) ..	28·6	1,277	—	—	1,238
1911 (1910–12) ..	24·5	1,094	—	—	1,095
1921	**22·4**	**1,000**	—	—	**1,000**
1922	20·4	911	—	—	910
1923	19·7	879	—	—	876
1924	18·8	839	—	—	834
1925	18·3	817	—	—	804
1926	17·8	795	—	—	784
1927	16·6	741	—	—	734
1928	16·7	746	—	—	733
1929	16·3	728	—	—	708
1930	16·3	728	—	—	706

Standardized comparisons are given in the last column of Table XCIV both for census years prior to 1921 and for individual years of the present inter-censal period and the results are contrasted in that table with the more familiar and more approximate 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 1871, 1,504 legitimate births were recorded for every 1,000 that would have occurred under the standard fertility rates, the 1921 experience being in the aggregate only two-thirds of that of 50 years before. From that time the rates diminished steadily and progressively as shown by the comparative figures, which are 1,481, 1,382, 1,250, and 1,102 at successive ten-year intervals between 1881 and 1911. Since 1921 the even more rapid drop, commented upon in dealing with the crude rates, is shown by the further reductions in the index, which for 1930 is 701, less than three-fourths of the 1921 standard. 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 1911 the tendency has been in the other direction.

Illegitimate Births.—The live births registered during 1930 include 29,682 of illegitimate children, an increase of 375 on the number in 1929, coincident with the increase of 5,138 in total births. Illegitimate births have thus increased by 1·3 per cent., and legitimate births by 0·8 per cent. As a result of these changes, the proportion of illegitimate to total births has risen slightly from 4·55 per cent. last year to 4·57 per cent., figures which compare with the minimum of 3·95 per cent. recorded for the period 1901–1905 and the maximum of 6·26 per cent. attained in 1918.

In addition to the crude rate comparison, an attempt has been made in Table XCV to allow for the age incidence of the potential mothers in respect of illegitimate as well as legitimate births. The standard age factors employed are, as described in the 1922 Review, of less authority than those in respect of legitimate fertility, and serve mainly to complete the tables on the lines followed and already described for married women.

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 XCV.

The method employed in earlier paragraphs for comparing the fertility of England and Wales in different years by the use of a standard fertility curve applies equally well of course 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 have been, as far as possible, eliminated.

The first three columns of Table XCV show for each of the specified divisions of the country the crude birth-rate of 1921, 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 in conjunction with the census populations of that year. For later years local populations analysed by age and marital condition are not available, and an approximate correction to the crude rate comparison of 1929 shown in col. 5 has been made as follows :—The difference between cols. 2 and 3 has been regarded as a measure of the variation due to the constitution of the population and in the form of a factor, viz., col. 3÷col. 2, has been applied to the crude 1929 birth ratio to obtain the corrected ratio shown in col. 6. The implied assumption that the constitutions of the local populations remain in constant relation to one another could not be maintained over a long period of time, but for the years of an inter-censal period corrected ratios obtained in this way will probably provide a truer picture of the incidence of fertility than that shown by the unadjusted crude rates.

For 1930, the birth changes in the geographical regions and types of area shown in the table are in consonance with the movement in the country as a whole and are generally of no significance. In no division has the legitimate rate moved by more than 0·1 per 1,000 population, while in respect of illegitimate births the only movements greater than 0·01 per 1,000 are in London, where the rate has increased from 0·80 to 0·83 and in the rural districts of the Midlands and the South, where a reduction from 0·81 to 0·78 and an increase from 0·72 to 0·75 are respectively recorded.

The order of the regional rates, which has now been maintained for 3 years and in which Wales takes second place instead of a former lead, is shown in Table XCVI, which states the birth-rate of each section as a percentage of that of the whole country for each of the past ten years.

These percentages 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 is eliminated as is attempted in column 6 of Table XCV, the standardized percentage ratios become 101·0, 102·0, 96·4 and 100·9 for the North, Midlands, South and Wales respectively, the Midlands

Table XCV.—England and Wales and Sections* of the Country.—Birth-rates, 1921 and 1930.

	1921.			1930.		
	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales. (Crude Rates.)	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales. (Crude Rates.)	Ratio Corrected to Exclude Variations due to Differing Age and Marital Condition Incidence.†
	(1)	(2)	(3)	(4)	(5)	(6)
All Births—						
England and Wales	**22·4**	**1,000**	**1,000**	**16·3**	**1,000**	**1,000**
London	22·1	987	957	15·8	969	940
County Boroughs	23·5	1,049	1,004	17·0	1,043	998
Other Urban Districts ..	22·1	987	978	15·8	969	960
Rural Districts	21·4	955	1,060	16·2	994	1,103
North	23·7	1,058	1,025	17·0	1,043	1,010
County Boroughs	24·0	1,071	1,026	17·5	1,074	1,029
Other Urban Districts ..	23·1	1,031	996	16·0	982	949
Rural Districts	23·7	1,058	1,099	17·3	1,061	1,102
Midlands..	22·2	991	999	16·5	1,012	1,020
County Boroughs	23·6	1,054	1,000	17·0	1,043	990
Other Urban Districts ..	21·6	964	964	16·2	994	994
Rural Districts	21·2	946	1,054	16·3	1,000	1,114
South (including London) ..	20·4	911	941	15·2	933	964
County Boroughs	19·8	884	887	15·1	926	929
Other Urban Districts ..	18·9	844	898	14·5	890	947
Rural Districts	19·1	853	994	15·0	920	1,072
Wales	25·0	1,116	1,099	16·7	1,025	1,009
County Boroughs	24·9	1,112	1,035	17·3	1,061	988
Other Urban Districts ..	26·7	1,192	1,101	16·8	1,031	952
Rural Districts	22·6	1,009	1,143	16·2	994	1,126
Illegitimate Births—						
England and Wales	**1·02**	**1,000**	**1,000**	**0·75**	**1,000**	**1,000**
London	0·89	873	788	0·83	1,107	999
County Boroughs	1·09	1,069	1,034	0·77	1,027	993
Other Urban Districts ..	0·96	941	944	0·66	880	883
Rural Districts	1·07	1,049	1,197	0·80	1,067	1,218
North	1·12	1,098	1,091	0·76	1,013	1,007
County Boroughs	1·15	1,127	1,091	0·80	1,067	1,033
Other Urban Districts ..	1·04	1,020	1,030	0·65	867	876
Rural Districts	1·17	1,147	1,257	0·84	1,120	1,227
Midlands..	1·00	980	992	0·70	933	944
County Boroughs	1·04	1,020	975	0·70	933	892
Other Urban Districts ..	0·91	892	869	0·65	867	845
Rural Districts	1·07	1,049	1,234	0·78	1,040	1,223
South (including London) ..	0·92	902	877	0·78	1,040	1,011
County Boroughs	1·04	1,020	1,030	0·87	1,160	1,171
Other Urban Districts ..	0·91	892	864	0·69	920	891
Rural Districts	0·92	902	1,029	0·75	1,000	1,141
Wales	1·03	1,010	1,108	0·76	1,013	1,111
County Boroughs	0·77	755	751	0·65	867	862
Other Urban Districts ..	1·02	1,000	1,134	0·71	947	1,074
Rural Districts	1·22	1,196	1,320	0·92	1,227	1,354

* For constitution of Geographical Sections of the Country *see* page 9.

† Col. (6) has been obtained by multiplying col. (5) by the correcting factor referred to in the text viz., col. 3÷col. 2.

Table XCVI.—Birth-rate of Different Sections of the Country per cent. of that of England and Wales, 1921–30.

——	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
North ..	106	104	104	106	105	106	104	105	104	104
Midlands..	99	100	99	99	99	99	102	101	101	101
South ..	91	94	94	92	92	92	93	93	93	93
Wales ..	112	107	110	112	110	108	104	104	102	102

occupying the highest position and the North being placed second out of the four instead of first as suggested by the crude rates. If the areas be examined from the point of view of urbanization the change from the crude to the standardized comparison is even more 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, not only for the country as a whole, but for each of the four geographical sections. Similarly in the urban districts of the South, which yield the lowest rate shown in the table, part of the lowness is due to the unfavourable constitution of the population, for the ratio to the England and Wales rate is raised from 89·0 per cent. to 94·7 per cent. upon standardization. On the other hand the towns of Wales and in a lesser degree London and the county boroughs of the North and Midlands are overfavoured by a comparison limited to the crude ratios alone.

The extent of illegitimacy in different classes of area and parts of the country may be gathered from the lower half of Table XCV. 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 rural aggregate rate is 10·3 per cent. above the mean, for illegitimate only it is 21·8 per cent. above. The table confirms generally the view expressed in earlier reports, when only crude rate comparisons were available, that such rates understated the position in rural districts and overstated it in the South.

Sex Proportions at Birth.—Births of males in England and Wales in 1930 numbered 331,380, and those of females 317,431 ; the proportion of male to female births was 1,044, 1,049, and 1,044 to 1,000 for legitimate, illegitimate, and total births respectively. The corresponding proportions for total births in each year from 1890 onwards and in groups of years since the commencement of registration are shown in Table C (Part II) ; the extreme range

during the preceding 50 years was 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 1,042 in 1878. The lowest point touched since 1919 was 1,041 in 1926.

The extent to which different classes of area or portions of the country contribute to the preponderance of male births is shown in Table XCVII.

Table XCVII.—Male Births per 1,000 Female Births, 1930.

——	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	1,044	1,042	1,045	1,045	1,044
London	—	—	—	1,044	—
County Boroughs ..	1,044	1,038	1,053	1,055	1,030
Other Urban Districts	1,041	1,046	1,042	1,031	1,039
Rural Districts ..	1,049	1,049	1,040	1,057	1,065

There is however much variability in the relative incidence of masculinity, and the figures for 1930 afford no reliable guide to the ascertainment of any characteristic differences.

STILLBIRTHS.

The stillbirths registered during 1930 numbered 27,577 in all, 15,241 being males and 12,336 females ; the numbers representing 41, 44 and 37 per 1,000 total births or 43, 46 and 39 per 1,000 live births respectively. The total compares with the lower figure of 26,847 recorded last year and the proportion per 1,000 total births is increased from 40 to 41.

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 Annual Review.

The constitution of a stillbirth is governed in this country by the definition laid down in the above mentioned Act, which is as follows :—

> "'Stillborn' and 'stillbirth' shall apply to any child which has issued forth from its mother after the twenty-eighth week of pregnancy and which did not at any time after being completely expelled from its mother breathe or show any other signs of life."

The criterion is thus the absence of life, or of signs of life, at the point of time of complete expulsion and is independent of separation or of viability. The only factor restricting its general application is that of the minimum duration imposed in respect of the period of gestation. In reference thereto it should be noted that the introduction of a time limit, inevitable in the case of a stillbirth, does not affect in any way the existing practice regarding live births; a child which after complete expulsion shows any signs of life is regarded as a live birth, even if the birth occurs before the end of the twenty-eight weeks, and is registrable as such in accordance with the ordinary procedure.

With regard to the effect of registration upon the statistics, it may be observed that, unlike live-birth registration, where the period between birth and registration is frequently as much as a month or more, stillbirth registration is linked administratively with the burial procedure, and the necessity of early disposal of the body automatically reduces the delay to a minimum and thereby secures a close correspondence between the records and facts in a given period. The record will thus, like that also of infant deaths, be slightly out of phase with the corresponding live-birth record with which each of them is usually compared.

Table XCVIII.—Stillbirths, 1930.

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.	Legit.	Illegit.	Legit.	Illegit.			
All Areas :—												
England and Wales	41	43	37	58	49	1,000	1,000	1,000	1,000	1,000	1,000	1,000
North	45	47	41	68	54	1,100	1,138	1,038	1,013	1,098	1,161	1,167
Midlands	38	41	35	50	47	945	899	1,013	933	927	935	900
South (inc.London)	35	37	31	53	43	855	899	923	1,040	854	806	867
Wales	53	58	48	63	64	1,319	1,184	1,026	1,013	1,293	1,161	1,117
London	34	36	30	58	43	825	942	962	1,107	829	774	983
County Boroughs :—												
England and Wales	42	45	38	60	54	1,035	1,069	1,045	1,027	1,024	1,065	1,133
North	44	47	40	66	56	1,087	1,147	1,071	1,067	1,073	1,129	1,250
Midlands	39	42	35	48	48	975	892	1,045	933	951	968	1,017
South	36	36	34	63	56	870	1,104	917	1,160	878	839	900
Wales	49	52	44	51	71	1,202	1,158	1,064	867	1,195	1,097	1,150
Other Urban Districts :—												
England and Wales	41	44	37	60	49	1,017	1,017	974	880	1,000	1,000	933
North	47	49	42	76	57	1,140	1,238	987	867	1,146	1,161	1,083
Midlands	37	40	34	51	42	918	872	994	867	902	935	867
South	35	37	30	50	44	845	877	885	920	854	806	750
Wales	55	60	49	65	64	1,362	1,199	1,032	947	1,341	1,129	1,100
Rural Districts :—												
England and Wales	41	43	38	51	46	1,010	896	987	1,067	1,000	1,032	883
North	43	45	40	56	42	1,057	912	1,051	1,120	1,049	1,194	1,050
Midlands	39	41	35	49	53	950	946	994	1,040	951	968	833
South	37	40	34	40	30	923	657	910	1,000	902	871	733
Wales	54	57	50	65	62	1,339	1,179	981	1,227	1,317	1,194	1,083

The distribution of the total according to sex, legitimacy and geographical incidence is shown in Table 14a of Part I of the Statistical Review, and is summarised in rate form in Table XCVIII; in the latter have been included columns from which comparisons may be made between the incidence of still births on the one hand and that of live births or of infant mortality on the other.

This year's summary generally confirms the inferences derived from the previous experience provided by the 1926 Act. Thus, 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 is insignificantly less than that of last year and it is maintained with considerable uniformity throughout the several sections distinguished. Similarly, as between legitimate and illegitimate births, the latter exhibits the higher rates in all sections (the Rural areas of the South excepted), the amount of the excess being on a somewhat larger scale than that indicated in the comparison between the sexes.

As regards areal comparison, Wales appears to return the highest frequencies; taken as a whole or by various degrees of urbanization, the rates are definitely higher than their counterparts in any of the English sections. Amongst the latter, the frequencies decrease progressively from the North, where the rate is about 10 per cent. in excess of the general average, to the South where it is 15 per cent. below. The rates tend on the whole to increase with urbanization but in this the progressions are not so uniform, the outstanding exception being the case of London which returns the lowest rate in the list.

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 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 the following table which shows the boroughs and the county urban and rural aggregates exhibiting the highest and lowest rates per 1,000 total births in 1930. Areas in which less than 20 stillbirths were registered have been omitted.

Metropolitan Boroughs.		County Boroughs.		Urban Aggregates (Excluding C.Bs.)		Rural Aggregates.	
			Highest.				
Islington	40	Merthyr Tydfil ..	63	Merionethshire ..	68	Caernarvonshire	65
Wandsworth ..	39	Blackburn ..	63	Carmarthenshire	59	Merionethshire ..	62
Hampstead ..	38	Stockport ..	61	Monmouthshire ..	58	Carmarthenshire	60
Westminster ..	38	Wigan	61	Glamorganshire..	56	Glamorganshire ..	58
Battersea	37	Barnsley	60	Caernarvonshire	55	Pembrokeshire ..	55
			Lowest.				
Fulham	30	Northampton ..	32	Northamptonshire	31	Buckinghamshire	30
Bethnal Green ..	30	Reading	32	Isle of Wight ..	30	Wiltshire.. ..	29
Chelsea	28	Walsall	32	Soke of Peterborough ..	30	Middlesex ..	27
Greenwich	22	Croydon	29	Hampshire ..	29	Berkshire ..	26
Shoreditch.. ..	20	Oxford	24	Flintshire ..	27	Oxfordshire ..	25

NATURAL INCREASE.

In 1930 the excess of live births over deaths registered in England and Wales was 193,384, as compared with 111,181 in 1929, 199,878 in 1928, and 169,563 in 1927. The increase, which is due to the lower death-rate of last year, restores the natural increase figure to the position of 1928, an exceedingly low one in relation to earlier periods outside the worst of the war years.

From the comparable series of rates per 1,000 living population given in Table XCIX it will be observed that, though there is rather greater irregularity in the successive rates of natural increase, they have, over the whole 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, viz., 4·9 per 1,000 population, 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 time, and that, apart from the results of migration, the population will continue to increase, though, naturally, at a somewhat slower pace.

What must not be inferred from mere excesses of births over deaths or from their alternative expressions as rates per 1,000 total population, is that the perpetuation of current conditions regarding fertility and mortality would be sufficient to ensure a continuous increase in the national population, both now and in the remote future.

Table XCIX.—England and Wales. Natural Increase of Population per 1,000 living, 1876-1930.

	Mean Annual Live Birth-rate per 1,000 living.	Mean Annual Death-rate per 1,000 living.	Mean Annual Rate of Increase by excess of Births over Deaths per 1,000 living.
1876—1880.. ..	35·3	20·8	14·5
1881—1885.. ..	33·5	19·4	14·1
1886—1890.. ..	31·4	18·9	12·5
1891—1895.. ..	30·5	18·7	11·8
1896—1900.. ..	29·3	17·7	11·6
1901—1905.. ..	28·2	16·0	12·2
1906—1910.. ..	26·3	14·7	11·6
1911—1915.. ..	23·6	14·3*	9·3
1916—1920.. ..	20·1	14·4*	5·7
1921—1925.. ..	19·9	12·2	7·7
1926—1930.. ..	16·7	12·1	4·6
1907..	26·5	15·1	11·4
1908..	26·7	14·8	11·9
1909..	25·8	14·6	11·2
1910..	25·1	13·5	11·6
1911..	24·4	14·6	9·8
1912..	24·0	13·4	10·6
1913..	24·1	13·8	10·3
1914..	23·8	14·0	9·8
1915..	21·8	15·7*	6·1
1916..	21·0	14·3*	6·7
1917..	17·8	14·2*	3·6
1918..	17·7	17·3*	0·4
1919..	18·5	14·0*	4·5
1920..	25·5	12·4*	13·1
1921..	22·4	12·1	10·3
1922..	20·4	12·8	7·6
1923..	19·7	11·6	8·1
1924..	18·8	12·2	6·6
1925..	18·3	12·2	6·1
1926..	17·8	11·6	6·2
1927..	16·6	12·3	4·3
1928..	16·7	11·7	5.0
1929..	16·3	13·4	2·9
1930..	16·3	11·4	4·9

* For the years 1915 to 1920 inclusive the figures upon which these rates are based relate to civilians only.

The population as a whole is gradually getting older, and must continue to do so for many years to come, owing to the heavy falls which have occurred in both fertility and mortality during the past half century. The older sections where the death frequencies are naturally highest are becoming relatively more and more numerous. The crude death-rate (deaths per 1,000 population) must in consequence tend to rise in relation to the true underlying mortality and will thus encroach on the already much diminished margin of natural increase recorded above for

recent years. The encroachment would be delayed by a real decrease in mortality or an increase in fertility. But of the proximity of the latter there is no evidence at all; while as regards the former, from the very nature of the case, the lower mortality falls the less room is there for it to fall further, and any practicable assistance from this source is, therefore, being gradually exhausted as the years go by. Moreover any change in the death-rate can have but a temporary effect on a situation which is primarily governed by the rate at which the population is being replenished at its source.

It was suggested in the 1926 Review that if we take as the standard of population stability, not the maintenance of a constant total but the production of a standard number of births, the standard being that number which would in their turn and at the rate they themselves were born produce offspring numerically equal to themselves, the standard would correspond to a crude birth rate based on the present population of about 19½ per 1,000. This level has not been reached since 1923—the rate for the present year is only 84 per cent. of the said standard—and the inevitable inference must be drawn that, while there is no improvement, the future growth of population will tend to be at an ever diminishing rate up to the stage at which births and deaths are equal, the latter thereafter gaining the ascendancy with a consequent decline in population.

Table C shows for 1930 the rate of natural increase in various sections of the country, representing the combined effect of the several sectional birth and death-rates.

Table C.—Natural Increase per 1,000 living, 1930.

——	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	4·9	4·9	5·8	3·7	5·0
London	—	—	—	4·2	—
County Boroughs ..	5·0	4·9	5·9	3·0	5·6
Other Urban Districts	4·7	4·2	5·9	3·1	5·3
Rural Districts ..	5·0	6·4	5·3	3·8	4·0

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 has increased by about 126 per cent., the sum of the final census figures for Great Britain and of the estimated population of Ireland in June, 1921, amounting to 47,123,196. The populations of the several portions of the United Kingdom for each census year from 1821 and for individual years from 1890 are set out in Table A.

Table CI.—Great Britain and Ireland. Vital Statistics 1920–1929 and 1930.

——	Great Britain and Ireland.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.
Estimated Population in the middle of the year 1930 *(in thousands).*					
Males	23,502	19,075	2,328	602	1,497
Females	25,340	20,731	2,518	642	1,449
Persons	48,842	39,806	4,846	1,244	2,946
Marriages.					
1930	369,630	315,109	33,343	7,547	13,631
Persons married per 1,000 living :—					
1920–1929 ..	15·3	16·0	14·4	12·4	9·7
1930	15·1	15·8	13·8	12·1	9·3
Births.					
1930	827,592	648,811	94,549	25,879	58,353
Per 1,000 living :—					
1920–1929 ..	19·7	19·3	22·3	22·6	20·4
1930	16·9	16·3	19·5	20·8	19·8
Deaths.					
1930	578,562	455,427	64,285	17,148	41,702
Per 1,000 living :—					
1920–1929 ..	12·6	12·2*	13·8	15·4	14·5
1930	11·8	11·4	13·3	13·8	14·2
Deaths of Infants under 1 year.					
1930	52,479	38,908	7,852	1,754	3,965
Per 1,000 births :—					
1920–1929 ..	76	74	90	83	71
1930	63	60	83	68	68

* For the year 1920 the figures on which this rate is based relate to civilians only.

Marriages.—The marriages during the year 1930 numbered 369,630, corresponding to a rate of 15·1 persons married per 1,000 of the total population. This rate was the same as the corresponding rate in 1929, and 0·2 per 1,000 below the average rate in the ten years 1920–1929.

Births.—The births registered in the year 1930 numbered 827,592, and were in the proportion of 16·9 per 1,000 of the total population. This rate was 0·1 above the corresponding rate in 1929, but 2·8 per 1,000 below the average in the ten years 1920–1929.

Deaths.—The deaths registered in the year 1930 numbered 578,562, and were in the proportion of 11·8 per 1,000 of the total population. This rate was 1·9 per 1,000 below the corresponding rate in 1929, and 0·8 per 1,000 below the average in the ten years 1920–1929.

Infant Mortality.—The deaths of infants under one year of age during the year 1930 numbered 52,479, representing a rate of 63 per 1,000 live births. This rate was 13 per 1,000 live births below that recorded in 1929 and 13 per 1,000 below the average in the ten years 1920–1929.

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. These returns of births and deaths at sea constitute the "Marine Register Book." During the year 1930 this register was increased by the addition of 157 entries of birth and 1,936 entries of death.

REGISTRATION 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 1930 by 1,734,456, this addition raising the total of names in the indexes, which at the end of 1930 embraced a period of 93½ years, to 157,948,940 (Table S).

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 CII 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.

Table CII.

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

* Including some searches made in 1908.

† In addition, there were 91,917 gratuitous searches made for National Insurance Audit purposes.

The 1,053,047 gratuitous searches during 1930 comprise 56,093 searches made for the purpose of verifying the ages of persons aged 70 and upwards claiming old age (non-contributory) pensions and 237,606 for persons claiming pensions under the Old Age Contributory Pensions Acts, 1925 and 1929; 699,089 for verification purposes in connexion with claims to widows' and orphans' pensions under the Widows', Orphans', etc., Acts, 1925 and 1929; 26,368 to assist dependents of men of H.M. Forces to produce evidence of marriage 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; 23,244 for verification of age, etc., in connexion with National Health and Unemployment Insurance; and 10,647 for other public purposes.

Offences against the Registration Acts.—In 1930 twenty 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	3
(*b*) For failing to re-register a birth under the Legitimacy Act	7
(*c*) Giving false information when registering a birth or death	7
(*d*) Giving false information for the purpose of procuring marriage	3

In addition to the above cases proceedings were taken and convictions obtained by the Director of Public Prosecutions in cases reported through the Registrar-General, the offences including those of false registration and making false declarations when giving notice of 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 1930, authority was issued for the re-registration of the births of 3,989 children, being 57 less than the preceding year. It would appear that the normal figure to be expected in future years will be approximately 4,000, though it is still difficult to speak with any certainty. A large number of applications are not made shortly after the marriage of the parents but are postponed until the children's birth certificates are required on entering or leaving school or attaining the age of 21.

The number of authorities issued during each quarter is as follows :—

	1927.	1928.	1929.	1930.
March quarter	1,265	1,401	1,075	996
June quarter	1,256	1,170	1,105	1,001
September quarter ..	1,381	1,242	933	1,006
December quarter ..	1,593	1,070	933	986
Totals	5,495	4,883	4,046	3,989

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 1930, is 4,517, the following table furnishing an analysis of the Adoption Orders made by reference to the several classes of Courts and the quarterly distribution of the total figure.

Table CIII.

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

PARLIAMENTARY AND LOCAL GOVERNMENT ELECTORS.

The returns of Parliamentary and Local Government Electors published in Tables T and U summarise the second Register of Electors to be compiled under the Representation of the People (Equal Franchise) Act of 1928 and are in respect of the qualifying period of three months ending on the 1st June, 1930.

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 T refers to Parliamentary electors, and shows for each Parliamentary constituency in England and Wales, including the University constituencies, the number 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 U refers to Local Government electors, and shows the numbers of each sex registered in respect of every sanitary area, *i.e.*, county borough, metropolitan borough, municipal borough, urban district and rural district in England and Wales.

Table CIV.—England and Wales.—Parliamentary and Local Government Electors.

Register.	Parliamentary Register (including University Constituencies).					Local Government Register.		
	Persons.	Males.	Females.	Business Premises Qualifications. — Males only up to 1928. Persons from 1929 (incl 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

The figures for the whole country are summarised in Table CIV and are shown in conjunction with the figures of previous Registers made since the passing of the 1918 Act.

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 millions 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 universal 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 25,730,507 represents 64·6 per cent. of the estimated total population, or 63·4 per cent. of the male and 65·7 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 47·4 per cent. of the whole population, or 46·7 per cent., and 48·1 per cent. in the case of males and females separately.

Of the total of the Parliamentary Registers, the bulk, viz., 25,648,769, represents the aggregate voting strength in the 509 geographical constituencies into which England and Wales is divided, the balance of 81,738 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 49,325 per member and eight in respect of the Universities, with an average electorate of 10,217.

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 as follows :—

Table R, showing the balance inward or outward of passenger movement into and out of the United Kingdom for each of the years from 1911–1930.

Table W, showing the Area, Population, Births and Deaths in British Islands other than Great Britain and Ireland from 1902–1930.

Table X, showing the Population, Births, Deaths, Infant Mortality, Marriages and corresponding rates for the year 1930 in the several portions of the British Dominions :—

The Commonwealth of Australia.
Canada.
New Zealand.
South Africa.

Table Y, showing the 1921 Census Populations, and the intercensal rate of increase or decrease of the several Dominions, Colonies and Protectorates (including mandated territories) in the British Empire.

Table Y1, showing the 1931 Census Populations of the British Empire, Dominions, Colonies and Possessions.

Table Z, showing the latest Census Populations and intercensal rates of increase or decrease in various Foreign Countries.

Table AA, showing the changes which have taken place in the boundaries of Administrative Areas in England and Wales during 1930.

Table BB, showing the changes which have taken place in the boundaries of Administrative Areas in England and Wales during 1930, with enumerated population by sex and age (1921) of the transferred areas.

ENGLAND AND WALES.

METEOROLOGICAL REMARKS FOR THE YEAR 1930.

Compared with 1929 the year 1930 presented few features of outstanding interest. It was chiefly characterised by an excess of rainfall. Temperature means were generally above the normal, in the majority of cases by less than 1° F., while sunshine aggregates were mostly deficient especially in the Midlands and the south-west. Over the country as a whole the general rainfall, expressed as a percentage of the normal 1881–1915, was 117, with which may be compared the general percentage values for the years 1922 to 1929:—105, 113, 120, 106, 102, 124, 113, 100. Small deficiencies occurred in the Thames Valley between Newbury and Windsor and in the English Lake District. Falls of more than 120 per cent. of the normal were widespread. Such large excesses occurred in the Devon–Cornwall peninsula, over a broad belt stretching across the Pennines from Gloucester and Snowdonia in the west to Flamborough Head and Newcastle in the east. Falls of more than 130 per cent. occurred in the north-east of Wales from Flint to Montgomery and locally near Ashburton, Birmingham, Bradford, the Yorkshire Wolds and Sunderland. Falls exceeding 140 per cent. were probably confined to the Whitby district, where the heavy and persistent rain of 20th to 23rd July was one of the most outstanding meteorological features of the year; during these four days as much as 11·97 in. (304 mm.) was recorded at Castleton in the Yorkshire Wolds. Much damage by flooding resulted in the Esk and Leven Valleys and an unusual occurrence was the use of the Whitby lifeboat at Ruswarp, 2 miles inland, where it was launched from its carriage over flooded fields for rescue work.

Apart from a generally sunny and warm June and the fine hot spell towards the end of August, the summer was disappointing. During the summer half of the year, April to September, sunshine aggregates were deficient, especially in the Midlands and the south-west, while the general precipitation over the country as a whole during these six months amounted to 1¼ times the normal. The Easter holiday was marred by cold northerly to north-easterly winds and wintry precipitation, snow or sleet occurring widely on the eve (19th April) of Easter day. In pleasant contrast was the weather at Whitsuntide, the sunniest and warmest for several years. During the period 5th June to 9th June (Whit Monday) between 13 and 15 hours' bright sunshine or more were recorded daily in the east and south-east of England (Gorleston had 15·5 hr. on the 6th). Unsettled cloudy weather with rain or showers prevailed generally on the last public holiday of the summer (4th August).

There were no spells of prolonged cold comparable to that which occurred in February of 1929. The coldest weather was experienced generally in February and March, during which months cold northerly or north-easterly winds were very prevalent. In March 3° F. was recorded at Newport (Shropshire) on the 20th and 13° F. at Ross-on-Wye, the lowest recorded there since observations were begun in 1859. Ground frost was common during these two months and was often severe. At Ross-on-Wye a thermometer freely exposed over snow-covered ground, recorded the unprecedently low temperature for that station in March of 3° F. During the summer half of the year June was the only month in which the mean temperature was appreciably above the normal; the excess was attributable more to the frequency of moderately warm days and nights than to the occurrence of any really hot spell. The only memorable hot spell occurred during the last few days of August. The month had been mostly cool, but after the 24th the weather rapidly became warmer and on the 26th temperatures rose to 80° F. and above. At Richmond (Surrey) 88° F. was recorded on the 27th, as compared with 68° F. on the 24th. For three consecutive days, 27th to 29th, 90° F. was recorded at Cranwell, 91° F. at Cardington, and 90° F. and over in London (94° F. at Camden Square on the 29th, the highest temperature recorded in the British Isles since 13th July, 1923). The spell was, however, of brief duration, cool northerly winds spreading southwards from Scotland on the 30th.

In concluding this review of the more prominent meteorological incidents of 1930, brief mention may be made of the severe thunderstorm which broke over London on the afternoon of the 17th June; 40 mm. rain was recorded at Westminster and 37 mm. at Kensington. On the 18th June the storms developed over a larger area extending to southern Scotland and Wales; 90 mm. rain fell at Cheltenham and 68 mm. at Greenwich, while some deaths from lightning were reported. In parts of London the

rain following on the heavy falls on the previous day caused severe flooding and serious dislocation of traffic. The only considerable part of England which escaped the thunderstorms on the 18th June was the south-west and the southern coastal districts. Severe thunderstorms also occurred in the north on 28th and 29th August and over a much wider area on the night of the 29th to 30th August.

January was on the whole decidedly mild, the weather during the month being characterised by persistent unsettled conditions, frequent gales during the first fortnight and a pronounced excess of precipitation, more than twice the normal being recorded in the south and in Wales. Violent gales occurred on the 1st to 3rd and on the 12th and at Pendennis Castle 102 mi/hr. was recorded in a gust on the 12th. Temperature attained an unusually high level for the time of year on the 19th when 61° F. was recorded at Chester, 59° F. at Greenwich (highest since 1841), and 58° F. at Oxford (highest since 1871). *February* was on the whole cold, dry and quiet, with an unusual prevalence of north-easterly winds and much sunshine in the north and west. *March* was unsettled with a spell of wintry weather from about the 9th to the 24th, an excess of sunshine and deficiency of rainfall in the east and south-east and a deficiency of sunshine and excess of rainfall in the west and north. Snow fell frequently during the period 13th to 20th ; in Birmingham 7½ in. of snow fell on the 15th, and from 5 to 6 in. in parts of eastern Kent on the 19th. The outstanding feature of *April* was the general and pronounced lack of sunshine. Precipitation exceeded the normal in most places. In spite of cool northerly or easterly winds and wintry precipitation from the 3rd to the 7th and from the 12th to the 21st, mean temperatures exceeded the normal in most districts, due largely to mild nights and a spell of warm weather during the last six days. *May* was a wet month in south-east England but a dry one for most other districts. There was a general deficiency of sunshine, the month differing little in this respect from April. Mean temperatures were about normal. *June* was sunny, warm and dry with frequent thunderstorms during the fortnight subsequent to the 12th. *July* was generally cool, dull and wet. Thunderstorms occurred frequently in the Midlands and eastern districts. Apart from a spell of brilliant warm weather from the 26th to the 29th, *August* was unsettled, wet and mainly cool, with an excess of sunshine in the east and south-east and a deficiency elsewhere. The weather of *September* was chiefly remarkable for its persistent and excessive rainfall except in the north-west and pronounced deficiency of sunshine. Monthly mean temperatures exceeded the normal, due largely to the prevalence of mild nights. *October* was mild, especially so during the week commencing 12th October. From the 15th to 17th, under the influence of air of tropical origin, the temperature rose to 65° F. in places ; 70° F. was recorded in London on each of

these three days. In the east the month was both sunny and dry, but in the west there was a pronounced excess of precipitation and in most parts a deficiency of sunshine. *November* was decidedly wet with mean temperatures about normal. In spite, however, of the excessive wetness, sunshine aggregates were mostly above normal, especially in the east of England. *December* was on the whole dull, foggy and rather mild and, apart from gales about the 11th and for a few days about the 27th, mainly quiet. There was a pronounced deficiency of sunshine in the Midlands and in the north-west.

Further information.—Tables relating to meteorological elements are given in Part I (Tables 29–31). 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 XIV 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.

REGISTRAR-GENERAL FOR ENGLAND AND WALES.

CENSUS 1931 :—

PRELIMINARY REPORT. Price 4*s.* (4*s.* 3*d.*)

REGISTRAR-GENERAL FOR SCOTLAND.

CENSUS 1931 :—

PRELIMINARY REPORT. Price 3*s.* (3*s.* 2*d.*)
Vol. I. Part I. CITY OF EDINBURGH. Price 2*s.* (2*s.* 2*d.*)
Part II. CITY OF GLASGOW. Price 2*s.* 3*d.* (2*s.* 5*d.*)

DEPARTMENT OF HEALTH FOR SCOTLAND.

FIRST ANNUAL REPORT FOR 1929. [Cmd. 3529.] Price 3*s.* 6*d.* (3*s.* 10*d.*)
SECOND ANNUAL REPORT FOR 1930. [Cmd. 3860.] Price 3*s.* 6*d.* (3*s.* 10*d.*)
THIRD ANNUAL REPORT FOR 1931. [Cmd. 4080.] Price 3*s.* (3*s.* 3*d.*)

MINISTRY OF HEALTH.

TWELFTH ANNUAL REPORT FOR 1930–31. [Cmd. 3937.] Price 5*s.* (5*s.* 5*d.*) The Report deals with Public Health, Local Government and Finance, Poor Law and National Health Insurance Administration.

"ON THE STATE OF THE PUBLIC HEALTH." By Sir George Newman, K.C.B., M.D., D.C.L., F.R.C.P. This is the Annual Report of the Chief Medical Officer of the Ministry of Health. (1921.) Price 1*s.* 6*d.* (1*s.* 8*d.*)

Do.	do.	for 1922	2*s.* 6*d.*	(2*s.* 9*d.*)
Do.	do.	for 1923	3*s.* 0*d.*	(3*s.* 3*d.*)
Do.	do.	for 1924	3*s.* 6*d.*	(3*s.* 10*d.*)
Do.	do.	for 1925	3*s.* 0*d.*	(3*s.* 4*d.*)
Do.	do.	for 1926	3*s.* 0*d.*	(3*s.* 4*d.*)
Do.	do.	for 1927	2*s.* 6*d.*	(2*s.* 10*d.*)
Do.	do.	for 1928	3*s.* 0*d.*	(3*s.* 5*d.*)
Do.	do.	for 1929	3*s.* 6*d.*	(3*s.* 10*d.*)
Do.	do.	for 1930	4*s.* 0*d.*	(4*s.* 4*d.*)

MISCELLANEOUS PUBLICATIONS IN 1930–31 :—

Welfare of the Blind. Eighth Report of the Advisory Committee 1929. Price 6*d.* (7*d.*)

Do. do. Ninth Report do. do. 1930. Price 6*d.* (7*d.*)

Maternal Mortality and Morbidity. Interim Report 1930. Price 2*s.* (2*s.* 3*d.*)

Sale of Food and Drugs Acts. Extracts from the Annual Report of 1929–30 and Abstract of Reports of Public Analysts for the year 1929. Price 3*d.* (3½*d.*)

National Health Insurance. List of Approved Societies, 1930. Price 2*s.* (2*s.* 2*d.*)

All prices are net, and those in parentheses include postage.

Obtainable from the Sale Offices of H.M. STATIONERY OFFICE *at the Addresses shown on the front cover, or through any Bookseller.*

MANUAL of the International List
of
CAUSES OF DEATH

New Edition based on the fourth decennial revision by the International Commission, Paris, 1929.

THIS Manual is issued on the authority of the Registrars-General for England and Wales, Scotland and Northern Ireland with a view to providing for the use of public health officers, the medical profession generally, and any others interested, an official statement of the practice in force in the several parts of the United Kingdom with regard to the classification of causes of death.

Price 3s. *Post Free 3s. 4d.*

CENSUS
OF
ENGLAND & WALES, 1931.
Preliminary Report
INCLUDING
Tables of the Population

Enumerated in
England and Wales (Administrative and Parliamentary Areas) and in Scotland, the Isle of Man and the Channel Islands on 26/27 April, 1931.

Price 4s. *Post Free 4s. 3d.*