

PAR-
LIE
AL
W
LIES)

ONLY



42 [HA 161]

~~R7~~

STATISTICAL
BACK-UP

STATISTICAL REVIEW, 1924.

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 473,235 persons were registered in England and Wales during 1924, 240,620 of these being males and 232,615 females. Except in three recent years, 1920, 1921, and 1923, this is the smallest number registered since 1867, when the population was only 56 per cent. of that estimated for 1924.

Deaths of civilians, including all deaths of females and 99·78 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. It has been found however that similar treatment cannot be satisfactorily applied to the deaths of non-civilians, which are therefore 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 only applies to all tables embodying distinction of local area.

The 473,235 deaths correspond to a rate of 12·2 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 LXXI, from that of the standard population of 1901, this death-rate is reduced to 10·7.

As the population of this country in 1901 included relatively few infants and old people it forms a standard exceptionally favourable to low mortality. Its use for this purpose accordingly yields comparatively low standardized rates all round. In order to correct any wrong impression which might arise from this

* The term "standardized death-rate" means the death-rate corrected for differences of sex and age constitution of the population. For a description of two methods of effecting this "standardization" of recorded death-rates see the Annual Report for 1911 (pages xxvii-xxx). 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.)

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 on p. viii of the "Annuaire international de statistique, II. Mouvement de la population (Europe)," are shown in Table XIV, 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 10.7 to 12.0 per thousand.

The standardized rate of 10.7 is less than any returned prior to 1923, when the low record of 10.3 was reached. The increase over 1923 of 0.4 per 1,000 living applies to each sex.

Table 2 (Part I) shows that the increase of mortality over that of 1923 occurred entirely in the first quarter, the death-rate for which rose from 13.2 per 1,000 in the previous year to 16.6. The rate for the second quarter was lower than for any of the previous nine years except 1921, and those for the third and fourth quarters are the lowest yet recorded. For the excess during the first quarter Table 18 shows that the month of March was chiefly responsible. The deaths for each sex during each of the first nine months of the year, which alone are dealt with in that table, form the following percentages of the yearly total, which may be compared with 8.3 ($=\frac{1}{12}$), the mean monthly proportion.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Males ..	9.7	10.8	12.6	9.7	7.9	6.7	6.7	6.4	6.3
Females ..	10.2	11.4	13.1	9.6	7.4	6.6	6.2	6.2	6.2

Table 18 shows that influenza contributed materially to the March maximum, but that this applied also to a great many other causes of death. These include, for each sex, measles, whooping cough and infectious diseases generally, tuberculosis, phthisis, diseases of the nervous system, cerebral hæmorrhage, diseases of the circulatory system, heart disease (valvular and myocardial alike), arterio-sclerosis, respiratory diseases, bronchitis, pneumonia, genito-urinary diseases, premature birth. The same statement applies, for the sex concerned, to prostatic and puerperal diseases. In a number of other cases the maximum for one sex was in March and for the other elsewhere in the first quarter. Evidently the conditions during March were such as to hasten the advent of death when impending from many causes not otherwise affected by season.

Mortality of each sex.—Table 1 (Part I) shows that, like the (standardized) total mortality, that for each sex in 1924 was considerably lower than for any year before 1923.

The standardized mortality of males regularly exceeds that of females. Up to 1860 or so the excess was only about 9 per cent., but for the 15 years ending with 1914 it averaged about 20 per cent.

Table I.—England and Wales: Mortality of Males of Various Ages per cent. of that of Females of Like Age, 1911-14 and 1924.

	All Ages (standardized).	0—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85 and upwards
1911-14	121	120	102	96	110	116	121	125	130	132	125	121	113
1924 ..	122	124	108	99	103	112	112	131	134	132	127	119	109

During the war this excess increased to a maximum of 37 per cent. in 1917, as a consequence of deterioration, by selective recruiting, of the male element in the civilian population, to which the mortalities compared necessarily refer during the war period, but Table I shows that the sex ratio for total mortality is now very much as it was before the war. Change has occurred chiefly at 25-45, the relative position of males having improved considerably during the first ten of these twenty years, and deteriorated during the second. It is worthy of note that the period of improvement is that most affected by war service.

Infant Mortality.

Of the 473,235 deaths registered during the year, 54,813, or 11.6 per cent., were those of infants under one year of age. This proportion has fallen greatly of late years, owing mainly to reduction of the birth-rate. So recently as 1901-10 it was 22.6 per cent.

The rate of infant mortality resulting from these deaths is 75 per 1,000 births. Like the death-rate at all ages this is the lowest recorded in this country except in 1923, when it fell to 69.

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 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 during the same three monthly periods as those which died. The results of this correction are applied in Table II (rates in brackets), where it may be seen that since the period of violent fluctuations of the birth-rate came to an end the effect of this revision of the crude rate has been much less. For a few years however the restated rates must be retained to secure any accurate presentation of the recent history of infant mortality.

Table II also shows that the increase in corrected infant mortality from 69 to 74 has occurred notwithstanding full maintenance of the favourable diarrhoeal mortality experience of recent years. The remarkable confinement of the great decline in infant mortality recorded by it to the present century forms the most notable feature of Table II.

Table II.—England and Wales : Infant Mortality, distinguishing Mortality from Diarrhoeal Diseases, 1861-1924.
Deaths under 1 year of age per 1,000 Births.

	Diarrhoeal Diseases.	Other Causes.	All Causes.		Diarrhoeal Diseases.	Other Causes.	All Causes.		Diarrhoeal Diseases.	Other Causes.	All Causes.
1861-65	15	136	151	1911	36 (36)	94 (93)	130 (129)	1923	7 (7)	62 (62)	69 (69)
1866-70	20	137	157	1912	8 (8)	87 (87)	95 (95)	1924	6 (6)	69 (68)	75 (74)
1871-75	19	134	153	1913	19 (19)	89 (90)	108 (109)				
1876-80	16	129	145	1914	17 (17)	88 (87)	105 (104)				
1881-85	14	125	139	1915	15 (15)	95 (91)	110 (106)				
1886-90	17	128	145	1916	11 (10)	80 (81)	91 (91)				
1891-95	20	131	151	1917	10 (9)	86 (82)	96 (91)				
1896-00	31	125	156	1918	10 (10)	87 (88)	97 (98)				
1901-05	23	115	138	1919	9 (9)	80 (84)	89 (93)				
1906-10	18	99	117	1920	8 (9)	72 (76)	80 (85)				
1911-15	19 (19)	91 (90)	110 (109)	1921	14 (14)	69 (67)	83 (81)				
1916-20	9 (9)	81 (83)	90 (92)	1922	6 (5)	71 (70)	77 (75)				

The rate of fall in infant mortality has been very different in different portions of the first year of life. Table III shows the mortality per 1,000 registered births at ages under three months, at 3-6, and 6-12 months, for the forty-four years 1881-1924, and the proportions of the total infant mortality occurring at each age, the corrected figures for the last fourteen years being shown in brackets.

The corrected mortality, during 1924, for each of the subdivisions of the first year of life shown in the table, except 6-12 months, is as low or lower than for any year before 1923, the rates for which remain in all cases the lowest yet reached.

The proportion of the total infantile deaths occurring during the first four weeks of life has somewhat decreased in 1924, but the table shows that a notable increase in this proportion has occurred of late years, in consequence of greater relative decrease of mortality during the later months of infancy. This must be expected to continue to some extent so long as the fall in infant mortality continues, the proportion of preventable deaths being greater during the later months. In New Zealand, where the remarkably low infant mortality rate of 43·8 was reached in 1923, the proportion of the deaths for that year occurring during the first month of life was 664 per 1,000; and whereas the mortality of the first month has been practically stationary for many years at about 30 per 1,000 births, not much below present English experience, that at 1-12 months has fallen by 76 per cent. since 1881-85, from 60·8 to 14·7, the latter figure comparing with 41 for England and Wales in 1924 (Table III). But Table III shows that in this country the mortality of the first four weeks, though not falling so fast as that of the later stages of infancy, has none the less fallen on the whole steadily and considerably since the commencement of the corrected record in 1911. And the local differences in this rate recorded in Table 13 suggest that it is still capable of considerable further reduction. The rate, for instance, of 28 per 1,000 births for the South of England as a whole is slightly below the New Zealand experience, and the fact that

Table III.—England and Wales : Age Distribution of Infant Mortality, 1881-1924.

	Deaths per 1,000 Births registered.						Proportion of Deaths at each age.					
	Under 4 weeks.	4 Weeks to 3 months.	Total under 3 months.	3-6 months.	6-12 months.	Total under 1 year.	Under 4 weeks.	4 Weeks to 3 months.	Total under 3 months.	3-6 months.	6-12 months.	Total under 1 year.
1881-1885	—	—	67	28	44	139	—	—	484	199	317	1,000
1886-1890	—	—	69	30	46	145	—	—	480	204	316	1,000
1891-1895	—	—	74	31	46	151	—	—	488	207	305	1,000
1896-1900	—	—	74	34	48	156	—	—	477	215	308	1,000
1901-1905	—	—	70	28	40	138	—	—	505	202	293	1,000
1906-1910	40	23	63	22	32	117	344	194	538	188	274	1,000
1911-1915	39 (39)	20 (20)	59 (59)	20 (20)	31 (30)	110 (109)	356	185	541	180	279	1,000
1916-1920	37 (37)	17 (17)	54 (54)	14 (15)	22 (23)	90 (92)	412	183	595	160	245	1,000
1911	40 (40)	25 (25)	65 (65)	26 (26)	39 (38)	130 (129)	313	190	503	201	296	1,000
1912	38 (38)	18 (18)	56 (56)	15 (15)	24 (24)	95 (95)	405	186	591	156	253	1,000
1913	39 (40)	20 (20)	59 (60)	20 (20)	29 (29)	108 (109)	364	188	552	182	266	1,000
1914	39 (38)	19 (19)	58 (57)	19 (19)	28 (28)	105 (104)	368	185	553	179	268	1,000
1915	38 (38)	19 (19)	57 (57)	19 (18)	34 (31)	110 (106)	346	173	519	174	307	1,000
1916	37 (37)	17 (17)	54 (54)	15 (15)	22 (22)	91 (91)	404	185	589	166	245	1,000
1917	37 (37)	17 (17)	54 (54)	16 (15)	26 (22)	96 (91)	388	181	569	167	264	1,000
1918	36 (37)	17 (17)	53 (54)	16 (16)	28 (28)	97 (98)	376	175	551	163	286	1,000
1919	40 (41)	15 (16)	55 (57)	13 (14)	21 (22)	89 (93)	446	174	620	148	232	1,000
1920	35 (35)	16 (16)	51 (51)	12 (13)	17 (21)	80 (85)	441	196	637	156	207	1,000
1921	35 (35)	15 (15)	50 (50)	14 (14)	19 (17)	83 (81)	427	179	606	169	225	1,000
1922	34 (34)	13 (12)	47 (46)	11 (11)	19 (18)	77 (75)	442	165	607	143	250	1,000
1923	32 (32)	11 (11)	43 (43)	10 (10)	16 (16)	69 (69)	460	163	623	144	233	1,000
1924	33 (33)	12 (12)	45 (45)	11 (11)	19 (18)	75 (74)	440	160	600	147	253	1,000

Table IV.—England and Wales : Infant Deaths at various Ages during each Quarter of the Years 1911-24, per 1,000 corresponding Births.

		1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
		Under 4 Weeks.					4 Weeks—3 Months.					3-6 Months.				
1911	41.0	36.3	41.8	43.7	40.6	21.8	14.5	38.7	23.5	24.7	18.7	13.9	52.3	18.3	25.9
1912	43.8	37.4	34.5	38.1	38.4	24.5	14.8	14.2	17.5	17.7	19.2	12.7	12.4	15.1	14.9
1913	44.7	37.8	35.6	40.0	39.5	23.2	14.8	21.3	22.2	20.3	20.2	13.7	24.4	20.8	19.8
1914	43.0	37.6	34.4	39.2	38.5	21.8	14.7	21.8	19.0	19.3	19.7	13.1	24.4	17.7	18.7
1915	42.8	35.9	32.6	39.6	37.7	23.7	14.8	16.0	20.2	18.6	21.7	14.0	18.2	19.1	18.2
1916	41.4	35.4	31.7	39.5	36.9	20.2	13.8	13.9	19.9	16.9	17.7	12.5	14.4	16.1	15.2
1917	44.6	37.0	31.6	35.3	37.1	23.1	13.1	13.8	17.6	16.9	19.9	11.6	12.9	15.5	15.0
1918	38.0	34.0	33.3	41.0	36.6	22.3	14.3	15.2	17.0	17.1	19.2	11.9	15.8	17.6	16.1
1919	47.5	38.5	35.9	39.6	40.4	27.1	11.1	12.6	15.3	16.4	23.0	10.3	12.2	12.1	14.4
1920	38.4	35.4	30.8	35.7	35.0	21.7	14.8	10.9	15.0	15.5	18.1	12.4	8.8	12.7	13.0
1921	40.2	34.2	31.3	35.3	35.2	19.4	10.9	14.8	14.1	14.7	16.0	8.8	16.9	13.0	13.7
1922	37.8	35.1	29.0	33.8	33.9	15.3	13.9	8.9	11.6	12.4	14.1	11.8	6.3	10.2	10.6
1923	36.0	31.0	27.7	32.9	31.9	15.6	9.6	8.8	11.7	11.4	12.5	8.9	8.5	10.3	10.0
1924	39.6	33.2	27.1	32.1	33.0	17.8	10.6	8.5	13.0	12.4	15.3	8.6	7.6	11.6	10.8
		6-9 Months.					9-12 Months.					Total under one Year.				
1911	17.3	13.3	39.8	12.3	20.6	16.7	13.6	28.4	11.1	17.4	115.5	91.7	201.1	108.8	129.2
1912	15.0	12.1	9.7	12.9	12.5	12.9	11.1	8.7	12.8	11.4	115.3	88.0	79.5	96.5	94.7
1913	17.9	12.4	17.8	14.5	15.7	16.0	12.3	13.9	12.1	13.6	122.0	90.9	112.9	109.7	108.9
1914	16.2	12.2	18.9	12.7	15.0	13.6	11.8	14.6	11.9	13.0	114.3	89.1	114.0	100.5	104.4
1915	20.7	14.6	14.4	14.2	16.0	20.7	16.0	11.6	12.5	15.2	129.6	95.3	93.0	105.8	105.8
1916	14.5	11.4	10.3	10.6	11.7	13.3	10.7	7.9	8.9	10.3	107.2	84.0	78.2	95.1	91.1
1917	15.3	12.1	8.9	9.9	11.6	13.8	11.7	7.8	8.9	10.6	116.9	85.5	75.1	87.3	91.1
1918	17.2	12.2	11.4	16.7	14.4	15.9	13.1	10.2	15.3	13.7	112.6	85.8	85.8	107.7	97.9
1919	21.2	9.2	8.2	8.2	11.8	18.7	8.3	6.4	7.6	10.3	137.5	77.3	75.2	82.8	93.2
1920	16.4	12.2	6.9	8.3	11.0	14.7	12.5	5.5	6.9	10.0	109.3	87.4	63.0	78.7	84.5
1921	11.7	7.0	11.3	8.7	9.7	9.5	6.5	7.5	7.7	7.8	96.8	67.5	81.9	78.9	81.2
1922	14.3	10.5	5.0	7.0	9.2	13.4	9.4	4.6	6.7	8.6	94.9	80.7	53.8	69.3	74.7
1923	10.7	8.9	6.7	7.0	8.3	8.9	9.4	5.6	6.3	7.6	83.7	67.8	57.3	68.2	69.2
1924	14.5	8.7	5.6	8.3	9.3	14.0	8.6	4.9	7.4	8.8	101.2	69.7	53.7	72.4	74.2

the North returns a rate of 38 suggests that the rate in Table III of 33 for the country at large might well be brought down to the New Zealand level if conditions elsewhere could be approximated to those already obtaining in the South. But for the remaining eleven months of infancy the New Zealand rate of 14.7 is far below any suggested by Table 13 as possible here. Even in the rural districts of the South, where infant mortality is generally lowest, the corresponding rate is 24 per 1,000. But the New Zealand experience may encourage us here, just as the fact that the South of England rate for the first month is a little below that for New Zealand may stimulate further effort in that country.

Table IV shows corrected mortalities at various ages for each quarter of each of the last fourteen years. During the first month of life the record for the third and fourth quarters of 1924 is seen to have been lower than that for the same quarters of any other year dealt with. For the first year of life as a whole the rate for the third quarter is the lowest in the table.

Distribution of Infant Mortality.—Table V shows how infant mortality was distributed in 1924 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

Table V.—Distribution of Infant Mortality, 1924.*

	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	—	—	78	—	78	—	—	60	—	60	—	—	69	—	69
County Boroughs ..	109	88	74	86	98	87	67	55	70	77	99	78	65	79	88
Other Urban Districts ..	96	72	64	84	81	73	55	47	68	61	85	64	56	76	71
Rural Districts ..	86	66	59	88	72	69	47	43	64	54	78	57	51	76	63
All Areas	102	76	71	85	85	80	57	53	67	65	91	67	62	77	75

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

infants of both sexes being 99 for the Northern county boroughs and the lowest 51 for the rural districts of the South. In 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 1924 decreased regularly from the North to the South of England.

The comparisons suggested by Table V are facilitated by Table VI, which states them, for infants of both sexes jointly, in percentage form. It shows that while, viewed in relation to the total for the country as a whole, excess of mortality is greatest in the county boroughs of the North, at 31 per cent., it is much decreased for these, and considerably increased for the smaller towns and rural districts of the North, when comparison is made only with similar areas. Viewed in the latter way the advantage of the South is greatest for its county boroughs and least for its rural districts. The constancy of the decline from the North to South of England remains, of course, unaffected.

Table VI.—Proportionate Distribution of Infant Mortality, 1924. (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	—	—	92	—	92	—	—	—	—	—
County Boroughs .. .	131	104	88	105	117	112	88	73	90	100
Other Urban Districts .. .	113	85	74	101	95	120	89	78	107	100
Rural Districts .. .	103	76	68	101	84	124	90	82	121	100
All Areas .. .	122	89	83	102	100	—	—	—	—	—

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

Table 11 compares classes of administrative areas in respect of infant mortality, with distinction of age, cause and legitimacy. The total mortality in the urban areas as a whole exceeded that in the rural by 25 per cent. Table VII shows that this represents a return to the experience of earlier years from an unusually low urban excess in 1923. As usual urban excess increases with age.

Table VII.—Infant Mortality in Urban Districts of all types per cent. of that in Rural Districts, 1911-24.

	Under 4 Weeks.	4 Weeks-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 year.
1911-1915 ..	104	133	145	149	157	128
1916-1920 ..	102	129	146	144	154	122
1921 ..	107	125	149	144	148	124
1922 ..	102	122	140	155	174	122
1923 ..	100	119	145	150	148	118
1924 ..	103	131	151	150	170	125

A statement of infantile deaths and mortality for each administrative area in the country will be found in Table 14; while Table 13 supplements this information for each metropolitan and county borough, and for the urban and rural portions of each administrative county, by distinctions of age and legitimacy.

Mortality of Separate Weeks and Months of Age.—Tables VIII and IX continue the analysis of infant mortality by detail of age, initiated in 1905 with distinction of registration counties mainly urban and mainly rural, and expanded in 1917 to the degree of geographical distinction now in use. 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 IX, like its seven predecessors, shows that the decrease of mortality from North to South is observable from the very first day of life, though it is not so great as usual for the first day, in respect of which the advantage of the South over the Midlands is confined to the rural districts. Other exceptions to the rule of decrease from North to South are confined to a few excesses of the South over the Midlands, mainly in the later months of infancy. At each age in each class of area distinguished mortality is highest in the North. As in each of the seven preceding years with which comparison can be made the mortality of the first day was highest in the rural districts of the North, as was also that for the remainder of the first week of life.

As is usually the case, more deaths of illegitimate infants occurred on the first day than during the remainder of the first week, whereas with the legitimate this ratio is reversed. London, as usual, returns a particularly low neo-natal mortality, its rates for the first day, the remainder of the first week, and the first four weeks of life as a whole being the lowest in Table IX. This was shown in the Review for 1923 to have been a feature of London infant mortality for many years.

The comparisons suggested by Table IX are facilitated by Table X, which, with some condensation of ages, states the rates recorded for the various populations as ratios to those for England and Wales as a whole, and thus serves to analyse by age the comparison made in Table VI for the first year of life as a whole.

In this table it may be noted that (1) the excess mortality of male infants, considerable from the first day of life onwards, reaches its maximum in the second month and greatly decreases as the end of the first year approaches; (2) the excess mortality of the great towns is but slight at birth, but gradually increases with age, reaching its maximum of 29 per cent. in the last three months of infancy; and (3) that the excess of mortality in the North over that in the South of England is greater than that of the county boroughs over the rural districts, and of more general application to all stages of infant life. In all these respects Table X is in

Table VIII.—Deaths under One Year by Week and Month of Age, 1924.

			Under 1 Day.	1-7 Days.	Weeks.				Months.											Total under 1 Year.
					1-2	2-3	3-4	Total under 4 Weeks	4 Weeks to 2 Months	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	
England and Wales.	All Infants	M	4,416	4,739	1,984	1,617	1,107	13,863	3,240	2,131	1,761	1,474	1,446	1,373	1,350	1,320	1,274	1,169	1,201	31,602
		F	3,335	3,426	1,523	1,178	815	10,277	2,217	1,529	1,248	1,061	969	976	953	985	1,041	952	1,003	23,211
		P	7,751	8,165	3,507	2,795	1,922	24,140	5,457	3,660	3,009	2,535	2,415	2,349	2,303	2,305	2,315	2,121	2,204	54,813
England and Wales.	Legitimate	M	4,006	4,424	1,842	1,514	1,029	12,815	2,990	1,955	1,627	1,353	1,337	1,276	1,257	1,242	1,190	1,112	1,148	29,302
		F	2,992	3,207	1,435	1,106	755	9,495	2,044	1,397	1,138	996	894	906	887	910	981	891	944	21,483
		P	6,998	7,631	3,277	2,620	1,784	22,310	5,034	3,352	2,765	2,349	2,231	2,182	2,144	2,152	2,171	2,003	2,092	50,785
England and Wales.	Illegitimate	M	410	315	142	103	78	1,048	250	176	134	121	109	97	93	78	84	57	53	2,300
		F	343	219	88	72	60	782	173	132	110	65	75	70	66	75	60	61	59	1,728
		P	753	534	230	175	138	1,830	423	308	244	186	184	167	159	153	144	118	112	4,028
All Areas.	North		3,058	3,214	1,492	1,226	844	9,834	2,468	1,542	1,294	1,094	1,096	1,090	1,079	1,077	1,075	992	1,054	23,695
	Midlands		2,322	2,457	1,002	834	544	7,159	1,466	971	822	702	644	630	603	604	571	514	518	15,204
	South		1,758	1,783	722	532	381	5,176	1,076	801	650	528	477	442	467	464	483	493	455	11,512
	Wales		613	711	291	203	153	1,971	447	346	243	211	198	187	154	160	186	122	177	4,402
London		773	739	352	261	190	2,315	525	426	363	302	283	260	284	285	275	300	286	5,904	
County Boroughs.	England and Wales		2,813	2,948	1,363	1,186	755	9,065	2,273	1,513	1,303	1,118	1,104	997	987	1,030	1,036	964	986	22,376
	North		1,624	1,668	841	714	455	5,302	1,422	919	784	653	700	657	644	670	663	626	651	13,691
	Midlands		789	892	368	368	221	2,638	584	419	372	322	285	246	279	263	270	258	247	6,183
	South		254	262	96	72	47	731	166	103	96	90	68	51	36	57	58	49	46	1,551
Other Urban Districts.	England and Wales		2,545	2,798	1,125	879	651	7,998	1,806	1,093	900	763	683	745	690	674	704	581	645	17,282
	North		981	1,055	464	370	274	3,144	792	427	379	341	282	321	325	294	316	272	310	7,203
	Midlands		865	933	357	291	211	2,657	569	337	286	246	224	247	196	222	203	157	174	5,518
	South		420	429	156	115	97	1,217	225	153	107	76	79	81	86	74	85	94	69	2,346
Rural Districts.	England and Wales		1,620	1,680	667	469	326	4,762	853	628	443	352	345	347	342	316	300	276	287	9,251
	North		453	491	187	142	115	1,388	254	196	131	100	114	112	110	113	96	94	93	2,801
	Midlands		668	632	277	175	112	1,864	313	215	164	134	135	137	128	119	98	99	97	3,503
	South		311	353	118	84	47	913	160	119	84	60	47	50	61	48	65	50	54	1,711
England and Wales.	First Quarter		2,054	2,491	1,151	984	651	7,331	1,979	1,247	988	902	914	930	953	924	956	854	925	18,903
	Second		2,042	2,124	912	676	465	6,219	1,217	747	612	459	499	518	534	548	553	567	550	13,023
	Third		1,787	1,725	702	501	350	5,065	920	653	571	448	400	331	328	354	342	252	307	9,971
	Fourth		1,868	1,825	742	634	456	5,525	1,341	1,013	838	726	602	570	488	479	464	448	422	12,916

10

Table IX.—Infant Mortality by Week and Month of Age, 1924.

			Under 1 Day.	1-7 Days.	Weeks.				Months.											Total under 1 Year.
					1-2	2-3	3-4	Total under 4 Weeks	4 Weeks to 2 Months.	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	
England and Wales.	All Infants	M	11.83	12.70	5.32	4.33	2.97	37.14	8.68	5.71	4.72	3.95	3.87	3.68	3.62	3.54	3.41	3.13	3.22	84.66
		F	9.35	9.61	4.27	3.30	2.29	28.81	6.22	4.29	3.50	2.97	2.72	2.74	2.67	2.76	2.92	2.67	2.81	65.08
		P	10.62	11.19	4.80	3.83	2.63	33.07	7.48	5.01	4.12	3.47	3.31	3.22	3.16	3.16	3.17	2.91	3.02	75.09
England and Wales.	Legitimate	M	11.19	12.36	5.15	4.23	2.88	35.81	8.36	5.46	4.55	3.78	3.74	3.57	3.51	3.47	3.33	3.11	3.21	81.88
		F	8.75	9.38	4.20	3.24	2.21	27.78	5.98	4.09	3.33	2.91	2.62	2.65	2.60	2.66	2.87	2.61	2.76	62.86
		P	10.00	10.91	4.68	3.74	2.55	31.89	7.20	4.79	3.95	3.36	3.19	3.12	3.06	3.08	3.10	2.86	2.99	72.59
England and Wales.	Illegitimate	M	26.60	20.44	9.21	6.68	5.06	67.99	16.22	11.42	8.69	7.85	7.07	6.29	6.03	5.06	5.45	3.70	3.44	149.22
		F	23.05	14.71	5.91	4.84	4.03	52.54	11.62	8.87	7.39	4.37	5.04	4.70	4.43	5.04	4.03	4.10	3.96	116.11
		P	24.85	17.63	7.59	5.78	4.56	60.40	13.96	10.17	8.05	6.14	6.07	5.51	5.25	5.05	4.75	3.89	3.70	132.95
All Areas.	North		11.78	12.38	5.75	4.72	3.25	37.88	9.51	5.94	4.98	4.21	4.22	4.20	4.16	4.15	4.14	3.82	4.06	91.26
	Midlands		10.18	10.77	4.39	3.66	2.38	31.38	6.43	4.26	3.60	3.08	2.82	2.76	2.64	2.65	2.50	2.25	2.27	66.65
	South		9.52	9.65	3.91	2.88	2.06	28.02	5.82	4.34	3.52	2.86	2.58	2.39	2.53	2.51	2.61	2.67	2.46	62.31
	Wales		10.67	12.38	5.07	3.53	2.66	34.32	7.78	6.03	4.23	3.67	3.45	3.26	2.68	2.79	3.24	2.12	3.08	76.66
London		9.08	8.68	4.13	3.07	2.23	27.19	6.17	5.00	4.26	3.55	3.32	3.05	3.34	3.35	3.23	3.52	3.36	69.34	
County Boroughs.	England and Wales		11.05	11.58	5.35	4.66	2.97	35.61	8.93	5.94	5.12	4.39	4.34	3.92	3.88	4.05	4.07	3.79	3.87	87.90
	North		11.69	12.00	6.05	5.14	3.27	38.15	10.23	6.61	5.64	4.70	5.04	4.73	4.63	4.82	4.77	4.50	4.68	98.52
	Midlands		9.93	11.22	4.63	4.63	2.78	33.19	7.35	5.27	4.68	4.05	3.59	3.09	3.51	3.31	3.40	3.25	3.11	77.78
	South		10.57	10.91	4.00	3.00	1.96	30.43	6.91	4.29	4.00	3.75	2.83	2.12	1.50	2.37	2.41	2.04	1.91	64.56
Other Urban Districts.	England and Wales		12.08	10.43	4.80	2.65	2.65	32.61	8.36	5.96	4.22	4.39	4.22	3.56	2.32	3.31	3.72	2.57	3.48	78.71
	North		10.49	11.53	4.63	3.62	2.68	32.95	7.44	4.50	3.71	3.14	2.81	3.07	2.84	2.78	2.90	2.39	2.66	71.20
	Midlands		11.59	12.47	5.48	4.37	3.24	37.16	9.36	5.05	4.48	4.03	3.33	3.79	3.84	3.47	3.73	3.21	3.66	85.13
	South		9.96	10.74	4.11	3.35	2.43	30.58	6.55	3.88	3.29	2.83	2.58	2.84	2.26	2.56	2.34	1.81	2.00	63.52
Rural Districts.	England and Wales		9.96	10.18	3.70	2.73	2.30	28.87	5.34	3.63	2.54	1.80	1.87	1.92	2.04	1.76	2.02	2.23	1.64	55.66
	North		9.59	13.10	5.09	3.54	2.37	33.69	7.56	6.05	4.40	3.44	3.37	3.30	2.85	2.89	3.44	1.99	3.16	76.15
	Midlands		10.98	11.39	4.52	3.18	2.21	32.28	5.78	4.26	3.00	2.39	2.34	2.35	2.32	2.14	2.03	1.87	1.95	62.72
	South		12.56	13.61	5.19	3.94	3.19	38.49	7.04	5.43	3.63	2.77	3.16	3.11	3.05	3.13	2.66	2.61	2.57	77.67
England and Wales.	First Quarter		10.82	10.24	4.49	2.83	1.81	30.19	5.07	3.48	2.66	2.17	2.19	2.22	2.07	1.93	1.59	1.60	1.57	56.73
	Second		9.30	10.56	3.53	2.51	1.41	27.31	4.79	3.56										

Table X.—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, 1924.

		Under 1 day.	1-7 days.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks -2 months.	2-3 months.	3-6 months.	6-9 months.	9-12 months.	Total under 1 Year.
England and Wales ..	P	100	100	100	100	100	100	100	100	100	100	100	100
	M	111	113	111	113	113	112	116	114	115	114	107	113
	F	88	86	89	86	87	87	83	86	84	86	92	87
All Areas													
North		111	111	120	123	124	115	127	119	123	131	132	122
Midlands		96	96	91	96	90	95	86	85	87	84	77	89
South		90	86	81	75	78	85	78	87	82	78	85	83
Wales		100	111	106	92	101	104	104	120	104	91	93	102
London		85	78	86	80	85	82	82	100	102	102	111	92
County Boroughs—													
England and Wales ..		104	103	111	122	113	108	119	119	127	124	129	117
North		110	107	126	134	124	115	137	132	141	149	153	131
Midlands		94	100	96	121	106	100	98	105	113	104	107	104
South		100	97	83	78	75	92	92	86	97	63	70	86
Wales		114	93	100	69	101	99	112	119	118	96	107	105
Other Urban Districts—													
England and Wales ..		99	103	96	95	102	100	99	90	89	91	87	95
North		109	111	114	114	123	112	125	101	109	116	116	113
Midlands		94	96	86	87	92	92	88	77	80	80	68	85
South		94	91	77	71	87	87	71	72	57	60	65	74
Wales		90	117	106	92	90	102	101	121	103	95	94	101
Rural Districts—													
England and Wales ..		103	102	94	83	84	98	77	85	71	71	64	84
North		118	122	108	103	121	116	94	108	88	97	86	103
Midlands		102	91	94	74	69	91	68	69	64	65	52	76
South		88	94	74	66	54	83	64	71	52	50	56	68
Wales		109	112	109	109	122	111	104	120	97	82	79	101

general accord with the experience of other recent years. As usual, mortality is highest at each age distinguished in the North, so far as England is concerned, but a number of exceptions occur to the rule of excess for the Midlands over the South.

Causes of Infant Mortality.—The causes of infant mortality are set forth in Tables 8–12, which compare the records of 1924 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 XI between the mortality from the chief causes distinguished at various ages in 1924, 1923, and 1919–23.

Table XI.—England and Wales : Comparison of Infant Mortality Rates in 1924 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 1924, per cent. of that in 1923.						
Crude	+ 4	+10	+ 9	+14	+18	+ 8
Revised.. ..	+ 3	+ 9	+ 7	+12	+16	+ 7
Increase or Decrease of Mortality in 1924, per cent. of that in 1919–23.						
Crude	- 6	-11	-11	- 2	+ 8	- 6
Revised.. ..	- 7	-12	-13	- 7	- 1	- 8
Increase or Decrease from various Causes, as compared with 1919–23.						
Measles (7)	—	—	- 0.02	+ 0.01	+ 0.12	+ 0.11
Whooping cough (9)	- 0.01	- 0.10	- 0.10	+ 0.02	+ 0.06	- 0.12
Influenza (11)	+ 0.04	+ 0.06	+ 0.01	+ 0.04	+ 0.01	+ 0.17
Tuberculosis, all forms (31–37)	- 0.01	- 0.05	- 0.05	- 0.02	+ 0.01	- 0.11
Convulsions (80)	- 0.53	- 0.25	- 0.17	- 0.11	- 0.09	- 1.15
Bronchitis and pneumonia (99–101)	+ 0.10	+ 0.10	+ 0.19	+ 0.51	+ 0.70	+ 1.60
Diarrhoea and enteritis (113)	- 0.24	- 0.68	- 0.82	- 0.42	- 0.16	- 2.32
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	- 1.43	- 0.26	- 0.06	—	+ 0.04	- 1.71
<i>Congenital defects (malformations and atelectasis) (159, 162 : 2).</i>	+ 0.03	+ 0.02	+ 0.06	+ 0.03	+ 0.05	+ 0.18
<i>Congenital debility, sclerema and icterus (160).</i>	- 1.22	- 0.34	- 0.13	- 0.04	- 0.01	- 1.72
<i>Premature birth (161 : 1)</i>	- 0.24	+ 0.06	+ 0.01	+ 0.01	—	- 0.17
Suffocation—in bed or not stated how (180 part).	- 0.05	—	+ 0.02	- 0.01	—	- 0.02
Other causes	+ 0.05	- 0.41	- 0.29	- 0.18	- 0.05	- 0.92
All causes	- 2.08	- 1.59	- 1.29	- 0.16	+ 0.64	- 4.47
Percentage Increase or Decrease as compared with 1919–23.						
Measles (7)	—	—	- 18	+ 3	+ 17	+ 9
Whooping cough (9)	- 14	- 20	- 17	+ 3	+ 9	- 5
Influenza (11)	+ 67	+ 43	+ 4	+ 15	+ 4	+ 18
Tuberculosis, all forms (31–37)	- 50	- 33	- 13	- 4	+ 2	- 7
Convulsions (80)	- 23	- 23	- 22	- 21	- 23	- 22
Bronchitis and pneumonia (99–101)	+ 7	+ 3	+ 5	+ 13	+ 20	+ 10
Diarrhoea and enteritis (113)	- 27	- 30	- 29	- 26	- 15	- 27
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	- 5	- 6	- 4	—	+ 17	- 5
<i>Congenital defects (malformations and atelectasis) (159, 162 : 2).</i>	+ 1	+ 2	+ 17	+ 19	+ 56	+ 3
<i>Congenital debility, sclerema and icterus (160).</i>	- 25	- 18	- 14	- 13	- 7	- 21
<i>Premature birth (161 : 1)</i>	- 1	+ 4	+ 5	+ 33	—	- 1
Suffocation—in bed or not stated how (180 part).	- 17	—	+ 20	- 33	—	- 3
Other causes	+ 1	- 22	- 17	- 14	- 4	- 9
All causes	- 6	- 11	- 11	- 2	+ 8	- 6

Note.—The percentages in this table are based on rates per 100,000 births.

The fall of 6 per cent. as compared with the preceding quinquennium is seen to be chiefly accounted for by diarrhoea, congenital debility and convulsions, which jointly record a decline of 5.19 deaths per 1,000 births. The chief offset to this is the increase of 1.60 from bronchitis and pneumonia, which, with minor changes, reduces the total fall from all causes to 4.47 per 1,000 births, or 6 per cent. These changes have occurred chiefly at the ages at which these causes are of chief importance, congenital debility and convulsions in the first four weeks, diarrhoea at 3-6 months, and respiratory disease at 6-12 months.

Table 9 shows that the increase over the rate for 1923 is chiefly accounted for by increases of 3.66 per 1,000 births from pneumonia, 0.99 from bronchitis, 1.17 from premature birth, and 0.74 from influenza, pneumonia alone accounting for more than half. It may be noted that this increase from respiratory disease was accompanied by slight decreases in mortality from both measles and whooping cough. The increase in mortality attributed to injury at birth noted in recent previous years has been maintained, these deaths having increased from 1.0 per 1,000 births in 1918 to 1.4 in 1924. Table 5 shows that the rapid increase in this mortality after 1918 was accompanied by a similar movement in maternal mortality from puerperal sepsis.

Table XII, 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 has greatly increased along with and in consequence of (Review for 1921) the fall in infant mortality during the present century, was 30 per cent. in 1924, as against its maximum of 31 per cent. in 1922.

The male excess is shared, as usual, by all the principal causes of death quoted except whooping cough, its extent varying from 22 per cent. in the case of premature birth to 45 in that of congenital debility, etc.

As is regularly the case, the excess mortality of males was greater for legitimate than for illegitimate infants—30 per cent. for the legitimate as against 29 for the illegitimate (Table XII). This has been so in, at least, each of the last 19 years, the difference being usually greater than in 1924. The excess mortality of males is greater for the legitimate because excess in the mortality of the illegitimate is year after year greater for females. As a rule this excess is greater than in 1924 and applies with more uniformity to the causes distinguished in Table XII.

Distribution throughout the country of Infant Mortality from various causes.—Table XIII, 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 V and VI. Table 12 having been first prepared for 1917, the results for seven years only are available for comparison.

The greatest departures from the average mortality of the whole country in Table 12 are furnished by the county boroughs of the North, with excesses under every cause distinguished,

Table XII.—England and Wales : Infant Mortality by Sex and Legitimacy, 1924.

		Deaths per 1,000 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	37·14	28·81	35·81	27·78	67·99	52·54	129	129	129	190	189
	4 weeks—3 months	14·39	10·50	13·82	10·07	27·64	20·49	137	137	135	200	203
	3—6 months	12·54	9·19	12·06	8·86	23·62	16·80	136	136	141	196	190
	6—9 „	10·83	8·17	10·55	7·91	17·39	14·18	133	133	123	165	179
	9—12 „	9·76	8·40	9·64	8·24	12·59	12·09	116	117	104	131	147
	Total under 1 year	84·66	65·08	81·88	62·86	149·22	116·11	130	130	129	182	185
All ages under one year.	Measles (7)	1·50	1·20	1·48	1·15	2·14	2·49	125	129	86	145	217
	Whooping cough (9)	2·35	2·36	2·32	2·35	3·11	2·69	100	99	116	134	114
	Tuberculosis, all forms (31—37) ..	1·53	1·17	1·51	1·14	1·88	1·95	131	132	96	125	171
	Syphilis (38)	1·04	0·77	0·85	0·64	5·58	3·90	135	133	143	656	609
	Convulsions (80)	4·61	3·35	4·49	3·23	7·46	6·05	138	139	123	166	187
	Bronchitis and pneumonia (99—101) ..	20·57	15·49	20·30	15·25	26·60	20·90	133	133	127	131	137
	Diarrhoea and enteritis (113) ..	7·40	5·20	6·97	4·91	17·26	11·83	142	142	146	248	241
	Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	34·61	27·25	33·49	26·57	60·66	42·80	127	126	142	181	161
	<i>Congenital defects (malformations and atelectasis) (159, 162 : 2).</i> ..	6·42	5·16	6·33	5·12	8·49	5·85	124	124	145	134	114
	<i>Congenital debility, sclerema and icterus (160).</i>	7·53	5·20	7·21	4·94	14·98	11·29	145	146	133	208	229
	<i>Premature birth (161 : 1).</i>	20·66	16·90	19·95	16·51	37·18	25·67	122	121	145	186	155
	Other causes	11·05	8·29	10·47	7·62	24·53	23·50	133	137	104	234	308
	All causes	84·66	65·08	81·88	62·86	149·22	116·11	130	130	129	182	185

Table XIII.—Comparison of Infant Mortality from the Principal Causes in different Classes of Area and Sections of the Country, 1924.

			Measles (7).	Whooping Cough (9).	Tuberculosis, all forms (31-37).	Syphilis (38).	Convulsions (80).	Bronchitis and Pneumonia (99-101).	Diarrhoea and Enteritis (113).	Congenital Malformations (159).	Congenital Debility and 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 Births.																
All Areas	{	North	+ 29	+ 47	+27	+50	+130	+541	+195	+39	+150	+211	+26	- 7	+179	+1617
		Midlands	- 51	- 20	-12	-33	- 91	-312	-117	-27	- 36	- 31	-22	+13	-105	- 844
		South	+ 53	- 49	-20	-18	-185	-379	-103	-30	-162	-259	- 7	- 1	-118	-1278
		Wales	-106	+ 20	-19	-35	+378	+ 17	- 78	+21	- 18	+ 6	-13	-19	+ 3	+ 157
London		+201	- 6	-16	- 4	-229	- 33	+157	-69	-183	-293	-20	- 3	- 77	- 575	
County Boroughs	{	England and Wales	+ 21	+ 40	+31	+47	+ 34	+510	+196	+ 7	+ 72	+167	+ 7	+ 9	+140	+1281
		North	+ 72	+ 48	+45	+91	+128	+847	+334	+14	+162	+283	+33	+ 6	+280	+2343
		Midlands	- 18	+ 45	+25	-21	- 87	+182	+106	-30	+ 7	+ 85	-24	+29	- 30	+ 269
		South	- 94	- 28	-11	+17	-162	-238	-228	+88	-140	-171	-15	-13	- 58	-1053
Wales	- 78	+ 62	- 4	+50	+131	+278	+ 47	+ 2	-101	+ 38	-32	-42	+ 11	+ 362		
Other Urban Districts	{	England and Wales	- 32	- 25	- 8	-20	+ 38	-148	-105	+10	- 1	- 33	+ 2	- 2	- 65	- 389
		North	+ 9	+ 48	+ 6	+11	+149	+329	+ 83	+58	+149	+115	+20	-25	+ 52	+1004
		Midlands	- 44	- 70	-15	-23	-100	-417	-192	-34	- 63	- 97	- 8	+18	-112	-1157
		South	- 39	- 82	-20	-44	-152	-648	-335	-19	-191	-221	+ 2	+15	-209	-1943
Wales	-108	- 19	-12	-67	+402	- 10	- 54	+48	+ 22	- 5	-23	-21	- 47	+ 106		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

16

Rural Districts	{	England and Wales	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
		North	-101	- 27	-32	-45	+ 13	- 614	-256	+10	- 18	- 63	- 6	-11	- 87	-1237
		Midlands	- 92	+ 44	+11	-16	+ 89	- 139	- 80	+96	+109	+156	+13	-12	+ 79	+ 258
		South	-102	- 32	-53	-62	- 85	- 801	-300	-12	- 53	- 88	-38	-15	-195	-1836
		Wales	-100	-134	-34	-46	-133	-1019	-384	-31	- 85	-285	+22	- 8	-154	-2391
Wales	-124	+ 59	-44	-42	+518	- 128	-214	-14	- 25	-	+20	+ 3	+ 86	+ 95		

Rates per cent. of those for England and Wales.																
All Areas	{	North	121	120	120	155	133	130	131	109	126	111	119	88	118	122
		Midlands	63	92	91	64	77	83	81	94	94	98	84	122	90	89
		South	139	79	85	80	54	79	84	93	72	86	95	98	88	83
		Wales	22	108	86	62	195	101	88	105	97	100	91	68	100	102
London		248	97	88	96	43	98	125	84	68	84	86	95	92	92	
County Boroughs	{	England and Wales	115	117	122	152	109	128	131	102	113	109	105	115	114	117
		North	153	120	133	200	132	147	153	103	128	115	124	110	128	131
		Midlands	87	119	118	77	78	110	117	93	101	105	83	149	97	104
		South	31	88	92	119	59	87	64	121	76	91	89	78	95	86
Wales	43	126	97	155	133	115	107	100	82	102	77	29	101	105		
Other Urban Districts	{	England and Wales	76	89	94	78	110	92	83	102	100	98	101	97	94	95
		North	107	120	104	112	137	118	113	114	126	106	114	58	105	113
		Midlands	68	70	89	75	75	77	70	92	89	95	94	131	89	85
		South	71	65	85	52	62	64	47	95	67	88	101	125	79	74
Wales	21	92	91	26	201	99	91	111	104	100	84	64	95	101		
Districts	{	England and Wales	26	89	76	51	103	66	59	102	97	97	96	81	91	84
		North	32	119	108	82	122	92	87	123	119	108	109	80	108	103
		Midlands	25	86	61	32	79	56	53	97	91	95	73	75	81	76
		South	26	43	75	49	67	44	39	93	85	85	116	86	85	68
Wales	9	125	68	54	230	93	66	97	96	100	114	105	109	101		

17

ranging from 3 to 100 per cent. and aggregating to 23·43 deaths per 1,000 births, and by the rural districts of the South, with comparatively favourable experience under every head except injury at birth, aggregating to 23·91 per 1,000 births.

In each of these populations the first place in order of numerical importance amongst the causes of death accounting for the differences is occupied by bronchitis and pneumonia, the second by diarrhoea, and the third by premature birth. Of the total difference between these two populations the three causes named account for 67 per cent., and bronchitis and pneumonia alone for 39 per cent. Respiratory disease and diarrhoea are amongst the most preventable causes of infant mortality, and it is upon them that the differences experienced mainly depend. They are diseases of town life, the mortality of each increasing regularly with urbanization in each of the four sections of the country distinguished in Table XIII.

Apart from the usual frequency of ascription of infantile deaths to convulsions in Wales, the greatest excesses above the general average from any of the causes in any of the populations compared are 148 per cent. for measles in London and 100 for syphilis in the county boroughs of the North. The latter excess is in accordance with general experience, infant mortality from this cause being a feature both of the North generally and of the great towns generally. The excess of mortality ascribed to convulsions in Wales is, as usual, remarkable. For Wales as a whole the rate is almost double that for England and Wales. This excess applies mainly to the smaller towns, where it amounts to 101 per cent., and rural districts, 130 per cent. In the county boroughs the Welsh excess is much less at 33 per cent. The peculiar distribution of this mortality, which is far lower in London than for any other population distinguished in Table XIII, as well as its steady and rapid decrease from year to year (Table 9), clearly shows to what an extent it points merely to loose certification, wherein a symptom is substituted for its underlying cause. As a reduction of over 50 per cent. in the last ten years is recorded for England and Wales in Table 9, it may be said that the position of Wales in this matter now is merely that of the whole country less than ten years ago.

As in other recent years mortality from premature birth, to which over half the deaths during the first four weeks of life were ascribed, varied much more with the geographical section of the country than with degree of urbanization. For great towns, small towns and rural districts alike its decrease in Table XIII from North to South is constant, but this does not hold good, except in the South, for the decrease from county boroughs to rural districts. Taking the country as a whole in each case Table 12 shows that the excess for the North over the South is 29 per cent., but that for the county boroughs over the rural districts only 13 per cent. These facts would seem to accentuate the possibility of further reduction in neo-natal mortality, as it should

be more feasible to approximate the conditions of foetal and infant life in the North to those prevailing in the South than to overcome for the great towns their disadvantages as compared with the rural districts.

Mortality at Ages over One Year.

Table XIV gives 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 1923 and 1924, and, in order to provide means of comparison with the most recent pre-war experience, for 1911-14.

Table XIV.—England and Wales: Mortality from all Causes per Million Population, 1911-1914, 1923, and 1924. (Total deaths registered.)

	Males.			Females.			Persons.		
	1911-14.	1923.	1924.	1911-14.	1923.	1924.	1911-14.	1923.	1924.
All Ages:									
Crude	14,895	12,368	12,939	13,061	10,863	11,484	13,948	11,582	12,180
Standardized { A	14,899	11,436	11,842	12,263	9,303	9,693	13,503	10,306	10,702
{ B	15,974	12,349	12,932	13,720	10,598	11,159	14,807	11,437	12,010
0-.. .. .	40,572	24,294	25,055	33,900	19,617	20,153	37,253	21,987	22,637
5-.. .. .	3,302	2,340	2,389	3,253	2,163	2,202	3,277	2,252	2,296
10-.. .. .	1,971	1,640	1,650	2,054	1,634	1,667	2,013	1,637	1,658
15-.. .. .	2,940	2,558	2,550	2,681	2,496	2,481	2,809	2,527	2,515
20-.. .. .	3,719	3,442	3,444	3,198	2,952	3,068	3,448	3,184	3,250
25-.. .. .	4,911	3,985	3,908	4,054	3,418	3,499	4,462	3,675	3,684
35-.. .. .	8,030	6,324	6,481	6,432	4,799	4,968	7,201	5,506	5,667
45-.. .. .	14,797	11,223	11,544	11,353	8,509	8,637	13,007	9,812	10,026
55-.. .. .	29,741	24,122	24,889	22,453	18,150	18,867	25,883	20,988	21,728
65-.. .. .	64,043	56,015	60,037	51,181	44,134	47,339	56,882	49,440	53,024
75-.. .. .	137,646	130,188	137,522	113,927	108,453	115,987	123,339	117,015	124,476
85 and upwards ..	265,564	262,012	271,407	234,632	231,875	249,542	245,461	241,833	256,762

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

At all ages under 75 the mortality of each sex is lower than it was before the war. At all ages jointly the crude rate has fallen by 12·7 per cent., but when allowance is made by standardization for increased age of the population the extent of the fall is increased to 20·7 per cent. It is much the same for the two sexes. Of the two standards used in the table the English (A) shows a rather greater fall than the International (B) because it gives less weight to the higher ages, at which reduction has been least. This difference between the two would be greater were it not that the English standard gives less weight also to mortality at 0-5, at which the fall has been greatest. The extent of the fall at the various ages distinguished can be better appreciated from Table XV, in which the mortality in 1923 and 1924 of each sex and age group is shown as a proportion of the corresponding rate for 1911-14.

The fall is much greater at 0-5 than at any later period of life, amounting in 1924 to about 40 per cent. for each sex. Thereafter it very rapidly decreases with advancing age till at 20-25 it amounts only to about 6 per cent., being rather more for males

Table XV.—England and Wales : Mortality at various ages of Males and Females from all causes in 1923 and in 1924 per cent. of that for the same sex and age in 1911-14.

	Males.		Females.	
	1923.	1924.	1923.	1924.
All Ages :				
Crude	83.0	86.9	83.2	87.9
Standardized } A	76.8	79.5	75.9	79.0
	77.3	81.0	77.2	81.3
0—	60	62	58	59
5—	71	72	66	68
10—	83	84	80	81
15—	87	87	93	93
20—	93	93	92	96
25—	81	80	84	86
35—	79	81	75	77
45—	76	78	75	76
55—	81	84	81	84
65—	87	94	86	92
75—	95	100	95	102
85—	99	102	99	106

than for females. After this age another period of increasing decline sets in, which reaches its maximum of 22 per cent. for males and 24 for females at 45-55. Thereafter the decrease recorded becomes steadily less for each sex, till at ages over 75 it disappears altogether. The relative smallness of the decline at 20-25 is mainly due to tuberculosis. At this age tuberculosis mortality has declined by 1 per cent. only for males and increased by 10 per cent. for females, whereas mortality from other causes has decreased by 12 per cent. for males and 15 for females. Even from causes other than tubercle however the decline in early adult life is somewhat less than in middle age and much less than in childhood.

The great decline in early life is a feature common to the experience, during the period dealt with, of many countries; and that in later middle age is from a mortality before the war in this country which was high relatively to that of most other civilized states. But if these facts to some extent discount the significance of the falls noted in early childhood and later middle age, the smallness of the fall in early adult life is also partly explained by the fact that before the war English mortality at these ages was low compared with that of most other countries. As pointed out in previous Reviews, the large falls recorded for males aged 25-55 show that the hardships of war have not prevented the survivors of the men who served in it from sharing to the full in the reduction of mortality which has since occurred.

Table XIV shows that as compared with the unprecedentedly low mortality of 1923 that of 1924 increased somewhat at all ages, except 15-20 and 25-35 for males, and 15-20 for females. Of the two sexes males suffered the higher mortality at all ages except 10-15. At 10-15 Table 3 shows that the advantage, if any, generally rests with males, though at other ages excess for males is the rule. And even at 10-15 male superiority has often of late years, as in 1923, been absent. At 15-20 mortality is shown as equal for the sexes in Table 3, though Table XIV shows that of males to have been slightly the higher. Such practical equality represents a reversion from the rule during recent years of slight male excess at this age towards that of female excess, which prevailed during the earlier history of registration in this country (until 1887).

Table XVI.—England and Wales : Comparison of Crude and Standardized Death-Rates per 1,000 living at Age 0-5, 1916-24.

	Males.		Females.		Both Sexes.	
	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.
1916	32.4	34.1	26.4	27.8	29.4	31.0
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

The great fall in mortality at age 0-5 (Table XV) is somewhat lessened when allowance is made, by standardization on the basis of the population of England and Wales in 1901, for change in the proportions living at the five years of life making up the group (Table XVI). 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 of the small effect of the high mortality of these infants in consequence of their small numbers. When the birth-rate rises, the opposite effect is produced, and allowance for these changes in the composition of the population at risk by standardization increases the death-rate in the first case and reduces it in the second (Table XVI). Notwithstanding this increase, however, the standardized rate for 1924 is substantially less than that for any previous year except 1923. For each sex mortality at 0-5 in 1924, even as increased by standardization, is less than half any recorded during last century.

Table XVII.—England and Wales : Mortality per 1,000 living in each of the First Five Years of Life, 1911-14, 1923, and 1924.

Year of Life.	Males.					Females.					Both Sexes.				
	1911-14.	1923.	1924.	1924 per cent. of		1911-14.	1923.	1924.	1924 per cent. of		1911-14.	1923.	1924.	1924 per cent. of	
				1911-14.	1923.				1911-14.	1923.				1911-14.	1923.
0-1	131.76	82.79	88.90	67.5	107.4	104.28	62.66	67.20	64.4	107.2	118.16	72.88	78.21	66.2	107.3
1-2	35.46	19.62	23.62	66.6	120.4	32.65	17.95	20.45	62.6	113.9	34.06	18.79	22.04	64.7	117.3
2-3	13.85	8.22	8.70	62.8	105.8	13.49	7.65	8.38	62.1	109.5	13.67	7.94	8.54	62.5	107.6
3-4	8.39	4.95	5.53	65.9	111.7	8.24	4.60	5.39	65.4	117.2	8.31	4.78	5.46	65.7	114.2
4-5	6.14	3.89	3.99	65.0	102.6	6.12	3.70	3.58	58.5	96.8	6.13	3.80	3.79	61.8	99.7
0-5 { Crude	40.57	24.29	25.06	61.8	103.2	33.90	19.62	20.15	59.4	102.7	37.25	21.99	22.64	60.8	103.0
{ Standardized* ..	40.78	24.95	27.27	66.9	109.3	34.23	20.09	21.83	63.8	108.7	37.52	22.53	24.56	65.5	109.0
1-5 { Crude	16.04	9.47	10.11	63.0	106.8	15.18	8.75	9.17	60.4	104.8	15.61	9.11	9.65	61.8	105.9
{ Standardized* ..	15.95	9.17	10.45	65.5	114.0	15.12	8.47	9.45	62.5	111.6	15.54	8.82	9.95	64.0	112.8

* Based on the constitution of the population in 1901.

Mortality at 1-5.—Table XVII shows that at these ages, at which 35 per cent. of the total deaths under five years of age occurred in 1924 (Table 17) the recent reduction of mortality has been greater than in that of infants, though the latter has attracted far more attention. The rate for 1924, though higher than that for 1923 in each of these four years of life for each sex, except for females aged 4-5, is as a whole less than two-thirds of that experienced in 1911-14. It was shown in last year's Review that this is the period of life at which susceptibility of mortality to environment is greatest, so it is probable that improvement in the conditions under which these children are living, for which the fall in the birth-rate may be largely responsible, has been the main factor in bringing about this remarkable change. If the attribution of responsibility to decrease in the size of families is correct, progress cannot be expected to continue for long at the recent rate, for the birth-rate, though it may continue to fall, cannot long do so at the present rate consistently with national survival.

The distribution throughout the country of mortality at these ages is shown in Table XVIII, which may be compared with Tables V and VI (infant mortality). The greatest excess over the general average recorded in Table XVIII is one of 64 per cent. for the county boroughs of the North at 1-2 years, while the most favourable position occupied by any of the populations compared is that of 52 per cent. below the general average by the rural districts of the South at the same age.

The differences in mortality between the populations compared are greater at 1-2 than at 2-5 years, and greater at the latter age than in the first year of life (Table VI), the influence of environment upon mortality being thus in 1924, as in 1923, at a maximum

Table XVIII.—Distribution of Mortality in Early Childhood 1924.

	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	—	—	25.24	—	25.24	—	—	6.84	—	6.84
County Boroughs	36.10	23.21	14.61	21.61	29.21	8.22	6.35	4.47	5.65	7.14
Other Urban Districts	25.74	15.79	12.18	17.00	18.60	6.98	4.65	3.89	5.40	5.39
Rural Districts	21.53	11.62	10.51	12.81	13.79	5.66	3.52	3.17	4.40	4.03
All Areas	30.76	17.25	18.24	16.74	22.04	7.46	4.94	5.18	5.17	5.87
Mortality per cent. of that in England and Wales.										
London	—	—	114	—	114	—	—	117	—	117
County Boroughs	164	105	66	98	132	140	108	76	96	122
Other Urban Districts	117	72	55	77	84	119	79	66	92	92
Rural Districts	98	53	48	58	63	96	60	54	75	69
All Areas	140	78	83	76	100	127	84	88	88	100
Mortality per cent. of that in England and Wales in the same class of Area.										
County Boroughs	124	79	50	74	100	115	89	63	79	100
Other Urban Districts	138	85	65	91	100	129	86	72	100	100
Rural Districts	156	84	76	93	100	140	87	79	109	100

in the second year of life. At both these ages the general type of mortality distribution is the same as that persistently maintained for infant mortality, and illustrated by Tables V and VI.

Table XVIII also shows that, when similar classes of area are compared in each case, mortality at these, as generally at other, ages decreases from the North to the South of England, no exception to this rule occurring at either age dealt with. At ages 1-2 years the mortality of the North is more than double that of the South for each class of area compared. The lower section of the table shows that the Northern excess, both at 1-2 and at 2-5, was lowest in the county boroughs and highest in the rural districts. The advantage of the South, on the other hand, was greatest in the county boroughs and least in the rural districts at both ages.

The causes of death accounting for the increase of mortality at 1-5 over that of 1923 are seen from Table XX to have been influenza and broncho-pneumonia, most other causes recording somewhat reduced rates. But increases of 258 deaths per million from influenza and of 592 from broncho-pneumonia (mortality from bronchitis and lobar and undefined pneumonia also increasing slightly) converted a decrease in 1924 of 317 deaths per million from all other causes jointly into an increase of 533 from all causes. Thus both in infancy (see Table 9) and at 1-5, pneumonia has had a chief share in accounting for the increase of mortality recorded in 1924, notwithstanding decreases at both ages from measles and whooping cough. This may be largely due to the increased mortality at both ages in 1924 from influenza. The further reduction in the disproportionate mortality from burns at these ages is a satisfactory feature of Table XX, this rate having fallen almost without interruption from 393 in 1917 to 240 in 1924.

Table XX.—England and Wales : Deaths from Various Causes per Million living at Ages 1-5 Years in 1911-14, 1923, and 1924. (Both Sexes.)

Cause of Death.	Death-rate.			Cause of Death.	Death-rate.		
	1911-14.	1923.	1924.		1911-14.	1923.	1924.
7. Measles	2,671	1,332	1,155	98.2. Laryngitis	152	52	46
8. Scarlet Fever	373	169	149	99. Bronchitis	871	461	492
9. Whooping Cough	1,215	745	716	100. Broncho-pneumonia..	2,169	1,724	2,316
10. Diphtheria	780	464	438	101. Pneumonia (Lobar and not otherwise defined).	866	515	560
11. Influenza	60	114	372	Other respiratory diseases	140	82	80
31. Tuberculosis of Respiratory System.	237	130	135	112 : 1 Inflammation of the Stomach.	94	50	53
32. Tuberculosis of Nervous System.	705	475	465	113 & 114. Diarrhœa and Enteritis.	1,638	479	424
33. Tuberculosis of Intestines and Peritoneum.	391	197	180	128. Acute Nephritis	89	51	42
34-37. Other tuberculous diseases.	288	169	177	159. Congenital Malformations.	85	83	67
56. Rickets	172	98	94	179. Burns	360	272	240
71. Meningitis	451	233	205	Other Violence	274	215	214
80. Convulsions	460	219	189	Other Causes	1,069	784	837
				All Causes	15,610	9,113	9,646

Table XXI.—England and Wales : Mortality over 70 Years of Age in 1911-15, 1916-20, 1923, and 1924, from the Chief Causes of Death.

	Deaths from each Cause per 1,000 Total Deaths.				Mortality per 1,000 Living.			
	1911-15.	1916-20.	1923.	1924.	1911-15.	1916-20.	1923.	1924.
Males.								
Influenza (11)	15	25	15	33	1.8	2.9	1.6	3.7
Cancer (43-49)	79	84	104	102	9.2	9.6	10.8	11.3
Heart Diseases (87-90)	143	154	166	173	16.6	17.7	17.3	19.1
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91-93)	139	154	190	186	16.1	17.7	19.7	20.6
Bronchitis (99)	136	139	123	130	15.7	16.0	12.8	14.4
Pneumonia (100, 101)	34	35	35	35	4.0	4.0	3.6	3.9
Chronic Nephritis (129)	30	28	28	27	3.4	3.2	2.9	2.9
Old Age (164)	237	208	170	155	27.5	23.9	17.6	17.2
Other Causes	187	173	169	159	21.7	19.9	17.5	17.7
All Causes	1,000	1,000	1,000	1,000	116.0	114.9	103.8	110.8
Females.								
Influenza (11)	19	28	19	42	1.9	2.7	1.7	4.1
Cancer (43-49)	85	90	106	99	8.6	8.7	9.6	9.7
Heart Diseases (87-90)	146	161	188	186	14.8	15.6	17.1	18.2
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91-93)	132	146	174	167	13.3	14.1	15.8	16.4
Bronchitis (99)	147	151	130	141	14.9	14.6	11.8	13.9
Pneumonia (100, 101)	33	32	34	36	3.3	3.1	3.1	3.5
Chronic Nephritis (129)	22	19	21	20	2.3	1.9	1.9	1.9
Old Age (164)	263	234	192	182	26.6	22.6	17.4	17.8
Other Causes	153	139	136	127	15.3	13.3	12.4	12.6
All Causes	1,000	1,000	1,000	1,000	101.0	96.6	90.8	98.1
Persons.								
Influenza (11)	17	27	17	38	1.8	2.8	1.7	3.9
Cancer (43-49)	82	87	105	100	8.8	9.1	10.1	10.4
Heart Diseases (87-90)	145	158	178	180	15.5	16.4	17.1	18.6
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91-93)	135	149	181	175	14.5	15.5	17.4	18.1
Bronchitis (99)	142	146	127	136	15.2	15.2	12.2	14.1
Pneumonia (100, 101)	33	33	35	35	3.6	3.4	3.3	3.7
Chronic Nephritis (129)	26	23	24	23	2.7	2.4	2.3	2.3
Old Age (164)	251	222	182	170	26.9	23.1	17.5	17.6
Other Causes	169	155	151	143	18.2	16.1	14.5	14.6
All Causes	1,000	1,000	1,000	1,000	107.2	104.0	96.1	103.3

Table XXII.—England and Wales: Age at Death of Centenarians, 1924.

	Males.								Females.								
	100 and over	100.	101.	102.	103.	104.	106.	110.	100 and over	100.	101.	102.	103.	104.	105.	106.	107.
London	3	2	—	—	—	1	—	—	10	6	2	1	—	—	—	—	1
County Boroughs	4	3	—	—	—	—	—	1	16	9	3	1	1	2	—	—	—
Other Urban Districts	6	2	1	1	1	1	—	—	20	4	4	3	3	2	2	1	1
Rural Districts	9	4	—	3	1	—	1	—	18	4	3	7	1	—	1	2	—
All Areas	22	11	1	4	2	2	1	1	64	23	12	12	5	4	3	3	2

The reduction of mortality from causes other than respiratory disease is largely accounted for by the chief infectious diseases of childhood, which contributed less than usual to the total death-rate. Measles, scarlet fever, whooping cough and diphtheria caused 32 per cent. of all deaths at 1-5 in 1911-14, 30 per cent. in 1923, but only 25 per cent. in 1924. In 1919 and 1921, however, both the combined mortality of these four diseases and its proportion to that from all causes at these ages were lower than in 1924.

Mortality of the Aged.—The relative importance of this section of the population is increasing very rapidly as a result of the fall in progress both in the death-rate and in the birth-rate. The former operates directly by increasing the number of survivals to old age, and the latter indirectly by decreasing the numbers living at the earlier ages. As a result of the operation side by side of these two processes, the population at ages over 70 increased by 22 per cent. between 1911 and 1921, while that at all ages increased by 5 per cent. only.

The principal causes to which mortality at ages over 70 is attributed are set out in Table XXI in comparison with corresponding figures for other recent years. In making these comparisons the declining vogue of "old age" as a form of death return causes a difficulty. The proportion of deaths so certified at ages over 70 has fallen from 28.9 per cent. in 1911 to 17.0, the lowest figure yet reached, in 1924, with, of course, a corresponding increase in the proportions and death-rates assignable to defined causes.

All the causes distinguished in the table, except chronic nephritis, have contributed, for both sexes alike, to the increase of 7 per cent. shown for mortality from all causes at this time of life in 1924. Even in the case of 'old age' the fall in proportion of deaths so returned has been accompanied by an increase in mortality for females and for persons of both sexes. It has in other words been due entirely to larger increase in mortality otherwise described. The causes contributing most to the increase are influenza, bronchitis and heart disease, so it must be largely due to the influenza outbreak in the early spring, but the all round nature of the increase indicates that it would probably have occurred even in the absence of an outbreak of influenza. Increase in mortality from cancer forms an almost constant feature of this table, due not only to increase in cancer mortality generally, but to its disproportionate increase in advanced life (see page 55).

Centenarians.—Among the deaths registered during the year there were 86 of reputed centenarians, 22 of whom were males and 64 females. In the preceding three years the numbers were 59, 77 and 96 respectively. Particulars of the ages returned and of the classes of area concerned are given in Table XXII.

Mortality at different Periods of Life in Town and Country and in different Portions of England and Wales.—The experience of 1924, as embodied in Table XXIII, is so closely similar to that of 1923 that Table XXIV in the Review for that year, which compared the relative mortalities at different ages in the different sections of the population dealt with, substantially applies also to 1924.

In both years mortality in the North as a whole, and in Wales as a whole, exceeds the general average at every age except at 0-5 and 5-15 in Wales in 1924; and in both years that of both the Midlands and the South is below the general average at all ages. In both years also the experience of the rural districts is as uniformly favourable, and that of the county boroughs unfavourable at all ages, that of the smaller towns being generally slightly better than the average. The position of London as regards mortality under 15 years of age was somewhat less favourable in 1924 than in 1923, but its excess in later middle life, culminating at 45-55, is almost precisely similar in both years. The excessive variation in mortality at age 0-5, noted for 1923, applies equally to 1924, and the concentration of the Welsh excess on early adult life (15-35), when that of the North is least, is also a feature common to both years. The results for the two years indeed are in such close agreement, that Diagram 1 in the Review for 1923 may serve again to represent substantially the general position in 1924.

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 of the latter 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), etc., 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.	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
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 & 75a	{ 18 pt. 37 pt.
16 Heart disease	87-90	19
17 Arterio-sclerosis	91b	37 pt.
18 Bronchitis	99	20 & 21
19 Pneumonia (all forms)	100 & 101	22 & 23pt.
20 Other respiratory diseases	{ 97, 98 & 102-107 }	23 pt.
21 Ulcer of stomach or duodenum	111	24 pt.
22 Diarrhoea, &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, 75b-86, 91a, 91c-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., 24 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 and their relation to the items in the list previously used, will be defined in the Registrar-General's "Manual of the International List of Causes of Death" (1920 Revision), which is in course of preparation and 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.

In addition to the above tables, which relate exclusively to the year 1924, (except Table 18, which deals with the twelve months Oct. 1923-Sept. 1924), Table 4 contains a statement of the number of deaths registered in each year 1914-24 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. Similar tables (Nos. 8 and 9) state the mortality during the same eleven years 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 deaths classified to this heading during 1924 numbered 496. Of these, 35, or 7 per cent., were returned as paratyphoid, as against only 6, or 0.25 per cent., in 1911, the first year for which the information is available.

The mortality corresponding to these deaths, 13 per million living, is lower than any recorded in this country until 1922 and 1923, when the rate was 12 per million.

The distribution of this mortality throughout the country is outlined in Table XXIII. This mortality, which fell rapidly from 91 per million in 1901-10 and 46 in 1914 to 14 in 1920 (Table 5) has since then remained almost stationary. A similar, but much longer period of failure to decline between 1885 (175 per million) and 1900 (173) was followed by the rapid fall of the first 20 years of the present century.

Table XXIII.—Enteric Fever, 1924: Mortality per Million Civilian Population.

Class of Area.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	12	—	12
County Boroughs	13	6	17	9	11
Other Urban Districts	18	12	14	12	14
Rural Districts	20	11	12	12	14
All Areas	16	10	13	11	13

As in the nine preceding years, mortality was at its maximum in the smaller towns, though it is now very similar in town and country, the rural districts having lost of late the advantage

held by them during the first six of the 14 years 1911-24 available for this comparison. During each of those six years, mortality was lower in the rural districts than in either the county boroughs or the smaller towns (though in each of them it was lower still in London), whereas during five of the last eight years it has been lower in the county boroughs than the rural districts. During each of the last 13 years the rate has been lower for the Midlands than for either the North or the South of England, as it was in 1924 for each class of area dealt with.

Table 23 shows that the rate of prevalence recorded in Table XXIV is the highest since 1918, this rate having fallen rapidly from 0.38 per 1,000 population in 1911, when the record starts, to 0.06 in 1922, since when it has risen again to 0.11 in 1924.

Table XXIV shows that in England prevalence was greatest in the smaller towns of the North and of the South, and that fatality was highest in the rural districts of the North. The advantage of the Midlands extends to both prevalence and fatality.

Table XXIV.—Enteric Fever, 1924 : 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	—	—	95	—	95	—	—	122	—	122
County Boroughs ..	104	55	129	46	88	127	102	130	192	124
Other Urban Districts ..	143	121	142	103	131	125	103	97	116	111
Rural Districts .. .	117	91	113	108	104	172	126	111	112	132
All Areas	119	91	115	93	107	132	109	113	123	120

The fatality-rates returned for this and other notifiable diseases from 1911 onwards are compared in Table XXV.

The rate for 1924 is the lowest since the commencement of the record in 1911. This statement applies also to small-pox and diphtheria, and, save for 1921, to scarlet fever. The fatality of the two latter diseases, as of enteric fever, was highest in 1918, a curious parallelism characterising the fatality of these three diseases.

Table 7 shows that the highest mortalities returned by the larger administrative counties, *i.e.* those with a population exceeding 100,000, were 76 per million in Bedfordshire, 35 in the North Riding of Yorkshire, 30 in Berkshire, and 29 in Hertfordshire. The West Riding of Yorkshire, which returned the highest mortality amongst the larger counties in 1921 and in 1922, and came sixth in 1923, was seventh, with a death-rate of 24 per million, in 1924.

The Bedfordshire mortality, more than twice that of any of the other larger counties, is seen from Table 21 to have been

* Excluding non-civilian cases and deaths.

Table XXV.—England and Wales : Fatality of certain Infectious Diseases (Deaths per 1,000 Notified Cases), 1911-24.*

Year.	1. Enteric Fever.	6. Small-pox.	8. Scarlet Fever.	10. Diphtheria.	21. Erysipelas.	22. Pollomyelitis.	24. Meningococcal Meningitis.
1911	174	78	18.1	103	39	?	?
1912	191	73	18.6	96	39	?	?
1913	182	87	16.1	88	35	283	1,089
1914	194	62	17.2	99	42	348	1,257
1915	197	144	18.2	109	45	333	623
1916	188	107	17.8	103	40	270	704
1917	203	429	15.0	103	42	468	692
1918	206	32	20.0	109	46	1,013	767
1919	160	82	14.7	90	41	294	732
1920	171	114	12.0	81	52	404	911
1921	158	16	9.5	72	55	314	1,007
1922	191	28	12.7	78	53	883	1,046
1923	140	3	11.6	68	50	203	944
1924	120	3	10.5	60	52	202	746

due almost entirely to an outbreak in Luton M.B., where 14 deaths, out of 16 for the county, occurred. Of these, 8 were of boys under 15 years of age, 3 of males aged 15-25, and only 2 of females. The explanation of the age, if not also the sex distribution, is provided by the Annual Report of the Chief Medical Officer of the Ministry of Health, where it is recorded that an outbreak in Luton in the early summer was traced to infected ice-cream. Table 28 shows that 154 cases were notified in Luton, yielding a case rate of 2.56 per 1,000 population. This is the highest rate in that table, except those for six small areas, each of under 7,000 population, whereas the population of Luton is estimated at 59,220.

The highest rates for county boroughs were those of Burnley (58), Southampton (54) and Exeter (50), the corresponding deaths numbering 6, 9, and 3 respectively. Of these three Burnley alone returned at all a high rate (29) in 1923.

5. Malaria.—The decline since 1919 of mortality attributed to this cause was arrested in 1924, when 97 deaths, 16 more than in 1923, were returned. Except for 1923, however, this is the smallest number since the commencement of the war-time increase in 1917, and as the proportion of females has remained very low throughout (6 per cent. in 1924) the death returns suggest that the mortality now occurring remains confined to cases of imported disease. This inference is confirmed by the

* 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 1914 both cases and deaths relate to the total population; while for subsequent years the figures relate exclusively to the civilian 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 1921-1924. 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 XXV. 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.

statement in the report of the Chief Medical Officer of the Ministry of Health that all the deaths in 1924 were of persons who contracted the infection abroad.

6. **Small-pox.**—The deaths allocated to this cause numbered 13, as against 7 in 1923. But the mild nature of the prevalent type of disease has introduced a new difficulty in the classification of these deaths, as the case mortality is now so low that the likelihood of a person dying from some other cause while suffering from an attack of small-pox entailing no danger to life, has to be taken into consideration. The 13 deaths allocated to small-pox in Table 17 are the total of those in certification of which mention of small-pox was made, a rule of classification long established in this country giving small-pox precedence over practically all other forms of disease. But of these 13 deaths, 8 only are regarded in the Report of the Chief Medical Officer of the Ministry of Health as definitely ascribable to small-pox, 5 being excluded from this category in the following circumstances :—(1) A female aged 22 months, was certified as dying from small-pox, measles, and convulsions; convulsions being, in the opinion of the certifier, largely responsible for the death. (2) A female of 15 months died from whooping cough, broncho-pneumonia, and small-pox; broncho-pneumonia being regarded by the certifier as the cause of death; whooping cough was of a month's duration and small-pox only seven days. (3) A female, aged 52, died of pelvic abscess (discharging) and small-pox. (4) A female, aged 28 days, died from congenital debility and small-pox. (5) A female, aged 14 years, died from cretinism, valvular heart disease and small-pox in an isolation hospital. The Medical Officer did not consider small-pox the cause of death. As 3,765 cases of small-pox were notified during the year (Table 26) the chance of death from some other cause of a person undergoing an attack of the prevailing mild type of small-pox was not inappreciable, and in some at least of these five cases this seems to have occurred.

The 13 deaths were widely scattered, 3 in Willesden (all from hæmorrhagic small-pox) being the largest number in any one area. Almost 60 per cent. of the 3,765 cases however, were returned from the following counties and county boroughs :—Nottinghamshire (518), Northumberland (392), Cumberland (186), Derbyshire (139), Gloucestershire (127), Lincs., Lindsey (120), Middlebrough (485) and Derby C.B. (211). There were only 8 cases in the South of England (including 4 in London), and none in Wales (Table 26). Taking the deaths at 13, the fatality of these cases is seen from Table XXV to have been the same as in 1923, only 3 per 1,000, small-pox of the type now prevalent being much the least fatal of the diseases dealt with in that table.

7. **Measles.**—The deaths registered from this cause numbered 4,834, corresponding to a mortality of 124 per million population. This is a lower rate than that for any year previous to 1919, when the unprecedented figure of 100 was attained, followed by

59 in 1921 (Table 6), these two years alone recording a lower rate than that for 1924. At ages under 15 years, which, owing to the decreasing proportion of children in the population, afford a better basis for comparison than all ages jointly, the position is the same. Table 6 shows that during the nineteenth century the mortality was consistently more than double that of 1924.

Although Table 5 shows that the mortality of males from measles consistently exceeds that of females, this excess is confined to very early childhood. In 1924 there were 2,392 deaths of males and only 2,061 of females at ages 0—5, but at ages over five there were 172 deaths of males and 209 of females. The constancy of this feature in the records of measles mortality may be seen from the following comparison for the sexes of infant mortality and death-rates per million living at higher ages during the last six completed decades :—

		0-1 Infant Mortality	1-2	2-3	3-4	4-5	5-10
1861-70	M. ..	2.5	6,445	3,207	1,676	939	231
	F. ..	2.2	6,039	3,265	1,785	998	256
	P. ..	2.3	6,243	3,236	1,730	968	243
1871-80	M. ..	2.5	5,589	2,446	1,345	756	197
	F. ..	2.1	5,233	2,485	1,434	799	218
	P. ..	2.3	5,411	2,465	1,389	778	208
1881-90	M. ..	3.1	7,000	2,898	1,676	1,032	262
	F. ..	2.6	6,348	2,933	1,691	1,031	280
	P. ..	2.9	6,673	2,916	1,684	1,031	271
1891-1900	M. ..	3.4	7,377	2,868	1,548	936	209
	F. ..	2.9	6,819	2,855	1,637	985	233
	P. ..	3.1	7,097	2,861	1,593	960	221
1901-10	M. ..	2.7	6,112	2,227	1,191	711	160
	F. ..	2.4	5,546	2,221	1,262	794	188
	P. ..	2.6	5,830	2,224	1,227	753	174
1911-20	M. ..	2.6	5,633	2,377	1,242	764	214
	F. ..	2.2	5,059	2,360	1,241	786	226
	P. ..	2.4	5,348	2,369	1,241	775	220

Mortality has been consistently higher for males in the first two years of life, but after the third year is passed that of females is almost as regularly in excess. Taking that for males as 100 in each case, the proportion for females becomes as follows :—

	0-1	1-2	2-3	3-4	4-5	5-10
1861-70	88	94	102	107	106	111
1871-80	84	94	102	107	106	111
1881-90	84	91	101	101	100	107
1891-1900	85	92	100	106	105	111
1901-10	89	91	100	106	112	118
1911-20	85	90	99	100	103	106

The tendency with increasing age for the mortality of females to increase relatively to that of males is obvious.

The distribution throughout the country of mortality from measles is stated in Table XXVI in the form of death-rates per 100,000 living at ages 0-5. Deaths at these ages in 1924 formed 92 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 XXVI.—Measles, 1924 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	285	—	285
County Boroughs ..	205	106	45	71	152
Other Urban Districts	120	81	66	24	85
Rural Districts ..	34	29	31	21	30
All Areas	154	76	157	33	120

The outstanding feature of this Table is the high mortality in London, which was, as in 1922, more than double that for England and Wales. This has been sufficient to raise the mortality of the South to the highest place amongst the sections of the country, though when comparison is restricted to the same class of area in each case, its position is, in accordance with the usual experience of other years, relatively much more favourable. The regular increase from rural districts to county boroughs is common to the experience of each of the 14 years, 1911-24, for which the information is available.

Table 7 shows that the London death-rate was the highest amongst the administrative counties. It was exceeded by the following rates for county boroughs :—Wigan (877), Salford (624), Stoke-on-Trent (554), Manchester (494), West Hartlepool (363), West Ham (359), Stockport (341), and Barnsley (312).

Table 18 shows that, as in 1923, mortality was highest in March and April, when 872 and 776 deaths occurred.

8. Scarlet Fever.—The deaths allocated to this disease during 1924 number 888. They correspond to a rate of 23 per million total population at all ages, and of 74 per million at ages under 15 years, both of these being lower than for any previous year except 1917.

Table 6 shows that for nine years in succession each of these rates has been much lower than any recorded previous to this period, the mortality being now trifling compared with that prevalent a generation ago. Table XXV shows that the fatality rate of 10.5 deaths per 1,000 notified cases was lower than for any previous year for which the record is available except 1921, the lower mortality of 1917 having been due entirely to lower prevalence of the disease (Table 23).

Table XXVII.—Scarlet Fever, 1924 : Mortality per Million Living at Ages under 15 years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	103	—	103
County Boroughs ..	110	94	38	44	95
Other Urban Districts	81	61	34	55	62
Rural Districts ..	64	37	39	61	46
All Areas	94	65	66	55	74

Table XXVII shows that, with one slight exception in the case of the rural districts, the mortality of each type of area compared decreased from the North to the South of England, in accordance with the general experience of recent years ; but that in the South mortality was much the same in town and country, though in the North and Midlands it increased with urbanization. This used to be the case also in the South, but in that section of England the rural districts have not shared in the general decline, and the fall for the smaller towns has been less than that for the county boroughs. It has also been less for London than for the country generally.

Table XXVIII.—Scarlet Fever, 1924 : 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	—	—	99	—	99	—	—	11	—	11
County Boroughs ..	96	96	71	58	82	13	11	7	8	12
Other Urban Districts	97	71	60	69	77	10	10	8	9	10
Rural Districts ..	83	62	46	61	65	9	7	10	12	9
All Areas	96	77	76	64	82	12	9	10	10	10

Table XXVIII throws some light upon the relatively unfavourable showing of the Southern rural districts in Table XXVII. In the South (as in Wales) fatality increased, as has been its tendency of late years, from town to country, whereas in the North and Midlands, as formerly (1911-13) also in the South, it increased from country to town. Prevalence in 1924 was least in the rural districts of the South, as of the North and Midlands, though in the North the difference was small. Both prevalence and fatality were slightly higher in London than in England and Wales.

The fall which has occurred in mortality from this disease during the past 60 years may be studied by comparing the death-rates at different ages in 1861-70, and in 1924, as in the following statement of deaths per million living :—

	Males.		Females.		Both Sexes.	
	1861-70	1924	1861-70	1924	1861-70	1924
All Ages (standardized)	867	26	847	29	857	27
0-	2,201	39	1,850	35	2,026	37
1-	5,384	136	4,959	122	5,172	129
2-	5,965	154	5,850	158	5,907	156
3-	5,799	161	5,576	176	5,687	169
4-	4,715	123	4,619	164	4,667	143
0-	4,765	124	4,523	133	4,644	128
5-	1,395	38	1,394	51	1,394	45
15-	117	10	132	8	124	9
25-	48	3	73	6	61	4
35-	23	4	33	2	28	3
45-55	16	2	12	1	14	2

The mortality of 1924 is only about 3 per cent. of that of 1861-70. This enormous reduction is much the same for both sexes, but is by no means uniformly distributed by age. It is greatest in infancy, and thereafter steadily decreases as life advances, as is shown by the following statement of age mortalities in 1924 as percentages of those for 1861-70 :—

	Males.	Females.	Both Sexes.
All Ages (standardized)	3.00	3.42	3.15
0-	1.77	1.89	1.83
1-	2.53	2.46	2.49
2-	2.58	2.70	2.64
3-	2.78	3.16	2.97
4-	2.61	3.55	3.06
0-	2.60	2.94	2.76
5-	2.72	3.66	3.23
15-	8.55	6.06	7.26
25-	6.25	8.22	6.56
35-	17.39	6.06	10.71
45-55	12.50	8.33	14.29

As a result of the greater decline at the earliest ages, that of maximum mortality has shifted from the third to the fourth year of life for each sex. Compared with that of the years succeeding it the mortality of infancy was low at both periods, but the contrast is greater in 1924.

The stages by which this great change has come about are shown in the following statement of mortality at later periods as a proportion of that in 1861-70, at ages 0-5 and at all ages :—

	All Ages (standardized).			0-5 Years.		
	Males.	Females	Both Sexes.	Males.	Females.	Both Sexes.
1861-70	1,000	1,000	1,000	1,000	1,000	1,000
71-80	786	723	729	757	752	755
81-90	349	352	350	359	359	359
91-1900	175	179	177	179	184	182
1901-10	127	126	127	123	122	123
1924	30	34	32	26	29	28

Table 7 shows that amongst counties with over 100,000 population mortality was highest, at 38 deaths per million population (as compared with an average of 20 for all counties), in the North Riding and Nottinghamshire, Worcester (36) coming next. The rate for Glamorgan, highest in 1922 and 1923, barely exceeded the average, at 21, in 1924. The highest rates amongst the county boroughs were those of Warrington (141 per million), Middlesbrough (110) and Stoke-on-Trent (101). Warrington returned a low rate in 1923, but Middlesbrough was highest amongst the county boroughs, with a rate of 140, in that year, and in Stoke-on-Trent this mortality has been notably high in each year from 1919 onwards.

9. Whooping Cough.—The deaths allocated to this heading numbered 3,983, 1,864 of males and 2,119 of 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 mortality was 103 per million total population at all ages, and 384 at ages under 15 years. These rates represent a slight improvement upon the very favourable experience of 1923, and for the second time in succession are shown by Table 6 to be lower than those for any previous year except 1919. They are less than one-third of those prevalent during the nineteenth century.

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

Table XXIX.—Whooping Cough, 1924 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	114	—	114
County Boroughs ..	142	129	91	130	132
Other Urban Districts	123	70	51	97	88
Rural Districts ..	136	65	46	97	81
All Areas	135	89	84	104	105

It will be seen that extra-metropolitan mortality increased regularly with urbanization, as it did also in eleven out of the thirteen preceding years. For each class of area also, considered separately, decrease in mortality is, as usual, regular from North to South.

Table XXX.—Whooping Cough, 1924 : Deaths under One Year of Age per cent. of those at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	38	—	38
County Boroughs ..	40	42	43	47	41
Other Urban Districts	46	44	55	44	46
Rural Districts ..	41	58	40	59	49
All Areas.. ..	42	46	41	49	43

Table XXX shows that, as usual, the proportion of total deaths occurring in the first year of life declined with increasing urbanization, though this rule applies in 1924 to only one section of the country considered separately—the Midlands. This proportion was, as usual, higher for males (47·0) than for females (39·8).

In six out of the past 14 years (1911–24) the proportion of these early deaths has been higher in London than in the county boroughs, but in none of them has it been lower in the smaller towns than in the county boroughs, or in the rural districts than in the smaller towns.

The highest death-rates in administrative counties, excluding those with less than 100,000 population, are shown by Table 7 to have been 208 per million at all ages in Cumberland, and 192 in Durham. The rate for Cumberland in 1923 was low, but that for Durham (241) was the highest in the country. Similar figures for the county boroughs are Middlesbrough, 565, York, 485, and Wigan, 373. None of these towns returned high rates in 1923.

10. *Diphtheria*.—The fact that from 1921 onwards this heading excludes “croup,” a term now seldom met with and shown by Table LXX and its predecessors for the most part no longer to signify diphtheria, makes little difference to the number of deaths included, as in 1920, the last year for which these deaths were distinguished, they totalled 18, as against 5,648 from diphtheria.

The 2,501 deaths from diphtheria in 1924 include 1,212 of males and 1,289 of females. This excess for females is a very constant feature of the returns, applying to each year since the disease was first distinguished save one only—1922. The slight excess for females in mortality is only brought out by standardization, the crude rate being consistently higher for males (Table 5).

Both the death-rates quoted in Table 6 for diphtheria and croup in 1924, 65 per million persons at all ages and 231 at ages under 15 years, are shown by that table and its predecessors to be, for the third year in succession, the lowest in our records since the modern prevalence of the disease began in 1858. But the fall which has occurred in mortality from the maximum attained in 1861–65 has been characterised by notable intermittency. It is best measured by the rate for diphtheria and croup at ages under 15 years, as this is least affected by changes in nomenclature and in the age constitution of the population. From its maximum of 1,422 per million in 1861–65, this rate fell rapidly to 726 in 1876–80. Thereafter it rose slightly, reaching 1,074 in 1893, and remaining above 726 to the end of the nineteenth century. In the first five years of the present century it fell from 888 in 1901 to 532 in 1905, after which progress was slow and intermittent till 1920, when the rate was 510, but since then it has continuously declined to 231 in 1924.

Table XXXI.—Diphtheria, 1924 : Mortality per 100,000 living at Ages under 15 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	46	—	46
County Boroughs ..	20	33	23	20	24
Other Urban Districts	19	21	18	25	20
Rural Districts ..	12	12	8	25	13
All Areas	19	23	29	24	23

As in the three preceding years the outstanding feature in Table XXXI is the high mortality in London. In each of these years the London rate has been at least twice that of the country at large, an experience not previously met with since 1897. It was, indeed, only in the five years 1893–97 inclusive that the London rate was ever, before 1921, double that for the country at large. Table XXXII shows that this great excess in London mortality has been due entirely to greater prevalence of the disease, for the fatality rate in London was below that for England and Wales, in fact one of the lowest in the table. The recent history of diphtheria prevalence in London may be read in Table 23, which shows that while the rate for England and Wales has decreased from 1·61 cases per 1,000 population in 1914 to 1·07 in 1924, or by 33·5 per cent., that for London increased from 2·02 to 2·31, or by 14·4 per cent., the London excess growing during the same period from 25 to 116 per cent. Table 28 shows that prevalence was greatest in the metropolitan borough of Bethnal Green, Bermondsey, which returned the highest rate in 1922 and 1923, coming next.

Table XXXII shows how far variation in mortality has been due to variation in prevalence and in fatality respectively.

Table XXXII.—Diphtheria, 1924 : 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	—	—	91	—	91	—	—	53	—	53
County Boroughs	31	58	49	47	42	67	58	50	46	60
Other Urban Districts	27	37	28	44	33	72	62	69	60	65
Rural Districts	22	26	16	37	24	61	53	64	74	60
All Areas	28	41	56	43	41	68	59	55	60	60

There were proportionately fewer cases of the disease notified in the North than in the South of England, but their fatality was somewhat higher—an experience repeated with much regularity year after year. The fatality rate for the country at large, 6.0 per cent., is the lowest in Table XXV, which covers the whole of the period for which this comparison can be made.

Table 7 shows that amongst counties with at least 100,000 population the civilian death-rate for London, 123 per million, was highest, Carmarthen, 110, and Monmouth, 96, coming next.

The highest rates for the county boroughs are those of Walsall, 266, Derby, 202, and Gloucester, 188. None of these boroughs returned high rates in 1923. The excess mortality in all three cases was due to high rates both of prevalence and of fatality.

11. **Influenza.**—The deaths assigned to this cause numbered 18,986—9,142 of males and 9,844 of females—yielding a mortality of 489 per million persons living. This rate compares as follows with the years of highest mortality since the commencement of our continuous series of records in 1847. These years, with the mortality per million population recorded in each, were :—

1848	459
1891	574
1892	533
1900	504
1918	2,997
1919	1,199
1922	563
1924	489

Table 18 shows that deaths were most numerous in February and March, when 11,135 occurred out of 18,986 in the year, or 59 per cent. of the whole.

The age distribution of influenza mortality, which underwent a sudden and remarkable change at the outset of the great

epidemic of 1918, has since then reverted in great measure to its previous type, but the characteristics then impressed upon it have by no means completely disappeared. Table I of the special Influenza Supplement to the Report for 1918 shows the age distribution of the mortality (standardized, and, to permit of comparison throughout the period of the war, for females only), for each year 1890-1917. The average for the whole period compares as follows with the corresponding figures for 1918-24.

	1890-1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.
0- ..	104	249	193	186	169	176	139	159
15- ..	107	454	366	281	187	182	157	122
35- ..	181	176	197	201	184	191	171	184
55- ..	388	98	184	229	294	310	348	337
75- ..	220	23	60	103	166	141	185	198
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

From this statement it appears that the movement of return towards the age distribution prevailing prior to the great epidemic, which showed itself during the years 1919-21 and was arrested in the epidemic year of 1922, but resumed in 1923, has made little progress in 1924, the proportions of deaths at 0-15 and at 55-75 deviating further than in 1923 from the experience of 1890-1917, while those at 15-35, 35-55 and 75 and upwards approach it more closely. This movement of return appears to make most progress in years of low mortality, and to be checked when mortality rises. Omitting age 35-55, the proportion for which has remained practically constant throughout, all the other four age groups have shown return towards the former average in each year since 1918, except 1922 and 1924, the only two of these years recording increase of mortality.

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

Table XXXIII.—Influenza, 1924 : Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	367	—	367
County Boroughs	539	415	515	391	491
Other Urban Districts	585	423	485	471	494
Rural Districts	634	508	576	566	559
All Areas.. .. .	568	443	455	483	490

For each class of area mortality in England, in 1924, was highest in the North and lowest in the Midlands.

In each of the four years which can now be compared in this respect, mortality from attacks with pneumonic complications has been in considerable excess for males and that with other pulmonary and without stated complications in some excess for females. Of the deaths in 1924, 45 per cent. were stated to have been associated with pneumonic, and 24 per cent. with other pulmonary, complications.

23. Encephalitis Lethargica.—This malady first makes its appearance in the records for 1918 (Tables 4 and 5) when, however, nearly all the deaths were returned under other designations. Notifications among civilians, which during 1919–23 varied from 541 to 1,470, suddenly increased from 1,025 in 1923 to 5,039 in 1924 (Table 27), deaths simultaneously increasing from 531 to 1,407 (Table 4). On these figures the case mortality in 1924 amounted to 279 deaths per 1,000 notified cases, the lowest previously returned being 496 in 1921, also a year of high prevalence, and the highest 747 in 1922, when fewer cases were notified than in any other year since 1918. Deaths, in fact, have varied much less from year to year than notifications, and fatality has tended to vary inversely with prevalence.

As in the three preceding years, with which alone comparison can be made, mortality in 1924 was widely spread over the greater part of life except old age. The numbers of deaths recorded in Table 17 yield the following death-rates at varying ages—0–5, 48 per million; 5–15, 28; 15–25, 36; 25–35, 23; 35–45, 37; 45–55, 45; 55–65, 52; 65–75, 40; and 75 and upwards, 10. Young children and elderly adults accordingly suffered most in 1924, whilst the aged appear very largely to have escaped. This age distribution of mortality differs from that of attack. No information as to the latter can be derived from the notification returns, but we are told in the Report of the Chief Medical Officer of the Ministry of Health, that 25 per cent. of a series of British cases occurred in persons aged 10–20. The corresponding proportion for deaths in 1924 was only 18 per cent. Again, we are told that incidence is fairly evenly distributed between 20 and 40, after which it declines with advancing age. In 1924 deaths were almost twice as numerous at 40–45 as at 30–35, and mortality more than twice as great. If, then, deaths occur on the whole later in life than cases it would seem that fatality must increase to some extent with age.

The distribution throughout the country of mortality from this cause is stated in Table XXXIV.

The mortality returned was highest in the North and lowest in Wales in each class of area, and, except in the rural districts, was lower in the South than in other parts of England. It also increased to some extent with urbanization. Table 18 shows that the monthly deaths began to increase in number from the beginning of the year and attained a maximum in May. The

Table XXXIV.—Encephalitis Lethargica, 1924 : Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	33	—	33
County Boroughs..	47	38	26	14	40
Other Urban Districts.	46	39	27	26	37
Rural Districts ..	38	29	31	21	31
All Areas	45	36	30	22	36

month of maximum mortality has been progressively shifting later in the year during the four years, 1921–24, for which Table 18 has been published. In 1921 it was January, in 1922 March, in 1923 April, and in 1924 May. Notifications in 1924 were also most numerous in May, when the weekly total twice exceeded 300, a figure attained in no other month (Table 24), whereas in 1921 they were most numerous in January and in 1922 and 1923 in March. Notification and death returns therefore confirm each other in indicating a maximum prevalence somewhat later in 1924 than in the preceding years.

24. Meningococcal Meningitis.—The 301 deaths allocated to this disease correspond to a mortality of 8 per million living, which is the lowest rate, save that of 7 in 1923, recorded since the mortality suddenly increased, in 1915, from about 10 or less during 1876–1914 to 45 per million. During 1916–20 it gradually fell to 14 in the latter year, but since then has been much the same as it was immediately before 1915. As usual, males and young children have suffered most, 55 per cent. of the deaths being under 5, and 82 per cent. under 20 years of age. The fatality was as usual very high—746 deaths per 1,000 cases notified (Table XXV). It was heaviest (like that from encephalitis lethargica) in April and May, when 29 per cent. of the deaths of the year occurred, the rate during these two months being more than double that for the rest of the year.

Tables 18 and 24 show the incidence of the disease to have been widely distributed over the year.

31–37. Tuberculosis.—The deaths assigned to tuberculous affections in the aggregate number 41,103—22,350 of males and 18,753 of females—or 315 more than those so classified in the previous year. The crude mortality, which in the case of this disease is little affected (so far as persons of both sexes are concerned) by standardization (Table XXXV), amounted to 1,058 per million, or just a trifle less than that of the previous year. The proportion of the total crude death-rate due to this cause has decreased from 9·2 per cent. in 1923 to 8·7, owing to increase of mortality from other causes. If the standardized rates are

considered, the proportion of our total mortality for which tuberculosis was responsible in 1924 is increased to 9.7 per cent. The standardized mortality of 1,039 per million population (Table XXXV) is for the sixth year in succession the lowest yet recorded, each year since 1918, when the temporary rise associated with the war and the great epidemic of influenza reached its highest point, having returned a lower rate than its predecessor.

But of these six years 1919, like 1918, was affected by the influenza epidemic, so it is only the last five, 1920-24 inclusive, which can fairly be compared. In them the standardized mortality has fallen continuously from 1129 in 1920 to 1,039 in 1924, a total reduction of 8.0 per cent. in four years (8.7 for males and 7.2 for females), most of which occurred between 1922 and 1923. Although this represents a somewhat smaller rate of decline than during the period immediately before the war, when this rate was increasing, it can scarcely be without significance that in 1924, for the sixth year in succession, the standardized death-rate is lower than that for any previous year. For males this statement applies to each of these years except 1922, and for females to each except 1921.

For young children of each sex (age 0-5) mortality further declined in 1924, as it has done in each year since 1917. There was for each sex a very heavy fall between 1917 and 1919, following five years of but little net reduction from 1912 to 1917; but since 1919 this movement has been much less rapid, and has tended to slacken, the rates for both sexes running roughly parallel courses, with that for males consistently the higher. Compared with 1851-60, the first decade for which the record is complete, reduction of recorded mortality has been greater at this than at any other age for each sex, though until the end of last century it was greater at or near adolescence for males and at most ages for females. Until 1901-10 a higher mortality was recorded at this than at any other age for each sex, but since then its decline has been so rapid that in 1924 the rate for males aged 0-5 is exceeded by those for all ages 20-65, and that for females by all from 15 to 45.

At 5-15 the rate for each sex has throughout the whole period covered by the records been at a minimum, some of the doubtful returns for extreme old age excepted. It has been consistently lower for males at 10-15 than at any other age, and for females at 5-10. At 5-10 the rates for the sexes are about equal, but at 10-15, as at 15-20, those for females are consistently in large excess. It was at this time of life that the rise of mortality associated with the war began to manifest itself, the fall after 1918 being very great for both sexes, especially at 10-15.

At 15-20 the mortality of females remains higher than it was immediately before the war, though in 1924, as in 1923, that of males was lower. This age was more affected than any other by the increase which occurred during 1915-19, (judging by the

record for females only, that for males being interrupted at ages 15-45 between 1915 and 1921), and recovery appears to be still incomplete.

The next age period, 20-25, was almost as much affected by the increase of mortality during the later stages of the war, and recovery is even less complete, the rates for both sexes remaining above the immediate pre-war level. The rates for the sexes are now almost equal at 20-25, whereas during adolescence those for females, and after 25 those for males, are in large excess. From 1918 onwards this has been consistently the age of maximum mortality for females, whereas before 1915 this age was generally 35-45 during the present century, and 25-35 during its predecessor. In 1917 this maximum fell as early in life as 15-20, and in 1916 at 20-25. The exceptional incidence upon early adult life of mortality from influenza in 1918 was thus preceded by a similar change in that from tuberculosis, occurring a year or two sooner. The maximum at 20-25 now dominates the whole curve of age incidence for females, rates progressively diminishing at all later ages. This change has introduced a new difference between the sexes, for before the war mortality was for females, as it still is for males, much more symmetrically disposed as a somewhat flat-topped curve with its highest point in middle life. But both sexes share in the increase of mortality at this age over that of the years immediately preceding the war, whereas at all other ages, except 15-20 for females, reduction has occurred. As with influenza, the impress of 1918 remains.

At 25-35 the mortality of each sex is now below the immediate pre-war level, the reduction for males being the greater. In the female sex this age shared the war rise with those preceding it, but the increase was less and was largely confined to the one year 1918.

At 35-45 the mortality of each sex has fallen greatly since 1918. For females this fall has been continuous, though slow since 1920, but for males there is a slight increase in 1924.

At 45-55 the war rise was slight, taking the form rather of a maintenance of level than of an increase of any importance. Since 1918, however, considerable reduction has occurred for each sex, but greater for males, though with a slight rise, as at 35-45, in 1924, whereas for females it has been continuous. This has long been the age of highest mortality for males, though in 1881-90 and earlier decades that of 35-45 was higher.

At 55-65 mortality in recent years has behaved very much as at 45-55. For each sex it varied little from 1911 to 1918, since when it has steadily declined, though much less for females than for males, and less since than before 1920. This and the preceding decennium are the ages at which the death-rate of males is in greatest excess, being more than double that of females in each. At these ages the fall since 1851-60 has been steadily progressive for females, while for males it was comparatively

small up to 1901-10, when it amounted to little over 25 per cent., but since then the decline has been greater for males, the rate of fall being much the same for both sexes.

At ages above 65 the rates become increasingly erratic, partly no doubt on account of the small numbers of deaths, and partly also, it may be, as a consequence of the uncertainty and difficulty of diagnosis in old age.

Table XXXV.—England and Wales: Mortality from Tuberculosis (All Forms) per Million Population, 1912-14, 1923, and 1924.

	Males.			Females.			Persons.		
	1912-14	1923	1924	1912-14	1923	1924	1912-14	1923	1924
	All Ages— Crude	1,572	1,204	1,202	1,169	932	926	1,364	1,062
Standardized	1,543	1,164	1,156	1,175	942	934	1,348	1,049	1,039
0-	2,080	1,170	1,142	1,716	957	943	1,899	1,065	1,044
5-	572	371	365	579	411	367	576	391	366
10-	447	330	320	687	513	535	567	421	427
15-	938	833	823	1,225	1,295	1,273	1,083	1,065	1,047
20-	1,500	1,543	1,512	1,380	1,452	1,526	1,438	1,495	1,519
25-	1,815	1,537	1,491	1,402	1,289	1,270	1,599	1,401	1,370
35-	2,189	1,689	1,704	1,373	1,015	993	1,766	1,327	1,322
45-	2,382	1,659	1,724	1,184	793	760	1,760	1,208	1,221
55-	2,211	1,479	1,436	966	664	657	1,552	1,051	1,027
65-	1,407	1,002	1,022	759	555	544	1,046	755	758
75 and upwards	590	446	335	438	329	344	498	374	341

The 32,690 deaths from respiratory tubercle form 80 per cent. of the total allocated to tuberculosis, and 6.9 per cent. of those from all causes. These deaths represent a mortality slightly higher than that of 1923, but lower than for any previous year (Table 5).

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

The relation of phthisis mortality to urbanization is expressed by the decline of the standardized rate for persons from 91 per 100,000 in London and 94 in the county boroughs to a minimum of 67 in the rural districts. That for males is at its maximum in London and that for females in the county boroughs.

This was the case also in 1922 and 1923, for which similar tables have been published, so special incidence upon males appears to be a regular feature of London phthisis mortality. Another feature common to the three years is the gradual increase with age in the excess of London mortality. In 1924 this was negative in childhood, but from 15 on gradually increased to 79 per cent at 75 and upwards. The county boroughs in 1924 reverse this record, their mortality being large in infancy and below average in old age. Probably it may be inferred that phthisis is more freely diagnosed in old age, and less freely in infancy, in London than elsewhere. At all ages from 45 upwards the London rates are the highest in the table, as also in 1922 and 1923.

Table XXXVI.—Tuberculosis of the Respiratory System.—Civilian Mortality at Different Ages, 1924.

	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	97	124	119	85	69	105	128	123	88	71	108
Standardized	91	113	110	80	67	97	124	121	88	74	107
0-	15	11	25	13	6	18	73	167	87	40	120
5-	11	14	13	9	9	11	127	118	82	82	100
15-	98	117	111	91	78	103	119	113	93	80	105
25-	137	140	152	127	128	140	102	111	93	93	102
35-	161	204	203	134	112	174	127	126	83	70	108
45-	162	245	211	129	91	181	151	130	80	56	112
55-	133	190	164	118	86	148	143	123	89	63	111
65-	91	130	126	82	48	107	143	138	90	53	118
75 & up	28	45	36	21	24	30	161	129	75	86	107
FEMALES.											
All Ages— Crude	73	75	81	67	67	74	103	111	92	92	101
Standardized	71	71	79	66	68	72	100	111	93	96	101
0-	13	14	16	11	8	14	108	123	85	62	108
5-	23	16	29	21	20	24	70	126	91	87	104
15-	121	112	134	117	113	123	93	111	97	93	102
25-	115	115	123	105	121	114	100	107	91	105	99
35-	91	89	104	79	91	91	98	114	87	100	100
45-	69	87	79	59	58	71	126	114	86	84	103
55-	56	71	58	54	48	58	127	104	96	86	104
65-	42	49	40	41	42	42	117	95	98	100	100
75 & up	22	42	16	17	25	21	191	73	77	114	95
PERSONS.											
All Ages— Crude	84	98	99	75	68	89	117	118	89	81	106
Standardized	81	91	94	72	67	84	112	116	89	83	104
0-	14	12	21	12	7	16	86	150	86	50	114
5-	17	15	21	15	15	18	88	124	88	88	106
15-	110	114	123	105	95	114	104	112	95	86	104
25-	125	126	136	115	124	126	101	109	92	99	101
35-	123	140	150	105	101	129	114	122	85	82	105
45-	113	161	142	92	74	123	142	126	81	65	109
55-	93	126	108	84	67	100	135	116	90	72	108
65-	64	84	78	59	45	70	131	122	92	70	109
75 & up	24	43	23	19	24	24	179	98	79	100	100

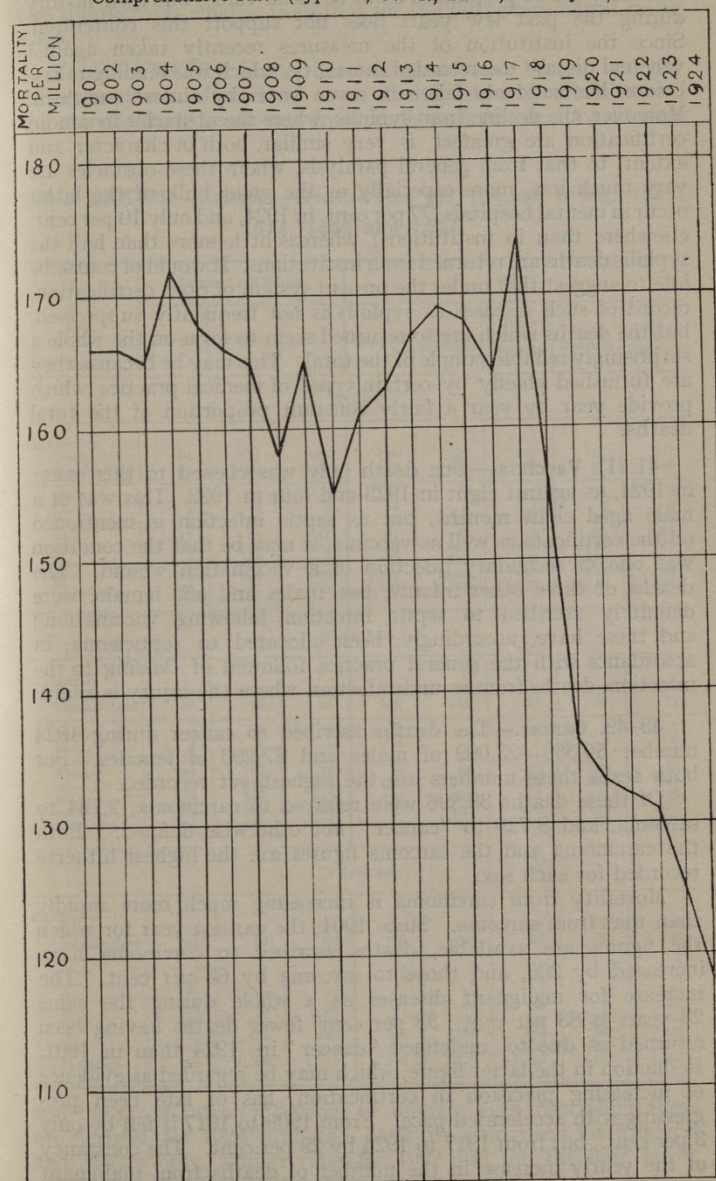
While the crude mortality from respiratory tuberculosis increased slightly in 1924 (from 83.6 to 84.1 per 100,000), and the standardized increased from 80 to 81, Table 5 shows that other forms of the disease record a decrease from 22.6 to 21.7, the only increase there recorded being in tuberculosis of the joints, deaths from which are too few to give significance to the small increase recorded. It is noteworthy that the rate from tuberculosis of the nervous system, which had fallen from 149 per million in 1915 to 85 in 1923, has further fallen to 80 in 1924. These are almost

entirely deaths from tuberculous meningitis, and it may be of significance that their rapid decrease has coincided in time with increasing recognition of and search for other forms of meningitis and encephalitis. But mortality from 'meningitis' of undistinguished type continues to fall quite as fast as that from the tuberculous variety.

38. Syphilis.—The mortality attributed to this disease continues to decline rapidly from the recent maximum attained in 1917. Table 5 shows an almost continuous fall from the rate of 60 per million in that year to 33 in 1924, which is the lowest rate yet recorded. This fall, however, is to some extent attributable to the decline in the birth-rate, as the majority of deaths returned from this cause occur at ages under one year (Table 17). It is of interest, therefore, to note that when deaths at this age are stated in relation to births, as in Table 9, the infant mortality so obtained is less than half that of 1917, its fall since that year being uninterrupted. The rate of 0.91 deaths per 1,000 births in 1924 is the lowest for any year during, at least, the present century. The more comprehensive death-rate obtained by including, as of syphilitic origin, deaths from tabes dorsalis, general paralysis of the insane, and aneurysm, as well as those directly attributed to syphilis, amounts for 1924 to 118 per million, as against 125 in 1923 and 131 in 1922. As from 1901, when this record is first available, till 1918, it ranged from 155 to 174 (in 1917), the most recent returns represent a very definite decline. This is shown in Diagram 1, from which the striking nature of the fall during the years following 1917, in which the public measures recently taken against venereal disease were gradually developed, may be appreciated. The mortality ascribed respectively to syphilis itself and to general paralysis of the insane has followed a very similar course, but while the main fall in the death-rate from general paralysis, as in the combined rate, immediately follows 1917, that in the syphilis rate dates from 1921 onwards only, though its maximum was also attained in 1917. The comparatively small mortality attributed to tabes does not share in the fall, having gradually increased from 13 per million in 1901 to 19 in 1924, though its maximum of 23 was reached in 1916. Mortality from aneurysm has varied less than the other components of the combined rate, the chief movement being a fall from 31 per million in 1915 to 24 in 1918.

It thus appears that the behaviour of the combined death rate recorded in Diagram 1 has depended on that of its two chief components, syphilis so returned, and general paralysis, but that, contrary to what might have been expected, the main fall in the latter slightly preceded that in the former. Whatever the cause of this may be, there can be little doubt as to the significance of the behaviour of the combined rate recorded in Diagram 1. For the seventh year in succession, this is lower than its predecessor, the total fall in these seven years amounting to 32 per cent. of the

Diagram 1.—Mortality from Syphilis, England and Wales, 1901-1924. Comprehensive Rate (Syphilis, G.P.I., Tabes, Aneurysm).



rate in 1917. It is often suggested that the returns of syphilis mortality are so prejudiced as to be of no value, but their history during the past few years does not support this contention. Since the institution of the measures recently taken against venereal disease the recorded mortality, which was tending to rise before, has suddenly fallen in seven years by almost one-third. Moreover, the decline from syphilis, where the obstacles to candid certification are greatest, is very similar, both in character and extent, to that from general paralysis, where these obstacles are very much less, more especially as the great bulk of the latter occur in mental hospitals (77 per cent. in 1924, and only 10 per cent. elsewhere than in institutions), whereas little more than half the syphilis deaths are returned from institutions. It would of course be idle to suggest that under the present system of open certification, record of such diseases as syphilis is not frequently suppressed, but the deaths which are so returned seem to form on the whole a surprisingly reliable sample of the total. This may be because they are furnished chiefly by certain types of medical practice which provide year by year a fairly constant proportion of the total deaths.

41 (1). *Vaccinia*.—One death only was classed to this cause in 1924, as against eight in 1923 and four in 1922. This was of a male aged eight months, but as septic infection is mentioned on the certificate as well as *vaccinia*, it may be that the condition was one of secondary infection of a vaccination wound. The deaths of three other infants, two males and one female, were definitely ascribed to septic infection following vaccination; and these have, accordingly, been allocated to septicæmia, in accordance with the general practice followed of classing to the infection, deaths from wound infection where the injury is slight.

43-49. *Cancer*.—The deaths ascribed to cancer during 1924 number 50,389—23,099 of males and 27,290 of females. For both sexes these numbers are the highest yet recorded.

Of these deaths 38,896 were referred to carcinoma, 2,764 to sarcoma, and 8,729 to "cancer" not otherwise defined. Both the carcinoma and the sarcoma figures are the highest hitherto recorded for each sex.

Mortality from carcinoma is increasing much more rapidly than that from sarcoma. Since 1901, the earliest year for which the figures are available, deaths ascribed to carcinoma have increased by 206, and those to sarcoma by 65 per cent. The increase for malignant diseases as a whole during the same 23 years is 83 per cent., 33 per cent. fewer deaths having been returned as due to undefined 'cancer' in 1924 than in 1901. Reduction in the latter figure, which may be regarded as evidence of increasing precision in certification, has of late been progressing with accelerated pace. From 1909 to 1917 it fell by only 3 per cent., but from 1917 to 1924 by 29 per cent. The constancy of the yearly increase in the number of deaths from malignant

disease as a whole is very remarkable, the last year for which this number was smaller than that for the year preceding it being 1865.

Table XXXVII shows, for England and Wales, and for different classes of its local areas distinguished by urbanization, the standardized death-rate from malignant disease for each sex.

Table XXXVII.—*Cancer*.—Death-rates per 100,000 living, 1911-1914, 1923 and 1924.

Age.	England and Wales.			1924.				
	1911-1914	1923	1924	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	All Urban Districts.
MALES.								
All Ages— Crude Standardized	94 90	121 97	125 100	146 119	126 108	121 98	122 82	127 106
0-.. ..	2	3	3	3	2	3	3	3
15-.. ..	4	5	5	8	4	4	4	5
25-.. ..	11	12	12	16	12	10	12	12
35-.. ..	43	39	41	51	42	41	36	43
45-.. ..	170	166	162	212	184	152	115	175
55-.. ..	442	480	482	558	565	459	372	517
65-.. ..	796	898	946	1,101	1,027	955	789	1,006
75 and up ..	949	1,142	1,206	1,429	1,157	1,239	1,149	1,237
FEMALES.								
All Ages— Crude Standardized	114 97	133 98	135 98	138 102	133 105	133 97	140 90	134 101
0-.. ..	2	2	2	2	2	2	3	2
15-.. ..	4	4	4	4	4	4	4	4
25-.. ..	16	16	15	15	16	14	14	15
35-.. ..	81	76	76	79	84	72	66	78
45-.. ..	231	221	214	234	227	212	186	221
55-.. ..	446	431	443	438	469	443	401	456
65-.. ..	723	752	763	749	820	746	732	776
75 and up ..	900	1,051	1,063	1,172	1,098	1,069	980	1,097
PERSONS.								
All Ages— Crude Standardized	104 94	127 97	130 99	142 110	130 106	127 97	131 86	130 103
0-.. ..	2	2	2	2	2	2	3	2
15-.. ..	4	4	4	4	4	4	4	4
25-.. ..	14	14	13	15	14	12	13	13
35-.. ..	63	59	60	67	64	58	52	62
45-.. ..	202	195	189	224	206	183	152	199
55-.. ..	444	454	462	505	514	450	386	485
65-.. ..	755	817	845	901	911	838	759	877
75 and up ..	919	1,086	1,118	1,262	1,120	1,133	1,053	1,148

and the group rates for persons of different ages from which these are derived, for 1924, and, as a basis of comparison for England and Wales only, similar rates for 1923 and for the four latest pre-war years jointly, 1911-14.

This table shows the mortality of males as decreasing with decreasing urbanization, in 1924, from a maximum of 119 per 100,000 in London to a minimum of 82 in the rural districts. Variation with class of area is as usual much less for females.

The table also shows that the present tendency for increase in the mortality of males to exceed that of females was very evident in 1924, the standardized rate for males increasing from 97 per 100,000 living in 1923 to 100, while that for females remained at 98. And as compared with the four years immediately preceding the war, the rate for males has increased from 90 to 100, while that for females has moved only from 97 to 98. This is the first year in which the rate for males has exceeded that for females, although equality at 96 each was attained in 1922. The crude rate is still in considerable excess for females, but its greater reduction on standardization shows how far this is due to the greater age of the female population. In the past large excess for females, of the standardized as well as the crude rate, has been the rule in this country, as in most, though not all others, but it has steadily diminished. In 1901-10 it amounted to 20 per cent., and up to the gap in comparable records caused by the war was still a regular feature of the returns, though by 1914 it had fallen to 7 per cent. During the four years 1911-14, female excess was an invariable rule in each of the classes of area distinguished in Table XXXVII except London, where the rate for males was the higher in each year 1911-14. When the table was resumed in 1922 the mortality of males was higher in the county boroughs as well as in London, as it has since remained. But till 1924 it was lower in the smaller towns, whereas now the rate for females is higher in the rural districts alone. Mortality was higher for males in 1924 at all ages from 55 upwards in each class of area except the rural districts, where the ages of female excess included 55-65. Throughout the nineteenth century excess for females was the rule at all ages of importance in this connexion, *i.e.*, those over 25, the small mortality in early life being generally rather higher for males. But even then, as now, excess for females was least at the highest ages. It was therefore natural that with the disproportionate increase which has occurred in male mortality, reversal of the sex ratio should occur first at those ages at which female excess was least. This is what has happened, and as the change has made least progress in the rural districts the section of life to which it applies is smallest there. The change is represented by Diagram 2, which shows the proportion of female per cent. of male mortality in England and Wales at different ages to have been as follows at the close of last century and in 1924.

	35-	45-	55-	65-	75-
1891-1900 ..	234	178	130	109	110
1924 ..	185	132	92	81	88

Diagram 2.—England and Wales:
Cancer Mortality of Females per
cent. of that of Males.

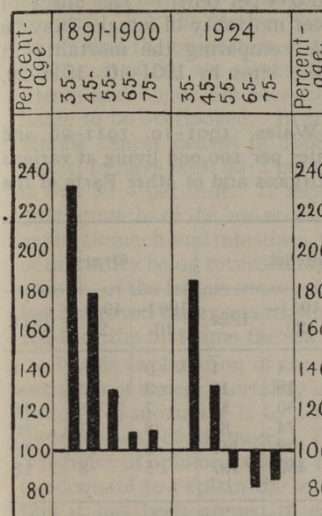
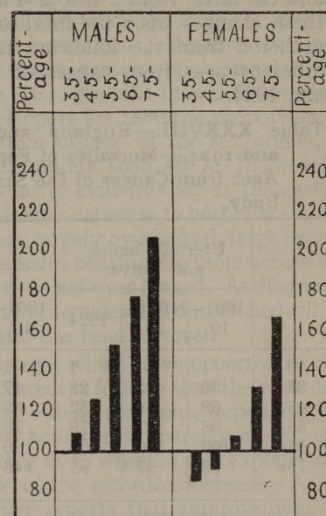


Diagram 3.—England and Wales:
Cancer Mortality in 1924 per
cent. of that in 1891-1900.



At all ages it has been reduced, but under 55, where female excess was greatest, this excess has not yet been wiped out.

The relation to age of the increase in mortality during the same period is shown in Diagram 3. Taking the rate in 1891-1900 as 100 at each age dealt with, the ratios for 1924 compare as follows:—

	35-	45-	55-	65-	75-
Males ..	108	125	153	177	207
Females ..	85	92	108	131	167

The regularity of the increase with age in the growth of cancer mortality and of the excess of this growth for males is very striking. At ages under 55 some decrease has occurred amongst females, but in both sexes the tendency to increase becomes rapidly greater as life advances.*

The decline of mortality at the earlier cancer ages in the female sex is largely due to the fact that the death-rate from uterine cancer, which especially affects those ages, is falling, a standardized rate at all ages in 1911-20 of 186 per million for the uterus, vagina and vulva comparing with one of 208 in 1901-10. As a consequence the proportion of total cancer deaths in females due to disease of these organs has fallen from 21.8 per cent. in 1901-10 to 19.1 in 1911-20 and 17.2 in 1924. At the same time the share

* Similar experience in New Zealand and the United States is referred to in the Review for 1922, and this feature of the American experience during 1911-22 is discussed in a recent Paper by Dublin, Kopf and Van Buren on Cancer Mortality (experience of the Metropolitan Life Insurance Company, Industrial Department).

in the total mortality taken by cancer of the breast and of the ovary has risen, the former from 16·8 to 17·8 and 18·9 per cent., and the latter from 2·0 to 2·4 and 3·4 per cent. The effect of these changes upon the total cancer mortality of females may be gathered from the following table comparing the mortality at different ages from cancer of these sites in 1901-10, 1911-20, and 1924.

Table XXXVIII.—England and Wales, 1901-10, 1911-20 and 1924.—Mortality of Females per 100,000 living at various Ages from Cancer of the Sex Organs and of other Parts of the Body.

	Uterus, Vagina, and Vulva.			Breast.			Ovary.		
	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.
0-	1	1	1	1	1	1	0	0	1
35-	30	23	22	17	19	18	3	3	4
45-	68	59	52	45	50	52	7	8	11
55-	95	87	78	70	74	85	8	11	16
65-	100	100	102	96	102	115	8	10	16
75-	89	97	95	148	159	187	5	8	13

	Sex Organs.			*Other Sites.			All Sites.		
	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.
0-	2	2	2	4	4	4	6	6	6
35-	50	45	44	35	34	32	85	79	76
45-	120	118	115	112	109	99	232	226	214
55-	173	171	179	268	267	263	441	438	443
65-	204	212	233	462	506	530	666	718	763
75-	241	264	295	549	651	768	790	915	1,063

It will be seen that the falls recorded in 1911-20 for ages under 65 in total cancer mortality are accounted for by greater falls in that from cancer of the uterus. The latter has fallen at all ages from 35 to 65, while that from cancer of the breast and of the ovary has risen at all ages from 35 upward. But it may be noted that the mortality of females from cancer of sites other than the sex organs has also fallen at ages under 65, like that from cancer in general, so the tendency to decline at these ages is not restricted to uterine cancer. This table also shows that the excess mortality of females at the earlier cancer ages, shown in Diagram 2, is wholly accounted for by disease of the female sex organs. This causes more than half the total female mortality at 35-55, the present ages of female excess, and when that from cancer of other sites in the female is compared with the male rates in Table XLI (to which disease of the sex organs contributes but little) it is found to be considerably lower at each age.

The fact that the excess in the mortality of females is due entirely to disease of the sex organs goes far to explain why this excess was formerly so large and has now ceased to exist in this country. For the further back we can trace the facts the greater do we find the proportion of total female cancer deaths attributed to disease of the sex organs, the reason presumably being that the uterus and breast are accessible sites, growths in which are little liable to be overlooked. In the Report for 1889 the proportion of female cancer deaths in 1868 from disease of the sex organs is stated to have been 62·2 per cent., and in 1888, 49·7. In 1911-20 it was 39·4 per cent. It seems fairly evident that at the earlier dates growths of the less accessible sites common to both sexes, such as the stomach and intestines, were largely overlooked, large excess of mortality being returned for females because the more accessible growths of the female sex organs were less over looked. As diagnosis has improved the excess mortality of females has diminished till in 1924 for the first time the sex ratio has been reversed.

If this explanation of the changes which have occurred in the sex ratio of cancer mortality is correct it follows that the recorded increase of mortality is to a large extent fictitious, depending on improvement of diagnosis. This, however, is scarcely in dispute, difference of opinion existing rather as to whether this explanation is adequate to explain the whole of the recorded increase. As to this it has been argued in earlier reports that improvement of diagnosis can scarcely explain the very large increases of mortality recorded from sites so accessible as the tongue.

But comparison in detail of the mortality from cancer in 1901-10 and in 1911-20 suggests that the more rapid increase for males is not wholly due to the decreasing share of the sex organs in the female death-rate. The standardized mortality for each of the most important sites during 1901-10, 1911-20, and 1924, is compared for each sex in Table XXXIX, and it will be seen that in each case where the rates are shown for both sexes increase has been greater (or in that of the liver, decrease smaller) for males than for females. As these four sites accounted for over 52 per cent. of the male, and 44 per cent. of the female deaths in 1911-20, the fact that the mortality ascribed to them increased twice as much between 1901-10 and 1911-20 for males as for females (by 16 and 8 per cent. respectively) must have had much to do with the newly established excess for males in total cancer mortality. The decrease since 1901-10 in the mortality of females at ages under 65 from cancer of sites other than the sex organs, recorded in Table XXXVIII, points in the same direction; so it would seem that while decrease for females in the large proportion of their deaths ascribed to cancer of the sex organs, due to an important decline in mortality from cancer of the uterus, has contributed to the reversal of the sex ratio, yet this is largely due to smaller increase for females of mortality from cancer in general, represented, at the earlier cancer ages, by actual decrease.

Table XXXIX.—England and Wales.—Standardized Mortality of Males and Females from Cancer of certain Sites in 1901-10, 1911-20 and 1924.

Site.	Standardized Death-rate per Million at All Ages.						Ratio of later rates to those for 1901-10.					
	Males.			Females.			Males.			Females.		
	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.	1901-10.	1911-20.	1924.
Jaw	23	25	20	—	—	—	100	109	87	—	—	—
Tongue	43	51	48	—	—	—	100	119	112	—	—	—
Oesophagus	51	61	66	—	—	—	100	120	129	—	—	—
Stomach	167	188	212	133	139	150	100	113	127	100	105	113
Intestines	63	97	124	72	109	128	100	154	197	100	151	178
Rectum	80	95	104	56	59	59	100	119	130	100	105	105
Liver and Gall Bladder	97	94	75	124	110	81	100	97	77	100	89	65
Breast	—	—	—	158	171	186	—	—	—	100	108	118
Uterus, Vagina, Vulva	—	—	—	208	186	174	—	—	—	100	89	84
Ovary	—	—	—	19	24	35	—	—	—	100	126	184
All Sites	784	903	1,000	944	963	980	100	115	128	100	102	104

It is difficult to conceive of these reversals for females of the tendency to increased mortality as not representing the facts. There seems no reason to suppose that a smaller proportion of cases of uterine cancer is diagnosed now than fifteen years ago, or that deaths were at that time wrongly ascribed to this disease, the cause of which would not now be so mistaken. And, comparing the sex increases for cancer of the rectum in Table XXXIX, it is hard to see why that for males should be so much the larger in the case of a site admitting of such certainty of diagnosis if the increase of actual mortality were not greater for males. It may be argued that cancer in the female, as on the whole more accessible, offers greater opportunity for surgical treatment. No doubt this is so, and lives so saved must contribute to the change which is taking place, but for the four sites common to both sexes in Table XXXIX surgery offers equal prospects of relief to both sexes, and the increase in mortality of females from cancer of the breast, that most accessible of the more important sites, is very much greater than that from cancer in general. Successful treatment, therefore, cannot well explain what has occurred, and it seems necessary to regard the tendency to increase as greater at present for males, though for males as well as females it is at a minimum at the earlier cancer ages (35-55) at which the recorded mortality has been practically stationary since 1901-10 for males* and at which it has decreased for females since 1891-1900 (Diagram 3).

The comparison of standardized mortality in 1901-10 and in 1911-20 made for certain sites in Table XXXIX, is supplemented by Table XL, which for these and other important sites in both sexes shows age-group death-rates in 1911-20 and their ratios to those for 1901-10. It may be seen from this table that for the four sites common to both sexes in Table XXXIX increase of

* Comparing mortality in 1924 with that of 1901-10, taken as 100 as in Diagram 2 with that of 1891-1900, the 1924 rates for males are:—35-, 100; 45-, 104; 55-, 124; 65-, 141; and 75-, 153.

mortality has been greater for males at all ages under 75, but that for each of them it has been greater for females at 85 and over, and for two, the stomach and intestines, slightly greater also at 75-85. At the earlier cancer ages increase has been greater for females from cancer of the upper portion of the alimentary canal, including the oesophagus. At these ages the relatively unimportant mortality of females from disease of these sites has changed but little, but at 35-45 the rates for males have fallen for lip, tongue, mouth, jaw and oesophagus. Except in the cases noted, increase has generally been greater for males. For males the largest increase at each age in Table XL and for females at each age except 45-55, is that for intestinal cancer, a fact which, like the decreases for the liver at all ages up to 65 in the male and to 75 in the female sex, seems to show the influence of improving diagnosis.

TABLE XL.—England and Wales.—Comparison of Mortality from Cancer of various Sites at different Ages in 1901-10, and in 1911-20.

	MALES.											
	Mortality per Million living, 1911-20.						Mortality in 1911-20 per cent. of that in 1901-10.					
	35-	45-	55-	65-	75-	85-	35-	45-	55-	65-	75-	85-
Lip	2	11	42	121	332	676	67	92	98	103	102	100
Tongue	20	128	292	422	423	245	87	108	120	133	129	107
Mouth	5	35	85	127	154	162	83	117	118	108	111	105
Jaw	10	54	130	218	240	257	83	100	112	126	110	167
Pharynx, Larynx and Trachea	19	113	266	371	326	220	112	131	137	146	150	148
Tonsil, Throat	18	142	364	530	505	266	90	113	117	129	133	109
Oesophagus	98	367	966	1,768	1,814	1,000	114	110	110	115	114	107
Stomach	36	159	460	926	1,159	730	82	94	90	102	112	83
Liver and Gall Bladder	46	154	448	972	1,275	876	139	139	150	161	176	173
Intestines	38	147	459	940	1,191	863	106	106	114	127	132	123
Rectum	13	24	53	87	182	207	100	104	143	124	144	126
Penis, Scrotum, Testes												
	FEMALES.											
Lip	0	1	2	6	19	54	—	100	100	75	83	129
Tongue	4	9	19	32	46	63	100	113	119	94	85	131
Mouth	1	3	7	13	23	20	100	100	88	81	128	100
Jaw	6	15	31	50	67	57	120	107	97	102	92	92
Pharynx, Larynx and Trachea	14	33	47	46	69	54	117	150	131	98	128	138
Tonsil, Throat	19	43	72	108	147	143	119	130	122	102	104	144
Oesophagus	76	261	678	1,308	1,538	1,128	100	97	100	109	116	134
Stomach	43	186	550	1,082	1,324	972	74	77	83	97	106	120
Liver and Gall Bladder	53	188	494	1,043	1,449	1,254	136	137	142	159	179	196
Intestines	37	114	268	530	672	620	95	101	99	116	118	136
Rectum	187	504	739	1,015	1,505	2,165	111	112	105	106	107	108
Breast												
Uterus, Vagina, and Vulva	232	594	867	1,001	1,007	743	77	87	91	100	111	105
Ovary and Fallopian tube	32	80	106	102	84	37	119	123	128	136	165	132

But the changes occurring in mortality cannot be explained simply as the result of improving diagnosis. In the Report for 1917 comparison was made of the changes during 1901-17 in the mortality of males and females from cancer of two groups of sites classified, on data contained in the bulletin on cancer

mortality in 1914, published by the Census Bureau of the United States as accessible and inaccessible.* It was found that for males increase in standardized mortality was greater, at 35 per cent., for accessible sites than for inaccessible (29 per cent.). For females, however, it was 14 per cent. for the inaccessible and 5 for accessible sites. This comparison is repeated in Table XLI for the two decades 1901-10 and 1911-20, and with a similar result.

Table XLI.—England and Wales, 1901-10 and 1911-20.—Mortality from Cancer of Accessible and Inaccessible Sites in each Period.

		All Ages.		0-	35-	45-	55-	65-	75-	85 and over.
		Crude.	Standardized.							
MALES.										
Accessible ..	{ 1901-10	222	226	11	111	457	1,092	1,871	2,642	3,291
	{ 1911-20	287	264	11	108	494	1,294	2,327	3,239	3,502
Inaccessible ..	{ 1901-10	498	504	28	266	985	2,578	4,465	4,793	3,415
	{ 1911-20	637	582	26	274	1,070	2,896	5,457	6,265	3,963
Indefinite ..	{ 1901-10	53	54	10	37	107	234	347	504	600
	{ 1911-20	63	57	13	39	115	246	365	493	747
All Sites ..	{ 1901-10	773	784	49	414	1,549	3,904	6,683	7,939	7,306
	{ 1911-20	987	903	50	421	1,679	4,436	8,149	9,997	8,212
FEMALES.										
Accessible ..	{ 1901-10	497	459	27	531	1,310	2,055	2,677	3,385	3,991
	{ 1911-20	549	455	24	483	1,284	2,017	2,808	3,697	4,346
Inaccessible ..	{ 1901-10	491	449	26	284	937	2,219	3,754	4,244	2,911
	{ 1911-20	577	472	25	278	913	2,233	4,163	5,163	4,050
Indefinite ..	{ 1901-10	39	36	8	31	74	136	227	342	512
	{ 1911-20	41	36	10	28	67	127	208	334	493
All Sites ..	{ 1901-10	1,027	944	61	846	2,321	4,410	6,658	7,971	7,414
	{ 1911-20	1,167	963	59	789	2,264	4,377	7,179	9,194	8,889
PERSONS.										
Accessible ..	{ 1901-10	364	349	19	328	900	1,602	2,319	3,078	3,738
	{ 1911-20	423	364	17	304	904	1,676	2,596	3,516	4,056
Inaccessible ..	{ 1901-10	494	474	27	275	960	2,388	4,069	4,471	3,093
	{ 1911-20	606	522	26	276	988	2,546	4,734	5,600	4,020
Indefinite ..	{ 1901-10	46	44	9	34	90	183	281	409	544
	{ 1911-20	51	46	11	34	91	183	277	397	580
All Sites ..	{ 1901-10	904	867	55	637	1,950	4,173	6,669	7,958	7,375
	{ 1911-20	1,080	932	54	614	1,983	4,405	7,607	9,513	8,656

The standardized rates in this table compare for the two periods as shown in Table XLII.

* These sites were as follows:—*Accessible.* Breast, skin, jaw, tongue, lip, mouth, testes, penis, scrotum, uterus, vagina, vulva, larynx, trachea, rectum, thyroid body, parotid gland, globe of eye, orbit. *Inaccessible.* Ovary, Fallopian tube, pancreas, kidney, suprarenals, brain, bladder, urethra, peritoneum, omentum, mesentery, prostate, intestines, lung, pleura, pharynx, œsophagus, liver, gall bladder, stomach, spleen, spinal cord, mediastinum, thorax, abdomen.

Table XLII.—England and Wales.—Standardized Mortality from Accessible and Inaccessible Cancer in 1911-20 per cent. of that in 1901-10.

	Males.	Females.	Persons.
Accessible	117	99	104
Inaccessible	115	105	110
Indefinite	106	100	105
All Sites	115	102	107

The period covered by this comparison is so much the same as that of 1901-17, used for the earlier, that it is natural that the results should be similar, but it has seemed worth while to take the opportunity now afforded of comparing two whole decades, so that the general tendency of events may be measured on the most substantial basis possible. In view of the concordance of the two comparisons there can be little doubt of the reality of the increase in the mortality of males, for if this were due merely to improvement of diagnosis it would necessarily affect chiefly the inaccessible sites, as it has already been seen to do for both sexes in the case of the intestine. The different result obtained for females, though partly due to an apparently real decrease from cancer of the uterus, which has more than balanced the apparently real increase from cancer of the breast (Table XXXIX), suggests that improvement of diagnosis may have had more influence in their case, as has been already suggested by their decreasing proportion of deaths from cancer of the sex organs. If this is the case it may well be that the whole of the small increase now being recorded in their mortality is ascribable to this cause, or even that it conceals some actual decrease. But the rapid increase in male mortality forms much the most serious feature of the cancer situation, and of its reality Tables XLI and XLII seem to leave little room for doubt. The mortalities for age groups in Table XLI compare as follows, taking those for 1901-10 as 100 in each case.

Table XLIII.—England and Wales.—Mortality at various ages from Cancer of Accessible and of Inaccessible Sites in 1911-20 per cent. of that in 1901-10.

		0-	35-	45-	55-	65-	75-	85-
Males	{ Accessible ..	100	97	108	118	124	123	106
	{ Inaccessible ..	93	103	109	112	122	131	116
Females	{ Accessible ..	89	91	98	98	105	109	109
	{ Inaccessible ..	96	98	97	101	111	122	139

For males the tendency to increase is greater for accessible cancer at three age groups (at which 64 per cent. of the deaths occurred in 1911-20), and for inaccessible at four; for females it is greater for inaccessible at six of the seven ages distinguished. In both sexes the rate of increase becomes greater with advancing

cases of the condition usually described as hypertrophy than that fatal cases of adenoma distinguishable from it are increasing so rapidly. But as the form of return is suggestive of a true tumour, and as the view may be taken that the cases in question, or even all cases of prostatic hypertrophy, are of this nature, it has been thought best to continue inclusion of these deaths in Table XLV.

Deaths of males from papilloma of the bladder have also increased, from 44 in 1911 and 71 in 1912 to 104, the largest number yet recorded, in 1924. During the same period deaths of females attributed to this cause have increased only from 19 in 1911 to 21 in 1924. These deaths occur chiefly in later life, and at all ages are much commoner in the male sex. For the fifteen years 1911-24 for which the information is now available their sex and age distribution has been as follows:—

	All Ages.	0-	15-	35-	45-	55-	65-	75-
Males	1,105	5	19	55	140	268	355	263
Females	328	2	4	21	28	56	97	120

If these tumours are really carcinomata, as held by some authorities, possessing the quality of malignancy from the time of their first appearance, the sex distribution of the mortality due to them may be compared with that from cancer of the mouth, tongue and neighbouring parts.

56. **Rickets.**—The history of mortality attributed to rickets in England and Wales is peculiar. When first distinguished in the returns few deaths were ascribed to it, the mortality for 1875 being only 8 per million living at all ages. Thereafter it rapidly rose till in 1895 it had reached 53 per million. Since 1904, when it stood at 54, this rate has rapidly fallen, reaching 13, its level for 1924, in 1919. Much of this fall occurred between 1918, when the rate was 22, and 1919. As many of the deaths, 35 per cent. in 1924, occur in the first year of life, the mortality must be influenced by the birth-rate, but the movements described cannot be so accounted for. For instance, a sudden fall between 1918 and 1919 occurred in the infant mortality rate corresponding with that in the death-rate at all ages. No change in classification is known to which these fluctuations can be ascribed.

57. **Diabetes.**—The deaths allocated to this disease numbered 4,254, 1,896 of males and 2,358 of females, corresponding to death-rates of 102 for males, 116 for females, and 109 for persons of both sexes. This excess for females is a new feature in the returns, first appearing, with some suddenness, in 1920 (Table 5). Before that date, male excess, mentioned in textbook descriptions of the disease, had been the unvarying rule for many years, as has female excess for each year from 1920 onwards. The decline in mortality from 119 deaths per million persons living in 1922, to 109 in 1924, may be connected with the introduction of insulin, but on the other hand the mortality of the registration area of

the United States rose in 1922, following the introduction of insulin treatment in that country. It seems possible, however, that this increase may have resulted from considerably increased consumption of sugar in 1920 and 1921, and, if so, the same cause may have been operative at about the same time also in this country, when the war time scarcity of sugar was abated.

During 1917 and 1918, when that scarcity was greatest, the mortality of females fell considerably (Table 5) but since the restoration of the supply it has risen again to a high level, notwithstanding the introduction of insulin treatment. The very high rates for males in 1915-17, 128 to 148 per million living, were probably due to withdrawal from the population at risk of large numbers of men at ages when the mortality is below the average for all ages. After demobilization their mortality fell, and has since remained below that of females. It seems conceivable that when the war-time scarcity of sugar was abated, a number of persons may have developed the habit of consuming sugar in such excess as to lead to diabetes. If these persons were chiefly females, the excess of mortality in this sex from 1920 onwards, which appears to be contrary to all previous experience, clinical as well as registration, may be due to this fact. On this hypothesis it is chiefly to middle and later life, when the influence of diet in the causation of diabetes is believed to be greatest, that this new feature of female excess should apply. Table XLVI shows that this is the case, whereas in 1911-13, for which similar sex rates were published in the Report for 1913, those for males were higher at almost all ages.

Table XLVI.—England and Wales, 1922-24.—Mortality per Million Living of Males and Females from Diabetes at various Ages.

	Males.	Females.
0-	12	13
15-	36	30
25-	50	43
35-	61	56
45-	117	125
55-	321	393
65-	715	741
75-	910	750

Even though it seems difficult to conceive that increased consumption of cane sugar, which forms relatively so small a portion of the total carbohydrate intake, can account for the change which has occurred, the restriction of the newly developed female excess to the ages at which the influence of diet is greatest, suggests that it may be due to excessive consumption by females of carbohydrates in general, if not of sugar.

Table XLVII.—England and Wales, 1924 : 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	94	33	--	--	11	1	28	7	27	14	20	5	7	4	1	2
Deaths attributed to other causes in conjunction with alcoholism:—																
11. Influenza	5	2	--	--	--	--	2	2	--	2	--	1	--	--	--	--
21. Erysipelas	3	--	--	--	--	--	--	1	--	2	--	--	--	--	--	--
31. Tuberculosis of the respiratory system	5	1	--	--	--	--	1	2	1	1	--	1	--	--	--	--
38. Syphilis	1	--	--	--	--	--	--	1	1	1	--	--	--	--	--	--
43-49. Cancer	2	1	--	--	--	--	--	--	1	1	--	--	--	--	--	--
52(3). Gout	1	1	--	--	--	--	--	--	--	--	--	--	--	--	1	--
57. Diabetes	1	1	--	--	--	--	--	1	--	1	--	--	--	--	--	--
63. Diseases of the adrenals	1	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--
68. Chronic poisonings by organic substances	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--
69(1). Purpura	1	1	--	--	--	--	--	--	1	--	--	--	--	--	--	--
70. Encephalitis	2	1	--	--	--	--	--	--	2	1	--	--	--	--	--	--
71. Meningitis	1	1	--	--	--	--	1	1	--	--	--	--	--	--	--	--
74. Cerebral hæmorrhage, apoplexy, etc.	6	4	--	--	--	--	1	2	--	4	1	--	2	--	--	--
76. General paralysis of the insane	1	1	--	--	--	--	--	--	--	1	--	--	1	--	--	--
78. Epilepsy	4	1	--	--	--	--	1	2	1	1	--	--	--	--	--	--
82. Neuritis	7	14	--	--	--	--	1	6	2	2	4	4	--	1	--	1
Other diseases of the nervous system	3	1	--	--	--	--	--	2	--	1	--	--	1	--	--	--
88(3). Acute myocarditis	2	1	--	--	--	--	2	1	--	--	--	--	--	--	--	--
89. Angina pectoris	2	--	--	--	--	--	--	1	--	--	--	--	1	--	--	--
90(1-4). Valvular disease of the heart	12	1	--	--	--	--	2	1	3	4	--	3	--	--	--	--
90(5). Fatty heart	6	5	--	--	--	--	2	1	2	2	1	1	1	--	--	1
90(7). Other or unspecified myocardial disease	10	1	--	--	--	--	1	3	1	4	--	2	--	--	--	--
90(9). Undefined heart disease	4	2	--	--	--	--	3	--	--	1	--	--	2	1	--	--
91(b). Arterio-sclerosis	7	1	--	--	--	--	2	1	--	4	1	2	1	--	--	--
91(c). Other diseases of the arteries	3	1	--	--	--	--	2	1	--	--	--	1	--	--	--	--
99. Bronchitis	5	2	--	--	--	--	1	1	2	2	--	1	--	--	--	--
100. Broncho-pneumonia	7	3	--	--	--	--	2	1	1	1	--	2	1	1	--	--
101(a). Lobar pneumonia	20	4	--	--	2	--	5	1	6	2	5	1	2	--	--	--
102. Pleurisy	2	1	--	--	--	--	1	1	--	--	--	--	--	--	--	--
105. Asthma	1	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--
108. Diseases of the buccal cavity and annexa	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
111(a). Ulcer of stomach	1	1	--	--	--	--	1	--	--	--	1	--	--	--	--	--
112(1). Inflammation of the stomach	13	3	--	--	1	--	1	--	4	1	6	1	1	--	--	1
112(2). Other diseases of the stomach	7	3	--	--	--	--	--	--	3	--	--	--	--	--	--	--
113-114. Diarrhoea and enteritis	2	--	--	--	--	--	--	1	--	1	--	--	--	--	--	--
117. Appendicitis and typhilitis	1	--	--	--	1	--	--	--	--	1	--	--	--	--	--	--
122(a). Cirrhosis of the liver	90	57	--	--	--	--	11	7	39	22	24	19	15	5	1	4
128-129. Nephritis	8	3	--	--	--	--	1	2	1	1	4	--	2	--	--	--
134(a). Stricture of the urethra	1	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--
139. Uterine tumour	1	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--
151. Gangrene	1	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--
152. Carbuncle, boil	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
153(1). Cellulitis	1	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--
153(2). Acute abscess	1	--	--	--	--	--	--	--	--	1	--	--	1	--	--	--
154(3). Pemphigus	1	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--
165-174. Suicide	8	1	--	--	--	--	2	1	3	--	3	--	--	--	--	--
182. Accidental drowning	3	--	--	--	--	--	2	--	--	1	--	--	--	--	--	--
185. Injury by fall	18	3	--	--	3	--	4	--	7	--	3	1	1	2	--	--
188. Injury by crushing (vehicles, railways, etc.)	1	--	--	--	--	--	4	--	--	--	1	--	--	--	--	--
Other violence	14	3	1	--	2	--	4	--	6	2	1	--	--	1	--	--
Total	384	158	1	--	21	1	81	34	124	58	107	37	46	18	4	10

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 overindulgence in alcohol, all the deaths in certification of which any mention of alcohol appears are assembled in Table XLVII. These deaths make up a total of 542, as against 127 classed to heading 66 as directly due to alcohol. The causes most frequently associated in death certification with mention of alcoholism, with the number of deaths in the case of each, were:—Cirrhosis of the liver, 147; violence, 51; heart disease, 44; lobar pneumonia, 24; and neuritis, 21.

From alcoholism in both the wider and the narrower sense indicated above the abatement noted in the Reviews for 1921-23 of the much increased mortality of 1920 has been further continued in 1924. Table 5 shows how closely mortality from this cause (in the narrower sense) is associated with the price of beer and spirits, and the ability to pay it. From a yearly mortality of about 18 per million before the war, when the beer and spirit duties were comparatively low, the rate rapidly fell to 2 in 1918, after which it rose to 6 in 1920. The subsequent fall to 4 in 1922 and 1923 and 3 in 1924 is presumably associated with lessened purchasing power in those years.

The features of Table XLVII remain very much the same year after year, both as regards the diseases most frequently associated in certification with record of alcoholic excess and the sex distribution of the deaths from these diseases. The combined experience of the fourteen years for which the table has now been published is summed up for the diseases chiefly associated in certification with alcoholism in the following table.

Table XLVIII.—England and Wales, 1911-1924 : Deaths attributed to certain Causes in conjunction with Alcoholism.

	74. Cerebral hæmorrhage.		82. Neuritis.		90 (5). Fatty heart.		Other heart disease.		101 (a). Lobar pneumonia.		122 (a). Cirrhosis of the liver.		128, 129 Nephritis.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Deaths	268	253	191	433	202	196	568	329	781	203	1615	1245	232	213
Sex proportion ..	106	100	44	100	103	100	173	100	385	100	130	100	114	100

Cirrhosis of the liver, heart disease, and lobar pneumonia, as in 1924, head the list in the order stated. The sex distribution for the fourteen years varies from a male excess of 285 per cent. for lobar pneumonia to a female excess of 127 per cent. for neuritis. For the same period the male excess for all lobar pneumonia (with or without mention of alcoholism) was only 66 per cent., while the female excess for all neuritis was 84 per cent. But the proportion of pneumonia deaths certified as complicated by alcoholism is small (0.8 per cent. during 1911-24) and that of neuritis deaths large (12.5 per cent. for the same period). Pneumonia, like cerebral hæmorrhage, heart disease

other than fatty, and nephritis, owes its position in Table XLVIII to being a very important cause of death occasionally returned as associated with alcoholism, whereas neuritis, cirrhosis of the liver, and fatty heart seem from the return to have a much more intimate association with alcohol. Not only is the proportion of total certificates in the fourteen years mentioning alcohol greater for these causes (neuritis, 12.5 per cent.; cirrhosis, 7.7; fatty heart, 1.0; lobar pneumonia, 0.8; nephritis, 0.2, and heart disease, other than fatty, 0.1 per cent.), but the three first may be seen from Table 5 to have varied in importance during recent years as alcoholism has done. The rates in this table of course refer to the total mortality attributed to each of these causes, not to that portion of it associated in certification with alcoholism, yet for each of them mortality declined sharply during the war, reaching a minimum about 1918, from which some slight increase has since occurred, just as for alcoholism itself. In the case of cirrhosis and neuritis, it is not surprising to find that the minimum was not reached till 1919, as the average interval between onset and death must in their case be considerable. Although association in certification with alcoholism is little greater for fatty heart (1.0 per cent. in 1911-24) than for lobar pneumonia (0.8 per cent.), the recent history of its mortality is very suggestive of such connexion. From 94 per million in 1915 the mortality fell to 58 in 1918, a rate lower than any recorded for many years, afterwards rising again to 70 in 1924. Association to this extent of the mortality from neuritis, cirrhosis of the liver, and fatty heart with that from alcoholism strongly suggests that in most of the cases returned these diseases are due to alcoholism. No such association is traceable for any of the other conditions dealt with in Table XLVIII, in the causation of which alcohol probably plays a much less important part.

71. **Meningitis.**—The deaths assigned to this cause numbered 1,925, 1,069 of males and 856 of females. For each sex these numbers are the smallest in Table 4, i.e., since 1913, and similar tables of earlier date show that the decline was in progress for many years before. The title as used in its international sense from 1911 onwards is slightly less comprehensive than the "meningitis, inflammation of brain" of earlier years, 34,486 deaths under the new classification in 1911-20 corresponding to 40,228 under the old. But even when the rates for years prior to 1911 are reduced to allow for this change, we find that rapid and almost continuous fall of this mortality is recorded, from 249 per million ($=291 \times .8573$) in 1891, to 50 in 1924, which is the lowest rate yet recorded, and less than half that for any year before 1912. Increasing recognition of tuberculous and meningococcal meningitis, which are separately classified, cannot account for this reduction, as the fall in mortality from the three jointly has been almost as great as from meningitis of unspecified origin. Tracing the latter back, with allowance

as described for change of classification in 1911, to 1891, we find that the fall has been almost steady throughout these 34 years. It was interrupted during the six years 1895 to 1900, and again between 1913 and 1915, during both of which periods slight increases occurred, but apart from them only three years out of the 34 dealt with (1893, 1908, and 1911) record increases.

It seems possible that this fall may be partly at least due to increasing use of lumbar puncture in diagnosis, as prior to the introduction of this method by Quincke in 1891 little fall occurred in the published rates. These, indeed, increased from 266 per million in 1875 to 338 in 1886, thereafter declining to 291 in 1891. The fall, therefore, appears to have set in a little before the introduction of the new check on diagnosis, but it may be that a tendency towards greater caution in diagnosis was already manifesting itself, and that increasing resort subsequently to lumbar puncture before definite diagnosis of meningitis accounts for much of the remarkable fall in its mortality as recorded since 1891.

74. **Cerebral Hæmorrhage, Apoplexy, &c.**—The number of deaths assigned to this cause shows little change at 26,785, 11,864 of males and 14,921 of females, these numbers corresponding to mortalities of 638 and 737 for the two sexes, and of 689 for persons of both sexes. The highest rate of recent years corresponding to the latter, 794 in 1917, must have been partly due to the exceptional proportion of old men in the civilian population at that time; and the rapidly increasing proportion, at present, of old people of both sexes in the population would automatically cause an increase, which is not occurring (Table 5), in the crude rate for a cause of death mainly affecting the higher ages, if some compensating fall in mortality age by age were not in progress. This is provided to some extent by increasing allocation of these deaths to the arterial disease responsible for the hæmorrhage, &c., for during the four years, 1921-24, for which record has been kept of the deaths so allocated (title 91 (b) 1) these have shown steady increase.

87-90. **Heart Disease.**—The number of deaths allocated to this cause, 60,650, 28,009 of males and 32,641 of females, was as usual larger than for any other item in the list of causes. The crude mortality of 1,561 per million population was the largest since the war, except in 1922, when it was 7 per million higher. But the standardized rates in Table XLIX are appreciably lower for each sex than those for 1922. The explanation of this is to be found in the same table, which shows how steadily and greatly this mortality increases with age. The rapidly increasing proportion in the population of old people, with their high death-rate from heart disease, has sufficed almost entirely to conceal the real decrease of mortality which has occurred since 1922. The need for allowing for this factor in comparing the crude rates in Table 5 is shown by the fact that in order to make them

comparable (apart from the effects of a change of classification in 1911, which, as pointed out in the Review for 1922, had the effect of reducing by 1.56 per cent. the mortality attributed to heart disease) with those for 1901, the death-rate of males in 1924 has to be decreased by 16, and that of females by 27 per cent. (males 1,506 to 1,271 per million, and females 1,611 to 1,175—Table XLIX).

The standardized rates in Table XLIX show reductions since 1901 of 12 per cent. for males and 22 per cent. for females, or, reducing the 1901 rates by 1.56 per cent. to allow for the change of classification in 1911, of 10 per cent. for males and 21 for females.

It was pointed out in the Review for 1922 that the crude mortality from heart disease in that year, almost the same as that for 1924, was, after making allowance for the effect of the change of classification in 1911, the highest of the present century except those for civilians during the three war years 1915-17, which were inflated both by selective recruiting for war service and by the abnormal proportion of old men, with their high mortality from heart disease, left in the civilian population. If the comparison is restricted to females, whose rates were not subject to the same inflation during the war as those of males, the crude death-rates for 1922 (1,618) and 1924 (1,611 per million) are seen to be the highest of the present century except that for 1915 only (1,626). But in view of the large reduction effected by standardization in 1922 and 1924 the apparently high rates for these years lose their significance, the change in mortality which has taken place since 1901 being represented by the substantial fall in the standardized rate and not by the slight rise in the crude. The mortality for each sex at different ages from the various forms of heart disease distinguished in our tabulation from 1921 onwards was first shown in the Review for 1922, and this information is now repeated for 1924 in Table XLIX. In both years mortality was higher for males at all ages from 40 upwards, at which, jointly, about 91 per cent. of the deaths occur (1924), yet for both years the crude mortality in Table 5 is higher for females, by about 7 per cent. in each year. This is due to the concentration of heart disease mortality upon the later portion of life, during which the number of female lives at risk is so greatly in excess that their lower death-rates produce more deaths. The general effect of the comparison of the mortality of males and females of various ages is summed up by the standardized rates, of which that for males, 1,271 per million, is accordingly in excess of that for females, 1,175.

Both this table and its derivative, Table L, are so closely similar to the corresponding tables in the Review for 1922 that the comment there made is almost equally applicable to the tables for 1924. The features of these tables may therefore be regarded as possessing such a degree of permanence that their repetition in future at so short an interval as two years will not be required.

Table XLIX.—England and Wales, 924: Mortality per Million living from various forms of Heart Disease.

Ages at Death.	87-90. Heart Diseases.		87. Pericarditis.		88 (1). Infective Endocarditis.		89. Angina Pectoris.		90 (1). Aortic Valve Disease.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0-	11	14	11	12	—	—	—	—	—	—
1-	41	37	9	8	6	1	—	—	—	1
5-	110	98	7	7	11	—	—	—	2	—
10-	129	149	7	9	12	15	—	—	1	1
15-	166	205	5	5	25	30	—	—	8	3
20-	195	244	3	5	22	42	1	—	16	5
25-	259	278	5	3	54	35	—	—	18	7
30-	311	365	7	3	43	28	3	1	23	6
35-	484	487	7	5	46	30	11	3	38	16
40-	715	693	6	5	48	30	30	10	87	27
45-	1,100	1,034	19	6	27	24	60	14	131	39
50-	1,784	1,636	14	12	25	30	107	24	195	56
55-	2,991	2,563	13	14	39	34	199	58	299	80
60-	5,343	4,701	29	8	45	31	346	120	411	166
65-	9,336	8,113	47	21	13	25	508	187	642	217
70-	14,292	12,966	32	30	22	22	565	216	822	325
75-	20,975	19,540	30	28	30	20	698	330	955	447
80-	31,470	28,669	—	12	41	6	592	324	1,173	654
All Ages—										
Crude	1,506	1,611	10	8	27	25	66	27	106	44
Standardized ..	1,271	1,175	9	7	27	24	52	19	87	32

Ages at Death.	90 (2). Mitral Valve Disease.		90 (4). Other or Unspecified Valve Disease.		90 (5). Fatty Heart.		90 (7). Other or Unspecified Myocardial Disease.		90 (9). Heart Disease (Undefined).	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0-	—	—	—	—	—	—	—	3	—	—
1-	5	3	7	3	1	—	—	—	8	7
5-	27	25	28	24	1	—	1	—	11	11
10-	32	48	38	42	1	—	—	2	18	14
15-	41	64	47	57	—	1	3	1	15	21
20-	39	70	51	61	2	3	2	1	20	28
25-	41	89	71	75	1	1	9	8	22	25
30-	61	100	72	108	6	8	15	17	31	57
35-	71	142	135	126	16	18	30	24	54	66
40-	96	168	144	195	31	37	63	46	118	85
45-	159	242	256	301	59	66	157	137	147	143
50-	224	353	417	450	118	105	331	257	250	253
55-	336	466	643	670	180	171	669	548	459	396
60-	578	835	1,108	1,129	287	294	1,318	1,071	961	811
65-	1,039	1,281	1,843	1,783	476	467	2,501	2,138	1,823	1,664
70-	1,534	1,931	2,795	2,560	587	565	4,516	4,120	2,763	2,580
75-	2,023	2,793	3,480	3,659	752	741	7,963	7,003	4,059	3,637
80-	2,674	3,209	4,153	3,828	643	909	15,062	13,304	6,000	5,166
All Ages—										
Crude	174	278	300	348	65	75	404	435	261	282
Standardized ..	149	211	251	259	52	54	344	298	219	202

The object of making it in the present case is to establish the fact of this permanence. Steady increase of the mortality rates from youth to age is an outstanding characteristic of Table XLIX which applies to each of its more important causal subdivisions, but particularly (as also in 1922) to myocardial disease other than fatty, mortality from which is in excess, relatively to that from heart disease in general, at all ages from 70 upwards for males and from 65 upwards for females, but at no others.

Comparisons of this nature may conveniently be made by means of Table L, in which the entries represent the proportion borne by the mortality of each sex and age group to the standardized rate at all ages for the same sex and cause. As the standardized rate sums up the general effect of the different age group rates, the proportion borne to it by any one of these shows the degree in which the latter is relatively high or low as compared with mortality at all ages.

Table L.—England and Wales, 1924: Mortality from various forms of Heart Disease, Age Rates per cent. of Standardized Rates at All Ages.

Ages at Death.	87-90. Heart Diseases.		87. Pericarditis.		88 (1). Infective Endocarditis.		89. Angina Pectoris.		90 (1). Aortic Valve Disease.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0-	1	1	122	171	—	—	—	—	—	—
1-	3	3	100	114	22	4	—	—	—	3
5-	9	8	78	100	26	48	—	—	2	—
10-	10	13	78	129	44	63	—	—	1	3
15-	13	17	56	71	93	125	—	—	9	9
20-	15	21	33	71	81	175	2	—	18	16
25-	20	24	56	43	200	146	—	—	21	22
30-	24	31	78	43	159	117	6	5	26	19
35-	38	41	78	71	170	125	21	16	44	50
40-	56	59	67	71	178	125	58	53	100	84
45-	87	88	211	85	100	100	115	74	151	122
50-	140	139	156	171	93	125	206	126	224	175
55-	235	218	144	200	144	142	383	305	344	250
60-	420	400	322	114	167	129	665	632	472	519
65-	735	690	522	300	48	104	977	984	738	678
70-	1,124	1,103	356	429	81	92	1,087	1,137	945	1,016
75-	1,650	1,663	333	400	111	83	1,342	1,737	1,098	1,397
80 and up ..	2,476	2,440	—	171	152	25	1,138	1,705	1,348	2,044

Ages at Death.	90 (2). Mitral Valve Disease.		90 (4). Other or Unspecified Valve Disease.		90 (5). Fatty Heart.		90 (7). Other or Unspecified Myocardial Disease.		90 (9). Heart Disease (Undefined).	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0-	—	—	—	—	—	—	—	1	—	—
1-	18	1	3	9	2	—	—	—	4	3
5-	21	23	15	16	2	—	0	—	5	5
10-	28	30	19	22	—	—	—	1	8	7
15-	28	30	19	22	—	2	1	0	7	10
20-	26	33	20	24	4	6	1	0	9	14
25-	28	42	28	29	2	2	3	3	10	12
30-	41	47	29	42	12	15	4	6	14	28
35-	48	67	54	40	31	33	9	8	25	33
40-	64	80	57	75	60	69	18	15	54	42
45-	107	115	102	116	113	122	46	46	67	71
50-	150	187	168	174	227	194	96	86	114	125
55-	226	221	256	259	346	317	194	184	210	196
60-	388	396	441	436	552	544	383	359	439	401
65-	697	607	734	688	915	865	727	717	832	824
70-	1,030	915	1,114	988	1,129	1,046	1,313	1,383	1,262	1,277
75-	1,358	1,324	1,386	1,413	1,446	1,372	2,315	2,350	1,853	1,625
80 and up ..	1,795	1,521	1,655	1,478	1,237	1,683	4,378	4,464	2,740	2,557

(Entries in excess of those for Heart Disease (all forms) printed in bold type.)

Some indication is given in this table of the age distribution of the different forms of heart disease distinguished by printing in bold type the entries which are in excess of the corresponding entries for heart disease generally. These ages of special incidence are, to judge by the close correspondence of this table with that for 1922, very constant.

Pericarditis is particularly fatal to the young, all entries for males, and nearly all for females, being in excess in 1924 as in 1922 at ages under 55, after which no instance of excess occurs in either year. The distribution of mortality from infective endocarditis is almost exactly the same in this respect, all entries for it in both years being in excess at every age under 50 and in defect at all higher ages in both sexes. But pericarditis deaths are relatively common in early childhood, and those from infective endocarditis in middle life. The only other forms distinguished which are especially fatal in early life (as compared with heart disease in general) are mitral valve disease and "valvular disease"—not returned as mitral or aortic. In the case of mitral disease, mortality from which is seen from Table XLIX to be considerably higher for females than for males (36 per cent. excess in 1922 and 42 in 1924), this excess in early life applies in both years to ages under 60 in the case of females, but only to those under 45 in 1922, and under 55 in 1924, in that of males. In both years it was absent in early childhood. Mortality from disease of the aortic valve is in great excess for males at every age (see Table XLIX, which records a male excess for standardized mortality at all ages of 172 per cent., comparing with 171 in 1922), but its period of relative excess occurs definitely later in life than that for mitral disease, lasting as it does in 1924 as in 1922 from about 30 to 65, but in both years commencing later in life for females than for males. Deaths from fatty heart occur earlier in life than those from other forms of myocardial disease, the period of relative excess lasting for males from 40 to 75 in 1924 and from 45 to 75 in 1922, and for females from 40 to 70 in both years. For undefined "heart disease" both sex and age distribution differ comparatively little from those for heart disease as a whole, but the tendency to leave the form of disease undefined increases somewhat with advancing age, relative excess in Table L, which is in no case large, applying in 1924 to all ages from 60 upwards in both sexes. In 1922 the ages of excess were the same for males, but were 55-80 for females.

As pointed out in the Review for 1922, this analysis of the returns reveals little that is not already familiar to clinicians. But it is of interest as placing a numerical value upon various long accepted general statements and especially because of the remarkable degree of correspondence established between the results for the two years compared.

But while the age distribution of mortality from each form of disease distinguished has remained thus constant for each sex,

Rapid changes are occurring in the relative frequency with which the forms of heart disease distinguished are returned. This may be seen from Table LI, which compares the proportion of the total heart disease mortality for each sex ascribed to the forms of disease distinguished in each of the four years during which differentiation on this scale has been practised.

Table LI.—England and Wales, 1921–24: Proportions of total Deaths from Heart Diseases allocated to each form distinguished.

	Males.				Females.			
	1921.	1922.	1923.	1924.	1921.	1922.	1923.	1924.
87 Pericarditis	777	780	782	685	546	514	385	481
88 (1) Infective endocarditis	2,901	2,362	2,109	1,821	1,666	1,577	1,562	1,553
(2) Other acute endocarditis	1,258	914	1,045	939	1,200	961	933	888
(3) Acute myocarditis	457	464	492	682	414	434	541	561
89 Angina pectoris	2,977	3,577	4,035	4,377	1,193	1,425	1,647	1,645
90 (1) Aortic valve disease	7,682	7,488	7,493	7,041	2,956	2,851	3,167	2,721
(2) Mitral valve disease	12,889	12,748	12,664	11,582	18,683	18,217	18,028	17,227
(3) Aortic and mitral valve disease	1,959	1,741	1,720	1,607	1,266	1,181	1,314	1,140
(4) Other or unspecified valve disease	22,764	20,903	20,425	19,897	23,447	22,930	21,665	21,571
(5) Fatty heart	4,376	4,538	4,691	4,302	4,608	4,775	5,022	4,635
(6) Cardiac dilatation	1,951	1,763	1,594	1,353	1,826	1,760	1,455	1,081
(7) Other or unspecified myocardial disease	17,495	20,744	23,254	26,848	18,286	21,440	23,960	27,013
(8) Disordered action of the heart	910	983	1,266	1,539	1,012	1,069	1,549	1,991
(9) Heart disease (undefined)	21,594	20,995	18,430	17,327	22,897	20,866	18,772	17,493
87–90 Heart diseases, all forms	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000

From this table it may be seen that the proportion of total heart disease mortality ascribed to infective endocarditis and to valvular disease has fallen for each sex in each year since 1921. There was a sudden rise, especially for males who were of military age during the war, in mortality from infective endocarditis during 1919–21 (Table 5) so the fall since probably represents return to a more normal state of affairs, but that from valvular disease appears to require a different explanation. Such a change as this is much more likely to represent a modification of medical opinion than an actual alteration on such a scale in the proportion of deaths from heart disease ascribable to valvular lesions. In this case it is possible, apart from the effects of a small change of classification in 1921, slightly increasing the assignment of deaths to valvular disease, to trace the record back to 1911, since when the deaths from valvular disease per thousand from all forms of heart disease (both sexes) have been as follows:—

1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
364	396	406	417	417	427	446	461	455	463	459	441	433	415

The fall has been uninterrupted (for each sex as well as for both jointly) from 1921 onwards, notwithstanding the change of classification referred to, whereas before 1919 no instance of a fall is to be found, increase in the proportion of valvular

disease deaths during 1911–18 being almost uninterrupted. It seems probable that the earlier increase represents increasing precision of statement in certification, and that the later decline represents a definite modification of professional opinion, evidence on which a diagnosis of valvular disease would formerly have been based not being now accepted as conclusive. The converse effect of this change may be seen in the uninterrupted increase, for each sex, in the proportion of deaths from 90 (7) myocardial disease other than fatty, deaths from which have uninterruptedly shown large increase in their proportion to the total during the four years covered by Table LI. The increase in myocardial has more than compensated for the decrease in valvular disease, the proportion of total deaths from heart disease assigned to one or the other having increased since 1921 from 64 to 68 per cent., but there can be little doubt that many deaths are now being assigned to myocardial disease on evidence which only four years ago would have led to a diagnosis of valvular disease. In 1921 there were 256 deaths assigned to valvular disease for every hundred to myocardial other than fatty; in 1924 the ratio was 154 of the former per hundred of the latter.

During these four years there has been a great decrease in deaths ascribed simply to cardiac dilatation, from 1,012 in 1921 to 732 in 1924 (Table 4). Presumably this change represents increasing definiteness of certification, a cause being now assigned for the dilatation in more and more cases. At the same time the number of deaths assigned to the causes grouped under 90 (8) “disordered action of the heart,” which include such conditions as heart block and auricular fibrillation, etc., has rapidly increased, from 518 in 1921, 1·0 per cent. of the total deaths from heart disease, to 1,081 in 1924, or 1·8 per cent. of the total. Here again the influence of recent progress in cardiology may be discerned. Deaths so certified were first separately tabulated in 1911, when they numbered 85, or 0·2 per cent. of the total, so that in 14 years these deaths have increased by no less than 1,172 per cent., being 12·7 times as many in 1924 as in 1911. It is of course obvious that such a change as this must imply increasing recognition of the conditions concerned rather than their increasing frequency as causes of death.

The decrease in proportion of deaths assigned to undefined heart disease, from 22·3 per cent. (both sexes) in 1921 to 17·4 in 1924, provides a measure of increasing precision in certification which is unfortunately lacking before 1921, when these deaths were first distinguished in our tabulation.

The proportion of deaths assigned to angina pectoris has increased considerably since 1921 for both sexes. It is between two and three times as great for males as for females. The increase in mortality attributed to this cause is limited to the last three years (Table 5), mortality in 1921 having been the same as in 1911.

91 (b). **Arterio-sclerosis.**—To this cause, first distinguished in our tabulation in 1911, there were allocated in 1924 the deaths of 9,499 males and of 7,183 females, the corresponding mortalities being 511 and 355 per million. It now ranks, accordingly, as one of the chief causes of death as tested by numbers assigned to it.

Tables 4 and 5 cover the whole of the recorded history of this form of mortality, except for 1911–13, in the first of which 2,389 deaths of males and 1,509 of females yielded death-rates of 137 per million for males, 81 for females, and 108 for persons. Since that date each year has recorded an increase in the number of deaths so returned, and, with one exception in 1920, caused by the return to the population of large numbers of young men on demobilization, in the resultant mortality. This has been due to a constantly increasing tendency to ascribe to this form of disease deaths which would formerly have been assigned to other causes. In order to prevent this transfer from obscuring the records of one of the more important competing causes—cerebral hæmorrhage—it has been necessary to open a separate heading, already referred to, for arterio-sclerosis with record of cerebral vascular lesion, and further subdivisions of this description may be called for in the future. So many forms of local disease, as of the kidneys, brain, heart, &c., may be regarded as manifestations of arterio-sclerosis, that the tendency to transfer must be expected to continue, and, in the absence of the special step taken in the case of cerebral hæmorrhage, to give to the mortalities recorded for such local diseases an increasingly favourable appearance, apart from any real changes affecting them.

The proportion of total deaths ascribed to arterio-sclerosis has steadily increased from 0.74 per cent in 1911 to 3.53 in 1924. The increase since 1911 in deaths ascribed to this cause amounts to 298 per cent. for males, and 376 for females, but the deaths not only remain in considerable excess for males, but are recorded at an earlier period of life for that sex, the proportion at ages under 70 in 1924 being 39 per cent. for males and 27 for females. Deaths of males are in excess in Table 17 at every age group except the highest, 80 and upwards. So great a change in so short a period as fourteen years in the numbers of deaths so certified must evidently represent in the main merely a change in fashion of certification, but the sex differences noted may have more significance, and may help to account for the greater longevity of females.

98. **Diseases of the Larynx.**—The deaths so classified numbered 413, 260 of males and 153 of females. This is the smallest number ever assigned to this cause in any year. It was only in 1917 that these deaths first fell below 1,000, their number in 1916 being 1,071, and not till 1921 was it less than twice that for 1924

(Table 4). In 1901 it was 2,802, of which 831 were assigned to croup, a form of return always till then of numerical importance, but which has now almost disappeared (Table LXX), and 468 to laryngismus stridulus, at that time classed with diseases of the nervous system, but transferred to the larynx in 1911.

The decline is shared by all forms of laryngeal disease distinguished in tabulation. The most important of these is laryngitis, with 314 deaths in 1924, and 729 in 1920. Laryngismus stridulus with 86 deaths in 1924, also had more than twice as many (179) assigned to it in 1920. In 1911 their number was 243, and in 1901, as above mentioned, it was 468, or more than five times that of 1924. Other diseases of the larynx (necrosis, paralysis, &c.), form a very small group of deaths, but their number has also fallen from 25 in 1911 to 13 in 1924. These latter occur at all periods of life, but deaths from laryngitis, as well as laryngismus stridulus, are largely confined to early childhood, 61 per cent. of the former and 88 of the latter occurring at ages under five years in 1924. As these proportions have changed but little during the past fifteen years, the fall is a matter almost exclusively affecting early childhood. It may be due to increasing statement of the cause responsible for the laryngeal condition, which would result in the deaths being allocated to the primary rather than the secondary cause.

99. **Bronchitis.**—The 37,786 deaths allocated to this cause, 10,083 to its acute and 11,814 to its chronic form, this distinction not being recorded for the remaining 15,889, correspond to a death-rate of 973 per million persons living—987 for males and 960 for females.

Although this mortality is considerably above the exceptionally low rate for 1923 only two other years of the present century return rates lower than 973 per million—1910, with 963, and 1921, with 889. And the excess over 1923 is more than accounted for by increase of deaths during February and March, when influenza was causing considerable mortality. During these two months, deaths increased from 6,981 in 1923 to 13,592, but for the remainder of the year they fell from 25,726 to 24,194 (Tables 4 and 18). It thus appears that but for the influenza epidemic in February and March, the exceptionally favourable record of 1923 would have been fully maintained.

The increase of mortality in 1924 applies to all periods of life, but is small at each, as shown in the following table comparing mortality by ages in 1911–20 and in each year from 1911 onwards.

For reasons indicated in the Review for 1923, the death-rates at all ages for years prior to 1921 have to be decreased by about 2 per cent., and those at 0–5 by about 6½ per cent., to make them comparable with those for 1921 onwards, capillary bronchitis having been internationally assigned to bronchitis up to 1920, but since then to broncho-pneumonia.

Table LII.—England and Wales, 1911–24. Deaths from Bronchitis at various Ages per million persons living at each age.

	0–	5–	45–	70 and upwards.
1911–20 ..	2,551	78	1,738	15,196
1911 ..	2,573	60	1,665	12,888
1912 ..	2,457	65	1,774	14,889
1913 ..	2,537	66	1,707	14,217
1914 ..	2,481	70	1,689	14,854
1915 ..	2,969	90	2,116	19,144
1916 ..	2,240	77	1,784	16,993
1917 ..	2,282	85	1,744	15,982
1918 ..	2,593	114	1,750	13,626
1919 ..	2,612	90	1,810	16,828
1920 ..	2,799	68	1,367	12,565
1921 ..	1,840	52	1,191	12,538
1922 ..	1,957	64	1,434	15,316
1923 ..	1,332	49	1,142	12,204
1924 ..	1,492	54	1,263	14,066

Attention was drawn in last year's Review to the sudden fall in deaths allocated to bronchitis, especially in early life, and Table LII shows that at each of the four periods of life distinguished, mortality was lower in 1923 than in any of the twelve preceding years, the reduction being greatest in childhood and least in old age. In view of the influenza mortality of its first quarter, this fall has been well maintained at all ages in 1924, the mortality at each age being below that for 1911–20, and at all but the highest age far below it.

The extraordinary drop in mortality at 0–5 from 2,799 per million in 1920 to 1,332 in 1923 corresponds with that shown in Table 8 for deaths from bronchitis under one year of age, from 7,208 in 1920 to 3,446 in 1923, the first year of life contributing almost threequarters of the deaths at 0–5 (Table 17). This sudden change may have been largely due to transfer of mortality from this cause to broncho-pneumonia, for if the proportion between the two causes had been the same in 1924 as in 1920, the same mortality from the two in combination would have entailed a rate of 2,245 from bronchitis, or 50 per cent. higher than that recorded, and of 3,231 from broncho-pneumonia, or 19 per cent. lower than recorded. That change in these proportions is going on with great rapidity at the present time may be seen from the following table, which shows that the relative importance of bronchitis has been steadily declining during the last four years, and that of broncho-pneumonia increasing, in all classes of area.

Table LIII.—Percentage of total Deaths at Age 0–5 from Bronchitis and Pneumonia assigned in each year, to the Types of these Diseases distinguished in Tabulation, 1920–24.

		London.	County Boroughs	Other Urban Districts.	Rural Districts.	England and Wales.
Bronchitis ..	1920	25	36	38	42	36
	1	16	29	32	36	29
	2	14	26	28	33	26
	3	16	25	29	33	27
	4	14	23	26	29	24
Broncho-pneumonia	1920	62	51	50	45	51
	1	68	58	56	51	58
	2	72	62	58	53	61
	3	68	61	56	53	59
	4	72	64	61	58	63
Lobar Pneumonia	1920	4	4	3	3	4
	1	6	4	3	3	4
	2	5	4	4	4	4
	3	9	5	5	5	5
	4	6	5	4	5	5
"Pneumonia" undefined	1920	9	9	9	10	9
	1	10	9	9	10	9
	2	9	8	10	10	9
	3	7	9	10	9	9
	4	8	8	9	8	8

The proportions of the total mortality under consideration assigned to lobar and to undefined pneumonia vary little from year to year, and, except for some excess from lobar pneumonia in London, are much the same in all types of area. But as between the two main constituents of the total, bronchitis and broncho-pneumonia, striking differences exist. In each of the five years the share of bronchitis is least in London and regularly increases, with decreasing urbanisation, to a maximum in the rural districts; while exactly the converse statement applies to broncho-pneumonia, which becomes proportionately more frequent with increasing urbanisation. And in each class of area the share of bronchitis was greatest in 1920 and smallest in 1924, while that of broncho-pneumonia was smallest in 1920 and largest in 1924. Even allowing for the effects, noticeable in the table, of the change in classification in 1921, there appears to be a general tendency to substitute broncho-pneumonia for bronchitis in certification at this age, and, as might be anticipated, this

change has made most progress in London and least in the rural districts. Transfer to broncho-pneumonia in certification therefore appears to have been an important factor in the remarkable fall in juvenile mortality from bronchitis.

But while it seems likely that this fall is mainly due to transfer of deaths, partly in classification, but chiefly in certification, from bronchitis to broncho-pneumonia, this cannot be the only factor at work. If it were, broncho-pneumonia mortality at 0-5 would have been higher in 1924 than in 1920 to an extent sufficient to counterbalance the fall in mortality from bronchitis. But it has actually fallen from 4,028 to 3,984 per million, mortality from the two causes in combination having declined from 6,827 to 5,477. There has thus apparently been a real decline under both heads, which has been increased in the one case and decreased in the other by transfer between them. The transfer appears to be limited to early childhood, for at ages above five years the proportion of deaths from bronchitis to the total from bronchitis and pneumonia (all forms) has increased from 58 per cent. in 1920 to 60 in 1924, notwithstanding the transfer of capillary bronchitis in 1921. During the same period the proportion for broncho-pneumonia has increased from 11 to 13 per cent., that for lobar and undefined pneumonia falling from 31 to 27. This all, as well as the increase for bronchitis and broncho-pneumonia, is common to all classes of area, except that in London the proportion for bronchitis was 58 per cent. in both years. The fall for lobar and undefined pneumonia was confined to undefined, the share of which in the total fell from 15 per cent. in 1920 to 11 in 1924, while that for lobar rose from 15 to 16. Thus at ages over five increasing precision in certification is transferring deaths from undefined to lobar pneumonia (the proportion for the latter being lowest in the rural districts, and next to them in the smaller towns) and at ages under but not over five, from bronchitis to broncho-pneumonia.

100, 101. **Pneumonia.**—The 38,970 deaths attributed to this disease correspond to a death-rate of 1,003 per million, as against 870, the lowest for many years, in 1923. But, as in the case of bronchitis, the increase is more than accounted for by excess of deaths in February and March, during the epidemic of influenza then prevailing. During the other ten months of the year the deaths numbered 25,918, or 643 fewer than in the same ten months of 1923.

The proportions of deaths ascribed to broncho-, lobar, and undefined pneumonia were 55·4, 24·2, and 20·4 per cent. respectively. That for broncho-pneumonia is exceptionally high, and reasons have already been given, under bronchitis, for believing that its increase is very largely due to a tendency, in certifying deaths of young children, to substitute broncho-pneumonia for the bronchitis of a few years ago.

As has been the case in each year from 1911 onwards, and probably for many more, mortality from pneumonia was higher for males than for females at each age, the excess being greatest at 35-55, when the rate for males was more than double that for the other sex. This again is a very constant rule, to which the fourteen years, 1911-24, provide only four exceptions in all at either of the decennial age periods concerned.

Mortality in 1924 was highest in March, as from other important forms of respiratory disease, influenza, and phthisis.

108-127. **Diseases of the Digestive System.**—The mortality from this group of diseases, 662 per million living, is the lowest recorded in, at least, the present century. For the last three years, 1922-24, it has never reached 700 per million, whereas during 1901-21 it remained constantly above that level, rising to 1,850 in 1911 as a result of the epidemic of summer diarrhoea in that year. Low diarrhoeal mortality is largely responsible for this reduction, for its highest rate during 1922-24, 218 in 1923, was lower than for any previous year during the present century. As, however, even the present low diarrhoeal rates form an important part of the total digestive, 29 per cent. in 1924, the deaths from digestive system diseases are largely those of young children (30·4 per cent. under five years and 22·5 under one year of age in 1924), and their number must therefore be decreased by the declining proportion of this element in the population, to which cause some portion of the fall just noted in the crude mortality must therefore be ascribed.

111. **Ulcer of the Stomach and Duodenum.**—The changes which have occurred during recent years in the sex and age distribution of mortality from this cause were discussed in last year's Review. The rates returned for 1924 are very nearly the same as for 1923, the considerable increase in that year of mortality ascribed to both conditions being almost fully maintained (Table 5). Evidence of some interest as to the comparative reliability of the diagnosis in the two sexes is provided by the tabulation of deaths by cause and place of occurrence, last published for 1920, but available for each year from 1918 onwards. This tabulation shows that deaths from both these conditions are reported mainly from hospitals and Poor Law institutions in the case of males, and, until 1924, from private practice in that of females. The numbers are as follows:—

Table LIV. England and Wales, 1911-24.—Deaths of Males and Females from Gastric and from Duodenal Ulcer in 11 of these 14 Years, distinguishing those occurring in Hospitals and other Institutions for the Sick.

	Gastric Ulcer.								Duodenal Ulcer.							
	Institutions.				Elsewhere.				Institutions.				Elsewhere.			
	Males.	Females.	Both Sexes.	Males per cent. of Females.	Males.	Females.	Both Sexes.	Males per cent. of Females.	Males.	Females.	Both Sexes.	Males per cent. of Females.	Males.	Females.	Both Sexes.	Males per cent. of Females.
1911 ..	349	336	685	104	414	674	1,088	61	222	34	256	653	162	76	238	213
1912 ..	379	336	715	113	494	637	1,131	78	290	29	319	1,000	213	91	304	234
1914 ..	499	352	851	142	524	655	1,179	80	339	45	384	753	238	70	308	340
1915 ..	472	298	770	158	529	647	1,176	82	306	41	347	746	225	90	315	250
1918 ..	569	330	899	172	498	593	1,091	84	251	40	291	627	202	90	292	224
1919 ..	563	309	872	182	439	491	930	89	268	44	312	609	211	68	279	310
1920 ..	690	338	1,028	204	451	496	947	91	372	50	422	744	180	79	259	228
1921 ..	600	307	907	195	420	422	842	100	353	45	398	784	214	65	279	310
1922 ..	727	308	1,035	236	407	431	838	94	411	59	470	697	175	65	240	269
1923 ..	882	358	1,240	246	471	394	865	120	556	70	626	794	197	84	281	235
1924 ..	931	348	1,279	269	439	381	820	115	560	82	642	683	201	76	277	264

This table shows that the change of medical view from that regarding gastric ulcer as a disease mainly of females to that associating it preponderantly with males has been in active progress during the last fourteen years inside as well as outside the hospitals. (In this connexion "institutions" practically means the voluntary hospitals and nursing homes, in which, in 1911, 564 out of 685 institution deaths from gastric ulcer occurred, and in 1924, 1,061 out of 1,279, the remainder being reported from Poor Law institutions for the sick or insane. For duodenal ulcer the corresponding numbers were:—1911, hospitals and nursing homes, 236, Poor Law institutions, 20; 1924, hospitals and nursing homes, 555, Poor Law institutions, 87). For whereas in 1911 deaths from gastric ulcer of males and of females were reported from the hospitals in practically equal numbers, male excess had grown by 1924 to 168 per cent. and is still increasing rapidly. Of course, the possibility must be borne in mind that this remarkable change may in some degree represent a real change in the sex distribution of these deaths, possibly associated with the equally remarkable coincident decline in the prevalence of chlorosis. In private practice the traditional view regarding gastric ulcer chiefly as a disease of females has naturally survived longer, and it is only in 1923 and 1924 that deaths of males have been in excess, their proportion to those of females increasing from 61 per cent. in 1911 to 120 and 115 in 1923 and 1924.

No similar change of view appears to have occurred in regard to duodenal ulcer, which has been returned very much more for males than for females throughout the whole of the period covered. But the male excess is very much greater in institutional

than in private practice, amounting consistently to about 600 per cent. in the former and 100-200 in the latter. Another fact of some interest brought out by Table LIV is that whereas the deaths, both from gastric and duodenal ulcer, reported from hospitals are increasing very rapidly, deaths from gastric ulcer reported from private practice are diminishing, and those from duodenal ulcer increasing but slowly. The number of institution deaths from gastric ulcer in 1924, 1,279, was the largest yet recorded, and nearly twice that in 1911, whereas the 820 reported from private practice were fewer than in any other year in the table. The hospital increase applies almost entirely to males, and the private practice decrease entirely to females, deaths of females in hospitals and of males in private practice having remained almost constant throughout, while those of the opposite sex were in the one case increasing and in the other decreasing so rapidly. The absence of increase in deaths of males attributed by private practitioners to gastric ulcer, during a period when those in institutions almost trebled, may be partly due to increasing recognition of the need for surgical treatment in these cases, which, by leading to the removal to hospital of an increasing proportion of them, would have the effect of simultaneously increasing deaths occurring in hospitals and decreasing those occurring elsewhere. And the same cause may be in part responsible for the change in the sex proportion of hospital deaths. For if the cases requiring surgical treatment are mainly males, and if an increasing proportion of them have been sent into hospitals to receive it, then the increased proportion of male deaths in hospitals may be largely attributable to change of view on the part of general practitioners as well as on that of hospital staffs. The decrease in the deaths of females in private practice is probably due to diagnosis at the earlier dates of gastric ulcer in females on grounds which would not now be held sufficient. Deaths attributed to duodenal are increasing somewhat faster than those from gastric ulcer, though the number of the former is still less than half that of the latter. This is entirely due to the remarkably rapid increase of institution deaths from this cause, which were two and a half times as many in 1924 as in 1911, for fewer deaths from this cause were returned from private practice in each year from 1918 onwards than in 1912.

112 (1). **Inflammation of the Stomach.**—The mortality assigned to this cause, 48 per million, is the lowest yet recorded. In 1915 it was twice as great (Table 5). Doubtless the change is largely due to increasing precision in certification, which leads to specification of the cause of the gastritis in a larger proportion of cases now than formerly.

117. **Appendicitis.**—Mortality from this cause, 71 per million in 1924, has remained very constant at about 70 per million since 1911, when the maximum rate of 75 was recorded. Before that the rate had been rising rapidly from 38 in 1901, the first

year in which these deaths were distinguished. The significance of the mortality figures is particularly hard to assess on account of the number of important factors affecting them which cannot be quantitatively measured. These include 1. the frequency and type of the disease; 2. the extent of its recognition (to increase in which the increasing mortality of 1901-11 may have been partly due); and 3. the effects of surgical treatment. It is conceivable, for instance, that the frequency of the condition is really increasing, but that increasingly successful treatment has prevented this from affecting the death-rate. But, of course, any other combination of the factors enumerated which would leave the death-rate unaffected would be equally consistent with the figures recorded. In every year for which the facts are on record the death-rate has been considerably higher for males than for females (38 per cent. in 1924).

118. **Hernia, Intestinal Obstruction.**—Mortality from these causes, 110 per million jointly, has varied little since 1918, when an increase, starting in 1915, and therefore corresponding in duration with the war, came to an end. This increase applied both to hernia and to obstruction, and to both sexes, but more to males than females. Death from hernia is relatively infrequent at the military ages, but not death from obstruction. But in any case the fact that the increase of mortality in 1915-18 included both sexes proves that it was not wholly an automatic result of withdrawal from the population of a large section little subject to this risk. Apart from this temporary increase, mortality from hernia has remained very constant throughout the present century. That from obstruction has fallen from 81 in 1901 (90 in 1897) to 63, the lowest rate of the century, in 1924. The death-rate from hernia is much the same for both sexes, though generally slightly greater for females before the war, but that from obstruction is almost always higher for males (Table 5).

122. **Cirrhosis of the Liver.**—This mortality has already been referred to in connexion with alcohol. It is significant that while that returned as alcoholic fell from 10 per million in 1914 to 3 in 1918-20, since rising to 4, the remainder, not returned as of alcoholic origin, fell from 102 in 1914 to 40 in 1919, since then rising to 41. This parallelism of movement during the period of restriction of the supply of alcohol provides strong statistical evidence of the importance of alcohol as a factor in the causation of cirrhosis, even when not returned in certification as of alcoholic origin.

123. **Biliary Calculi.**—The number of deaths tabulated under this heading is 1,035, 298 of males and 737 of females, the corresponding mortality rates being 16 per million for males, 36 for females, and 27 for persons of both sexes. The rate for

females has been in excess to about this extent in each year from 1911 onwards, as well as for many years prior to 1900. (These deaths were not distinguished during 1901-10.) The mortality of females was 30 or over in each of the years 1911-15, but fell during the war to 21 in 1918, rising again to 34 in 1921 (Table 5). The rates shown for males must have been increased during the war by withdrawal from the population of men of military age, little subject to this risk (only 7 per cent. of the deaths in males and 8 in females occurred at ages under 45 in 1924, Table 17), yet their mortality also was lower during 1915-18 than from 1921 onwards, that for 1924 being the highest in Table 5. The same feature is displayed by the returns for title 124, "other diseases of the liver," which, consisting chiefly of cholecystitis, are largely associated with gall-stones. The rates for both sexes were lower during, or immediately after the war, than before or since. Whatever the cause of these fluctuations—whether the condition really became less frequent under war conditions,* or whether under the conditions of medical practice at the time, a smaller proportion of the deaths due to cholelithiasis and cholecystitis were so returned, the parallelism of movement between the mortalities recorded for the two headings strongly suggests that their contents are largely alike. The sex and age distribution of the deaths supports this view, those from "other diseases of the liver" also occurring mainly in the female sex and in later life. The sex and age excesses are less in their case, but, as will be seen, the "other diseases of the liver" are not all cholecystitis; and cholecystitis is not always associated with gall-stones. But in any case the mortality from biliary calculi must be understated in our present tabulation because of the allocation to title 124 of many similar cases where cholecystitis alone is returned.

124. "Other" Diseases of the Liver (i.e., not acute yellow atrophy, hydatid tumour, cirrhosis, or biliary calculi).—Of the 988 deaths allocated to this heading, the majority, 209 of males and 391 of females, were ascribed to cholecystitis, which in 48 instances was described as suppurative, and in 17 as gangrenous. Most of these deaths occurred at ages over 65. Besides these there were 70 deaths of males and 88 of females from jaundice, including 41 and 47 from catarrhal jaundice, 30 of males and 21 of females from hepatitis, 8 of males and 2 of females from perihepatitis, 17 of males and 13 of females from cholangitis, 36 of males and 13 of females from liver abscess (described as amœbic or tropical in five instances, all males, and as multiple in four). Other forms

* An instance of this is quoted by Sir Humphry Rolleston in the *Lancet* of 27th February, 1926, as follows:—"Another factor" (in the causation of gall-stones) "was over-eating, probably by increasing the available cholesterol. The war privations in Russia showed in the Leningrad Hospital a drop in these diseases from 4.7 per cent. (1916) to 0.8 per cent. (1919)."

of return included congestion of the liver, 23 deaths ; " disease " of the liver, 7 deaths ; enlarged liver, 22 deaths ; and pylephlebitis or portal pyæmia, 2 deaths.

128, 129. **Acute and Chronic Nephritis.**—The mortality ascribed to these diseases has remained stationary for the five years 1920–24 at about 325 per million (323 in 1924). Before that it had fallen from 449 in 1915 to 328 in 1920 (Table 5). Up to 1915 it had been increasing quickly for many years, the standardized rate rising from 122 in 1861–70 to 375 in 1901–10. Certain changes of classification entailed by the adoption of the International List in 1911 had the effect of slightly decreasing the recorded mortality, 142,594 deaths according to the new classification during 1911–20 corresponding to 145,142 under the old. But so small a change as this—a decrease of less than 2 per cent.—is negligible as compared with fluctuations on the scale described in the mortality referred to this cause. The following table shows that the fall since 1901–10 has affected all periods of life except old age, the rates for both sexes at 75 and over being a little higher in 1924 than in 1901–10.

Table LV. England and Wales. Mortality of Males and Females of various Ages from Acute and Chronic Nephritis in 1901–10 and in 1924.

Age.	Mortality per Million.				Mortality in 1924 per cent. of that in 1901–10.	
	Males.		Females.		Males.	Females.
	1901–10.	1924.	1901–10.	1924.		
0-	148	64	122	55	43	45
5-	67	48	54	36	72	67
10-	47	43	50	42	91	84
15-	64	64	65	49	100	75
20-	96	71	96	67	74	70
25-	162	112	166	89	69	54
35-	367	196	349	179	53	51
45-	837	470	633	380	56	60
55-	1,750	1,093	1,163	787	62	68
65-	2,822	2,174	1,813	1,562	77	86
75-	3,415	3,735	2,095	2,243	109	107

The greatest fall for each sex has occurred in early childhood, whereas in later childhood and adolescence (10–20) the fall has been less than in adult life, reaching a second maximum for each sex at 35–45, after which it steadily lessens for each until it is replaced by increase in old age. The heavy fall in early childhood is associated with a decline in mortality from acute nephritis much in excess of that from chronic. The distinction between these two forms of the disease dates, on its present basis, only

from 1911, but since that year the rate for acute nephritis has fallen by 32 per cent. and that from chronic by 16. Since the maximum rate for both forms was reached in 1915, that for acute has fallen by 40 and that for chronic nephritis by 26 per cent.

143–150. **The Puerperal State.**—The number of deaths assigned to pregnancy or childbirth was 2,847 (Tables 4, 17 and LVIII), corresponding to a rate of 3·90 per 1,000 (live) births. Inclusion of the 849 deaths in Table LXI raises the proportion to 5·06 deaths stated to have been caused by, or associated with, pregnancy and childbirth for every 1,000 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 144 deaths from puerperal nephritis and albuminuria (Table LVIII), which before that date were not distinguished as puerperal. The resultant rate of 3·70 deaths per 1,000 births is compared in Table LVI with similar rates for the preceding thirty-three years, before which the comparability of the figures is doubtful.

Table LVI.—England and Wales.—Mortality of Women in Childbirth per Thousand Children Born Alive, distinguishing Septic and Other Causes, 1891–1924. (Classification as in use before 1911.)

Year.	Deaths per 1,000 Births.			Year.	Deaths per 1,000 Births.			Year.	Deaths per 1,000 Births.		
	Sepsis.	Other Causes.	Total Child-birth.		Sepsis.	Other Causes.	Total Child-birth.		Sepsis.	Other Causes.	Total Child-birth.
1891–95	2·60	2·89	5·49	1911	1·52	2·15	3·67	1918	1·35	2·20	3·55
1896–1900	2·12	2·57	4·69	1912	1·47	2·31	3·78	1919	1·76	2·36	4·12
1901–05	1·95	2·32	4·27	1913	1·34	2·37	3·71	1920	1·87	2·25	4·12
1906–10	1·56	2·18	3·74	1914	1·63	2·32	3·95	1921	1·46	2·25	3·71
1911–15	1·50	2·31	3·81	1915	1·56	2·38	3·94	1922	1·46	2·12	3·58
1916–20	1·59	2·29	3·88	1916	1·47	2·40	3·87	1923	1·38	2·22	3·60
1910	1·42	2·14	3·56	1917	1·39	2·27	3·66	1924	1·48	2·22	3·70

After falling steadily from 5·49 in 1891–95 to 3·74 in 1906–10, this mortality has remained stationary, apart from minor fluctuations, during the last 14 years. The chief of these fluctuations occurred in 1919–20, when a sudden outburst of puerperal sepsis, discussed in last year's Review, caused the total rate to rise to 4·12. This outbreak corresponded closely in time, but after a nine months' interval, with army demobilization. Similar outbursts of puerperal sepsis are recorded in other countries at about the same period. The total maternal mortality rate for 1924, 3·70 deaths per 1,000 births, compares with 3·60 in 1923, the excess being entirely due to increase under the head of sepsis, while the mortality ascribed to other causes remains unchanged at 2·22.

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

As regards the distinction between town and country, a general tendency may be noted for mortality from sepsis to increase, and for that from other causes to decrease, with urbanization. This is a very constant rule, to which the six years, 1919-24, for which this table has been published, present no exception, apart from London. The sepsis rate for London, however, was lower in 1924 even than that for the rural districts. London was exceptional in recording a substantial fall in this mortality, all the other populations distinguished in the table, except the rural districts of the Midlands and the county boroughs and smaller towns of Wales, registering increases from sepsis.

The all causes rate for Wales exceeds that for any part of England in each class of area, mainly because of high mortality in Wales from non-septic causes, the Welsh excess over England and Wales being 32 per cent. from all causes, but only 14 from sepsis.

The Welsh excess from sepsis was due entirely to high mortality—the highest in the table—in the Welsh rural districts. The Welsh rates for both septic and other causes have exceeded those for England and Wales in each of the six years 1919-24.

The non-septic rate is much the lowest in London, as in each of the five preceding years; and, in fact, the general distribution remains very similar year after year. In four out of the six years, for instance, the non-septic rate has been highest in the rural districts of Wales, just as in all of them it has been lowest in London. But the low sepsis rate for London in 1924 is a new feature in the table, London's rate having been above that for England and Wales in three out of the preceding five years, and only slightly below it in the other two.

Table LVII.—Distribution throughout England and Wales of Mortality of Women in Childbirth, per Thousand Children Born Alive, distinguishing Septic and Other Causes, 1924.

	North.	Mid-lands.	South.	Wales.	England and Wales.
<i>Sepsis.</i>					
London	—	—	1.24	—	1.24
County Boroughs ..	1.63	1.51	1.46	1.32	1.56
Other Urban Districts..	1.54	1.34	1.02	1.41	1.36
Rural Districts	1.36	0.99	1.23	2.09	1.25
All Areas	1.56	1.30	1.22	1.58	1.39

Table LVII.—Distribution throughout England and Wales of Mortality of Women in Childbirth, per Thousand Children Born Alive, distinguishing Septic and Other Causes, 1924.—*contd.*

	North.	Mid-lands.	South.	Wales.	England and Wales.
<i>Other Causes.</i>					
London	—	—	1.84	—	1.84
County Boroughs ..	2.75	1.94	2.54	3.23	2.50
Other Urban Districts..	2.97	2.01	2.42	3.27	2.57
Rural Districts	2.91	2.40	2.69	4.31	2.80
All Areas	2.84	2.09	2.22	3.55	2.51
<i>All Causes.</i>					
London	—	—	3.09	—	3.09
County Boroughs ..	4.38	3.45	4.00	4.55	4.06
Other Urban Districts..	4.50	3.35	3.44	4.68	3.93
Rural Districts	4.27	3.38	3.92	6.40	4.05
All Areas	4.40	3.39	3.44	5.14	3.90

Table LVIII gives particulars of deaths ascribed to the puerperal state.

Table LVIII—England and Wales, 1924: Deaths of Women Classed to Pregnancy and Childbearing.

Cause of Death.	All Ages.	Ages.						45 and upwards.
		15-	20-	25-	30-	35-	40-	
143. Accidents of Pregnancy:—								
(a) Abortion	112	2	6	11	40	28	23	2
(b) Ectopic gestation.. ..	73	—	6	10	29	19	8	1
(c) Other accidents of pregnancy:—								
Accidental hæmorrhage..	14	—	1	1	4	3	4	1
Ante-partum hæmorrhage	53	—	5	8	12	18	9	1
Procidencia uteri	1	—	—	—	1	—	—	—
Chorea	6	—	4	2	—	—	—	—
Uncontrollable vomiting	48	4	7	12	10	11	4	—
Carneous mole	2	—	—	—	1	—	—	1
Hydatidiform mole	8	1	1	—	3	1	2	—
Incarcerated gravid uterus	1	—	—	—	1	—	—	—
Retroversion of gravid uterus	1	—	—	—	1	—	—	—
Hydramnios	2	—	—	—	2	—	—	—
"Pregnancy" unqualified	5	—	2	—	1	1	1	—

Table LVIII.—England and Wales, 1924 : Deaths of Women
Classed to Pregnancy and Childbearing—*continued.*

Cause of Death.	All Ages.	Ages.						
		15-	20-	25-	30-	35-	40-	45 and upwards.
144. Puerperal hæmorrhage :—								
Placenta prævia	186	—	5	30	57	62	28	4
Adherent or retained placenta	31	1	3	7	5	7	7	1
Accidental hæmorrhage . . .	15	—	—	5	—	9	1	—
Post-partum hæmorrhage . . .	158	1	23	34	36	35	24	5
145. Other accidents or abnormalities of childbirth :—								
Contracted pelvis	75	—	15	16	21	16	3	4
Craniotomy	6	—	4	—	1	1	—	—
Cephalotripsy	1	—	—	—	—	—	1	—
Cæsarean section (reason un- stated)	4	—	2	1	1	—	—	—
Malpresentation	18	—	2	5	1	8	1	1
Version	3	—	2	—	—	—	1	—
Instrumental delivery	3	—	1	2	—	—	—	—
Rupture of uterus	28	—	1	5	6	6	9	1
" (previous Cæsarean section)	1	—	—	—	—	1	—	—
Laceration of cervix and perineum	1	—	—	—	—	—	—	1
Laceration of perineum	1	—	1	—	—	—	—	—
Laceration of pelvic organs	1	—	—	—	1	—	—	—
Laceration	1	—	1	—	—	—	—	—
Inversion of uterus	8	—	2	2	1	1	2	—
Extroversion of uterus	1	—	1	—	—	—	—	—
Retroversion of uterus	1	—	—	—	1	—	—	—
Subinvolution of uterus	3	—	1	1	—	—	1	—
Inertia of uterus	6	—	—	1	—	5	—	—
Contraction of uterus	1	—	—	1	—	—	—	—
Abnormal fœtus	5	—	1	1	1	1	—	1
Diseased placenta	1	—	—	—	1	—	—	—
Difficult and prolonged labour	66	—	6	16	20	14	10	—
Childbirth apart from above complications :—								
With secondary causes as follows :—								
Anæmia	14	—	1	4	2	3	4	—
Meningitis	1	—	—	—	1	—	—	—
Hemiplegia	1	—	—	—	—	—	1	—
Dilatation of heart	3	—	—	—	1	1	1	—
Bronchitis	5	—	1	1	1	2	—	—
Broncho-pneumonia	10	—	2	2	2	2	2	—
Pneumonia (type not stated)	11	—	1	3	2	3	2	—
Pleurisy	3	—	—	1	2	—	—	—
Oedema of lungs	1	—	—	—	—	1	—	—
Asthma	2	—	—	1	—	—	1	—
Diarrhœa and enteritis	5	—	—	—	1	2	1	1
Intestinal obstruction	1	—	—	—	—	—	1	—
Intestinal stasis	1	—	—	—	1	—	—	—
Cystitis	2	—	—	2	—	—	—	—
Retention of urine	1	—	—	—	—	1	—	—
Anasarca	1	—	—	—	—	—	1	—
Without stated secondary cause	24	1	2	3	5	7	6	—

Table LVIII.—England and Wales, 1924 : Deaths of Women
Classed to Pregnancy and Childbearing—*continued.*

Cause of Death.	All Ages.	Ages.						
		15-	20-	25-	30-	35-	40-	45 and upwards.
146. Puerperal sepsis :—								
scarlet fever with sepsis . . .	5	—	—	1	2	1	—	1
streptococcal infection	7	—	1	3	1	1	1	—
pneumococcal infection	1	—	—	—	—	1	—	—
staphylococcal infection	1	—	—	—	—	1	—	—
gonococcal infection	1	—	1	—	—	—	—	—
bacillus coli infection	1	—	—	1	—	—	—	—
septic phlegmasia alba dolens, phlebitis, thrombosis	19	—	2	6	7	4	—	—
septic pneumonia	8	—	—	2	2	2	2	—
septic endocarditis	2	—	—	1	1	—	—	—
septicæmia	523	14	95	136	124	103	49	2
sepsis	110	1	22	24	24	30	9	—
septic intoxication, sapræmia	61	3	13	15	13	14	2	1
pelvic peritonitis	20	—	2	4	4	7	2	1
peritonitis	49	1	8	8	17	10	5	—
salpingitis	10	—	2	3	2	1	1	1
metritis	7	1	2	1	2	—	1	—
endometritis	21	—	3	9	4	4	1	—
parametritis	9	—	1	4	2	2	—	—
perimetritis	4	—	2	1	—	—	1	—
erysipelas	3	—	—	1	1	1	—	—
pyæmia	25	—	6	4	5	4	6	—
pelvic cellulitis	25	—	1	7	4	9	4	—
cellulitis	1	—	—	—	1	—	—	—
pelvic abscess	4	—	—	1	—	3	—	—
blood poisoning	2	—	1	—	1	—	—	—
other specified septic conditions	9	—	3	—	3	2	1	—
" puerperal fever "	90	2	13	25	22	22	6	—
147. (1) Puerperal phlegmasia alba dolens and phlebitis, not returned as septic	58	1	3	11	16	17	10	—
(2) Puerperal embolism and sudden death	186	3	19	50	51	35	22	6
148. Puerperal albuminuria and convulsions :—								
Puerperal nephritis, albuminuria, &c.	144	2	23	30	32	32	23	2
Puerperal convulsions	380	26	95	83	70	58	41	7
149. Puerperal insanity	20	—	2	10	5	2	1	—
150. Puerperal diseases of the breast	4	—	—	2	2	—	—	—
Total	2,847	64	430	631	694	635	347	46

* In addition Cæsarean section was stated to have been performed in the case of 84 deaths included under other headings in this table—Procidencia uteri 1, placenta prævia 7, contracted pelvis 39, rupture of uterus 1, malpresentation 1, inertia of uterus 1, hydrocephalic fœtus 1, difficult and prolonged labour 14, eclampsia 6, puerperal sepsis 13—and of 24 other deaths included in Table LXI.

From Table 18 it may be seen that mortality from puerperal sepsis was highest during the first quarter of 1924, when 283 deaths occurred, as against 247 and 230 in the two succeeding

quarters, and 234 in the last quarter of 1923. The number for the last quarter of the year is not yet available, but will apparently be intermediate between those for the first and second.

In last year's Review it was pointed out that a winter maximum and summer minimum of mortality from puerperal sepsis form a very constant feature of the records of this and other countries. Generally the seasonal variation in England and Wales is greater than in 1924, the quarterly rates for which compare as follows with those for the preceding thirteen years, for which alone the facts are recorded:—

Table LIX.—England and Wales: Seasonal Variation of Maternal Mortality in Childbirth, 1911-23 and 1924.

Maternal Deaths per Million living Births from:—								
	143-150 All Puerperal Causes.		146 Puerperal Sepsis.		145 Accidents of childbirth other than Haemorrhage; and 147 Puerperal Phlegmasia Alba Dolens, Embolism, or sudden death.		Puerperal Causes other than 145-7.	
	1911-23.	1924.	1911-23.	1924.	1911-23.	1924.	1911-23.	1924.
1st Quarter ..	4,277	4,073	1,614	1,527	898	863	1,765	1,683
2nd „ ..	3,936	3,801	1,365	1,321	782	732	1,789	1,748
3rd „ ..	3,609	3,570	1,201	1,233	672	670	1,736	1,667
4th „ ..	4,274	4,183	1,578	1,509	895	837	1,801	1,837
Whole year ..	4,022	3,900	1,438	1,395	811	774	1,773	1,732
Quarterly Rates per cent. of Yearly.								
1st Quarter ..	106.3	104.4	112.2	109.5	110.7	111.5	99.6	97.2
2nd „ ..	97.9	97.5	94.9	94.7	96.4	94.6	100.9	100.9
3rd „ ..	89.7	91.5	83.5	88.4	82.9	86.6	97.9	96.2
4th „ ..	106.3	107.3	109.7	108.2	110.4	108.1	101.6	106.1

The puerperal sepsis mortality of the first quarter exceeded that for the year by 9.5 per cent., and that for the third quarter fell short of it by 11.6 per cent., corresponding deviations for 1911-23 being 12.2 and 16.5 per cent. But the seasonal movement is unchanged in type, though less in degree than usual. As before it extends to two groups of causes not ostensibly of septic nature at all, Nos. 145 and 147. These puerperal accidents, &c., reveal a winter maximum in 1924 higher, and a summer minimum lower, than those for puerperal sepsis itself. When they, as well as the deaths attributed to sepsis, are deducted from the puerperal total, the remainder display no significant seasonal variation, the winter maximum disappearing altogether, though not the summer minimum. It will be seen that all the characteristics of seasonal mortality from these causes in 1911-23 are closely adhered to in 1924.

The records of cases of puerperal fever notified are collated with those of births and deaths in Table LX.

The proportion to births of cases notified has increased from 29 per 10,000 in 1923 to 30, along with the increase in mortality shown in Table LVI from 1.38 to 1.48 (from 1.30 to 1.39 by the present classification, Table LVII).

As in each of the preceding five years for which this table has been prepared the urban excess of notifications in proportion to births in Table LX was much greater than that of deaths in Table LVII, with a corresponding excess for the rural districts of deaths in proportion to cases. Notification is evidently much less incomplete in the towns than in the rural districts. The rural tendency to leave cases unnotified is most clearly manifest in Wales, where, as also in 1920 and 1921, rural deaths exceeded notifications. But other evidence of the tendency to shirk notification in the rural districts is not lacking. In every one of the last six years notifications have been, proportionately, most numerous in the county boroughs, and fewest in the rural districts, and in each of the last five years deaths have been fewest, in proportion to cases notified, in the county boroughs and most numerous in the rural districts. The county boroughs of the South, again, have in each year returned a comparatively low notification rate, but only at the cost, also in each year, of a fatality rate in large excess of those for similar areas in the North and Midlands.

Table LX.—Puerperal Fever, 1924: Prevalence and Fatality.

	Cases notified per 10,000 Births.					Deaths per 1,000 Cases notified.				
	North.	Mid-lands.	South.	Wales.	England and Wales.	North.	Mid-lands.	South.	Wales.	England and Wales.
London	—	—	85	—	35	—	—	356	—	356
County Boroughs ..	39	45	24	31	39	412	334	614	421	398
Other Urban Districts ..	25	27	25	21	25	825	496	410	672	543
Rural Districts	17	20	18	19	19	803	500	672	1097	673
All Areas	31	31	28	23	30	496	415	432	700	466

Table LXI shows the causes of deaths stated to have been complicated by the existence of the puerperal state. The cause of death most largely represented in this table is heart disease (206 deaths, 120 of these being from valvular disease). Next to this come influenza (147), pneumonia (131) and phthisis (74). Of 80 deaths of females at all ages from acute yellow atrophy of the liver and 59 at ages 15-45 (Table 17), 34 are seen to have been associated with pregnancy or childbirth. Five deaths from encephalitis lethargica appear in the table.

Table LXI.—England and Wales, 1924: Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith.

Cause of Death.	All Ages.	Ages.						45 and upwards.
		15-	20-	25-	30-	35-	40-	
Typhoid fever	2	—	—	1	—	—	1	—
Malaria	1	—	—	—	—	1	—	—
Measles	3	1	—	2	—	—	—	—
Scarlet fever	11	—	2	3	4	1	1	—
Influenza	147	—	19	28	44	34	21	1
Erysipelas	2	—	—	—	1	1	—	—
Encephalitis lethargica	5	—	—	—	2	1	2	—
Tuberculosis of the respiratory system	74	—	11	21	16	17	9	—
Tubercular meningitis	1	—	—	1	—	—	—	—
Tuberculosis of the intestines and peritoneum	3	—	—	1	2	—	—	—
Tuberculosis of the kidney	1	—	—	1	—	—	—	—
Disseminated tuberculosis	4	—	2	1	—	—	1	—
Syphilis	3	—	1	2	—	—	—	—
Non-puerperal septicæmia	1	—	—	—	—	1	—	—
Cancer	14	1	—	—	4	5	3	1
Rheumatic fever	16	—	2	4	6	1	3	—
Diabetes	1	—	—	—	1	—	—	—
Pernicious anæmia	16	—	3	2	1	7	3	—
Exophthalmic goitre	4	—	—	—	1	1	2	—
Diseases of the adrenals	1	—	—	1	—	—	—	—
Leukæmia	1	—	—	1	—	—	—	—
Purpura	1	—	—	—	1	—	—	—
Encephalitis	1	—	1	—	—	—	—	—
Cerebral hæmorrhage	1	—	1	—	—	—	—	—
General paralysis of insane	1	—	—	—	—	1	—	—
Epilepsy	5	1	1	3	—	—	—	—
Other diseases of the nervous system	1	—	—	1	—	—	—	—
Diseases of the ear	1	—	—	—	—	1	—	—
Infective endocarditis	8	—	2	2	3	—	1	—
Other acute endocarditis	2	—	1	1	—	—	—	—
Acute myocarditis	3	—	—	1	1	1	—	—
Angina pectoris	1	—	—	—	—	1	—	—
Mitral valve disease (alone)	76	—	12	21	17	18	7	1
Other or unspecified valvular disease	44	—	6	14	10	9	5	—
Fatty heart	18	1	—	1	4	5	6	1
Other or unspecified myocardial disease	18	—	1	3	7	5	1	1
Other or undefined heart disease	36	—	3	8	8	9	7	1
Embolism and thrombosis (not cerebral)	3	—	—	—	1	2	—	—
Laryngitis	1	—	1	—	—	—	—	—
Bronchitis	25	—	3	6	6	5	5	—
Broncho-pneumonia	27	1	3	6	5	6	5	1
Lobar pneumonia	69	1	12	13	15	23	4	1
Pneumonia (type not stated)	35	—	3	9	7	6	9	1
Empyema	4	—	—	2	—	2	—	—
Asthma	9	—	—	3	2	3	1	—
Diseases of teeth and gums	2	—	—	1	—	1	—	—
Diseases of the pharynx	3	—	1	1	1	—	—	—
Ulcer of the stomach	9	—	2	1	3	2	1	—

Table LXI.—England and Wales, 1924: Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith—continued.

Cause of Death.	All Ages.	Ages.						45 and upwards.
		15-	20-	25-	30-	35-	40-	
Other diseases of the stomach	1	—	—	—	—	—	1	—
Diarrhoea and enteritis	5	—	2	—	1	1	1	—
Appendicitis and typhlitis	12	1	1	4	3	2	1	—
Hernia	1	—	—	—	—	—	1	—
Intestinal obstruction	19	—	2	6	5	4	2	—
Other diseases of the intestines	2	—	—	1	1	—	—	—
Acute yellow atrophy of the liver	34	1	6	8	7	10	1	1
Biliary calculi	2	—	—	—	—	—	2	—
Other diseases of the digestive system	5	—	1	1	1	1	1	—
Chronic nephritis	35	—	5	2	12	10	5	1
Cystitis	1	1	—	—	—	—	—	—
Cysts and other tumours of the ovary not returned as malignant	3	—	—	1	1	1	—	—
Tumours of the uterus not returned as malignant	11	—	—	1	5	3	2	—
Diseases of the joints	1	—	—	—	—	1	—	—
Violence	2	—	1	—	—	1	—	—
Total	849	9	111	190	209	204	115	11

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.

These deaths are classified in Table LXII according to sex and age and to the nature of anæsthetic, while the list appended to the table shows the condition for which the anæsthetic was administered and the sex and age of the patient, but not the kind of anæsthetic. Causes of death in this list are numbered in International List order. The bracketed figures following them denote the exact ages of the deceased, ages of males being printed thus (3) and of females thus (3).

Table LXII—England and Wales, 1924 : Deaths under or connected with the Administration of various Anæsthetics.

Anæsthetic.		Age.													
		All Ages.	0-1	1-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-65
Chloroform	M.	56	6	6	6	3	3	3	3	1	-	3	4	9	6
	F.	32	-	2	1	1	-	6	3	4	5	2	-	3	2
Chloroform and ethanasa	M.	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Chloroform and ether	M.	90	4	12	7	2	4	5	5	1	7	6	7	12	14
	F.	61	3	8	-	-	2	8	3	6	6	4	6	6	4
Chloroform, ether and ethyl chloride	M.	1	-	1	-	-	-	-	-	-	-	-	-	-	-
	F.	1	-	-	1	-	-	-	-	-	-	-	-	-	-
Chloroform, ether and stovaine	F.	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Ether	M.	60	5	12	7	4	4	-	3	4	1	-	2	7	8
	F.	52	2	8	2	3	4	3	4	4	1	6	3	3	4
Ether and alcohol	F.	1	-	-	-	-	-	1	-	-	-	-	-	-	-
Ether and stovaine	M.	1	-	-	-	-	-	-	-	-	1	-	-	1	-
	F.	2	-	-	-	-	-	-	-	-	-	-	-	-	1
Ether and ethyl chloride	M.	1	-	-	-	-	-	1	-	-	-	-	-	-	-
	F.	1	-	1	-	-	-	-	-	-	-	-	-	-	-
A.C.E. mixture	M.	9	-	1	-	-	-	1	-	2	1	-	1	3	-
	F.	2	-	-	-	-	-	-	-	2	-	-	-	-	-
Ethyl chloride	M.	1	-	1	-	-	-	-	-	-	-	-	-	-	-
	F.	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride and ethanasa	F.	2	-	-	-	-	-	-	-	-	-	-	-	2	-
Nitrous oxide	M.	9	-	-	1	1	1	1	2	1	-	-	-	1	1
	F.	4	-	-	-	1	1	1	-	-	-	-	-	1	1
Nitrous oxide and ethanasa	M.	1	-	-	-	-	-	-	-	-	1	-	-	-	-
Stovaine	M.	2	-	-	-	-	-	-	-	-	-	-	1	1	-
	F.	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Novocaine	M.	2	-	-	-	-	-	-	-	-	-	1	1	-	-
	F.	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Cocaine	F.	2	-	-	-	-	-	1	-	-	-	-	1	-	-
Kind not stated	M.	11	-	3	-	-	-	1	2	1	-	2	2	1	1
	F.	20	-	1	2	1	1	3	2	1	-	2	2	2	2
Total	M.	245	15	36	20	10	12	9	15	10	13	8	15	27	39
	F.	184	5	21	6	6	8	22	12	17	16	7	14	18	18

Conditions for which Anæsthetics were administered in the above cases.

10. Diphtheria, tracheotomy (5). 33. Tuberculous peritonitis (27, 30, 35, 53, 24, 43). 34. Psoas abscess (39). 35. Tuberculous left hip (25). 36. Tuberculous—abscess of leg (1), lupus of neck (19), dactylitis and tarsus (1), glands (1, 4)—of neck (3, 6, 13, 3, 11), Fallopian tubes and ovaries (32). 38. Gummatous stricture of rectum (44). 41. Septicæmia (21, 4). 43-49. Cancer of—lip (71), tongue (52, 56, 59, 60, 66), mouth (53, 58, 63), jaw (52, 59), tonsil (32), pharynx (28, 37), pylorus (45), stomach (46, 56, 66, 22, 31, 56, 71), gall bladder (53, 58), small intestine (61),

colon (70, 75), sigmoid flexure (56), large intestine (69), intestine (60), rectum (46, 62), cervix uteri (43, 49), body of uterus (67), uterus (40, 46, 54, 63, 65, 76), breast (24, 49, 63), face (rodent ulcer) (53), penis (61, 86), larynx (63), pancreas (47, 60), kidney (52), glands of neck (55, 30), quadriceps femoris right thigh (62), mediastinum (30), throat (63). 50. Sebaceous cyst (30)—of head (58); villous tumour of bladder (45); nasal polypi (23, 63); cyst below liver (20). 52. Osteo-arthritis, straightening of legs (67). 56. Rickets, osteotomy (11). 60. Goitre (19, 29, 31, 54). 62. Enlarged thymus (29). 82. Sciatica, manipulation of lower limbs (54). 84. Brain tumour (3, 50, 52, 11). 85. Abscess of lacrymal duct (46). 86. Mastoid disease (3, 7, 8, 12, 26, 2, 2, 11); mastoiditis and removal of tonsils and adenoids (1); middle ear disease (37). 93. Varicose veins (40). 94. Septic gland in neck (21). 97. Deviation of septum (11, 16); ulcer on septum (18); sinusitis—frontal (43, 51), nasal (32); pansinus disease (27). 98. (Edema of larynx (16); laryngeal obstruction (1). 99. Tracheitis, tracheotomy (2). 101. Lobar pneumonia, (22). 102. Empyema (0, 1, 2, 2, 2, 3, 3, 4, 4, 27, 30, 31, 45, 55, 56, 1, 4, 7, 23, 35); empyema, paracentesis (36); pyo-pneumothorax (45); abscess of pleura (2); pleurisy (52). 107. Abscess of right lung (25). 108. Extraction of teeth (24, 34, 36, 39, 40, 45, 49, 15, 21, 23, 26, 36, 36); Ludwig's angina (9, 39, 44, 48, 24, 44); abscess under tongue (21); sub-maxillary adenitis (2); suppurative parotitis (68). 109. Enlarged tonsils (4, 5, 10, 11, 7, 16, 20, 21, 22); enlarged tonsils and adenoids (2, 4, 5, 6, 7, 11, 8); enlarged tonsils, tracheotomy (17); adenoids (5, 7, 3, 17); enlarged tonsils and straightening of septum (20); enlarged tonsils and abscess in neck (17). 111. Gastric ulcer (24, 25, 37, 46, 63); duodenal ulcer (27, 42, 55, 55). 117. Appendicitis (2, 4, 6, 8, 12, 16, 17, 18, 21, 23, 26, 34, 35, 37, 40, 41, 45, 49, 50, 52, 1, 3, 4, 7, 11, 16, 23, 24, 25, 33, 51, 64, 68, 81). 118. Hernia (0, 0, 1, 1, 3, 50, 50, 50, 51, 51, 52, 52, 59, 59, 60, 61, 62, 67, 68, 70, 0, 1, 54, 55, 56, 61, 63, 65, 81); hernia and circumcision (2); intestinal obstruction (0, 28, 50, 52, 55, 56, 62, 3, 36, 37, 41, 53, 63, 73, 76); intussusception (0, 62, 80). 119. Fistula in ano (36); ischio-rectal abscess (41); perforation of intestine (58). 121. Hydatid cyst and gallstones (35). 123. Gallstones (15, 59, 59, 43, 50, 52, 57, 64, 74). 124. Abscess of liver (40). 126. Peritonitis (51). 128. Acute nephritis (0); operation to drain kidney (9). 129. Chronic nephritis, amyloid disease (11). 131. Cyst of kidney (50); pyonephrosis (31). 133. Cystitis (54); retention of urine (78); cystoscopy (37). 134. Stricture of urethra (48, 54); peri-urethral abscess (53). 135. Enlarged prostate (54, 73, 87); adenoma of prostate (71). 136. Circumcision (0, 0, 1, 1, 1, 1, 2, 3, 5); phimosis (8); paraphimosis (2, 15); abscess of penis (63). 137. Cyst of ovary (30, 44). 138. Double salpingitis and pelvic cellulitis (37); pelvic peritonitis (43). 139. Polypus of cervix (44); fibroid of uterus (36, 38, 42, 46, 47, 47); myoma of uterus (44). 141. Prolapse of uterus (58); catarrh of womb (29);

dysmenorrhœa (23); endometritis (43). 142. Mastitis (36). 143. Miscarriage (34); miscarriage, curettage (28, 33); removal of dead child (32); Cæsarean section for dead fœtus (21); vomiting of pregnancy, evacuation of uterus (29); retained products of conception (34). 144. Adherent placenta (40). 145. Childbirth (24, 31, 35, 38); contracted pelvis (32); instrumental delivery (24, 34); malpresentation (35); obstructed labour (44); delayed labour (29); ruptured perineum (23, 29); rupture of uterus (34). 146. Puerperal sepsis (21, 27). 148. Eclampsia (26); albuminuria, miscarriage (30). 152. Carbuncle (60). 153. Cellulitis of arm (71); abscess—in neck (27, 52), in right forearm and face (64). 155. Osteo-myelitis (10, 12, 16, 15); epiphysitis (2). 156. Pneumococcal arthritis (2). 158. Manipulation of foot (2); hammer toe (51); bunions (50); operation to straighten legs (64). 159. Cleft palate (0, 3, 1); hare lip (0, 0, 0); imperforate anus (1); nævus—of lip (0), of vulva (0), on left shoulder (0); talipes (0, 0, 1); removal of supernumerary digit (0). 165-203. Various forms of violence (5, 8, 9, 9, 15, 24, 24, 27, 29, 29, 32, 34, 35, 39, 48, 58, 60, 62, 77, 79, 0, 1, 4, 11, 18, 62, 81). 205. Exploratory laparotomy (66, 69); operation for "abdominal trouble" (27); "operation" (53, 50, 60).

For the fifth time in succession the total number of deaths in Table LXII (429) is considerably higher than in any of the earlier years since 1910, for which alone the complete figures are available. 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

Table LXIII.—England and Wales: Deaths under or associated with Anæsthesia, 1901-24.

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	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

Deaths in later periods compared with those of 1901-05, taken as 100.

Yearly average:	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1901-05	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1906-10	132	186	100	133	123	113	145	129	200	145	117	156	129	164	138	125	133	159
1911-15	176	214	115	156	154	175	218	229	250	219	233	189	214	145	275	225	338	250
1916-20	198	257	125	278	208	188	182	271	325	225	183	178	200	191	275	213	233	450
1921	215	214	145	178	129	119	309	429	750	251	267	256	229	218	263	238	367	150
1922	195	207	105	178	69	169	273	500	450	285	267	167	171	264	388	325	400	500
1923	276	321	185	322	131	238	318	486	675	347	367	256	200	209	400	400	767	750
1924	258	364	150	233	192	131	382	557	400	347	433	122	429	264	388	263	600	900

the anæsthetic used. In 1924 the 429 deaths included 56 associated with cancer, and 22 with hernia (all at ages over 50). So for comparison with the years prior to 1911 the number of deaths should be reduced to 351. 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 LXIII.

The increase applies to both sexes and to all ages, and has been, on the whole, steadily progressive throughout the twenty-four years covered by the table. It has been greater for females than for males, and in early childhood and in later life than during the intervening years. But throughout deaths of males have been in considerable excess at most ages, though least so between 15 and 45, at which period of life more deaths of females occurred in 1924.

It is impossible, on the evidence derivable from the death registers, to determine the significance of these changes. At least three possibilities have to be considered: (1) The proportion of deaths to administrations may be increasing; (2) the frequency of administration may be increasing so rapidly as of itself to account for the increase in the deaths; (3) the proportion of the actual fatalities which are recorded may be increasing. As to (3) it may be noted that the great bulk of the fatalities are recorded in inquest verdicts and as having occurred in hospitals. If for any reason coroners have been investigating a larger proportion of these deaths of late years this fact might go far to explain the increase. But it appears probable that for many years such occurrences in the hospitals have been reported to coroners as a matter of routine by the hospital authorities, so it is unlikely that any large proportion of such deaths taking place in hospitals have escaped tabulation during any part of the last twenty-four years. The same statement cannot be made of deaths occurring in private medical practice, in the case of which the proportion (to the total which might do so) of certificates making reference to the administration of an anæsthetic is quite unknown. But there is no reason to suppose that this proportion has greatly increased of late years; and indeed, seeing that the great bulk of the cases are even now reported by hospitals, no possible increase from another source could go far to account for the larger numbers now returned. It seems probable, therefore, that these deaths are increasing rapidly in numbers, as the table would suggest. The question remains whether, or how far, this increase can be accounted for by increased frequency of administrations. No doubt, in view of increase of the population and in the use of anæsthetics this must largely be the case. This is a matter on which death registration throws no light. It does, however, show that along with the increase in recorded deaths a marked change has occurred as regards the type of anæsthetic administered. From the following

table it may be seen that in 1901-05 chloroform was the only anæsthetic reported in the case of 84 per cent. of the total fatalities (548) associated with the use of named anæsthetics during that period. Since then this proportion has continuously fallen at all ages, till in 1921-24 it amounts to only 24 per cent. At the same time the proportion of total casualties occurring under ether alone (or with nitrous oxide) has risen from 7 to 28 per cent., and that under chloroform and ether from 2 to 33 per cent., these increases also applying with considerable similarity to all ages. The small proportion associated with the use of the "A.C.E." mixture has alone remained fairly constant, increasing during the period covered from 3 to 4 per cent. It seems strange that a large

Table LXIV.—England and Wales : Deaths at various Ages under different Types of Anæsthetics, 1901-24.

Age.	Chloroform.					Ether.				
	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.
0-	69	89	95	72	54	2	6	13	27	61
5-	103	89	99	81	47	7	5	12	16	66
15-	47	43	58	64	29	5	6	11	26	38
25-	69	86	77	84	39	6	15	19	29	34
35-	74	70	125	85	46	9	11	26	27	51
45-	46	60	72	49	39	7	7	22	37	56
55-	33	32	38	37	42	2	6	15	28	42
65-	21	21	23	20	25	1	4	10	17	25
All ages ..	462	490	587	492	321	39	60	128	207	573

Age.	Chloroform and Ether.					Alcohol, Chloroform and Ether (A.C.E. mixture).				
	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.
0-	2	9	24	40	66	—	1	7	8	9
5-	1	6	16	38	37	2	3	8	8	5
15-	2	7	16	38	53	1	1	3	4	—
25-	3	6	14	47	52	3	3	7	4	7
35-	2	7	22	43	59	4	4	5	7	11
45-	1	6	21	46	76	3	1	6	1	4
55-	1	4	15	21	51	—	—	3	3	10
65-	—	4	9	24	38	2	1	1	3	2
All ages ..	12	49	137	297	432	15	14	40	38	48

Proportion in each case per cent. of all deaths from Anæsthetics of stated Type.

Age.	Chloroform.					Ether.				
	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.
0-	90	82	66	46	27	3	6	9	17	30
5-	90	82	69	53	28	6	5	8	10	40
15-	77	67	62	45	21	8	9	12	18	28
25-	80	72	62	48	27	7	13	15	17	23
35-	82	73	70	51	25	10	11	15	16	28
45-	78	79	53	35	20	12	9	16	27	28
55-	92	76	51	38	25	6	14	20	29	25
65-	88	62	47	29	23	4	12	20	25	23
All ages ..	84	76	62	45	24	7	9	14	19	28

Age.	Chloroform and Ether.					Alcohol, Chloroform and Ether (A.C.E. mixture).				
	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.	1901-05.	1906-10.	1911-15.	1916-20.	1921-24.
0-	3	8	17	25	33	—	1	5	5	4
5-	1	6	11	25	22	2	3	6	5	3
15-	3	11	17	27	39	2	2	3	3	—
25-	3	5	11	27	35	3	3	6	2	5
35-	2	7	12	26	32	4	4	3	4	6
45-	2	8	16	33	39	5	1	4	1	2
55-	3	10	20	22	30	—	—	4	3	6
65-	—	12	18	35	35	8	3	2	4	2
All ages ..	2	8	15	27	33	8	8	4	3	4

increase in deaths under anæsthetics should have been accompanied by decrease, not only proportional but actual, in the number of deaths under chloroform, reputedly the more dangerous drug, with corresponding increases of those under ether, the safer drug, and under the various combinations of the two. But in the absence of any information as to the numbers of administrations of the various types of anæsthetics it is impossible here to discuss their comparative risk to life, or the bearing upon the increase of mortality returned of the changes in anæsthetic practice implied by Table LXIV. One of these changes takes the form of a great increase in the use of chloroform and ether in combination, and it might be supposed that this in some way involved special danger to life. But the proportion of the total deaths occurring under ether alone has also increased greatly, and in this case there can be no such risk. It can of course be assumed, as above, that changes in the proportion in which the various types of anæsthetic are used may be roughly inferred from the proportions of the total deaths associated with the use of each type. The increase from 2 to 33 per cent. in the case of chloroform and ether, for instance, can only be due to relative increase in the use of this combination or in the proportion of fatalities from it to administrations. And the latter alternative may be excluded because such increase of risk would assuredly lead to decrease of use.

It may be seen from Table LXIV that chloroform and ether, alone or in combination, still hold the anæsthetic field almost to themselves, so far, that is, as cases involving risk to life are concerned. Under all other types jointly there were in 1901-05 20 deaths, or 4 per cent. of the total number for which the type of anæsthetic was stated; in 1906-10, 35 deaths, 5 per cent.; in 1911-15, 52 deaths, 6 per cent.; in 1916-20, 63 deaths, 6 per cent.; and in 1921-24, 140 deaths, or 11 per cent. The range of choice is thus being gradually extended, especially during the last few years. Of the 140 deaths in 1921-24, 44 occurred under nitrous oxide, 16 under ethyl chloride given by itself and 13 under ethyl chloride in combination with other anæsthetics, 35 under novocaine or stovaine without, and 12 under these along with other anæsthetics, and 15 under ethanesal, alone in 9 cases, and associated with another anæsthetic in 6.

Deaths under nitrous oxide (with or without oxygen, but without other anæsthetic) increased from 16 in 1916-20 to 44 in 1921-24. It seems most unlikely that administrations can have increased in any similar proportion, but such small figures as these are liable to large chance variations, and in 1911-15 the deaths numbered 23.

Status Lymphaticus and Anæsthetics.—In addition to the 156 deaths from status lymphaticus primarily classified to diseases of the thymus in Table 17, there were 43 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	28	14	7	1	3	1	1	1
Females	15	6	1	1	2	2	1	2

188(2)—Crushing by Motor Vehicles (not on railways)—Apart from 43 deaths caused by aircraft, there were 2,990 deaths attributed to mechanically propelled vehicles in 1924, 2,206 of males and 784 of females, the corresponding mortality being 77 per million. This is the highest rate yet recorded for this cause of death, increase from 20 per million in 1911 having been continuous except during the war, when restriction of motoring reduced the death-rate from 50 in 1915, the highest rate up to that date, to 34 in 1918. The increase over the rate of 63 for 1923 has been unusually great, the only previous instance of a similar increment being from 36 in 1914 to 50 in 1915. For this there may, of course, have been a special reason in the addition of military to as yet unrestricted civilian motor traffic. If so, 1924 has furnished the largest increase of mortality from ordinary road motor traffic as yet experienced. Even the present rate of 77 per million, however, is far below those which have of late years been causing so much concern in the United States of America. In the American registration area mortality from "automobile accidents" was 12.5 per 100,000 in 1922. This rate is not wholly comparable with that quoted above for England and Wales, for it is stated to exclude "street cars" and motor cycles. Apparently it includes almost all other forms of mechanically propelled road vehicles, for the English automobile accidents rate is calculated by the American Census Bureau as having been 4 per 100,000 in 1921 (in contrast with an American rate of 11.5), in which year the mortality in this country, excluding deaths caused by electric tramcars and motor cycles, was 44.9 per million. Corresponding English rates for 1922, 1923 and 1924 are 46, 53, and 64 per million respectively.

Table 22 provides the means of analysing this mortality by the types of vehicle causing it. These have varied during the past 14 years as shown in Table LXV, in which the proportion of the deaths for which each type of vehicle has been responsible in each year is shown as a percentage of all deaths caused by mechanically propelled road vehicles. Particulars of the deaths

entered against "others" will be found in the Review for each year. Those so classed in 1924, e.g., are made up as follows:—

Motor cab	57
„ char-a-banc	54
Other or undefined vehicles	60
Collisions involving a motor vehicle (vehicle causing death not stated)	281
	<hr/>
	452

Table LXV—England and Wales, 1911–24—Deaths caused by various Types of Road Motor Vehicle in each year, per cent. of all Deaths caused by such Vehicles.

	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1911–24
Motor Car	39	43	41	40	38	34	30	26	37	36	35	36	35	34	35
Motor Van, Lorry, Steam Waggon, etc.	12	10	13	19	20	26	32	41	30	31	29	31	28	26	26
Electric Tram	7	4	4	4	4	4	5	4	2	3	3	4	3	3	4
Motor Omnibus	17	22	20	15	12	17	13	14	10	6	7	8	9	10	12
Motor Cycle	4	7	9	9	12	7	6	4	10	14	11	10	12	12	10
Others	21	14	13	13	14	12	14	11	11	10	15	11	13	15	13
All Road Vehicles	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

On the whole the proportions have varied less than might, perhaps, have been expected. Motor cars cause a little more than one-third of the total deaths, the only year in which they failed to approximate to this proportion being 1918, when few were on the road. The share taken by lorry traffic more than trebled during the war, and has remained much higher since than before, though falling slightly. The deaths so caused have, indeed, increased since the war from 512 in 1918 to 768 in 1924, but those due to other vehicles have grown in greater proportion. The motor bus causes over three times as many deaths as the electric tram, but its share in the total mortality fell during and immediately after the war. The motor cycle, which has never returned to its previous level, has increased. The motor cycle, notwithstanding the danger it causes, as will be seen, a danger rather than a relief to road users. The effects of petrol restriction during the years of the war are still more clearly seen in the case of the motor car.

It is interesting to learn at what ages the danger to different types of vehicle is greatest. For this purpose it is convenient to aggregate the records of the whole country for 1911–24, dealt with. The results are shown in

All Ages

Table LXVI.—England and Wales, 1911-24.—Deaths caused by Mechanically Propelled Road Vehicles.

ACCIDENT.													
		All Ages.	0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
Motor Car	M	5,690	498	1,238	457	228	170	408	535	600	617	577	362
	F	2,604	281	564	184	87	77	122	192	262	326	315	194
Motor Van, Lorry, Steam Waggon, etc.	M	4,920	386	1,034	717	465	236	368	440	411	376	337	150
	F	1,251	211	281	113	66	37	75	66	91	118	119	74
Electric Tramcar	M	529	58	31	17	11	17	34	58	83	70	84	66
	F	292	46	18	6	3	9	12	20	40	61	52	25
Motor Omnibus	M	2,034	126	322	206	181	84	189	229	232	235	153	77
	F	684	55	112	50	39	41	61	55	87	80	66	38
Motor Cycle	M	1,979	35	52	19	179	338	459	311	238	150	122	76
	F	355	35	24	7	16	19	44	30	40	67	49	24
Others	M	2,330	87	286	152	169	202	291	323	279	266	180	95
	F	743	47	91	59	39	25	61	72	108	107	94	40
All Motor Road Vehicles ..	M	17,482	1,190	2,963	1,568	1,233	1,047	1,749	1,896	1,843	1,714	1,453	826
	F	5,929	675	1,090	419	250	208	375	435	628	759	695	395

SUICIDE.													
Motor Vehicles	M	58	—	—	—	2	5	6	16	15	7	5	2
	F	3	—	—	—	—	1	1	—	1	—	—	—

MANSLAUGHTER.													
Motor Vehicles	M	109	2	7	7	6	8	18	21	20	15	5	—
	F	55	—	3	2	3	10	12	6	8	3	5	3

MURDER.													
Motor Vehicles	M	4	—	—	1	—	—	1	2	—	—	—	—
	F	5	—	—	—	—	—	3	—	—	—	—	2

The proportions at various ages of deaths accidentally caused by each type of vehicle are as follows:—

Table LXVII—England and Wales, 1911–24—Accidental Deaths at various Ages caused by different Types of Motor Road Vehicle, per 1,000 at all Ages caused by the same type of Vehicle.

	All Vehicles.	Motor Car.	Motor Van Lorry, Steam Waggon, etc.	Electric Tramcar.	Motor Omnibus.	Motor Cycle.	Other or Unstated (including Collisions).
0-	80	94	97	127	67	30	44
5-	172	216	213	60	160	33	123
10-	85	77	135	28	94	11	69
15-	63	38	86	17	81	84	68
20-	54	30	44	32	46	153	74
25-	91	64	72	56	92	215	114
35-	100	88	82	95	104	146	128
45-	105	104	81	150	117	119	126
55-	106	114	80	159	116	93	121
65-	92	108	74	165	81	73	89
75-	52	67	36	111	42	43	44
All ages	1,000	1,000	1,000	1,000	1,000	1,000	1,000

As might be expected, young children furnish a disproportionate number of victims, especially in view of the fact that few of their deaths can be due to mishaps to vehicles in which they are driving. But responsibility for this special risk is very unequally shared by the various types of vehicle. It is chiefly the free four-wheeled vehicle (car lorry or bus), which causes these deaths, tramcars causing few, and motor cycles, with their superior manœuvring capacity, very few indeed. The latter are, on the other hand, specially dangerous to their riders, over half the deaths due to them being at ages 20–45, at which less than a quarter of the total mortality occurs. The same contrast is brought out also by the method of presenting the facts followed in Table LXVIII, where the proportions of deaths at each age due to each type of vehicle are compared.

Table LXVIII—England and Wales 1911–24—Deaths accidentally caused at various Ages by different Types of Motor Vehicle per thousand Deaths at the same Age caused by all Motor Vehicles.

	Motor Car.	Motor Van, Lorry, Steam Waggon, etc.	Electric Tramcar.	Motor Omnibus.	Motor Cycle.	Other or Unstated Vehicles (including Collisions).	All Vehicles.
0-	418	320	56	97	37	72	1,000
5-	445	324	12	107	19	93	1,000
10-	322	418	12	129	13	106	1,000
15-	213	358	9	148	132	140	1,000
20-	197	218	21	99	284	181	1,000
25-	249	208	22	118	237	166	1,000
35-	312	217	33	122	146	170	1,000
45-	349	203	50	129	112	157	1,000
55-	381	200	53	127	88	151	1,000
65-	415	212	63	102	80	128	1,000
75-	455	183	75	94	82	111	1,000
All Ages	354	264	35	116	100	131	1,000

Here we see that whereas the motor car caused 35·4 per cent. of the total mortality during the fourteen years, it caused 44·5 per cent. of that at 5-10, whereas the motor cycle caused proportionately far fewer deaths at this age than at all jointly. At 0-5 the danger of the car is over eleven times, and at 5-10 over twenty-three times that of the motor cycle, whereas at the age at which the latter is chiefly ridden, 20-25, and at that age alone, it causes more deaths than the motor car. In old age also the share of the total mortality caused by the motor car is disproportionately heavy, while that due to the motor cycle is less than at all ages jointly, though not so remarkably low as in childhood.

The considerable mortality due to the motor van, lorry or steam waggon is specially heavy at 10-25, at which ages it exceeds that caused by the car. For this it seems probable that deaths of van boys are partly responsible. The proportion of males killed by these vehicles, 80 per cent. at all ages, rises from 65 per cent. at 0-5 to 88 at 15-20 and 86 at 20-25, after which it falls to 67 at 75 and upwards. These and other similar sex proportions are recorded in Table LXIX, which, by bringing out the fact that at 20-25 no less than 95 per cent. of persons killed by motor cycles are males, furnishes additional evidence that the danger from these vehicles is to their riders rather than to other users of the road.

The proportion of males killed by lorries is higher at every age than that for motor cars. In part no doubt this is due to the fact that the latter carry persons of both sexes and the former almost exclusively males. But the maximum male proportion for lorries, as for motor cycles, at 10-25, suggests that at this age the deaths are largely those of men and boys employed on the lorries. Early and late in life, when the deaths must be of persons not so employed, the sex proportions for lorries approximate to those for cars. The same maximum male excess in early adult life applies to the miscellaneous group of vehicles, indicating that in their case also the mortality at these ages is largely that of workers employed upon or about them. It does not apply in the same degree to tramcars and motor buses, the deaths from which must obviously be mainly of persons not riding in, but struck by, the vehicle. For some reason the male proportion is higher for the bus than for the tramcar at every age under 75.

Table LXVI shows that whereas the bus causes a little over three times as many deaths as the tramcar at all ages, it causes thirteen times as many at 10-20. Even the former excess can scarcely be due entirely to greater use of buses.

The comparison may best be made for a single area, where both buses and trams run through the same streets serving the same population, for if the traffic of the whole country is considered it has to be remembered that much of the mileage of the bus is run on the open road under conditions of relative safety, whereas the tram is very largely confined to the traffic of the towns.

Table LXIX—England and Wales 1911-24.—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 (including Collisions).		All Vehicles.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0—	64	36	65	35	56	44	70	30	50	50	65	35	64	36
5—	69	31	79	21	63	37	74	26	68	32	76	24	73	27
10—	71	29	86	14	74	26	80	20	73	27	72	28	79	21
15—	72	28	88	12	79	21	82	18	92	8	81	19	83	17
20—	69	31	86	14	65	35	67	33	95	5	89	11	83	17
25—	77	23	83	17	74	26	76	24	91	9	83	17	82	18
35—	74	26	87	13	74	26	81	19	91	9	82	18	81	19
45—	70	30	82	18	67	33	73	27	86	14	72	28	75	25
55—	65	35	76	24	53	47	75	25	69	31	71	29	69	31
65—	65	35	74	26	62	38	70	30	71	29	66	34	68	32
75—	65	35	67	33	73	27	67	33	76	24	70	30	68	32
All Ages	69	31	80	20	64	36	75	25	85	15	76	24	75	25

Comparison may therefore, be made for Greater London, the information regarding which is available in various government and other returns. From these the following figures for the years 1921-23 have been kindly supplied by the Ministry of Transport :—

	Omnibus Licenses (Metropolitan Police District) at Dec. 31 and Tramcars in stock	Passengers carried (millions)	Car miles run (estimated millions)
Buses	12,322	3,190	361
Trams	8,902	3,063	273

The numbers of buses and trams represent aggregates of the numbers licensed or in stock at corresponding periods in each year. The figures for buses refer to the calendar years, but those for trams are so stated only in certain cases. The number of passengers carried by buses in 1923, as of car miles run by both types of vehicle in all years, is estimated only.

From these figures it appears that the work done by buses and trams during this period was practically equal, a smaller number of the larger type of vehicle covering less mileage in order to transport a substantially equal number of passengers. The danger to life might of course be measured by the ratio of deaths to car miles run, but seeing that the object of running is to transport passengers and that every mile run in so doing involves a certain risk to life, it has to be recognized that the vehicle which accomplishes this object with less of the risk represented by mileage is to that extent, other considerations apart, the safer vehicle. In this case, therefore, as the transportation effected by the two types of vehicle was so nearly equal, their relative risk to life is substantially represented by the deaths due to each.

In the same three years the number of fatal accidents recorded by the police as due to tramcars was 91, and to motor buses 226. The number of deaths is not stated in the return of "Street Accidents caused by Vehicles" issued by the Home Office, from which these figures are derived, but the total number of fatal accidents for England and Wales tallies so closely with that of deaths as tabulated in this Review that the risk to life in each case may evidently be represented by the number of fatal accidents due to each type of vehicle, the danger of the bus in Greater London being therefore to that of the tram, approximately as 226: 91, or 148 per cent. greater.

Probably the greater safety of the tram is largely due to its ample braking power, which may also account for its special superiority at ages 10-20, those at which boys fall off bicycles in front of trams and buses. If so it would appear that it is very largely to increase of braking power that we must look for decrease (relatively to mileage run) of the mortality under consideration. From this point of view the recent tendency to fit four wheel brakes on motor cars is of much importance, and should in time effect a considerable reduction in the disproportionate mortality

at 5-10, since at this age especially it may be possible to avert a fatal accident only by full and timely use of ample braking power. No doubt it is due to his power of rapid swerving that the motor cyclist so successfully avoids killing young children, but the heavier vehicle which cannot avoid the danger in this way must rely more on its brakes, and if these were more efficient, on lorries as well as cars, fewer children would lose their lives. It may be noted that the lorry does not, like the car, kill a disproportionate number of old people, as both do of children. The disproportion referred to is, of course, as compared with those killed at all ages, for the really significant proportion, that of deaths to mileage run, is unascertainable.

It is to be regretted that comparisons similar to that between the tramcar and the motor bus cannot be made for other vehicles, as it would be interesting to find whether in proportion to car miles run, the motor car or the motor van or lorry causes more deaths. But this, the only comparison of any value whatever, is impossible. All we can ascertain is the numbers licensed, but it might be most unfair to compare the deaths caused by pleasure and commercial vehicles on this basis. A very large proportion of the former are in only occasional use, largely at week-ends, whereas the latter are to a great extent in continuous daily use, and a comparison of mortality based on numbers licensed might therefore be most unfair to them.

204, 205. **Ill-defined Causes of Death.**—This heading in the International List of Causes of Death, to which, 1,594 deaths have been allocated, excludes 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 1924 numbered 30,000, or 6.34 per cent. of the total, as compared with 6.73 in 1923, and 9.67 in 1911.

Inquiries sent to medical practitioners and coroners requesting further information as to indefinitely certified deaths amounted to 6,586, and to these 5,891 replies were received, with results to classification, some of the most important of which are set out in Table LXX.

Unfortunately these replies relate to only 1.24 per cent. of the year's deaths, or but a small fraction of those regarding which additional information would be desirable. The present limit is imposed by considerations of expense, and in many cases the very fact that an inquiry is often called for is sufficient to rule it out, owing to the large amount of work which it would entail. But though inquiry on the limited scale practised cannot possibly clear up more than a fraction of the more serious ambiguities met with, it is believed to have an excellent effect in promoting definiteness of statement generally; and it is also used to ascertain definitely the meaning attaching to more or less ambiguous terms in order to check the correctness of their present assignments.

Table LXX.—England and Wales, 1924: 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 various important headings.
Croup	31	29	Diphtheria 3, Laryngismus stridulus 4, Laryngitis 14.
Membranous laryngitis	9	9	Diphtheria 3.
Pyæmia, septicæmia, etc.	165	139	Syphilis 3, Diseases of the teeth and gums 9, Appendicitis 3, Puerperal sepsis 11, Diseases of the skin 15.
Tuberculosis	201	197	Tuberculosis of the respiratory system 122, Tuberculosis of the intestines and peritoneum 6, Tuberculosis of the vertebral column 3, Disseminated tuberculosis 36, Other forms of tubercle 24.
Cancer (part or organ not stated) ..	1,105	1,034	Part or organ stated in 1,024 cases.
Tumour, growth, etc.	558	466	Syphilis 3, Cancer 316.
Rheumatism	88	85	Rheumatic fever 38, Chronic rheumatism 4, Osteo-arthritis 4.
Encephalitis	141	127	Influenza 10, Encephalitis lethargica 51, Meningococcal meningitis 2, Tuberculosis of nervous system 4, Syphilis 3, Other forms of encephalitis 26, Meningitis 3.
Basal or basic meningitis	53	40	Meningococcal meningitis 12, Tuberculosis of nervous system 16, Syphilis 3, Meningitis—other forms 4.
Posterior or post, basal or basic meningitis	72	65	Meningococcal meningitis 43, Tuberculosis of nervous system 9, Meningitis—other forms 5.
Cerebro-spinal meningitis	128	112	Meningococcal meningitis 80, Tuberculosis of nervous system 6, Meningitis—other forms 9.
Spinal sclerosis	49	45	Syphilis 2, Tabes dorsalis 3, Other diseases of spinal cord 11, Disseminated sclerosis 27.
Cerebral sclerosis	20	20	Disseminated sclerosis 12.
Paraplegia	67	54	Syphilis 3, Diseases of the spinal cord 15, Cerebral hæmorrhage, apoplexy 6.
General paralysis (outside asylums) ..	67	62	Other diseases of the spinal cord 1, General paralysis of the insane 53, Disseminated sclerosis 2.
Paralysis	31	28	Diseases of spinal cord 5, Cerebral hæmorrhage, apoplexy 8.
Fibroid phthisis	110	102	Tuberculosis of respiratory system 80, Chronic interstitial pneumonia 16.
Hæmoptysis	56	43	Tuberculosis of respiratory system 26
Stomatitis	51	49	Thrush, aphthous stomatitis 27.
Stricture of œsophagus	34	27	Syphilis 1, Cancer 23.
Hæmatemesis	36	31	Cancer 2, Gastric ulcer 11, Cirrhosis of liver 2.

Table LXX.—England and Wales, 1924: 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 various important headings.
Pyloric obstruction, stenosis, etc. ..	38	34	Cancer 15, Gastric ulcer 7.
Jaundice	68	54	Cancer 12, Cirrhosis of liver 2, Biliary calculi 8.
Peritonitis	186	145	Tuberculosis of peritoneum, etc., 10, Cancer 7, Gastric ulcer 6, Appendicitis 37, Intestinal obstruction 10, Diseases of female genital organs 4, Puerperal sepsis 7.
Pemphigus (of infants)	137	116	Syphilis 22.
Hydrocephalus	87	77	Tuberculosis of nervous system 6, Syphilis 4, Congenital hydrocephalus 48.
Violence	237	236	Precise form of suicide 55, Injury by drowning 1, Injury by fall 25, Injury in mines and quarries 28, Injury by machines 13, Injury by crushing 31.
Ascites, dropsy	15	14	Diseases of the heart 10, Cirrhosis of liver 1.
Syncope, heart failure (ages 1-70) ..	117	106	Influenza 4, Diseases of the heart 53, Arterio-sclerosis 8, Bronchitis 6.
Operation	256	247	Cancer 28, Tonsillitis 3, Gastric ulcer 12, Appendicitis 10, Hernia, intestinal obstruction 23, Biliary calculi 17, Uterine tumour 23, Violence 6.
Other indefinite forms of certificate ..	1,678	1,424	—
Total	5,891	5,217	—

The total additions to certain definite headings resulting from these inquiries were as follows:—To influenza 65; to encephalitis lethargica 52; to meningococcal meningitis 140; to tuberculosis of the respiratory system 264; to tuberculosis of the nervous system 50; to other forms of tuberculosis 140; to venereal diseases 141; to cancer 505; to general paralysis of the insane 62; to disseminated sclerosis 49; to arterio-sclerosis 65; to ulcer of the stomach or duodenum 81; to appendicitis and typhlitis 70; to biliary calculi 41; to puerperal sepsis 55; and to congenital malformations 79.

POPULATION.

The total population of England and Wales as at the 30th June, 1924, has been estimated at 38,746,000 persons, 18,545,000 being males and 20,201,000 females.

The method adopted in arriving at these figures is that which was used with apparent success in the decennium 1911-20, and consists of taking the 1921 Census population as a starting

point, adding the births and immigrants and deducting the deaths and emigrants between the date of the Census and the 30th June, 1924. If exact records of the several movements contributing to the change during this period were available the resulting population would be known precisely and the accuracy of the estimate depends entirely upon the completeness and correctness of the records of movement. Of these only the portion relating to the natural increase, that is the excess of births over deaths, can be accepted unreservedly; the system of registration in this country is regarded as providing a very complete record of births and deaths, and errors in the registered numbers must be of an insignificant order in relation to population figures. But the same cannot be said of the migration element of the movement. Information regarding permanent migrants (*i.e.*, persons changing their permanent residence) between this country and places outside Europe, and also statistics of passenger traffic to and from the United Kingdom are collected by the Board of Trade. The movement of aliens is separately dealt with by the Home Office, and from the various War Departments changes in the disposition of non-civilians are available. On the other hand, there is no record of the movement between England and Wales and the other countries of the United Kingdom, and allowance has to be made for this in computing an estimate on the data gathered from the records which are available.

Such error as there may be in the population estimate is practically wholly attributable to migration, and it is one which will tend to grow in degree as the date of the preceding Census becomes more remote. If the success which attended the estimation of the national populations of the last intercensal period as judged by the 1921 Census is repeated, the error will be of a negligible order.

Age Distribution.—The analysis of the sex population totals into their respective age components which is shown in Table LXXI, has been derived from the corresponding 1923 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 1923, and treating the survivors as the population at the next higher age in 1924, (2) completing the table by the addition of the population aged 0-1, represented by the survivors at the middle of 1924 of the births occurring between the middle of 1923 and the middle of 1924, and (3) adjusting the results of these two operations in respect of migrants in accordance with such age statistics as are available in respect of them.

The average ages of the mid-1924 population according to the estimated age distribution are 30.3 and 31.7 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 0.4 and 0.5 during the three years. Between 1911 and 1921 the average ages increased by 1.9 and 2.1 respectively.

Table LXXI.—England and Wales.—Estimates of Age Distribution of the Population—Mid-1924.

Age Group.	Persons.	Males.	Females.
All ages	38,746,000	18,545,000	20,201,000
0—	698,961	354,497	344,464
1—	697,551	352,962	344,589
2—	742,037	375,718	366,319
3—	746,789	378,400	368,389
4—	803,401	407,708	395,693
5—	3,688,739	1,869,285	1,819,454
10—	3,027,857	1,525,794	1,502,063
15—	3,580,217	1,798,629	1,781,588
20—	3,623,703	1,817,096	1,806,607
25—	3,340,853	1,613,645	1,727,208
30—	3,006,595	1,357,502	1,649,093
35—	2,860,322	1,303,823	1,556,499
40—	2,719,448	1,249,665	1,469,783
45—	2,661,772	1,241,666	1,420,106
50—	2,459,680	1,165,824	1,293,856
55—	2,195,523	1,058,765	1,136,758
60—	1,757,607	840,802	916,805
65—	1,396,784	657,697	739,087
70—	1,029,056	469,269	559,787
75—	713,069	310,732	402,337
80—	414,858	167,076	247,782
85—	189,464	71,164	118,300
85 & upwards	80,453	26,566	53,887

Local Populations.—As for the country as a whole, so for individual boroughs, urban districts and rural districts the mid-year estimate of population is obtained by estimating the movement which has taken place since the date of the Census (19th-20th June, 1921) and modifying the 1921 figure in respect of such estimate. It was pointed out in the 1921 Statistical Review that the populations as enumerated at the Census were not always appropriate for use with vital statistics owing to the presence in seaside and holiday resorts of large numbers of temporary visitors; special steps were taken to measure the amount of temporary inflation in each area and to disperse it so as to correspond more nearly to a residence distribution. For a fuller account of the processes involved, reference may be made to the Statistical Review for 1921, in which will also be found the basic populations of each area on which the succeeding years estimates have been founded.

In framing a basis for the estimation of the local changes in population two primary conditions have to be satisfied.

- (a) The net aggregate of the local increases and decreases must correspond to the more reliably calculated change in the total national population.
- (b) The method must be capable of impartial application to all areas alike.

So far as the natural movement by births and deaths is concerned, details are known precisely in respect of each area, and the use of the local registration returns automatically ensures compliance with both conditions. With regard to the balance of the movement summed up in the term migration, there is, however, a complete absence of direct record. With an exception perhaps in the case of certain aliens, changes of residence are not subject to official notification here, as they are in some foreign countries, and all knowledge of the movement is limited to such inference as can be drawn from other records, like housing, rating returns, registers of electors, etc., in which the effect of migration may be expected to be reflected. Of these the electoral register is the only one regularly available in respect of every urban and rural area of the country and, therefore, satisfying condition (*b*), and the increases or decreases in the numbers of local government electors have been adopted as the criteria in assessing the incidence of local migration.

But it has to be borne in mind that changes in the register are not all attributable to migration; the mere attainment of franchise age of the existing population, so far as this is not counterbalanced by the deaths of persons already on the register, affects the electorate and falls with varying weight in areas of different age constitution. The incidence of this natural growth factor can be and has been estimated approximately by means of the Census age classifications of local populations, and some allowance for it has been incorporated in the estimation formula. Again, persons admitted to the franchise are restricted to certain classes above the ages of 21 and 30 in the case of males and females respectively, numbering only about 40 per cent. of the total population, and the assumption has to be made that movements within the franchise qualifications correspond to similar movements in the whole population. Finally, electoral registration can only take place after six months' residence in an area, and such migration change as is reflected is that of a period at least six months prior to the period to which the records relate. Notwithstanding these defects it is reasonable on the whole to suppose that any marked migration in either direction will sooner or later make its impression on the electoral record, though on account of the indirectness of the evidence, the factor cannot be accorded the same weight in the estimation formula as that given to the direct records of births and deaths.

The 1924 mid-year populations actually adopted were obtained by assuming that the net rate of population increase in each area was

$$A + x(B - C) - y$$

where *A* = the ascertained local rate of natural increase, mid 1921-mid 1924, *B* = the local rate of electoral increase, Autumn Register 1921-Autumn Register 1924, *C* = expected rate of natural growth of the electorate in the same period, and *x* and *y* are

Table LXXII.—Estimated Civilian Population by Sex and Age in the middle of the Year 1924.

(Figures given to the nearest hundred.)

		All Ages.	0—	5—	15—	25—	35—	45—	55—	65—	75 and upwards.
All areas :—											
England and	M	18,357,0	1,869,3	3,324,4	3,329,6	2,607,7	2,463,8	2,219,0	1,498,5	780,0	264,8
Wales	F	20,201,0	1,819,5	3,283,7	3,533,8	3,205,6	2,889,9	2,430,6	1,655,9	962,1	420,0
	M	6,277,2	644,5	1,132,5	1,176,4	918,8	856,8	757,4	488,1	236,8	65,8
North ..	F	6,749,9	630,7	1,123,6	1,210,3	1,087,3	976,4	805,2	528,4	284,8	103,2
	M	5,874,3	594,2	1,073,4	1,076,4	817,5	780,6	698,5	479,0	259,3	95,4
Midlands..	F	6,379,1	576,6	1,058,5	1,113,3	991,7	900,0	756,3	521,1	314,9	146,7
	M	4,865,2	487,6	863,5	832,7	676,5	651,2	605,5	428,8	232,4	87,0
South ..	F	5,713,6	473,4	849,5	964,8	914,4	831,6	719,1	507,6	307,2	146,0
	M	1,368,8	143,0	255,0	259,4	202,9	179,4	158,4	102,6	51,5	16,6
Wales ..	F	1,358,4	138,7	252,1	245,4	212,2	181,9	150,0	98,8	55,2	24,1
	M	2,115,6	223,3	370,1	376,2	314,2	286,6	259,9	172,9	85,6	26,8
London ..	F	2,460,9	217,4	369,8	445,5	414,1	355,7	297,8	198,3	112,8	49,5

County	Boroughs	M	6,146,0	642,4	1,114,6	1,125,4	903,7	842,9	745,9	475,3	229,5	66,3
		F	6,801,2	628,4	1,112,2	1,232,1	1,100,6	981,9	808,1	530,1	291,7	116,1
North ..		M	3,302,8	344,5	595,6	614,6	490,0	456,3	404,4	251,7	116,0	29,7
		F	3,610,3	338,2	594,4	657,4	588,8	526,7	430,2	276,7	146,1	51,8
Midlands..		M	1,944,6	206,3	357,4	357,6	283,4	263,7	231,3	148,4	74,1	22,4
		F	2,149,9	200,9	357,3	395,7	346,2	304,7	249,7	164,1	92,6	38,7
South ..		M	613,9	62,3	110,6	98,7	84,4	84,4	77,7	54,4	29,8	11,5
		F	757,6	60,9	109,6	124,3	118,6	112,2	97,7	69,8	43,0	21,5
Wales ..		M	284,7	29,3	51,0	54,4	45,9	38,5	32,5	20,8	9,6	2,7
		F	283,4	28,4	50,9	54,7	47,0	38,3	30,5	19,5	10,0	4,1
Other Urban Districts		M	6,235,1	624,7	1,140,6	1,128,6	886,7	849,1	758,1	502,4	258,3	86,6
		F	6,920,6	606,3	1,127,4	1,213,4	1,097,2	999,8	838,7	566,2	328,4	143,2
North ..		M	2,105,2	211,5	377,3	392,0	309,0	289,7	255,5	166,1	81,6	22,4
		F	2,266,0	206,5	375,2	401,2	364,8	329,1	274,2	181,6	98,3	35,1
Midlands..		M	2,283,0	227,8	421,7	416,4	320,9	310,9	275,2	181,5	94,9	33,7
		F	2,542,0	220,6	415,9	452,7	401,0	366,5	304,3	203,5	121,2	56,3
South ..		M	1,175,5	112,6	212,7	193,0	157,3	159,8	149,8	107,0	59,5	23,9
		F	1,448,0	108,7	208,4	237,8	227,2	215,2	188,1	135,9	84,8	41,9
Wales ..		M	671,5	72,8	128,9	127,2	99,4	88,8	77,6	47,8	22,3	6,6
		F	664,6	70,5	127,9	121,7	104,2	89,0	72,1	45,2	24,1	9,9
Rural Districts		M	3,888,8	378,9	699,1	714,8	511,2	489,3	456,0	347,9	206,6	85,1
		F	4,018,3	367,3	674,3	642,8	593,7	552,5	486,0	361,3	229,2	111,2
North ..		M	869,2	88,5	159,6	169,8	119,9	110,8	97,4	70,3	39,2	13,7
		F	873,6	86,0	154,0	151,7	133,7	120,6	100,8	70,1	40,4	16,3
Midlands		M	1,646,8	160,1	294,3	302,4	213,2	206,0	192,1	149,1	90,3	39,3
		F	1,687,2	155,1	285,3	264,9	244,5	228,8	202,3	153,5	101,1	51,7
South ..		M	960,2	89,4	170,1	164,9	120,6	120,4	118,1	94,5	57,5	24,8
		F	1,047,1	86,4	161,7	157,2	154,5	148,5	135,5	103,6	66,6	33,1
Wales ..		M	412,6	40,9	75,1	77,8	57,5	52,1	48,4	34,0	19,6	7,3
		F	410,4	39,8	73,3	69,0	61,0	54,6	47,4	34,1	21,1	10,1

constants applicable to all areas, their determination being governed by the considerations (a) that the increases and decreases produced by the formula should aggregate to the increase estimated for the country as a whole, and (b) that the range of variations should, in the absence of any evidence to the contrary, be roughly similar in extent to the range of variations in previous periods. The factors A and B were ascertained for each urban and rural district, but C was calculated only for county boroughs individually, and for the urban and rural aggregates of each county, the value of C for an aggregate being adopted for each of the areas comprised in the aggregate. Full weight was thus given to the local natural increase while for migration the most suitable value of x appeared to be about $\frac{1}{2}$, y being the complementary adjustment required to ensure compliance with condition (a) just referred to.

An exception to the basis thus described was, however, made in the case of the Administrative County of London and its constituent Boroughs, in respect of which population estimates had been made earlier in the year for the purposes of the Equalization of Rates Act, 1894. For the whole County the estimate was not very different from that which would have resulted from the use of the above formula, but, in the distribution of the county population among the metropolitan boroughs, use was also made of certain housing returns provided by the Local Authorities under the said Act, and these estimates have been retained unaltered in the present Review.

Housing statistics are not taken into account in the preparation of the general estimates because they are not available for all areas, and it is not possible, therefore, to ascertain whether the relation of the increase in dwellings in a particular district to that of the whole country supports or opposes the inferences drawn from other sources. But, apart from this insuperability, the experience of the Department is that housing statistics in present circumstances may be a misleading guide to population movement. Where overcrowding exists, as is urged in respect of many areas, new dwellings will be fiercely competed for by the overcrowded population, and so far as the latter are successful in obtaining possession—and it must be borne in mind that most official housing schemes have been directed primarily to the relief of overcrowding—the new dwellings so occupied will not represent an addition to the local population.

Non-Civilian Population.—It will be observed in the tables in which the estimated local populations are given (Table 14 of Part I. and Table E of Part II.) 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 population containing a number of non-civilians. In the majority of areas, however, the two populations may be regarded as sufficiently identical, and no special measures have been

regarded as necessary in respect of them, but in a few areas in which the non-civilians were proportionally numerous estimates of civilian populations have been provided in addition to total populations and are shown in footnotes appended to the tables.

Institutions :—The populations of Hospitals, Infirmaries, Asylums, etc., remain credited to the areas of enumeration, notwithstanding that some persons so included may, on a strict residence classification, more properly be assigned elsewhere.

Local Age Distributions, 1924.—Sex and age distributions have been prepared for the large aggregates shown in Table LXXII. The populations at ages under five were obtained by the survivorship method (*see* page 114), and for later ages the total populations estimated by the formula given 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 1924 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 for each year from 1885 are shown in Table A on page 2 (Part II).

MARRIAGES.

The marriages registered in England and Wales during the year 1924 numbered 296,416, corresponding to a rate of 15·3 persons married per 1,000 of the population of all ages and conditions. The number so registered is 4,008, or 1·4 per cent. more than the number registered in 1923, and represents an increase of 0·1 in the proportion married per 1,000 population. The increase is a comparatively small one, but it is noteworthy in that it is the first to break the continuous decline shown by the annual figures since 1920, and though it has been followed by an even more insignificant decrease in 1925 it may reasonably be inferred that the phenomenal wave associated with the years immediately preceding and following the termination of the war, during which the proportion married rose from the record minimum of 13·8 per 1,000 population in 1917 to the unprecedentedly high figure of 20·2 in 1920, has subsided and given place once more to the more stable conditions of normal peace years.

The preference for the third quarter of the year noticeable in the records since the beginning of the present century was maintained in 1924, the marriages in this period being approximately 30 per cent. of the total. The rate for the first quarter, representing just under 16 per cent. of the year's marriages, similarly retained its customary place in being lower than that of either of the later quarters.

The annual marriage-rate expressed in terms of total population, on the face of which it would appear that the marriages of to-day are occurring with a slightly lower frequency than those of the years immediately preceding the war, can, however, only be accepted as a comparative measure of conditions over short periods of time during which the proportions and age incidence of the marriageable portion of the community are approximately constant. For long range comparisons or during periods of disturbance such as that of the past decade, regard must be had to the character of the several populations providing the marriages.

It was pointed out in the Annual Review for 1922, when the last census figures had become available, that whereas the marriageable population (*i.e.*, the single and widowed aged 15 and over) had declined from 330 per 1,000 of the total population in 1911 to 325 in 1921, the marriageability of the population had declined much more; owing to the fact that the unmarried and widowed of the two sexes are not equal, the total possible marriages is limited by the number of marriageable males in the country and the comparatively heavy losses of men during the decennium had the effect of reducing the effective marriageability of the population, when estimated on the male proportion alone, from 301 per 1,000 of the whole population in 1911, to 280 in 1921, a drop of nearly 7 per cent. instead of the 1½ per cent. fall in the marriageable population of both sexes taken together.

So sudden a fall in the male proportion could only be occasioned by a disturbance of the magnitude of the war, and many years of normal conditions must elapse before the present disparity in the numbers of the sexes can begin to be redressed; comparisons of post-war and pre-war marriages, based upon the crude proportions of persons married per 1,000 total population without adjustment for these changes will in consequence tend to make the current rates appear unduly low, and it will be preferable to base the rates on the unmarried, or better still, for the reasons already stated, upon the numbers of unmarried males alone, as shown in the second column of Table LXXIII.

From that table it will be seen that the marriage-rates of men and women after falling steadily from 1871 to 1911 showed in 1921 an increase from 50·8 to 60·4 per 1,000 in the case of men, a jump of 19 per cent., as compared with one from 42·5 to 45·8 or a rise of about 8 per cent. in the case of women. These exceptionally high rates have not, of course, been maintained, and are down in 1924 to 53·6 and 41·2 per 1,000 unmarried men and women respectively. But if, as now seems likely, the violent fluctuations of the past few years have ceased and given place to a more stable period, it appears to be one in which the frequency of marriage in relation to the opportunities for marriage will be found to be higher than in any of the previous years of the present century.

Table LXXIII.—England and Wales. Annual Number of Marriages of Men and Women per 1,000 Marriageable Population of each Sex aged 15 and over, 1871-1924.

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	54.2
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

Marriage-rates by ages which should provide an even more exact statement of the incidence and intensity of marriage are shown in Table LXXIV. In connection with this table, however, 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, owing to the absence of a complete record of the movements between the single, married and widowed sections of the population; for example, the death of a married woman involves a transfer from the married to the widowed male population, and as the age of the surviving husband is not recorded at the death of the married woman, the age distribution of the males who are being continually so transferred has to be based upon more or less empirical assumptions; in respect of male deaths the position is even more doubtful, for there the death record does not even state whether the subject was single, married or widowed, and still larger assumptions have to be made in allocating the decrement to the several ages and conditions of the male population, in addition to its consequent effect upon the married and widowed female population. Nevertheless, no study of the marriage tendencies in a population can proceed without reference to these factors, and the persistence with which the crude rates are made the basis of misleading or erroneous inferences justifies the

Table LXXIV.—England and Wales. Annual Marriage-rate per 1,000 Bachelors, Widowers, Spinsters, and Widows respectively at each of several Age Periods, 1871-1924.

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.	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
1920	4.0	110.2	191.4	73.6	22.9	5.8	73.8	1,181	—	—
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
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
1920	—	231.8	314.1	195.4	88.7	17.8	55.0	1,233	—	—
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
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
1920	16.0	134.1	117.3	30.3	10.2	2.1	63.1	1,164	—	—
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
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
1920	62.9	322.6	159.7	59.1	20.7	2.9	24.3	1,350	—	—
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

inclusion of the following series of age rates, though the ones relating to the current inter-censal period must be regarded as provisional approximations to be confirmed or amended in accordance with changes shown by the next Census analysis.

It will be observed from the last column of Table LXXIV, which compares the actual marriages of each year with the number expected according to the age-rates of 1921—adopted as a standard for the purpose—and which makes allowance, therefore, for the changing age constitution of the unmarried population, that for two of the four sections distinguished, viz., bachelors and spinsters, the frequency of marriage has increased during the year, while for widowers and widows a decrease is shown; both the increase in the single and the decline in the widowed rate are greater in the case of females. Compared with 1921, the bachelor, widower and spinster frequencies are down by about 8, 13 and 6 per cent. respectively, but in the case of the widow the drop exceeds 25 per cent., the present position in respect of the latter being very much lower than it has been during the past 50 years.

The maintenance of the marriage-rate of young spinsters at a point well in excess of those for the pre-war years 1901–1914, in spite of their diminished opportunities for marriage through the loss of eligible partners during the war, continues to be a feature of present conditions; at the age periods 20–25, 25–35 and 45–55 their rates are higher than they were a year ago; between 20 and 25 the rate is higher than it was in 1911 or 1901, and between 25 and 35 it is considerably higher than in any of the pre-war years shown in the table.

With bachelors also the increase in the marriage-rate during the past year is confined almost wholly to the early ages 25–35. It will be seen, however, from Table LXXVII that the bachelors married at these ages in 1924 formed 493 per 1,000 at all ages, and that in the period 1901–1910 the corresponding average was also 493, so that the greatly increased frequency of marriage at this and also the next age group 35–45, as compared with pre-war rates is due not to an increase in the relative proportions married at these ages, but to the diminution of the numbers exposed to the chance of marriage between 25 and 45, where the effect of war losses is at present most strongly felt. But whichever function be the variable one, the change of attitude towards marriage, indicated by the present high frequency as compared with pre-war rates, has been observable since the termination of the war and probably originated in the conditions of that period; its continuance in spite of the opposing influences of bad trade and inadequate housing has no doubt been aided by the increasing social measures designed to ameliorate the hardships of sickness and unemployment, and is probably not unaffected by the extended opportunity of limiting the responsibilities of marriage through an increasing knowledge and practice of birth restriction.

Remarriages continue to be much more frequent than first marriages in equivalent sections of either the male or female population. At every age period where the data are sufficient to provide reliable comparisons, the 1924 rates for widowers and widows are, with one exception, higher than those for the single, but much more so in the case of males. The exception is to be seen in the female age group 25–35, where the widow rate is 79.7 per 1,000, as compared with the spinster rate of 94.9, thus repeating the experience of last year which was the first occasion in which the rate of remarriage of either sex at any age group has been lower than the corresponding rate of first marriage. It is interesting to compare the relations of the age-rates with those suggested by the aggregate rates per 1,000 of each marital condition of ages 15 and over shown in column 8, Table LXXIV; 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 is about 50 per cent. above that of the widowed in the case of males, and in the case of females it is more than 300 per cent. in excess; more misleading guides to the incidence of the marriage frequency it would be difficult to find.

Table LXXV.—England and Wales : Proportions of First Marriages and Remarriages in 1,000 Marriages, 1918–1924.

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

The following tables continue the series shown in previous issues of the Review classifying the marriages of the year by age, Table LXXVI showing the mean ages of the persons married in each of the possible combinations and Table LXXVII extending the analysis into a number of age groups.

Table LXXVI.—England and Wales: Mean Ages at Marriage, 1896-1924.
Males.

Year.	All Bridegrooms.	All Bachelor Bridegrooms.	All Widower Bridegrooms.	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
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

Females.

Year.	All Brides.	All Spinster Brides.	All Widower 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
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
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

Table LXXVII.—England and Wales: Marriages of Bachelors, Spinsters, Widowers and Widows at Various Ages per 1,000 Marriages at All Ages, 1886-1924.

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.
<i>Bachelors.</i>															
1886-90..	1,000	0	4	20	47	71	424	309	96	33	13	6	3	2	48
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 ..	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
<i>Spinsters.</i>															
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	84	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	12
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 ..	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

Period.	All Ages.	Under 21 Years.	21-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70 and up.	Age not stated.
<i>Widowers.</i>														
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	83	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	28
1916-20..	1,000	0	7	54	105	138	151	155	130	101	70	39	26	24
1921 ..	1,000	0	8	61	116	142	143	138	120	99	73	46	31	28
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
<i>Widows.</i>														
1886-90..	1,000	1	30	119	164	173	145	117	73	46	26	10	3	98
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 ..	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

Marriages of Minors.—Of the males married during the year 11,975, or 4.04 per cent., were under the age of 21, and of the females 41,595, or 14.03 per cent., as compared with 4.25 per

cent., and 14.29 per cent. last year respectively. Females, who have always greatly outnumbered the males in this class—in the present year the ratio is about $3\frac{1}{2}$ 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 19.8, while the corresponding rates for males were 5.5, 8.8 and 5.6 per 1,000 respectively; both the rapid post-war rise and the subsequent heavy decline in the rate generally follows the experience of adults, but while the adult marriage-rate shows a slight improvement on the whole as compared with 1923, in the case of minors, a further decrease is recorded in respect of each sex.

Comparative figures are shown in Table LXXIX 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 LXXIV.

The number of males and females marrying under age and also at six other groups of ages, with distinction of the marital condition of the parties, is shown for each registration county in Table N, on page 75 of Part II. From these figures and those of

Table LXXVIII.—England and Wales: Minors Married per 1,000 Marriages at all Ages, 1876-1924.

	Husbands.	Wives.		Husbands.	Wives.
1876-80 ..	77.8	217.0	1914 ..	41.6	142.5
1881-85 ..	73.0	215.0	1915 ..	34.8	129.8
1886-90 ..	63.2	200.2	1916 ..	36.2	129.1
1891-95 ..	56.2	182.6	1917 ..	41.7	134.2
1896-1900..	51.2	168.0	1918 ..	42.6	129.0
1901-05 ..	46.3	153.1	1919 ..	43.7	129.4
1906-10 ..	40.3	139.4	1920 ..	46.8	142.9
1911-15 ..	39.2	136.6	1921 ..	48.2	149.2
1916-20 ..	42.6	133.3	1922 ..	44.4	144.4
1912 ..	39.2	135.4	1923 ..	42.5	142.9
1913 ..	42.1	143.8	1924 ..	40.4	140.3

Tables LXXX and LXXXIII it appears that local customs with regard to early marriage are little changed from those of pre-war years. The four geographical sections* into which the country has been divided for the purpose of this Review occupy approximately the same relative positions in 1924 as they did in 1921, which was itself similar in this respect to 1911; for males the rate is highest in the North and lowest in Wales, in which respect the latter has, by a slight modification in the proportions, changed places with the South during the past year; Welsh females, on the other hand, occupy the highest position

* The composition of the four sections is shown on page 7.

Table LXXIX.—England and Wales: Annual Marriage-rate per 1,000 Unmarried and Widowed Persons in the age group 15-21 at each period 1901 to 1924.

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

in the table and are thus in direct contrast to the male experience, while in the South the sex experiences coincide, placing this section lowest in the case of females, and lowest but one—though not significantly different from the lowest—in the case of males. In individual counties the highest proportions of persons marrying under age are found, generally speaking, in mining and industrial areas.

Table LXXX.—Marriage-rate of Minors per 1,000 Marriageable Population aged 15-21 in Geographical Sections of the Country, 1921 and 1924.

	Males.				Females.			
	Rate per 1,000 Marriageable Population 15-21.		Ratio of local rate to England and Wales rate.		Rate per 1,000 Marriageable Population 15-21.		Ratio of local rate to England and Wales rate.	
	1921.	1924.	1921.	1924.	1921.	1924.	1921.	1924.
England and Wales.	7.7	5.6	1,000	1,000	23.4	19.8	1,000	1,000
North	9.3	6.3	1,208	1,136	26.1	21.6	1,115	1,089
Midlands ..	7.5	5.5	974	991	22.1	18.5	944	933
South (including London)	6.1	4.9	792	880	20.8	18.2	889	918
Wales	6.7	4.7	870	837	26.7	23.6	1,141	1,190
London ..	7.8	5.9	1,013	1,048	22.2	17.6	949	890

The 1924 ratio per 1,000 marriageable population between 15 and 21 is greatest in Durham, where it is 55 per cent. in excess of that for the whole country, followed by Nottingham, Derby, Northumberland, and the somewhat exceptional agricultural county of Lincoln. On the other hand, in residential and agricultural counties, the figures are normally well below the mean, the lowest generally being those recorded for the southern counties of England and the northern counties in Wales.

Table LXXXI.—Marriage-rate per 1,000 Marriageable Population aged 15 and over in Geographical Sections of the Country, 1921 and 1924.

	Males.				Females.			
	Rate per 1,000 Marriageable Population 15 and over.		Ratio of local rate to England and Wales rate.		Rate per 1,000 Marriageable Population 15 and over.		Ratio of local rate to England and Wales rate.	
	1921.	1924.	1921.	1924.	1921.	1924.	1921.	1924.
England and Wales.	60.4	53.6	1,000	1,000	45.8	41.2	1,000	1,000
North ..	61.6	53.4	1,020	997	48.7	42.7	1,063	1,037
Midlands ..	60.1	54.3	995	1,013	46.1	42.2	1,007	1,024
South (including London)	62.2	55.7	1,030	1,041	41.8	37.9	913	919
Wales ..	49.5	44.3	820	827	49.5	44.9	1,081	1,090
London ..	71.7	62.4	1,187	1,165	46.5	40.9	1,015	994

Fluctuations of the general Marriage-rate in different Sections of the Country.—Comparison of the general marriage-rates in the four geographical sections of the country referred to on page 128 is made in Table LXXXI, and an analysis of recent rates in Registration Counties is shown in Table LXXXIII. 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, however, probably small and not likely to have any appreciable effect upon the rates quoted.

As with the marriages under full age the incidence of the general marriage-rate of 1924 in the several geographical sections is little different from that of previous years, though the variations from the mean for the country as a whole are not quite so great as they are for minors shown in the previous table. The contrast between the position of males and females of Wales continues to be a feature of this analysis, for, though their rates are not dissimilar in themselves, the female rate is much higher, and the male rate considerably lower than either of the corresponding sex rates in any of the English sections.

Table LXXXII.—Marriages of each year in Geographical Sections of the Country: 1914-1924.

	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

Table LXXXIII gives the marriage-rate per 1,000 marriageable population in each registration county in 1921 and 1924, and the ratio in each case of the local rate to that of the whole country; the distribution generally corresponds to that shown by the similar comparison in respect of marriages under 21 and referred to on a previous page, the rates being normally above the average in mining and industrial areas and below it in the rural counties.

Buildings in which Marriages may be Solemnized.—At the end of the year 1924 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	16,249
All other religious denominations ..	18,726
Total	34,975

The increase upon the numbers at the end of the previous year was:—Established Church and Church in Wales 24, other religious denominations 207. 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, 1924, and the number of buildings registered for the solemnization of marriages are shown in Table LXXXIV.

Table LXXXIII.—Marriage-rate per 1,000 marriageable Population
—all marriages and marriages of minors separately—in
Registration Counties, 1921 and 1924.

Area.	All Marriages.				Minors.			
	Persons married per 1,000 marriageable population of 15 and over.		Ratio to England and Wales rate.		Persons married per 1,000 marriageable population 15-21.		Ratio to England and Wales rate.	
	1921	1924	1921	1924	1921	1924	1921	1924
England and Wales ..	52·1	46·6	1,000	1,000	15·6	12·6	1,000	1,000
North	54·4	47·5	1,044	1,019	17·7	13·9	1,135	1,103
Cheshire	48·3	44·0	927	944	13·2	10·1	846	802
Lancashire	54·1	45·9	1,038	985	15·0	11·2	962	889
Yorkshire, West Riding	56·3	50·6	1,081	1,086	19·1	15·4	1,224	1,222
" East Riding	56·1	47·5	1,077	1,019	19·7	14·1	1,263	1,119
" North Riding	47·3	43·8	908	940	18·5	15·9	1,186	1,262
Durham	60·7	53·1	1,165	1,139	25·1	19·5	1,609	1,548
Northumberland ..	52·7	46·1	1,012	989	19·3	16·3	1,237	1,294
Cumberland	46·9	40·6	900	871	17·3	13·4	1,109	1,063
Westmorland	43·4	37·5	833	805	10·7	11·2	686	889
Midlands	52·2	47·5	1,002	1,019	14·8	11·9	949	944
Middlesex	50·2	45·3	964	972	11·8	9·6	756	762
Hertfordshire	44·7	39·4	858	845	12·2	8·8	782	698
Buckinghamshire ..	45·2	42·5	868	912	10·5	10·2	673	810
Oxfordshire	44·8	39·5	860	848	10·8	11·3	692	897
Northamptonshire ..	53·7	48·9	1,031	1,049	14·2	10·6	910	841
Huntingdonshire ..	54·9	43·6	1,054	936	18·0	12·7	1,154	1,008
Bedfordshire	50·7	43·0	973	923	14·2	10·1	910	802
Cambridgeshire .. .	49·6	44·9	952	964	15·6	15·1	1,000	1,198
Essex	53·5	47·9	1,027	1,028	12·3	10·2	788	810
Suffolk	48·7	40·7	935	873	14·7	10·8	942	857
Norfolk	49·6	45·0	952	966	14·3	12·5	917	992
Gloucestershire .. .	49·8	43·9	956	942	11·0	8·6	705	683
Herefordshire	42·7	39·0	820	837	8·5	8·4	545	667
Shropshire	45·7	42·0	877	901	10·7	9·4	686	746
Staffordshire	57·0	51·2	1,094	1,099	17·9	12·8	1,147	1,016
Worcestershire .. .	49·2	45·4	944	974	13·6	11·7	872	929
Warwickshire	50·7	51·1	973	1,097	14·0	11·1	897	881
Leicestershire .. .	58·9	49·6	1,131	1,064	17·5	12·6	1,122	1,000
Rutlandshire	39·4	36·1	756	775	6·2	9·1	397	722
Lincolnshire	54·3	47·9	1,042	1,028	19·4	16·2	1,244	1,286
Nottinghamshire ..	58·0	53·5	1,113	1,148	22·4	18·2	1,436	1,444
Derbyshire	56·9	52·9	1,092	1,135	18·2	16·8	1,167	1,333
South (including London)	50·0	45·1	960	968	13·6	11·6	872	921
London	56·4	49·4	1,083	1,060	15·5	12·1	994	960
Surrey	43·9	40·8	843	876	10·4	9·6	667	762
Kent	45·9	43·2	881	927	13·5	11·4	865	905
Sussex	39·4	38·0	756	815	11·5	11·6	737	921
Hampshire	48·5	45·1	931	968	13·7	13·0	878	1,032
Berkshire	46·1	42·3	885	908	11·8	10·7	756	849
Wiltshire	50·8	42·5	975	912	12·2	10·4	782	825
Dorsetshire	46·0	42·7	883	916	11·8	12·1	756	960
Devonshire	46·7	42·5	896	912	13·1	12·3	840	976
Cornwall	41·5	40·8	797	876	11·9	13·7	763	1,087
Somersetshire	46·0	39·6	883	850	11·0	8·6	705	683
Wales	49·5	44·6	950	957	16·4	13·5	1,051	1,071
Monmouthshire .. .	53·8	47·8	1,033	1,026	18·5	14·3	1,186	1,135
Glamorganshire .. .	56·6	50·4	1,086	1,082	19·8	15·9	1,269	1,262
Carmarthenshire ..	46·5	43·0	893	923	15·8	15·8	1,013	1,254
Pembrokeshire .. .	43·3	36·5	831	783	12·2	9·7	782	770
Cardiganshire	29·6	25·0	568	536	5·7	6·7	365	532
Brecknockshire .. .	46·0	38·4	883	824	11·8	10·4	756	825
Ra'norshire	36·0	31·4	691	674	8·7	10·0	558	794
Montgomeryshire ..	38·9	29·8	747	639	8·7	7·5	558	595
Flintshire	40·8	38·8	783	833	8·5	7·7	545	611
Denbighshire	43·1	42·2	827	906	11·2	8·4	718	667
Merionethshire .. .	34·4	33·9	660	727	6·9	6·3	442	500
Carnarvonshire .. .	36·9	35·7	708	766	8·2	7·8	526	619
Anglesey	33·4	33·4	641	717	7·4	6·4	474	508

Table LXXXIV.

Denomination.	Buildings certified to the Registrar-General as meeting-places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*
Roman Catholics	1,624	1,539
Wesleyan Methodists	7,697	4,456
Congregationalists	3,415	3,102
Baptists	3,233	2,874
Primitive Methodists	4,380	2,077
United Methodist Church	1,997	1,299
Calvinistic Methodists	1,329	1,039
Presbyterians	444	446
Unitarians	185	198
New Church	55	60
Catholic Apostolic Church	69	48
Countess of Huntingdon's Connexion	47	42
Salvation Army	1,226	224
Society of Friends	431	†
Jews	270	†
Other Denominations	3,617	1,322
All Denominations	30,019	18,726

* 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 1924, the number of such buildings which had been brought under the operation of the Act, and so remained, was 5,241 out of the total of 18,726. The numbers of these buildings, and the denominations to which they belonged, were as follows:—

2,173 Wesleyan Methodists.
765 Congregationalists.
823 Primitive Methodists.
533 Baptists.
463 United Methodist Church.
126 Calvinistic Methodists.
358 Other Denominations and Unsectarian.

5,241 All Denominations.

Manner of Solemnization.—The classification of marriages by method of solemnization which was shown for each year prior to 1914, is now only carried out in respect of one year in

each period of five years, and the tabulation relating to 1924 given on pp. 62-3 of Part II of this Review, and also in the subjoined tables is thus the first that has appeared since 1919.

Table LXXXV shows that the increase in civil at the expense of religious marriages has continued since 1919, the present proportion of 23·8 per cent. civil contracts being the highest recorded in the table except that for the year 1914, in which there was a sudden disturbance in the manner of solemnization evidently due to the outbreak of war in that year.

The distribution of religious marriages continues the general tendencies exhibited by the experience of earlier periods. Church of England marriages and those celebrated according to the rites of the Church in Wales and Monmouthshire, the disestablishment of which finally took effect on 31st March, 1920, numbered 164,982, and 6,498 respectively in 1924 and are analysed in detail in Table F1 of Part II. Together they represent 57·8 per cent. of the total and are responsible for the only significant decrease in the proportions shown for 1924; the continuous decline in this section, which was broken in 1919, appears to have been resumed and the present figure is the lowest hitherto touched. It will be observed that the great increase in the marriages by licence, which was a feature of the 1919 record, has not been maintained; they formed 20·8 per cent. of the Church of England marriages, or 12·4 per cent. of all marriages in that year, but though they have been reduced by more than half, the present proportion is much higher than that of the more recent pre-war years.

Roman Catholic marriages have continued their considerable increase in proportions noticeable since 1909, and in respect of Jewish marriages, the decline registered in 1919 has been reversed by an improvement restoring them to the position of 1914, which is among the highest recorded for this section. Of the Non-conformist marriages, the proportion of which to the total marriages registered remains very similar to that of 1919, 3·7 per cent. were Wesleyan Methodist, 2·5 Congregationalist, 2·0 Baptist, 1·4 Primitive Methodist, 1·0 United Methodist, 0·4 Calvinistic Methodist, and 1·2 of other denominations.

Of the 1,972 Jewish marriages contracted in the year 1924, 1,425 or 72·3 per cent. were registered in London, 155 or 7·9 per cent. in Manchester (Prestwich, Chorlton and Manchester Registration Districts) and 86 or 4·4 per cent. in Leeds Registration District. Of the Jewish marriages in London, no fewer than 1,188 or 83·4 per cent. of the total were registered in the six adjacent registration districts of London City, Whitechapel, Mile End Old Town, Hackney, Bethnal Green and St. George-in-the-East.

Table LXXXVI gives particulars as to the forms under which marriages have been contracted in the various registration counties during 1924. The table is of interest from the light

it throws upon the distribution of the various religious bodies throughout the country. Thus London is seen to be the stronghold of the Jews; the northern industrial counties, particularly Lancashire, of Roman Catholics; Wales and Cornwall, of Non-conformists. Church marriages (other than Roman Catholic or Nonconformist), including both those of the Church of England, and those celebrated according to the rites of the Welsh church, are more evenly spread, the latter being mainly confined to Wales and Monmouth and the former to English counties, though a certain number of exceptions to this division in the border counties are shown in Table F1 of Part II. In England, the proportions vary between the somewhat exceptional extremes of 49·6 per cent. in Cornwall, and 75·8 per cent. in Westmorland; in Wales they are much smaller and more uneven in comparison, varying from 64·7 per cent. and 49·6 per cent. in Radnor and Flint to 15·4 per cent. and 14·0 per cent. in Anglesey and Merioneth.

Civil marriages are relatively more frequent in Wales than in England. The highest proportions were reached in Carmarthen and Glamorgan, where they exceed 40 per cent. of the total; in seven other Welsh counties the proportion exceeded 30 per cent., in which respect London has the only similar record amongst the English counties where the proportion stands at 32·4 per cent.

Table LXXXV.—England and Wales and London—Marriages : Manner of Solemnization, 1844-1924.

Year.	Of 1,000 Marriages.																	
	England and Wales.										London.							
	With Religious Ceremonial.										Not according to the rites of the Established Church.							
	Total.	According to the rites of the Established Church or Church in Wales.					Not according to the rites of the Established Church.					Civil Marriages.	According to the rites of the Established Church.			Civil Marriages.		
Special Licence.		Licence.	Banns.	Superintendent Registrar's Certificate.	Not Stated.	Total in Established Church or Church in Wales.	Roman Catholics.	In Registered Places.	Other Christian Denominations.	Society of Friends.	Jews.		Roman Catholics.	Other Christian Denominations, including Society of Friends.	Jews.			
1844	974	0·1	113	643	12	139	907	17	48	0·4	1·3	26	943	19	17·1	7·4	13	
1849	961	0·1	118	639	18	93	868	30	61	0·4	1·6	39	930	24	20·2	8·1	18	
1854	952	0·1	132	658	24	26	840	49	61	0·3	1·8	48	898	49	22·0	8·4	23	
1859	935	0·1	121	643	25	23	812	46	75	0·4	1·9	65	897	43	23·7	8·2	24	
1864	919	0·1	110	629	24	19	782	48	87	0·3	1·9	81	884	49	31·6	8·7	27	
1869	905	0·1	98	627	23	15	763	41	95	0·3	1·9	95	881	35	35·1	7·9	41	
1874	895	0·1	87	637	19	4	747	40	105	0·2	2·3	105	870	33	39·1	9·2	49	
1879	880	0·2	78	624	18	3	723	41	113	0·3	2·5	120	845	36	39·2	9·9	70	
1884	869	0·3	60	628	17	2	707	43	116	0·3	2·9	131	816	38	39·1	12·1	95	
1889	860	0·1	48	632	16	2	698	42	116	0·3	4·1	140	788	38	44·3	16·7	113	
1894	852	0·1	41	630	13	2	686	42	119	0·3	5·0	148	759	37	42·4	21·5	140	
1899	850	0·1	34	634	9	1	678	41	113	11	0·3	6·4	150	730	35	46·2	28·5	160
1904	821	0·2	30	604	7·0	0·7	642	41	101	30	0·3	7·0	179	676	39	46·3	35·5	203
1909	795	0·1	28	579	6·0	0·9	614	42	92	40	0·4	6·8	205	624	40	48·3	34·0	254
1914	759	0·2	42	536	4·4	0·8	583	47*	72	50	0·3	6·7	241	559	43	41·4	34·3	322
1919	769	0·2	124	469	2·0	1·8	597	52*	63	52	0·4	5·0	231	565	55	36·3	26·5	317
1924	762	0·1	54	520	1·8	1·8	578	55†	62	60	0·3	6·7	238	544	5	41·5	36·1	324

* Including 1 per 1,000 before Authorised Person.

† " " 2·5 " " " "

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

During the year 1924, 2,249 divorces and 37 annulments were obtained, the number of persons involved being twice these figures, or a total of 2,286 of each sex. The total is 14·3 per cent. below the 1923 figure, and is less than two-thirds of the

Table LXXXVII.—England and Wales: Annual Number of Persons Divorced, and of Divorced Persons who Remarried, 1876-1924.

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 ..	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	252	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
1914.. ..	1,712	911	439	472	356	49	68	352	86
1915.. ..	1,360	852	434	418	352	59	46	311	84
1916.. ..	1,908	920	466	454	364	76	52	336	92
1917.. ..	1,956	791	429	362	350	62	34	288	77
1918.. ..	2,222	885	495	390	390	81	43	288	78
1919.. ..	3,308	1,352	708	644	538	142	56	510	106
1920.. ..	6,180	2,370	1,314	1,056	981	272	122	795	200
1921.. ..	7,044	2,878	1,592	1,286	1,182	330	160	939	287
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

record figure of 3,522, involving 7,044 persons, established in 1921 as the result of a greatly stimulated increase in divorce proceedings which followed the termination of the war.

From Table LXXXVII it will be seen that for the second year in succession the records show a decrease in the number of persons who on remarriage described themselves as divorced. The tendency for these remarriages to lag behind the divorces which enabled them to take place has been remarked before, and is to be expected having regard to the time interval which must elapse between divorce and subsequent remarriage. The latest figures afford a particular illustration of this tendency, for though the divorces rose rapidly to a maximum in 1921 and dropped at an even greater rate to 1922, the remarriages continued to increase to 1922, the first fall being shown a year later. And whereas a few years ago the numbers of divorced males and females remarrying were about equal, there is now considerable male excess. But it must be borne in mind that these 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. These figures published in the Statistical Review for the first time in 1921 are in continuation of similar statistics which, up to that year, appeared in the Civil Judicial Statistics, issued by the Home Office.

It will be seen from this Table that of the 2,984 suits commenced in the current year the most frequent duration of marriage at the date of commencement of the proceedings is from 5-10 years with an average of 198 for each of those years of duration, but the maximum is not of particular significance, for this period only accounts for 33 per cent. of the cases, there being 17 per cent. of shorter duration, while in 50 per cent. the marriages have subsisted for 10 years or more. More than 40 per cent. of the marriages in question were childless, and in a further 32 per cent. there was one child only.

BIRTHS.

The births registered during 1924 numbered 729,933 corresponding to a birth-rate of 18·8 per 1,000 of the population living.

The number of births quoted is 28,198 less than those of 1923, a diminution of 3·7 per cent., while the rate for the year is, as was that of last year in its turn, the lowest on record, with the exception of the worst of the years directly affected by the war, viz., 1917, 1918 and 1919, during which it was unusually depressed. The decline since 1920, in which a rate of 25·5 per 1,000 was recorded and which, it will be remembered, marked the climax of the temporary spurt in the birth-rate which immediately followed demobilization, has thus been uninterrupted and inasmuch as the fall during the past year is even heavier than that of the preceding year and has been again succeeded by a further decrease reported for the period 1924-5, it is more than ordinarily difficult to assign limits to the decline and to discern when and where the trough of the present depression is likely to be reached.

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 well below the 20 mark, and without an improvement in the circumstances to which children are born, dominated as they must be by the present economic and industrial conditions of the country, is likely to remain unprecedentedly low in relation to all earlier periods for which we have reliable records.

The crude birth-rate, or ratio of births to population of all ages, is the appropriate form of statement when the object in view is to record the net result of the various factors governing reproduction—proportionate number of potential mothers, the number of those who are married, their age and fertility in relation

to age, etc. 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 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 would form a very 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, based upon the 1921 Census experience and used in 1922-23, has been continued to cover the experience of 1924. It consists in (1) adopting the fertility curve or fertility ratios shown in Table LXXXIX as a standard,

Table LXXXVIII.—England and Wales.—Distribution of Female Population of Reproductive Age, 1871-1921.

Census Year.	Women 15-45 per 1,000 total population of all ages.	Married women in 1,000 female population 15-45.	Married women 15-45 in 1,000 total population of all ages.	Age distribution of 1,000 married women between 15-45.				Age distribution of 1,000 unmarried (<i>i.e.</i> Single and widowed) women 15-45.			
				15-	20-	25-	35-45	15-	20-	25-	35-45
				1871 ..	231	496	115	13	139	455	393
1881 ..	231	491	113	11	137	456	396	410	267	206	117
1891 ..	238	471	112	9	128	480	403	399	270	218	113
1901 ..	250	468	117	7	118	468	407	374	278	229	119
1911 ..	249	477	119	5	94	460	441	353	270	245	132
1921 ..	250	485	121	7	100	431	462	358	255	238	149

(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 which can then be used as an index, comparing in an integral form the actual experience of each period or year with a common standard and, therefore, with one another.

The sources from which the standard fertility rates have been obtained were described in the Statistical Review for 1922, and occasion no further reference here. Two features of interest may, however, be noted in connection with the standard rates: the first is that when they are applied to the 1921 Census

population they produce the number of births registered in 1921 so that the experience of that year automatically forms the basis of the comparison with other years; the second relates to the considerable variation in the incidence of fertility according to the age of the potential mothers. By the standard rates (Table LXXXIX) the chance of a married woman under 20 years of age having a child within a year is nearly $\frac{1}{2}$, between ages 25 and 29 the chance has diminished by 50 per cent. to approximately $\frac{1}{4}$, ten years later it is little more than one-eighth, while in the oldest group shown, *viz.*, 40-45, it is but 3 per cent., or about one-fourteenth of that shown for the youngest age group. When a change in the proportion of married women in one group may thus have an effect upon ensuing fertility fourteen times as great as an identical change in another group, the importance of age distribution of the potential mothers is at once manifest, and it must clearly be taken into consideration in a comparative analysis extending over several decades.

Table LXXXIX.—England and Wales.—Legitimate and Illegitimate Natality by Age of Mother, 1921.

Age Last Birthday.	Legitimate Births per 1,000 Married Women.	Illegitimate Births per 1,000 Spinsters and Widows.
15-	447	7.65
20-	359	15.14
25-	268	8.71
30-	197	0.78
35-	131	—
40-45	32	—

Similar fertility curves are not available for earlier census years, but a comparison with 1921 is shown in Table XC for Census years prior to 1921 in the same way as for successive years subsequent to 1921, *viz.*, by applying the standard fertility rates to the Census populations of those years as already described, and the results are contrasted in that table with the more familiar and more approximate comparisons given by the cruder 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 ago. 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 decreases in the comparative figures to 909 in 1922, to 877 in 1923 and still further to 835 in

Table XC.—England and Wales.—Birth-rates and Fertility, 1871-1924.

Legitimate Births.	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.
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	1,396	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
Illegitimate Births.	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.
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	988
1921	1.02	1,000	7.9	1,000	1,000
1922	0.89	873	7.0	886	837
1923	0.82	804	6.5	823	863
1924	0.78	765	6.2	785	826
All Births.	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.
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) ..	24.4	1,089	—	—	1,095
1921	22.4	1,000	—	—	1,000
1922	20.4	911	—	—	910
1923	19.7	879	—	—	876
1924	18.8	839	—	—	834

* For Standard age rates see Table LXXXIX.

1924. A noteworthy and somewhat unexpected feature brought out in Table XC is that both for the legitimate and illegitimate birth comparisons, the crude birth-rates based upon the total population have in the period prior to 1921 generally provided a better index to the changes in fertility than what has always been assumed to be a better method of comparison, that which relates the births to the married or single women of child-bearing ages alone. The effect of the changes in the proportion of these women in the total population has been partially neutralized by their increase in age and the elimination of one of the variables only has worsened rather than improved the comparisons.

Illegitimate Births.—The births registered during 1924 include 30,296 of illegitimate children, a fall of 1,226 from the number in 1923, coincident with the decrease of 28,198 in total births. Illegitimate births have thus decreased by 3.9 per cent., while legitimate births have decreased by 3.7 per cent. As a result of these changes, the proportion of illegitimate to total births, which had risen from a minimum of 3.95 per cent. in 1901-1905 to 6.26 per cent. in 1918, in consequence of the great reduction in legitimate without any corresponding reduction in illegitimate births before 1918, and a definite increase in their number in that year (Table B), has now declined to 4.15 per cent.

In addition to the crude rate comparison an attempt has been made 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 XCI.

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 table dealing with local birth-rates, formerly limited of necessity to the cruder forms of comparison, is now amplified 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 XCI 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 of Table LXXXIX, 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 1924 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 1924 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 undoubtedly provide a truer picture of the incidence of fertility than that shown by the unadjusted crude rates.

Table XCI.—England and Wales and Sections* of the Country.—Birth-rates, 1921 and 1924.

	1921.			1924.		
	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	18·8	1,000	1,000
London	22·1	987	957	18·6	989	959
County Boroughs	23·5	1,049	1,004	19·6	1,043	998
Other Urban Districts	22·1	987	978	18·4	979	970
Rural Districts	21·4	955	1,060	18·5	984	1,092
Northern Counties	23·7	1,058	1,025	19·9	1,059	1,026
County Boroughs	24·0	1,071	1,026	20·1	1,069	1,024
Other Urban Districts	23·1	1,031	996	19·3	1,027	992
Rural Districts	23·7	1,058	1,099	20·7	1,101	1,144
Midland Counties	22·2	991	999	18·6	989	997
County Boroughs	23·6	1,054	1,000	19·4	1,032	979
Other Urban Districts	21·6	964	964	18·0	957	957
Rural Districts	21·2	946	1,054	18·4	979	1,091
Southern Counties (including London).	20·4	911	941	17·3	920	950
County Boroughs	19·8	884	887	17·1	910	913
Other Urban Districts	18·9	844	898	15·8	840	894
Rural Districts	19·1	853	994	16·4	872	1,016
Wales	25·0	1,116	1,099	21·0	1,117	1,100
County Boroughs	24·9	1,112	1,035	21·3	1,133	1,055
Other Urban Districts	26·7	1,192	1,101	21·8	1,160	1,071
Rural Districts	22·6	1,009	1,143	19·7	1,048	1,187
Illegitimate Births—						
England and Wales	1·02	1,000	1,000	0·78	1,000	1,000
London	0·89	873	788	0·76	974	879
County Boroughs	1·09	1,069	1,034	0·79	1,013	980
Other Urban Districts	0·96	941	944	0·73	936	939
Rural Districts	1·07	1,049	1,197	0·87	1,115	1,272
Northern Counties	1·12	1,098	1,091	0·84	1,077	1,070
County Boroughs	1·15	1,127	1,091	0·85	1,090	1,055
Other Urban Districts	1·04	1,020	1,030	0·77	987	997
Rural Districts	1·17	1,147	1,257	0·94	1,205	1,321
Midland Counties	1·00	980	992	0·74	949	961
County Boroughs	1·04	1,020	975	0·71	910	870
Other Urban Districts	0·91	892	869	0·69	885	862
Rural Districts	1·07	1,049	1,234	0·87	1,115	1,312
Southern Counties (including London).	0·92	902	877	0·75	962	935
County Boroughs	1·04	1,020	1,030	0·80	1,026	1,036
Other Urban Districts	0·91	892	864	0·71	910	881
Rural Districts	0·92	902	1,029	0·76	974	1,111
Wales	1·03	1,010	1,108	0·80	1,026	1,126
County Boroughs	0·77	755	751	0·62	795	791
Other Urban Districts	1·02	1,000	1,134	0·76	974	1,105
Rural Districts	1·22	1,196	1,320	0·99	1,269	1,401

* For constitution of Geographical Sections of the Country see page 7.

† For Standard age rates see Table LXXXIX.

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

For 1924 the diminution in births has been common throughout all of the areas and sections shown in the table; the fall has been least in the North and in Wales, where the rates themselves were relatively high, and greatest in the South, where it was already at its lowest. Variations in the amount of the fall have, in consequence, widened the differences between the several geographical divisions, but they have not disturbed their order; this has been maintained with great constancy year after year, as shown in the following table, which states the birth-rate of each section as a percentage of that of the whole country for each year from 1915 onwards.

Table XCII.—Birth-rate of Different Sections of the Country per cent. of that of England and Wales, 1915–24.

	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.
North ..	104	102	104	106	105	103	106	104	104	106
Midlands..	98	100	98	98	97	100	99	100	99	99
South ..	93	96	94	90	93	96	91	94	94	92
Wales ..	114	111	115	122	112	105	112	107	110	112

But the chief interest in Table XCI must lie in the contrast it brings out between comparisons based on the crude rates and those shown by the more accurate method attempted in col. 6. Taking each of the four geographical units as a whole, it will be seen that while they retain the same relative position in respect of total births, by the completer comparison now introduced, the fluctuations are not nearly so great as would appear from the crude rates. Thus in the North and Wales where the crude rates show excesses of 5·9 and 11·7 per cent. over the mean the later method reduces them to 2·6 and 10·0 per cent. respectively, while in the Midlands the small deficiency of 1·1 per cent. is reduced to a negligible one of 0·3 per cent. On the other hand, in the South, which is below normal, the deficiency is cut down by the new method from 8·0 to 5·0 per cent. If, however, the areas be examined from the point of view of urbanization, the change is a more remarkable one. By the crude rates the births in rural districts were below normal, whereas from the more accurate point of view of fertility they are now shown to be the most productive of all areas, not only for the country as a whole, but for each of the geographical sections. The county boroughs on the other hand, which are above average by the crude rates are transferred to a subnormal position, and London is similarly over favoured by a comparison limited to the crude rates alone. In Wales the fertility of 1924 apparently decreases progressively with urbanization, but in the other areas while the rural districts have the highest rates, the positions of the large and small towns are reversed, the latter showing the rather more unfavourable positions.

The extent of illegitimacy in different classes of area and parts of the country may be gathered from the lower half of Table XCI. The distribution is much the same as that of all births, though the fluctuations are considerably wider throughout; the highest rates occur in the rural districts, but whereas for all births the rural aggregate rate is 9.2 per cent. above the mean, for illegitimate only it is 27.2 per cent. above; London, on the other hand, is 12.1 per cent. below the mean in regard to illegitimacy as compared with 4.1 per cent. for all births. 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 1924 numbered 373,270, and those of females 356,663; the proportion of male to female births was 1,047, 1,036, and 1,047 to 1,000 for legitimate, illegitimate and total births respectively. The corresponding proportions for total births in each year from 1884 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 1,043 in 1875. Since 1919 the male excess fell continuously to 1923 and now shows a slight rise; all the figures of recent years are well in excess of the pre-war level.

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

Table XCIII.—Male Births per 1,000 Female Births, 1924.

	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	1,047	1,050	1,044	1,043	1,053
London	1,047	—	—	1,047	—
County Boroughs ..	1,048	1,055	1,039	1,025	1,068
Other Urban Districts	1,045	1,045	1,043	1,045	1,055
Rural Districts ..	1,046	1,042	1,053	1,045	1,037

The proportion for Wales is higher than that of the three English sections, except in the rural areas, where it is the lowest, and whereas the North and Wales follow the more common tendency of this country in past years and of other countries in experiencing a decreasing degree of masculinity with decreasing urbanization, in the Midlands and the South the position is reversed, though not completely so in the latter case, where the rural districts and the smaller towns are scheduled at the same level; there is however much variability in the relative experience in this matter and the figures of a single year afford no reliable guide to the ascertainment of any characteristic differences.

NATURAL INCREASE.

In 1924 the excess of births over deaths registered in England and Wales was 256,698, as compared with 313,346 in 1923, 293,344 in 1922, and 390,185 in 1921.

The decrease of 56,648 as compared with last year's figures is due to the combined effect of the increase in the death-rate and the reduction in the birth-rate, both of which have been discussed at length elsewhere. It may be recalled, however, that but for a slight waviness, the death-rates of the past few years have remained at an approximately constant level while the birth-rate has been continuously declining, and it is to the influence of the latter that current changes in the natural increment are primarily due. Moreover, the same tendencies appear to be at work in 1925 so that the rate of natural increase for 1924, shown

Table XCIV.—England and Wales. Natural Increase of Population per 1,000 living, 1876-1924.

	Mean Annual 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
1906.. .. .	27.2	15.5	11.7
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

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

as 6.6 per 1,000 population, low as it is in comparison with pre-war years, may be higher than appears to be likely, from present indications, for the immediate years of the future.

Table XCV similarly shows for 1924 the rate of natural increase in various sections of the country, and is the resultant effect of the several sectional birth and death-rates already discussed.

Table XCV.—Natural Increase per 1,000 living, 1924.

	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	6.6	6.7	7.1	5.2	9.0
London	6.4	—	—	6.4	—
County Boroughs ..	6.7	6.4	7.6	4.4	9.4
Other Urban Districts	6.6	6.5	7.0	3.9	10.3
Rural Districts ..	6.6	8.6	6.7	4.9	6.7

UNITED KINGDOM AND IRISH FREE STATE.

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 47,263,196. The estimated populations by sex of the several divisions in each of the years 1874–1924 are shown in Table A.

Table XCVI.—United Kingdom and Irish Free State. Vital Statistics 1914–1923 and 1924.

	United Kingdom and Irish Free State.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.
<i>Estimated Population in the middle of the year 1924 (in thousands).</i>					
Males	23,108	18,545	2,347	620	1,596
Females	24,959	20,201	2,534	659	1,565
Persons	48,068	38,746	4,882	1,279	3,161

Marriages.

1924	351,104	296,416	32,352	7,514	14,822
Persons married per 1,000 living :—					
1914–1923	16.0	16.7	15.2	13.0	9.9
1924	14.6	15.3	13.3	11.7	9.4

Table XCVI—cont.

<i>Births.</i>					
1924	928,731	729,933	106,900	28,496	63,402
Per 1,000 living :—					
1914–1923	21.1	20.9	23.5	22.8	20.1
1924	19.3	18.8	21.9	22.3	20.1
<i>Deaths.</i>					
1924	609,071	473,235	70,357	20,299	45,180
Per 1,000 living :—					
1914–1923	14.3	13.8*	14.9	17.1	15.6
1924	12.7	12.2	14.4	15.9	14.3
<i>Deaths of Infants under 1 year.</i>					
1924	72,213	54,813	10,446	2,411	4,543
Per 1,000 births :—					
1914–1923	90	90	101	93	78
1924	78	75	98	85	72

*For the years 1915–1920 inclusive the figures on which this rate is based relate to civilians only.

Marriages.—The marriages during the year 1924 numbered 351,104, corresponding to a rate of 14.6 persons married per 1,000 of the total population. This rate was 0.1 per 1,000 below the corresponding rate in 1923, and 1.4 per 1,000 below the average rate in the ten years 1914–1923.

Births.—The births registered in the year 1924 numbered 928,731, and were in the proportion of 19.3 per 1,000 of the total population. This rate was 0.8 per 1,000 below the corresponding rate in 1923, and 1.8 per 1,000 below the average in the ten years 1914–1923.

Deaths.—The deaths registered in the year 1924 numbered 609,071, and were in the proportion of 12.7 per 1,000 of the total population. This rate was 0.8 per 1,000 above the corresponding rate in 1923, and 1.6 per 1,000 below the average in the ten years 1914–1923.

Infant Mortality.—The deaths of infants under one year of age during the year 1924 numbered 72,213 and were equivalent to a rate of 78 per 1,000 registered births against 70 in 1923 and an average rate of 90 in the ten years 1914–1923.

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 charge of His Majesty's ships. These returns of births and deaths at sea constitute the "Marine Register Book." During the year 1924 this register was increased by the addition of 166 entries of birth and 2,256 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 1924 by 1,796,000, this addition raising the total of names in the indexes, which at the end of 1924 embraced a period of 87½ years, to 147,446,166 (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

Table XCVII.

Years.	Total Searches.	Gratuitous Searches.	Searches paid for by Fees.	Certificates Issued.	Amount Received.
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

* Including some searches made in 1908.

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

registers and records are deposited in this Office under statute or other arrangement. A list of these various registers and records will be found on pages xxix-xxxii of the Annual Report for 1895. Searches may be made in any of these registers, and certificates obtained on payment of the prescribed fees.

Table XCVII affords an indication of the extent to which the copies of the records kept in this Office have been utilized by the public for legal evidence of births, deaths and marriages since 1866.

The 178,990 gratuitous searches during 1924 include 104,660 searches made in the Birth Records for the purpose of verifying the ages of persons claiming old-age pensions, 17,113 searches in the Census Records of 1861 etc. for the same purpose, 44,789 made to assist dependents of men of H.M. Forces to produce evidence of marriage and of the births of children in connection with claims to Naval and Military Pensions, Separation Allowances, etc., and to verify the ages of certain classes of youths and men in connection with service in the Army, Navy, and Air Force, and 12,428 made for other public purposes.

Offences against the Registration Acts.—In 1924 seven persons, on prosecution by order of the Registrar-General, were convicted of offences in connection with registration. The offences for which convictions were obtained were as under:—

- (a) Giving false information when registering the birth of a child 5
- (b) For using as true a falsified Certificate of birth or death 2

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 being those of false registration and making false declarations when giving notice of marriage.

PARLIAMENTARY AND LOCAL GOVERNMENT ELECTORS.

In Tables T and U of Part II of the Statistical Review, 1924, are shown the numbers of males and females on the Register of Electors compiled under the Representation of the People Act, 1918, in respect of the qualifying period of six months ending on the 15th June, 1924.

The first returns of electors on the Registers prepared after the passing of that Act were issued in 1919 and 1920 by the Home Office. In both returns statistics were given of the Parliamentary and Local Government electors in respect of each Parliamentary constituency in the United Kingdom. From and including the year 1921 the publication has been embodied in the Registrar-General's Statistical Review.

In addition to these periodical returns, the numbers of Parliamentary electors, male and female, in 1921 were published for each constituency in the Reports of the 1921 Census for England and Wales and were then compared with the respective populations of these areas by the addition of columns showing the ratio of electors of each sex to the population in the several age periods (21 and over in the case of males and 30 and over in the case of females), governing the franchise under the Act, the electorate used for these more detailed comparisons being that of the Autumn Register for 1921.

The particulars issued in Part II of the present Statistical Review, in respect of the Autumn Register for 1924, 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.

The expressions "Parliamentary electors," "Local Government electors," and "persons on absent voters list," have in the tables the same meaning as in the Act. The expression "men registered for business premises qualification," means men who are qualified to be registered as occupiers of business premises and are not resident in the qualifying premises.

The Registration Officers were instructed to enter in the statements from which the Return has been compiled the total number of names on the Register without any deduction in respect of persons who are registered in more than one Parliamentary or Local Government constituency, and further, to take care to secure 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.

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.

The totals of the Autumn 1924 Registers are shown in the following summary in conjunction with the figures of previous Autumn Registers made since the passing of the 1918 Act.

England and Wales.

Regis- ter	Parliamentary Register (including University Constituencies).					Local Government Register.		
	Persons.	Males.	Females.	Men registered for business premises qualifica- tion (included in Cols. b and c).	Persons on Absent Voters List (included in Cols. b-d).	Persons.	Males.	Females.
Autumn								
1918	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	7,700,106	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

It will be observed that the total female electorate on the Parliamentary Register and both male and female on the Local Government Register have steadily increased with the increase in population since the passing of the 1918 Act. The male Parliamentary electorate has increased since 1920, but for earlier years a decrease is shown, due, as explained at greater length in the 1921 report, to a special provision of the 1918 Act under which members of the fighting forces were exceptionally placed upon the register at the age of 19 instead of the normal age of 21. The consequence of this was that in the two years after demobilisation, the normal number of new entrants was diminished by the earlier registrations at a younger age and the residue was less than the lapses by death, etc.

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 18,806,842 represents 48.5 per cent. of the estimated total population, or 57.8 per cent. of the male and 40.0 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 41.3 per cent. of the whole population, or 43.2 per cent., and 39.6 per cent. in the case of males and females separately.

Of the total of the Parliamentary Registers, the bulk, viz., 18,753,978, represents the aggregate voting strength in the 509 geographical constituencies into which England and Wales is divided, the balance of 47,864 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 36,075 per member and eight in respect of the Universities, with an average electorate of 5,983.

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 1905-1924.

Table W, showing the Area, Population, Births and Deaths in British Islands other than Great Britain and Ireland from 1902-1924.

Table X, showing the Population, Births, Deaths, Infant Mortality, Marriages and corresponding rates for the year 1924 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 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 and Poor Law Areas in England and Wales during 1924.

Table BB, showing the changes which have taken place in the boundaries of Administrative Areas in England and Wales during 1924, with enumerated population by sex and age 1921 of the transferred areas.

METEOROLOGY OF THE YEAR 1924.*

On the whole the year 1924 was dull and wet with temperature below normal during the summer. The cold spell during the last three weeks of February and the first week of March, the brief spell of warm sunny weather at Easter, and some warm days in the latter half of June and near the middle of July, were some of the outstanding meteorological features of the year. A striking feature of the summer months was the unusual number of thunderstorms accompanied in many instances by very heavy falls of rain and hail which helped to constitute record values in some places.

* Furnished by the Director of the Meteorological Office.

The weather of *January* was warm and unsettled and mainly rather wet. Sunshine was somewhat in excess of normal in most parts of the country. Ground frosts were numerous and snow fell over the greater parts of the country on 8th-9th. *February* was dull and very dry with cold northerly and easterly winds. *March* was cold, dry and sunny with winds between north and north-east. *April* was generally wet, cloudy and cool, with the exception of a spell of warm sunny weather at Easter. *May* was generally dull with excess of rain, largely associated with thunderstorms which were of frequent occurrence. Heavy floods occurred in some of the Midland counties. *June* was generally dull and unsettled. The rainfall amounted to 104 per cent. of the normal; the first half of the month was the wetter and the floods which occurred at the end of May continued during the first few days. *July* was noted for its severe local thunderstorms and general heavy rains. In most places the 12th was the hottest day of the year. Sunshine was in excess in eastern England and the Midland counties and deficient elsewhere. *August* was mainly cool and unsettled with westerly winds. Rainfall was slightly in excess except in north-east and eastern England. Sunshine was everywhere deficient. *September* was dull, windy and very wet. Temperature was above normal generally. *October* was dull and unsettled generally. Rainfall was above normal over the greater part of England and Wales. *November* was warm, dry and dull generally except in north-west England, where sunshine was in excess of normal. *December* was warm and unsettled, dry in the first half but wet and stormy in the second half. Sunshine was in excess except in north-east England.

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.