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CITY OF BRADFORD.

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ANNUAL REPORT
OF
MEDICAL OFFICER.

1918.

BRADFORD :

WM. BYLES AND SONS, PRINTERS, KIRKGATE.

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PREFACE.

The statistics in the report for 1918 are based on the following estimates of population for the middle of that year:—Civil population, 259,707; total population based on the census returns, 290,992.

The birth-rate for 1918 has been 13·30 per 1,000 of population, and the death-rate 19·13 per 1,000.

The death-rate from Zymotic Diseases is 1·07 per 1,000, and from all forms of tuberculosis 1·74.

The infantile mortality rate for 1918 has been 123 per 1,000 births.

The chief features of the statistics for the year are the high death-rate due to the prevalence of influenza, the low birth-rate, and the high proportion of illegitimate births.

JOHN J. BUCHAN,

Medical Officer of Health.

TOWN HALL, BRADFORD,

1st September, 1919.

I.—VITAL STATISTICS.

(A) POPULATION.

DISTRIBUTION AND DENSITY OF POPULATION.

Wards	Population, Census 1911	Estimated Civil Population, 1918	Area of Wards in Acres	Persons per Acre
Allerton	11,698	10,635	2864	3·7
Bolton	8,912	8,020	1001	8·0
Bradford Moor	23,037	20,968	680	30·8
East	16,629	14,913	385	38·7
East Bowling	17,771	15,983	565	28·2
Eccleshill	10,471	9,542	1221	7·8
Exchange	3,101	2,630	118	22·2
Great Horton	23,415	21,285	1289	16·5
Heaton	17,734	16,080	883	18·2
Idle	7,520	6,910	1693	4·1
Listerhills	16,142	14,160	321	44·1
Little Horton	16,389	14,625	425	34·4
Manningham	22,941	20,820	449	46·3
North	12,158	10,815	353	30·6
North Bierley East	12,013	10,864	2419	4·4
North Bierley West	10,109	9,235	1836	5·0
South	14,366	12,746	303	42·1
Thornton	5,544	4,957	2251	2·2
Tong	7,365	6,718	2659	2·5
West	10,035	8,782	162	54·2
West Bowling	21,108	19,019	1003	18·9
City	288,458	259,707	22,880	11·3

The average density of population varies from 2·2 persons per acre in Thornton Ward to 54·2 in the West Ward.

(B) BIRTHS.

The number of births registered in the 52 weeks ending December 28th, 1918, was 3,871, of which 2,047 were males and 1,830 females. This gives a birth-rate for the year of 13·30 per 1,000, an increase of ·24 per 1,000 from that recorded last year.

The fall in the Bradford birth-rate is shown on the chart following page 14 and in Table A, page 15.

Locally the birth-rate varied from 9·10 in Heaton Ward to 20·49 in the Listerhills Ward.

The births in each ward in the four quarters of 1918 are seen on the table on the following page.

Illegitimacy. Of the 3,871 births registered during 1918, 326 or 8·4 per cent. were illegitimate. This proportion of illegitimate births is the largest on record.

(C) DEATHS.

The total number of deaths occurring in Bradford in 1918 was 4,770, but after adding those deaths of Bradford persons occurring outside the city and deducting those occurring in the city of persons resident outside, the number becomes 4,969; and of these 2,491 were males, and 2,478 females. The death-rate corrected for public institutions is therefore 19·13. The death-rate for 1918 is 3·79 per 1,000 more than that of the previous year.

During the year 1918 there has, therefore, been a natural decrease of the population equal to 5·83 per 1,000.

BIRTHS IN WARDS IN EACH QUARTER OF 1918.

Wards	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total.
Allerton	25	39	31	30	125
Bolton	33	23	25	18	99
Bradford Moor ..	90	70	76	77	313
East.. ..	47	47	67	40	201
East Bowling ..	73	61	57	59	250
Eccleshill	28	29	32	32	121
Exchange	7	11	10	9	37
Great Horton ..	62	62	66	58	248
Heaton	43	39	49	32	163
Idle	18	20	20	19	77
Listerhills	80	82	89	83	334
Little Horton ..	58	48	32	59	197
Manningham.. ..	74	95	98	85	352
North	52	56	36	43	187
North Bierley East ..	45	41	59	32	177
North Bierley West ..	36	26	45	25	132
South.. ..	62	59	68	52	241
Thornton	18	21	18	19	76
Tong	33	30	30	22	115
West	33	26	40	30	129
West Bowling ..	73	66	79	79	297
City	990	951	1027	903	3871

The death-rates for the past thirty years are seen on Table A, page 15. The average death-rate per 1,000 for five-yearly periods from 1871 is as follows:—

AVERAGE QUINQUENNIAL DEATH-RATES FROM 1871.

1871-75 ..	25·9	1891-95 ..	19·7	1911-15 ..	15·5
1876-80 ..	22·3	1896-1900..	17·9	1916 ..	16·0
1881-85 ..	19·9	1901-05 ..	16·3	1917 ..	15·34
1886-90 ..	20·9	1906-10 ..	15·1	1918 ..	19·15

The Wards with the lowest death-rates have been Allerton, Bolton, Great Horton, Eccleshill, Bradford Moor, Heaton, and Little Horton—all under 17 per 1,000—while the Wards with the highest death-rates have been Exchange, West, Listerhills, North, South, and Tong—all over 20 per 1,000.

The death-rate among the male population has been 23·98, and among the female population 15·90 per 1,000.

The death-rate in Bradford compared with England and Wales is shown on the chart following, page 14.

Mortality at Different Ages. The following Table shows the total deaths in each age group during the past six years.

NUMBER OF DEATHS IN EACH YEAR AT DIFFERENT AGE PERIODS.

Age.	1913	1914	1915	1916	1917	1918
Under 1 year	741	693	622	581	513	477
1— 2 years	152	190	213	123	159	181
2— 5 ..	105	171	168	106	156	294
5—15 ..	133	142	174	145	126	252
15—25 ..	163	177	186	163	158	290
25—45 ..	584	543	616	574	515	761
45—65 ..	1253	1328	1315	1157	1104	1294
over 65 ..	1343	1336	1451	1487	1354	1420

DEATHS IN WARDS IN EACH QUARTER OF 1918.

Wards	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1918
Allerton	31	27	28	71	157
Bolton	31	43	13	40	127
Bradford Moor ..	73	70	81	129	353
East	62	52	51	92	257
East Bowling ..	62	93	55	107	317
Eccleshill	44	37	31	50	162
Exchange	25	22	8	25	80
Great Horton ..	79	78	65	98	320
Heaton	58	60	54	97	269
Idle	31	28	21	44	124
Listerhills	73	64	66	91	294
Little Horton ..	47	53	59	78	237
Manningham	92	109	79	130	410
North	58	70	55	78	261
North Bierley East ..	42	51	55	97	245
North Bierley West ..	38	42	27	73	180
South	66	96	60	97	319
Thornton	13	25	19	35	92
Tong	29	34	29	50	142
West	48	59	66	75	248
West Bowling ..	79	78	77	125	359
City	1082	1194	1006	1687	4969

In the West Riding Lunatic Asylums and other Institutions outside the district there were 295 deaths of persons ordinarily resident in Bradford, but in reference to 16 of them no address was returned, consequently it was impossible to refer them to any particular municipal ward.

BIRTH AND DEATH RATES IN EACH WARD.

Wards.	Birth-rate per 1000	Death-rate per 1000
Allerton	10·58	14·86
Bolton	11·02	15·83
Bradford Moor	13·45	16·85
East	11·98	17·23
East Bowling	13·94	19·83
Eccleshill	11·44	16·87
Exchange	11·82	30·41
Great Horton	10·49	15·03
Heaton	9·10	16·72
Idle	10·14	17·80
Listerhills	20·49	20·75
Little Horton	11·90	16·21
Manningham	15·28	19·68
North	15·23	25·48
North Bierley East	14·60	20·39
North Bierley West	12·94	19·49
South	16·62	25·02
Thornton	13·59	18·55
Tong	15·48	21·13
West	12·74	28·23
West Bowling	13·94	18·87
City	13·30	19·13

Infantile Mortality. There were 477 deaths of infants under one year of age which gives an infantile mortality rate of 123 per 1,000 births. It will be seen that the number of infant deaths is comparatively small, but on account of the much lower number of births the infantile mortality rate still remains high.

INFANTILE MORTALITY IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	116	127	140	99	128	122	123	118	132	123
Great Town	118	115	140	101	117	114	117	99	104	106
England & Wales	109	106	130	95	109	105	110	91	97	97

Mortality between one and sixty-five years. The number of deaths between these ages in 1918 was 3,072, which gives an annual death-rate per 1,000 living at these ages of 12·7 as against 8·9 in 1917.

Mortality over sixty-five years. There were 1,420 deaths of persons aged sixty-five and upwards which gives an annual death-rate per 1,000 living of 102·3 as against 97·5 in 1917.

Deaths in Public Institutions. In 1918, 1,271 deaths of Bradford residents occurred in Public Institutions, or 25·5 per cent. of the total deaths.

DEATHS IN PUBLIC INSTITUTIONS.

Name of Institution.	1916	1917	1918
Bradford Union Hospital	412	513	595
North Bierley Union	103	77	76
Giggleswick Union	10	9	7
Barnsley Union	73	21	53
Other Poor Law Institutions	12	4	9
Menston Asylum	56	75	105
Wakefield Asylum	1	—	1
Storthes Hall Asylum	9	6	7
Scalebor Park Asylum	1	—	4
Other Asylums	2	6	2
Royal Infirmary	184	216	199
Children's Hospital	64	57	48
Eye and Ear Hospital	10	4	5
St. Catherine's Home	20	22	14
Other Voluntary Hospitals	9	4	6
Leeds Road Hospital	119	15	—
Bierley Hall Hospital	19	31	23
Odsal Sanatorium	8	44	26
City Infants' Hospital	34	24	35
Municipal Maternity Home	5	9	2
North Bierley Joint Hospital	5	30	33
Calverley Joint Hospital	1	1	2
Thornton Joint Hospital	10	3	10
Other Institutions	1	1	9
Total	1168	1172	1271

It will be noted that in 1918, 740 deaths, or 14·9 per cent. of the total deaths occurred in Poor Law Hospitals; 119 deaths or 2·3 per cent. in Lunatic Asylums; 272 deaths, or 5·4 per cent., in Voluntary Hospitals; and 131 deaths, or 2·6 per cent., in Municipal Hospitals.

The age incidence of deaths in Public Institutions is shown in the following Table :—

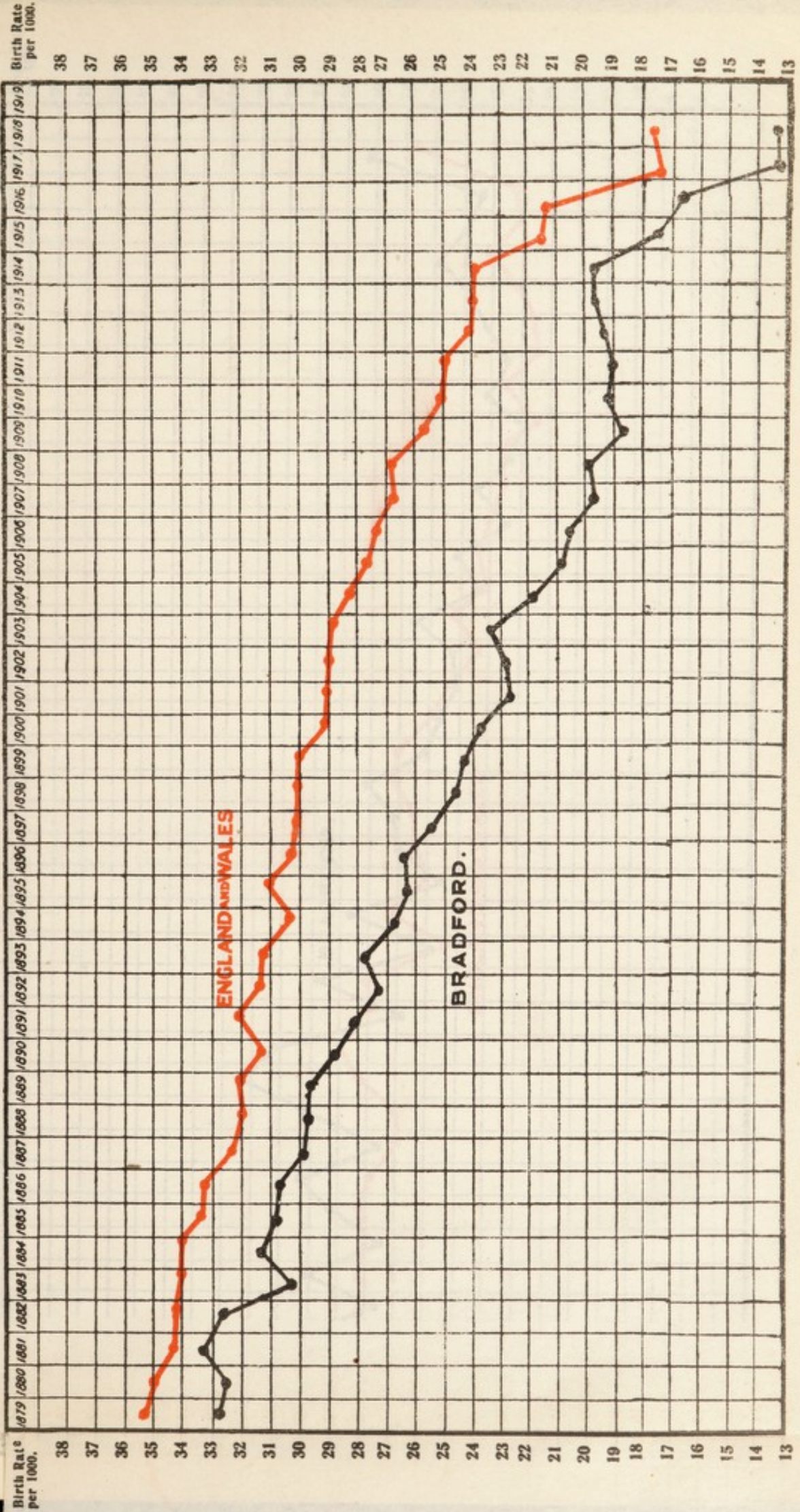
	Poor Law Hospitals	Lunatic Asylums	Voluntary Hospitals	Municipal Hospitals	Other Institutions	Total	Per cent. of Deaths at each age
Under 1	60	—	18	33	2	113	23·7
1— 2	18	—	19	2	—	39	21·5
2— 5	9	—	16	20	—	45	15·3
5—15	12	—	31	20	—	63	25·0
15—25	23	4	17	22	1	67	26·5
25—45	89	44	60	25	4	222	29·1
45—65	223	46	79	8	1	354	27·6
65 and over	306	25	32	1	1	365	25·7
Total	740	119	272	131	9	1271	25·5

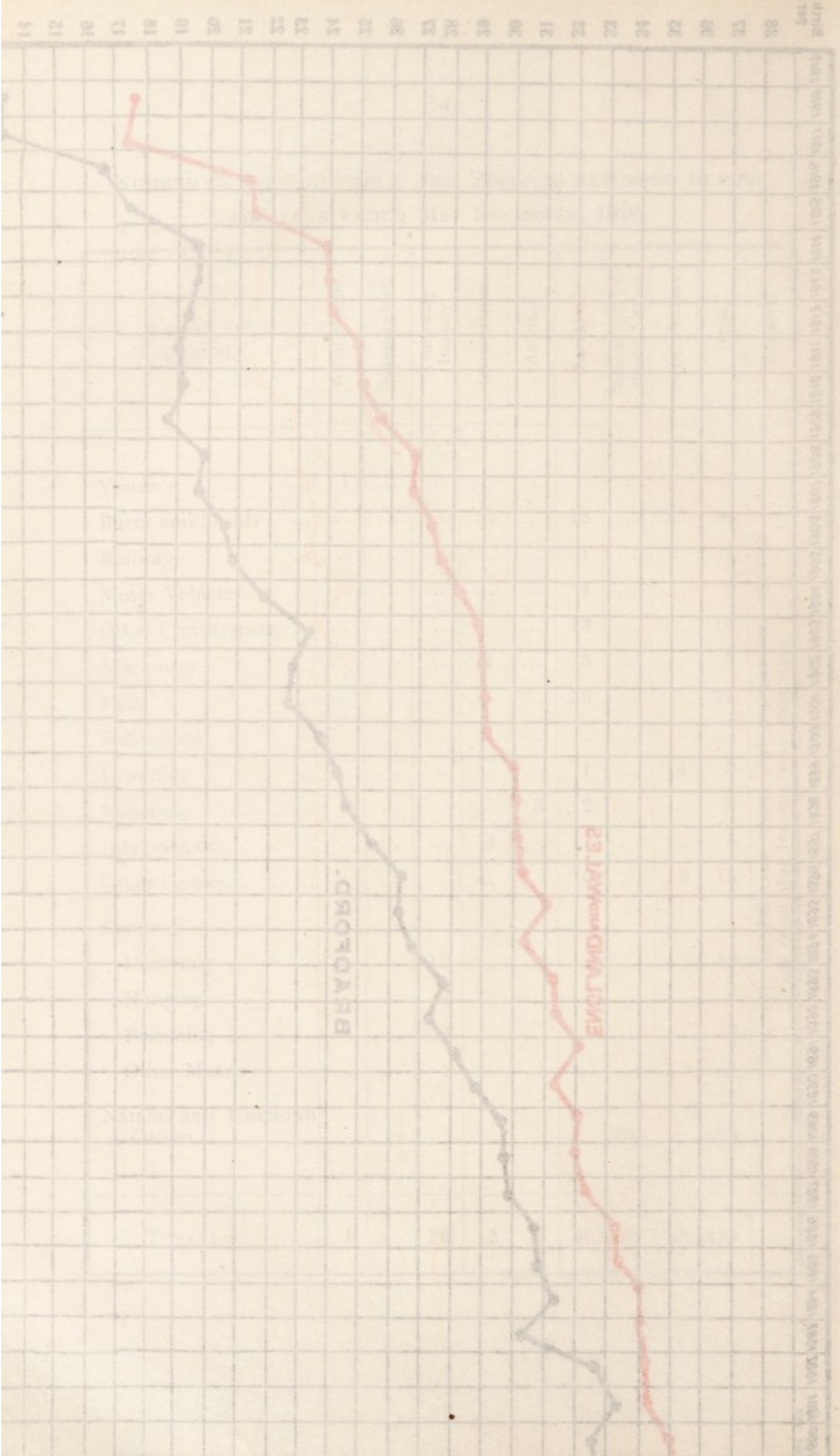
Certification of Deaths. 4,539 deaths, or 91·4 per cent., were certified by medical practitioners, and 425 or 8·5 per cent., by the coroner after inquest, and 5, or 0·1 per cent., were uncertified. The table on the following page shows the causes of death as found at the inquests held.

NUMBER OF INQUESTS HELD, AND VERDICTS RETURNED DURING
THE YEAR ENDED 31ST DECEMBER, 1918.

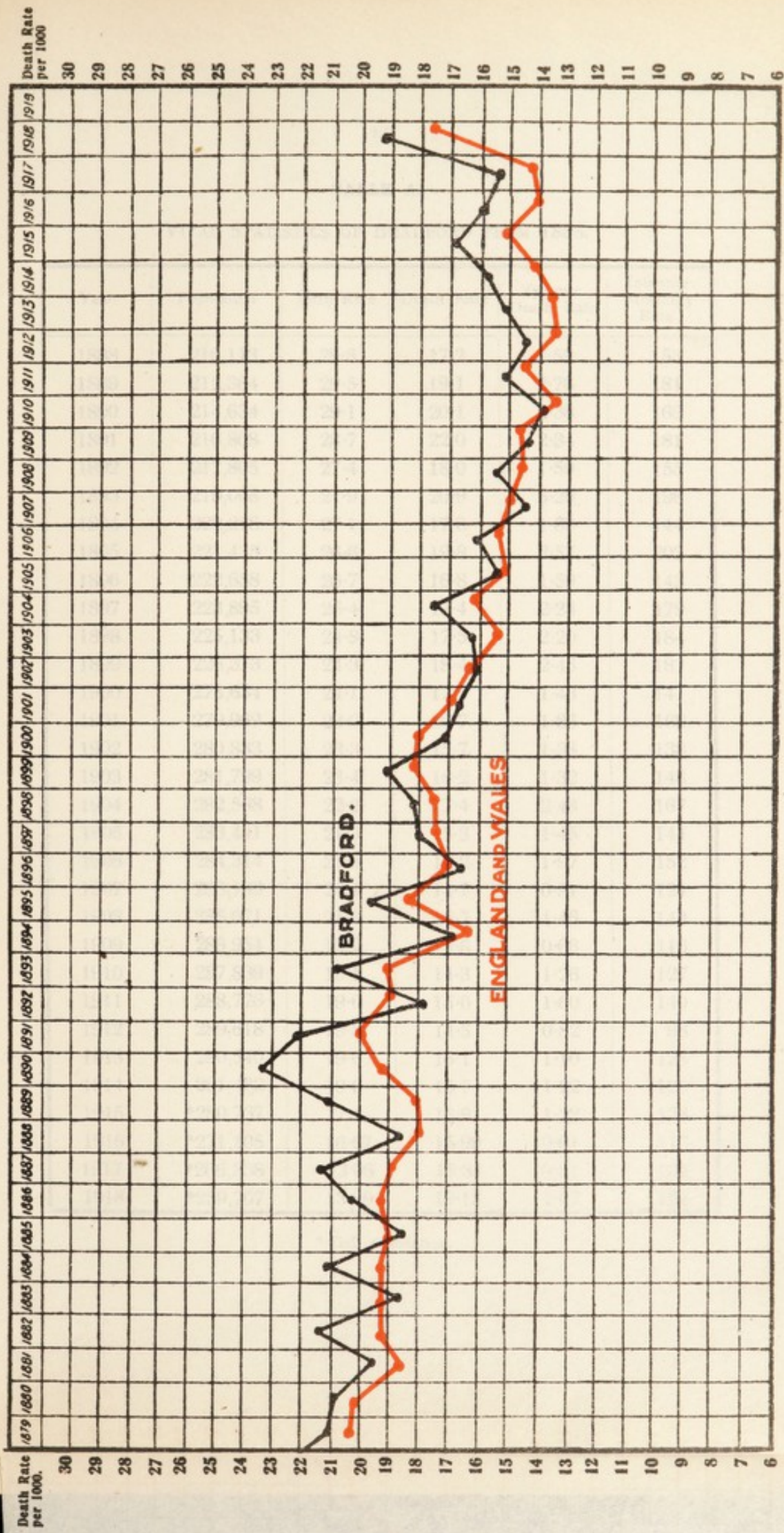
CAUSE OF DEATH.	Wilful Murder.	Manslaughter.	Temporary Insanity.	Intemperance.	Anthrax.	Accidents.	Natural and Un-known Causes.	Open Verdicts.	Totals.	Remarks.	
Violence	1	1	There were also 112 cases where, after enquiries were made, it was found that Inquests were unnecessary.	
Burns and Scalds	18	...	...	18		
Railway	1	...	...	1		
Motor Vehicles	4	...	...	4		
Other Conveyances	13	...	...	13		
Machinery	1	...	5	...	...	5		
Falls	36	...	...	37		
Suffocation		
Drowning	1	...	4	5		
Poisoning	3	2	...	...	5		
Intemperance	4	...	...	...	...	4		
Other Causes	10	...	5	15		
SUICIDES—											
Drowning	12	12		
Hanging	2	...	...	...	...	...	2		
Poisoning	8	...	...	...	...	...	8		
Other Means	4	...	...	...	...	1	5		
Natural and Unknown Causes	290	...	290		
TOTALS	1	...	26	5	3	90	290	10	425		

BIRTH RATE, 1879-1918.





DEATH RATE, 1879—1918.



1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100

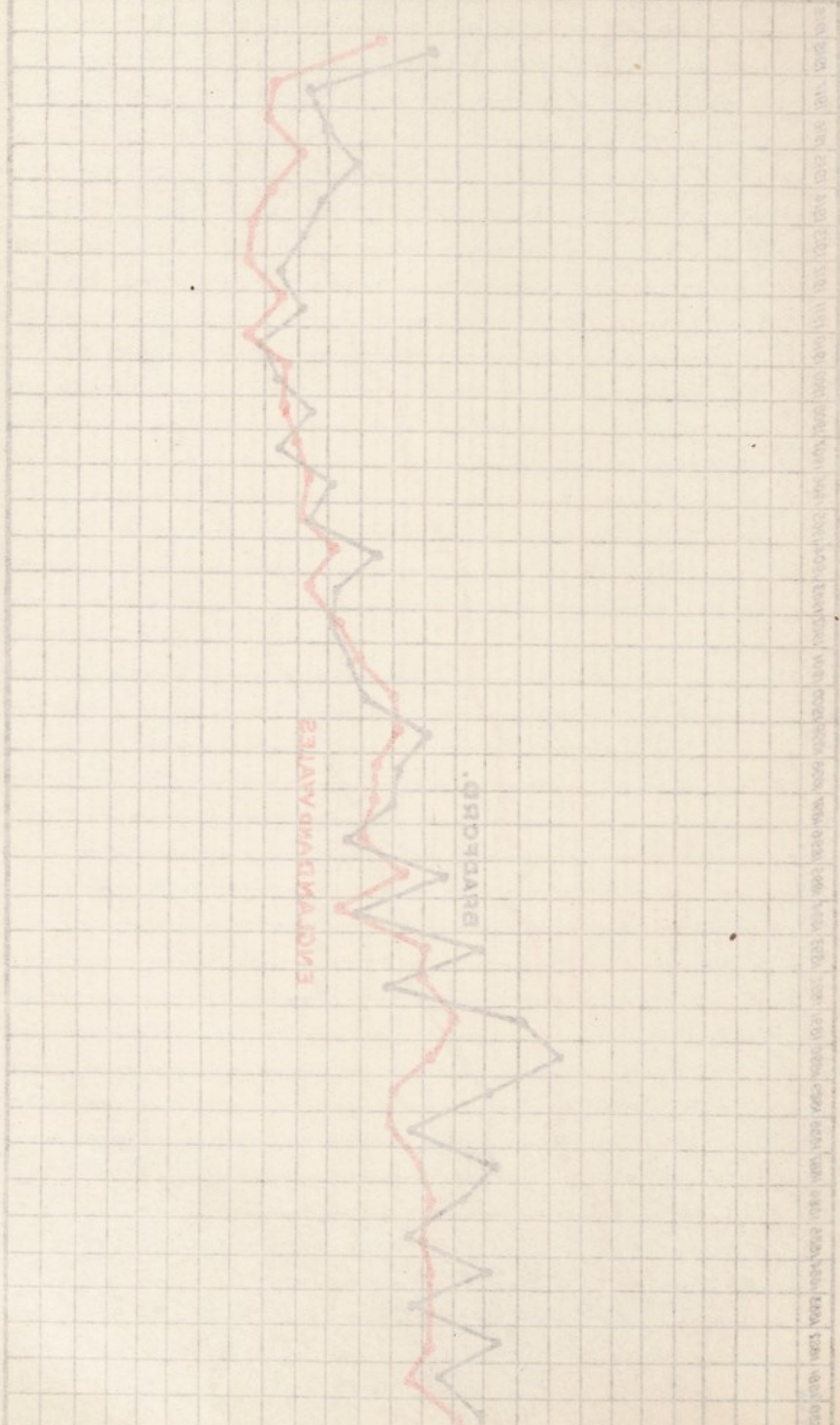


TABLE A.

VITAL STATISTICS OF BRADFORD FROM 1888.

Year	Population	Birth Rate	Death Rate	Zymotic Death Rate	Infantile Mortality Rate
1888	210,113	29·8	17·2	1·59	153
1889	212,364	29·5	19·1	2·76	181
1890	214,634	29·1	20·1	2·38	169
1891	216,808	28·7	22·0	2·34	181
1892	217,805	27·4	18·0	1·59	155
1893	219,008	27·9	20·9	3·20	198
1894	220,218	27·1	17·0	1·69	144
1895	221,435	26·6	19·8	2·57	203
1896	222,658	26·7	16·8	1·59	143
1897	223,895	25·4	17·4	2·24	179
1898	225,133	24·8	17·5	2·20	184
1899	226,373	24·3	18·4	2·43	181
1900	278,634	24·1	17·1	1·43	141
1901	279,969	23·0	16·7	1·86	168
1902	280,833	23·3	15·7	1·38	138
1903	281,799	23·4	16·2	1·32	148
1904	282,568	22·2	17·4	2·43	167
1905	283,441	21·3	15·3	1·45	144
1906	284,314	20·9	16·2	1·97	152
1907	285,189	20·1	14·7	0·91	124
1908	286,071	21·0	15·7	1·46	143
1909	286,954	19·2	14·6	0·68	116
1910	287,839	19·1	14·3	1·26	127
1911	288,723	19·0	15·0	1·60	140
1912	289,618	19·3	14·5	0·82	98
1913	290,540	19·6	15·1	1·10	128
1914	291,482	19·6	15·7	1·22	122
1915	*280,737	17·4	16·9	1·22	123
1916	*271,105	16·67	15·99	0·61	118
1917	*266,338	13·06	15·34	0·81	132
1918	*259,707	13·30	19·13	1·07	123

* Civil population.

II.—RECORDS OF DISEASE.

(A) THE ZYMOTIC DISEASES.

The total deaths from these diseases in Bradford in 1918 was 279, giving a mortality rate for this group of 1·07 per 1,000.

AVERAGE QUINQUENNIAL ZYMOTIC DEATH-RATES FROM 1871.

1871-75 ..	5·5	1891-95 ..	2·3	1911-15 ..	1·2
1876-80 ..	3·1	1896-1900..	2·0	1916 ..	0·6
1881-85 ..	2·1	1901-05 ..	1·7	1917 ..	0·8
1886-90 ..	2·3	1906-10 ..	1·3	1918 ..	1·07

The Zymotic death-rate for the first quarter was 1·16; for the second 2·87; for the third 1·02; and for the fourth 0·54.

The diseases to be notified in Bradford are smallpox, cholera, diphtheria, membranous croup, erysipelas, scarlet fever, measles and German measles, ophthalmia neonatorum, infective enteritis, acute poliomyelitis, cerebro-spinal fever, tuberculosis, acute-polio encephalitis, encephalitis lethargica, pneumonia, and influenzal pneumonia, malaria dysentery, scabies, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued or puerperal.

The number of notifications received during the year was 5,191.

NOTIFICATIONS FOR THE PAST 10 YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Scarlet Fever	1238	870	595	634	529	469	499	317	229	197
Typhoid Fever	81	110	196	256	81	80	93	70	28	32
Smallpox	—	—	—	2	—	—	2	—	—	—
Continu'd Fever	—	2	1	—	—	1	—	3	—	—
Relapsing Fever	—	—	—	1	—	—	—	—	—	—
Cerebro- Spinal Fever	1	—	—	2	—	2	3	2	21	15
Puerperal Fever	18	16	26	16	15	21	30	32	12	13
Diphth'ra and Croup	353	337	481	422	449	318	425	518	281	281
Ophth'lma Neona- torum..	215	—	—	—	—	72	85	86	83	71
Erysip'las	—	170	293	233	225	241	232	165	138	114
Poli'mye- litis ..	—	—	—	2	3	2	—	1	2	1
Infective Enteritis	—	—	—	—	—	284	351	175	120	91
Measles..	—	—	—	—	—	—	—	2163	3213	3868
Scabies ..	—	—	—	—	—	—	—	—	—	508
Total	1906	1505	1592	1568	1302	1490	1720	3532	4127	5191

These numbers do not include the notifications of chickenpox required from time to time, nor notifications of tuberculosis.

Diphtheria. Cases, 281 ; Deaths, 43 ; Fatality, per cent., 15·3.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford England and Wales	0·19	0·12	0·18	0·19	0·18	0·12	0·21	0·16	0·15	0·16
	0·14	0·12	0·13	0·11	0·12	0·15	0·15	0·14	0·13	0·14

The number of cases of Diphtheria in 1918 was exactly the same as that for 1917, but the fatality rate was slightly higher. The sickness rate per 1,000 was 1·08. The greatest number of cases occurred in the West Bowling Ward, where 53 cases were notified, and in the Little Horton Ward, where 33 cases occurred.

CASES OF DIPHTHERIA MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	22	32	40	38	20	23	12	18	17	27	19	13

The greatest incidence of the disease fell on children between 5 and 7 years of age.

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-15	15-20	Over 20	Total
Cases ..	5	2	12	21	23	33	25	13	17	14	66	17	33	281
Deaths	1	2	4	8	4	8	5	1	3	1	3	—	3	43
Fatality per cent.	—	—	33·3	38·1	17·3	24·2	20·0	7·7	17·6	7·1	4·6	—	9·1	15·3

In 131 cases it was thought advisable to test the house drains where Diphtheria had occurred; the drains were found defective in 19 or 14·5 per cent. of the cases.

The number of cases removed to hospital was 215, or 26·5 per cent. of the cases.

Enteric Fever. Cases notified, 32; Deaths, 2; Fatality per cent., 6·2.

MORTALITY RATES PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	0·06	0·10	0·14	0·18	0·06	0·08	0·07	0·04	0·01	0·01
England and Wales	0·06	0·05	0·07	0·04	0·04	0·05	0·04	0·03	0·03	0·03

The monthly incidence of the disease is shown as follows:—

CASES OF ENTERIC FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	1	3	5	4	5	0	3	2	3	5	0	1

The sickness rate in Bradford was 0·12 per 1,000 of the population.

In 24 cases it was thought advisable to test the house drains; defects were found in 3 or 12·5 per cent.

The number of cases removed to hospital was 17, all of which were accommodated at Thornton Hospital.

The bacteriological examinations carried out with respect to Enteric Fever are referred to in another part of the Report.

Scarlet Fever. Cases, 197; Deaths, 0; Fatality per cent., nil.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	0·08	0·05	0·03	0·04	0·03	0·02	0·09	0·01	0·01	—
England and Wales	0·09	0·06	0·05	0·05	0·06	0·08	0·06	0·04	0·02	0·03

The number of cases of Scarlet Fever notified in 1918 is less than that of 1916. The sickness rate per 1,000 in Bradford in 1918 was 0.75. The greatest number of cases occurred in Manningham and Great Horton Wards, where 22 cases were notified, and in Little Horton Ward, where 18 cases were notified.

CASES OF SCARLET FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	23	25	18	20	14	17	11	11	15	14	15	14

The cases and deaths classified according to age are seen in the following Table:—

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-5 years	5-15 years	15-25 years	25-45 years	45-65 years	Over 65 years	Total
Cases	2	41	129	15	9	1	—	197
Deaths.. .. .	—	—	—	—	—	—	—	—
Fatality per cent. ..	—	—	—	—	—	—	—	—

The number of cases removed to hospital was 146, or 74.1 per cent. of the cases.

Small Pox. No cases of or deaths from Small Pox occurred in the City during 1918.

The following Table gives the vaccination returns in the Bradford Union since 1913. The figures have been supplied by Mr. Crowther, the Superintendent Vaccination Officer of the Bradford Union.

VACCINATION STATISTICS.

Year	1 Births	2 Vaccinated	3 Insus- ceptible	4 Dead	5 Con. Objector	6 Post- poned	7 Removed	8 Un- accounted	Percent- age not Vaccinat'd including Columns 5, 6, 7, 8
1913	4739	1785	2	450	2037	115	265	85	58.3
1914	4775	1768	7	461	1950	132	321	136	53.2
1915	4249	1559	6	365	1720	136	322	141	54.6
1916	4028	1337	6	355	1767	103	278	182	57.7
1917	3262	1068	18	287	1418	66	251	154	57.9

The figures for that part of Bradford included in the North Bierley Union, are not available.

Diarrhœa. Deaths, 42; Mortality per 1,000, 0.16.

This disease was little prevalent in 1918.

The majority of the deaths occurred in children under one year of age; 36, or 85.7 per cent. of the deaths occurring at this age period.

DEATHS AT VARIOUS AGE PERIODS.

Age Periods	Months			Total under One Year.	Years.							
	0-3	3-6	6-12		0-1	1-2	2-5	5-15	15-25	25-45	45-65	65
Deaths ..	16	9	11	36	6	—	—	—	—	—	—	—

DEATHS OCCURRING MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Number of Deaths ..	—	1	1	—	3	1	3	11	13	2	7	—	42

The number of notifications of cases of zymotic enteritis received in 1918 was 91.

DEATHS IN EACH WARD FROM DIARRHOEAL DISEASES IN 1918.

Ward	Certified as Infective			Not Certified as Infective			Total Deaths from Diarrhoeal Diseases		
	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total
Allerton	—	—	—	1	—	1	1	—	1
Bolton	—	—	—	—	—	—	—	—	—
Bradford Moor ..	1	—	1	7	—	7	8	—	8
East	—	—	—	1	—	1	1	—	1
East Bowling ..	2	—	2	2	—	2	4	—	4
Eccleshill	—	—	—	—	—	—	—	—	—
Exchange	—	—	—	—	—	—	—	—	—
Great Horton ..	—	—	—	5	—	5	5	—	5
Heaton	1	—	1	1	—	1	2	—	2
Idle	—	—	—	—	—	—	—	—	—
Listerhills	1	—	1	2	—	2	—	—	3
Little Horton ..	—	—	—	3	—	3	3	—	3
Manningham	1	—	1	1	—	1	2	—	2
North	—	—	—	6	—	6	6	—	6
North Bierley East ..	—	—	—	—	—	—	—	—	—
North Bierley West ..	—	—	—	—	—	—	—	—	—
South	—	—	—	4	—	4	4	—	4
Thornton	—	—	—	—	—	—	—	—	—
Tong	—	—	—	—	—	—	—	—	—
West	1	—	1	1	—	1	2	—	2
West Bowling	—	—	—	1	—	1	1	—	1
City	7	—	7	35	—	35	42	—	42

Measles. Cases notified, 3,868 ; deaths, 111 ; Mortality per 1,000, 0.43.

Whooping Cough. Deaths, 81 ; Mortality per 1,000, 0.31.

Puerperal Fever. Cases, 13 ; Deaths, 4 ; Fatality per cent., 30.7.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Cases ..	18	16	26	16	15	21	30	32	12	13
Deaths	2	7	8	9	6	10	17	14	7	4
Fatality per cent.	11.1	43.7	30.8	56.2	40.0	47.6	56.7	43.7	58.3	30.7
Number of live births to each death	2753	784	686	621	968	571	298	350	554	968

There was, therefore, a slight increase in the number of cases and a decrease in the number of deaths from Puerperal Fever in 1918.

Erysipelas. Cases, 114 ; Deaths, 10 ; Fatality per cent., 8.7.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Cases ..	215	170	293	233	225	241	232	165	138	114
Deaths	10	7	14	6	9	2	8	3	2	10
Fatality per cent.	4.65	4.12	4.78	2.58	4.00	0.83	3.45	1.81	1.45	8.77

Scabies. Cases notified, 508.

The Local Government Board approved the Order which was made by the City Council at their meeting on the 11th June, 1918, for the

notification of Scabies for the period of twelve calendar months. From that date to the 30th April, 1919, 962 cases have been notified ; of these 198 cases were notified from institutions and 36 cases could not be traced. The number of homes visited has been 572, of which 521 have been visited on more than one occasion. At these visits secondary cases were sought for and arrangements made for the treatment of the sufferers. With the co-operation of the Baths Committee Arrangements were made for medicinal baths to be given at Prince Street Cottage Baths on one day per week, which was later increased to two days per week as the cases became more numerous. In all 863 cases have been treated at Prince Street Baths, their personal clothing disinfected there, and in many cases the bed clothing removed to the Disinfecting Station at the same time. In addition to these 863 cases, there were 468 cases treated at home.

Influenza. Deaths, 708 ; Mortality rate per 1,000, 2.73.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	87	33	35	22	43	34	74	74	56	708

During the year there has been a very great increase in the number of deaths from this cause, the average of the preceding 10 years being 53 deaths. These deaths chiefly arose in two large outbreaks, one in the middle of the year and the other in the late autumn. This can be seen in the following table.

DEATHS OCCURRING MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of Deaths ..	4	1	1	5	—	5	75	12	3	36	457	107	706

During each outbreak the disease spread throughout the city, every ward becoming infected in turn. The greatest number of deaths occurred in the wards as follows: Bradford Moor, East Bowling, Manningham, North Bierley East, and West Bowling.

DEATHS ACCORDING TO SEX WEEK BY WEEK.

First Outbreak.				Second Outbreak.			
Week ending.	Males.	Females.	Total.	Week ending.	Males.	Females.	Total.
June 29th ..	2	2	4	Oct. 5th	3	—	3
July 6th ..	5	4	9	Oct. 12th	—	1	1
July 13th ..	14	15	29	Oct. 19th	1	1	2
July 20th ..	6	12	18	Oct. 26th	6	3	9
July 27th ..	7	6	13	Nov. 2nd	9	18	27
August 3rd ..	5	7	12	Nov. 9th	32	37	69
August 10th	2	1	3	Nov. 16th	55	70	125
August 17th	3	—	3	Nov. 23rd	54	65	119
				Noy. 30th	47	77	124
				Dec. 7th	28	38	66
				Dec. 14th	16	13	29
				Dec. 21st	7	7	14
				Dec. 28th	5	4	9
Total ..	44	47	91	Total ..	263	334	597

DEATHS AT VARIOUS AGE PERIODS.

First Outbreak.				Second Outbreak.			
Age.	Males.	Females.	Total.	Age.	Males.	Females.	Total.
-5	3	2	5	-5	51	39	90
-10	4	1	5	-10	16	14	30
-15	1	5	6	-15	3	13	16
-20	4	4	8	-20	15	23	38
-25	2	3	5	-25	9	30	39
-30	4	10	14	-30	18	58	76
-35	5	1	6	-35	24	28	52
-40	1	2	3	-40	21	19	40
-50	1	3	4	-50	27	32	59
-60	10	5	15	-60	47	34	81
-60	9	11	20	-60	32	44	76
Total	44	47	91	Total	263	334	597

The outbreaks of influenza in Bradford in 1918 were only part of a world wide outbreak. The steps attempted and taken in control of the disease locally could not be said to have had any very great effect except possibly in mitigation of more serious cases. Advertisements were issued in the daily press calling attention to precautions which each person could take, general school closure was resorted to, and public entertainments and meetings limited. One of the greatest difficulties in connection with the outbreaks was the grave shortage of medical men and nurses at the time due to absence on war service. This shortage was as far as possible counteracted by the employment of the health visitors and school nurses and certain of the school medical staff on influenza work alone.

Anthrax. Cases, 11 ; Deaths, 3 ; Fatality per cent., 27·2.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Cases ..	7	5	7	8	13	11	8	19	7	11
Deaths	1	1	4	3	2	2	1	2	3	3
Fatality per cent.	14·3	20·0	57·1	37·5	15·4	18·2	12·5	10·5	42·9	27·2

(B) OTHER DISEASES.

The deaths occurring in the City during 1918 from all diseases are set out on Table III., page 102, which also shows their age periods. This section will only deal with those diseases other than zymotic diseases and tuberculosis which call for special comment.

Cancer and Malignant Disease. Deaths, 356 ; Mortality rate per 1,000, 1·37.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	326	292	338	356	349	368	328	355	376	356
Mortality rate per 1000 ..	1·14	1·01	1·17	1·23	1·18	1·27	1·17	1·26	1·41	1·37

AGE INCIDENCE AT DEATH.

Age Periods ..	1-15	15-25	25-45	45-65	65 and upwards
Deaths ..	2	1	21	206	126

The great majority (93·2 per cent.) of the deaths therefore occurred after 45 years of age.

DEATHS FROM CANCER CLASSIFIED ACCORDING TO THE ORGAN AFFECTED.

	1917.			1918.		
	Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels ..	72	79	151	69	67	136
.. Liver	22	38	60	19	28	47
.. Urinary and Generative Organs	1	59	60	13	59	72
.. Breast	—	36	36	—	40	40
.. Head and Face	7	3	10	9	8	17
.. Throat and Tongue ..	21	3	24	22	5	28
.. Other parts of the body	19	16	35	10	7	17
Total	142	234	376	142	214	356

Respiratory Diseases. Deaths, 1,003 ; Mortality rate per 1,000, 3.86.

There was a large increase in the number of these deaths last year.

DEATHS FROM BRONCHITIS AND PNEUMONIA IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bron- chitis	428	333	322	359	410	381	419	400	398	511
Pneu- monia	341	270	309	307	264	317	382	316	277	441

AGE INCIDENCE OF DEATHS.

Age Periods	1 year	1-2	2-5	5-15	15-25	25-45	45-65	65 upwards
Bronchitis ..	34	14	9	6	4	31	121	292
Pneumonia ..	47	52	56	34	25	69	96	62

Deaths from Violence. Deaths, 139 ; Mortality rate per 1,000, 0.54.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	143	122	136	143	143	164	161	207	141	139
Mortality rate per 1000 ..	·50	·42	·47	·49	·48	·56	·57	·73	·53	·54

The enquiries by the coroner on causes of death are shown tabulated on page 14.

III. PREVALENCE AND CONTROL OF TUBERCULOSIS.

The number of deaths from all forms of tuberculosis in 1918 was 449, giving a mortality rate of 1·72 per 1,000.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	429	435	426	463	425	457	438	463	415	449

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	1·50	1·51	1·48	1·60	1·44	1·57	1·56	1·64	1·56	1·72
England and Wales..	1·54	1·43	1·47	1·38	1·34	1·36	1·51	1·53	1·62	—

There was therefore an increase in the mortality from this cause in 1918. During the past thirty years there has been a reduction in the death-rate from all forms of tuberculosis in Bradford; this is well seen in the following table, which shows the average mortality rate per 1,000 for five yearly periods from 1886:—

AVERAGE MORTALITY RATE PER 1,000 FROM TUBERCULOSIS IN
BRADFORD FOR PERIODS OF FIVE YEARS FROM 1886.

Periods	1891-1895	1896-1900	1901-1905	1906-1910	1911-1915	1916	1917	1918
Average Mortality rate per 1000	2.26	2.12	1.84	1.65	1.53	1.64	1.56	1.72

(A) *Pulmonary Tuberculosis.* Deaths, 368; Mortality rate per 1,000, 1.41.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	319	329	332	364	309	371	350	332	321	368

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	1.11	1.14	1.15	1.25	1.04	1.27	1.25	1.22	1.21	1.41
England and Wales..	1.08	1.01	1.06	1.05	1.00	1.04	1.16	1.18	1.25	—

There was a slight increase in the mortality rate from pulmonary tuberculosis last year. Considering the deaths in relation to sex the death-rate from pulmonary tuberculosis was in 1918 among males, 1.64 per 1,000, and among females, 1.26 per 1,000. The chart on page 34 shows that the general death-rate in the male sex for the past thirty years has always been greater than that of the female sex, while the fall in the male death-rate has at the same time during that period been correspondingly less.

The notification of pulmonary tuberculosis was under the general orders of the Local Government Board compulsory throughout the

whole year, and the notifications received numbered 704. These notifications classified according to age and sex are seen in the following table.

NOTIFICATION OF PULMONARY TUBERCULOSIS, 1918.

	PRIMARY NOTIFICATIONS												Total Notifications (i.e., including cases previously notified by other Doctors)
	AGE PERIODS												
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total	
Males	4	9	12	10	37	30	64	69	45	32	14	326	363
Females	1	5	21	24	34	51	66	55	31	9	3	300	341
Total	5	14	33	34	71	81	130	124	76	41	17	626	704

(B) *Other Forms of Tuberculosis.* Deaths, 81; Mortality rate per 1,000, 0.31.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Deaths	110	106	94	99	116	86	88	131	94	81

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Bradford	0.39	0.37	0.33	0.35	0.39	0.30	0.31	0.46	0.35	0.3 ¹
England and Wales..	0.45	0.43	0.41	0.33	0.35	0.32	0.35	0.36	0.37	—

There was a decrease in the number of deaths and in the death-rate from the forms of tuberculosis other than pulmonary.

The number of cases notified during the year of other forms of tuberculosis was 206.

IV.—VENEREAL DISEASES.

The two chief venereal diseases are syphilis and gonorrhœa. Syphilis is a disease so chronic in its course, so varied in its manifestations, and so changeable in its infectivity that no general estimate of its prevalence in a community is of much value. To a lesser extent this is also true of gonorrhœa. It is, however, a well established fact that these diseases cause in every large town a vast amount of suffering, disease, and death. Facts are not wanting to indicate that the prevalence of venereal diseases is increasing, and this can most readily be shown in gonorrhœa by the notification of ophthalmia neonatorum and in syphilis by the number of deaths registered from congenital syphilis. The following tables showing figures for the past four years lead one to the conclusion that there has been a very real increase in venereal diseases in the city during that period.

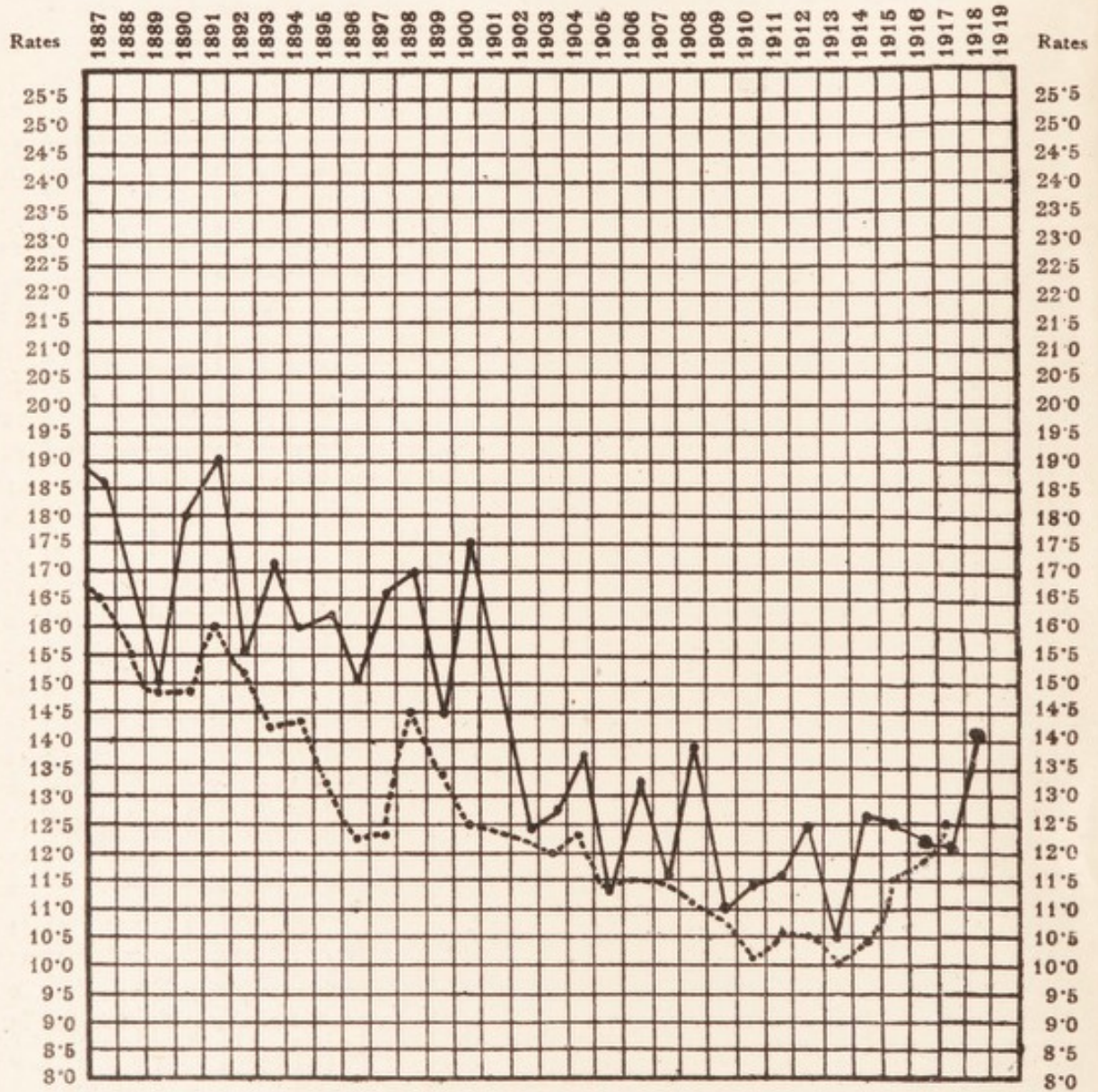
NUMBERS.

	1915.	1916.	1917.	1918.
Ophthalmia neonatorum cases notified	85	86	83	91
Congenital syphilis deaths registered ..	31	33	67	40
Still Births cases notified	235	200	200	169

PROPORTIONS PER 1,000 BIRTHS.

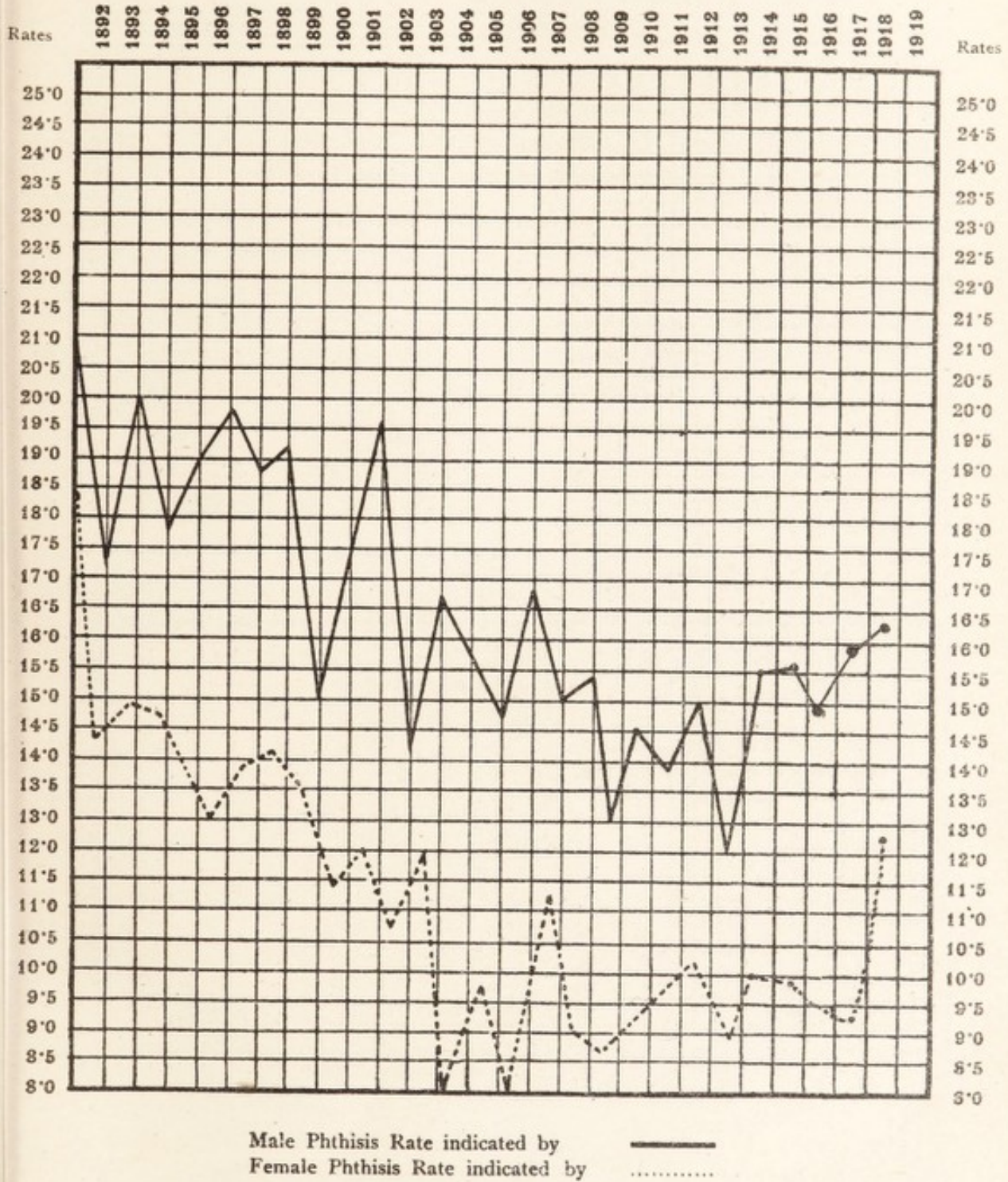
	1915.	1916.	1917.	1918.
Ophthalmia neonatorum cases notified	16.8	17.5	21.4	18.3
Congenital syphilis deaths registered ..	6.1	6.9	17.3	10.3
Still Births cases notified	46.4	42.3	51.5	44.3
Illegitimacy Births registered	6.3	6.2	7.6	8.4

DEATH RATES FROM PULMONARY TUBERCULOSIS PER 10,000 OF THE POPULATION
IN ENGLAND AND WALES AND BRADFORD, 1887-1918



England and Wales indicated by
Bradford indicated by

DEATH RATE FROM PHTHISIS PER 10,000 OF THE POPULATION.



With respect to the cases notified as suffering from ophthalmia neonatorum a markedly larger proportion of those submitted to bacteriological examination has during the past two years proved to be gonorrhœal.

On the 1st April, 1917, a treatment centre for Venereal diseases was opened at the Bradford Royal Infirmary. The out-patient clinic there is open for men on Mondays and Saturdays at 9.30 a.m., and on Tuesdays at 6 p.m., and for women and children on Mondays from 4 to 6 p.m., and on Tuesdays and Fridays at 10 a.m. By arrangement with the Board of Management at least 4 hospital beds were set aside for indoor treatment. There is submitted below a summary of the returns from this treatment centre for the past year, which shows the good and successful character of the work done. Following this summary there is a table showing the pathological examinations undertaken at Laboratory in connection with Venereal Diseases.

VENEREAL DISEASES.

Statement showing services rendered at the Treatment Centre, together with particulars of the cost of the Centre during the twelve months ending on the 31st December, 1918.

Area.	Number of Attendances at Out-patient Clinic.	Aggregate number of In-patient Days.	No. of doses of Salvarsan Substitutes used in Treatment Centre.	Number of Examinations of Pathological Material made at Treatment Centre.			
				*S	*G	*W	*O
Bradford ..	3243	3116	1634	4	176	382	..
West Riding	816	914	437	1	48	121	..
Total ..	4059	4030	2071	5	224	503	..

*S. = For detection of spirochetes.

*W. = For Wasserman reaction.

*G. = For detection of gonococci.

*O. = Other Tests.

Total Cost of Out-patient Clinic ..	£981 5 0
Total Cost of In-patient Clinic ..	£906 15 0
Cost of Salvarsan Substitutes used at Treatment Centre for West Riding patients	£86 18 9

Number of out-patients remaining under treatment :—

	Bradford.	West Riding Area.
Male	212	67
Female	248	49
	<u>460</u>	<u>116</u>

Number of persons receiving in-patient treatment :—

Male	45	15
Female	49	15
	<u>94</u>	<u>30</u>

Pathological Examinations made in the Laboratory during the twelve months ending on the 31st December, 1918.

Nature of Test.		Number of Tests.	Fee per Test.	Cost.
For detection of Spirochetes	For Treatment Centre	4	3/6	£ 0 s. d. 0 14 0
	For Practitioners ..	3	3/6	0 10 6
For detection of Gonococci	For Treatment Centre	165	3/6	28 17 6
	For Practitioners ..	94	3/6	16 9 0
For Wassermann reaction	For Treatment Centre	324	} 661 @ 5/-	165 5 0
	For Practitioners ..	875		538 @ 4/-	107 12 0
Other examinations	For Treatment Centre			..
	Totals ..	1465	..	£319 8 0

V.—MATERNITY AND CHILD WELFARE.

Towards the end of the year a maternity and child welfare committee was set up under the Act of 1918.

(A) INFANT MORTALITY IN 1918.

The infantile mortality rate for the year was 123 per 1,000 births, and although this rate shows a decrease of 9 per 1,000 as compared with the previous year it must still be considered high. The tables which follow show that on the whole since 1891 the fall in the infantile mortality rate has been continuous. During the past six years, however, the infantile mortality rate in the City has been stationary, and an almost similar phenomenon is observed in the nearest great towns (Leeds and Halifax), though in England generally the great towns have shown in this time a well marked fall. It is not wise to discuss in too great detail the infantile mortality rate of any one year, as the rate may show great variations from accidental or unknown circumstances, but taking a four-yearly average for the past 12 years in Bradford and those great towns with which comparisons have usually been made it will be seen from the following table that only in Bradford and one other town (Halifax) has the infantile mortality rate risen during the period of the war.

INFANTILE MORTALITY IN CERTAIN GREAT TOWNS, 1907-1918

Town.	Deaths per 1,000 Births.			
	1918.	Average for four years.		
		1907-10.	1911-14.	1915-18.
Birmingham	96	139	129	103
Bradford	123	128	122	124
Bristol	92	105	110	100
Halifax	122	98	102	105
Huddersfield	98	101	111	95
Hull	125	131	126	120
Leeds	129	131	129	128
Leicester	106	128	120	110
Liverpool	123	142	137	121
London	107	105	107	103
Manchester	104	141	132	112
Newcastle	106	128	123	118
Nottingham	122	147	138	123
Portsmouth	75	105	98	78
Salford	109	142	134	119
Sheffield	128	133	126	118
Stoke-on-Trent	112	162	161	125
West Ham	113	141	114	106

The causes of the deaths of infants in 1918 is given on Table iv., page 108, and they may be classified as follows :—

INFANTILE DEATHS IN PREVIOUS YEARS.

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Zymotic diseases ..	34	71	48	23	33	68	46	25	30	57
Tuberculous diseases	28	23	14	13	28	13	8	31	17	10
Diarrhœa, &c. ..	45	96	180	25	156	88	81	54	30	36
Congenital causes..	282	277	288	256	295	234	209	231	202	173
Pulmonary diseases	95	82	91	114	96	109	112	99	74	81
Convulsions	63	58	60	69	53	79	54	46	43	28
All other causes ..	90	88	84	53	80	102	112	95	117	92
Total	637	695	765	553	741	693	622	581	513	477

It will be seen that the number of deaths increased last year in zymotic and pulmonary diseases and decreased from congenital causes ; there was a decrease of 27 deaths recorded as due to congenital syphilis alone.

The number of deaths in Bradford from congenital causes represents over one-third of the mortality amongst infants. These deaths chiefly occur within the first four weeks of life and the numbers at these ages in each year from 1908 are shown in the following table.

DEATHS IN THE FIRST FOUR WEEKS OF LIFE.

Year	Week				Total	Proportion of Infantile Deaths
	1	2	3	4		
1908	203	28	60	28	318	37.0
1909	189	26	29	29	273	42.8
1910	154	34	29	32	248	35.8
1911	185	40	31	26	282	36.7
1912	165	29	32	18	244	44.1
1913	187	38	36	18	279	37.6
1914	156	34	41	22	253	36.5
1915	143	33	27	20	223	35.9
1916	153	40	23	23	239	41.2
1917	121	29	10	12	172	33.5
1918	109	24	14	14	161	33.7

Taking a four-yearly average for the past 12 years of the deaths recorded as due to congenital causes and those recorded as occurring in the first four weeks of life, it would seem from the following table that during the past four years the deaths from antenatal causes are decreasing.

DEATHS FROM ANTENATAL CAUSES, 1907-1918.

Deaths.	Percentage of Total Infant Deaths.			
	1918.	Average for four years		
		1907-10.	1911-14.	1915-18.
From congenital causes ..	36.2	42.0	38.9	37.1
In first four weeks of life ..	33.7	38.1	38.7	36.1

While too much stress ought not to be laid on these figures, it appears clear that the increase in the Bradford infantile mortality rate during the war has not resulted from antenatal causes but chiefly from environmental causes acting after birth ; of these causes probably the chief has been the very large increase that has taken place in Bradford in the industrial employment of mothers.

The Ward record of infantile mortality is shown on the table on page 46, and on the chart on page 48, where it will be seen that this rate was highest in North, South, Tong, and Exchange Wards, and the lowest in West Bowling, Eccleshill, East and North Bierley West Wards.

INFANT MORTALITY IN BRADFORD AND ENGLAND AND WALES
FOR EACH YEAR, AND IN GROUPS OF FIVE YEARS SINCE 1871.

BRADFORD.		ENGLAND AND WALES.	BRADFORD.		ENGLAND AND WALES.
	Average	Average		Average ^c	Average
1871	220	158	1896	143	148
1872	220	150	1897	179	156
1873	205	149	1898	184	160
1874	189	151	1899	181	163
1875	202	158	1900	140	154
1876	176	146	1901	168	151
1877	157	136	1902	139	133
1878	178	152	1903	148	132
1879	152	135	1904	167	145
1880	176	153	1905	144	128
1881	154	130	1906	152	132
1882	174	141	1907	124	118
1883	147	137	1908	143	120
1884	181	147	1909	116	109
1885	144	138	1910	127	106
1886	168	149	1911	140	130
1887	179	145	1912	99	95
1888	153	136	1913	128	109
1889	181	144	1914	122	105
1890	169	151	1915	123	110
1891	181	149	1916	118	91
1892	155	148	1917	132	97
1893	198	159	1918	123	97
1894	144	137			
1895	203	161			

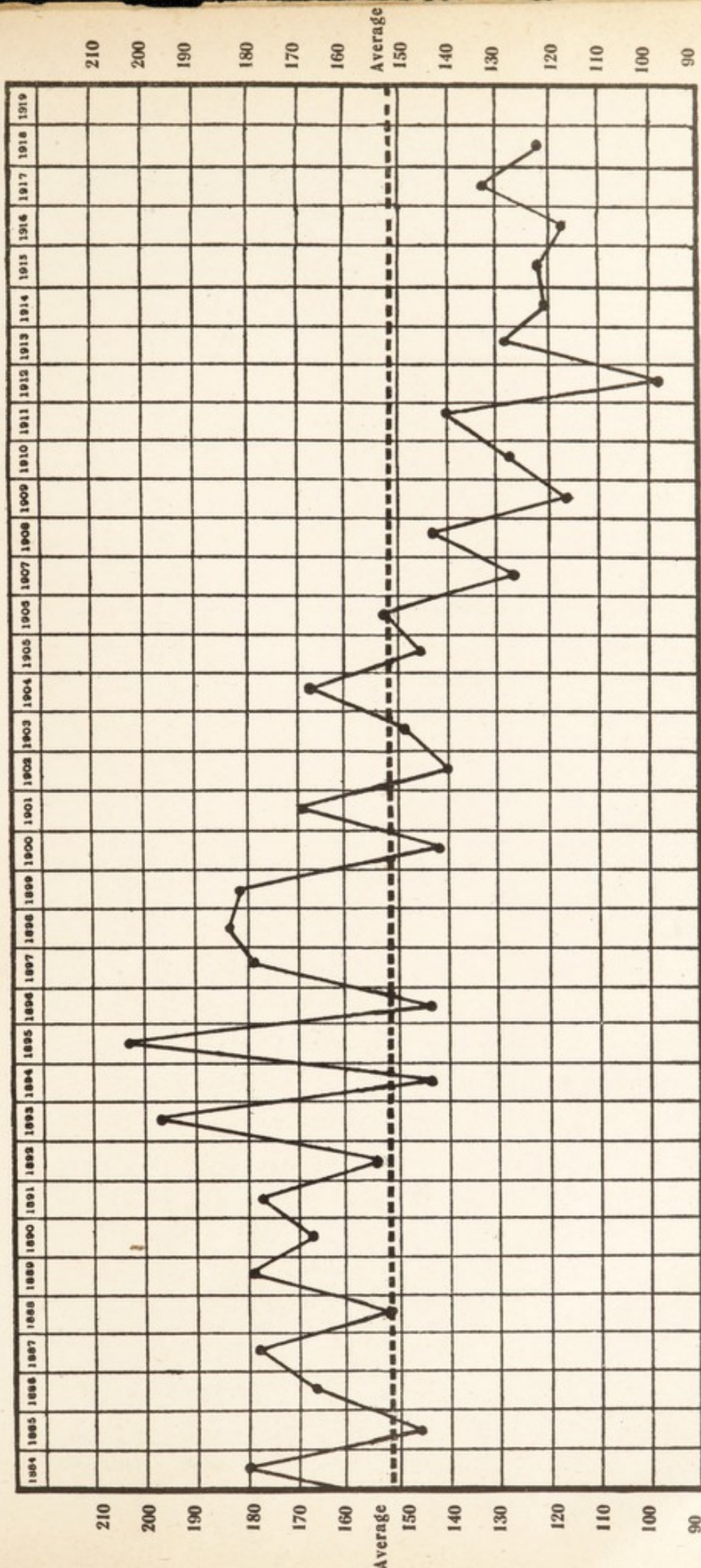
INFANT MORTALITY 1892—1918.

Year	Deaths under One Year of Age per 1000 Births.		
	Total.	Diarrhoeal Diseases.	Total less Diarrhoeal Diseases.
1892	155	15	140
1893	198	12	186
1894	144	10	134
1895	203	52	151
1896	142	18	124
1897	179	23	156
1898	184	19	165
1899	181	22	159
1900	141	16	125
1901	168	35	133
1902	139	8	131
1903	148	19	129
1904	167	29	138
1905	144	21	123
1906	152	34	118
1907	124	11	113
1908	143	30	113
1909	116	6	110
1910	127	20	107
1911	140	32	108
1912	99	4	95
1913	128	27	101
1914	122	15	107
1915	123	16	107
1916	118	11	107
1917	132	8	124
1918	123	9	114

INFANT MORTALITY RATE PER 1,000 BIRTHS, IN WARDS, FOR THE
YEARS 1909 TO 1918.

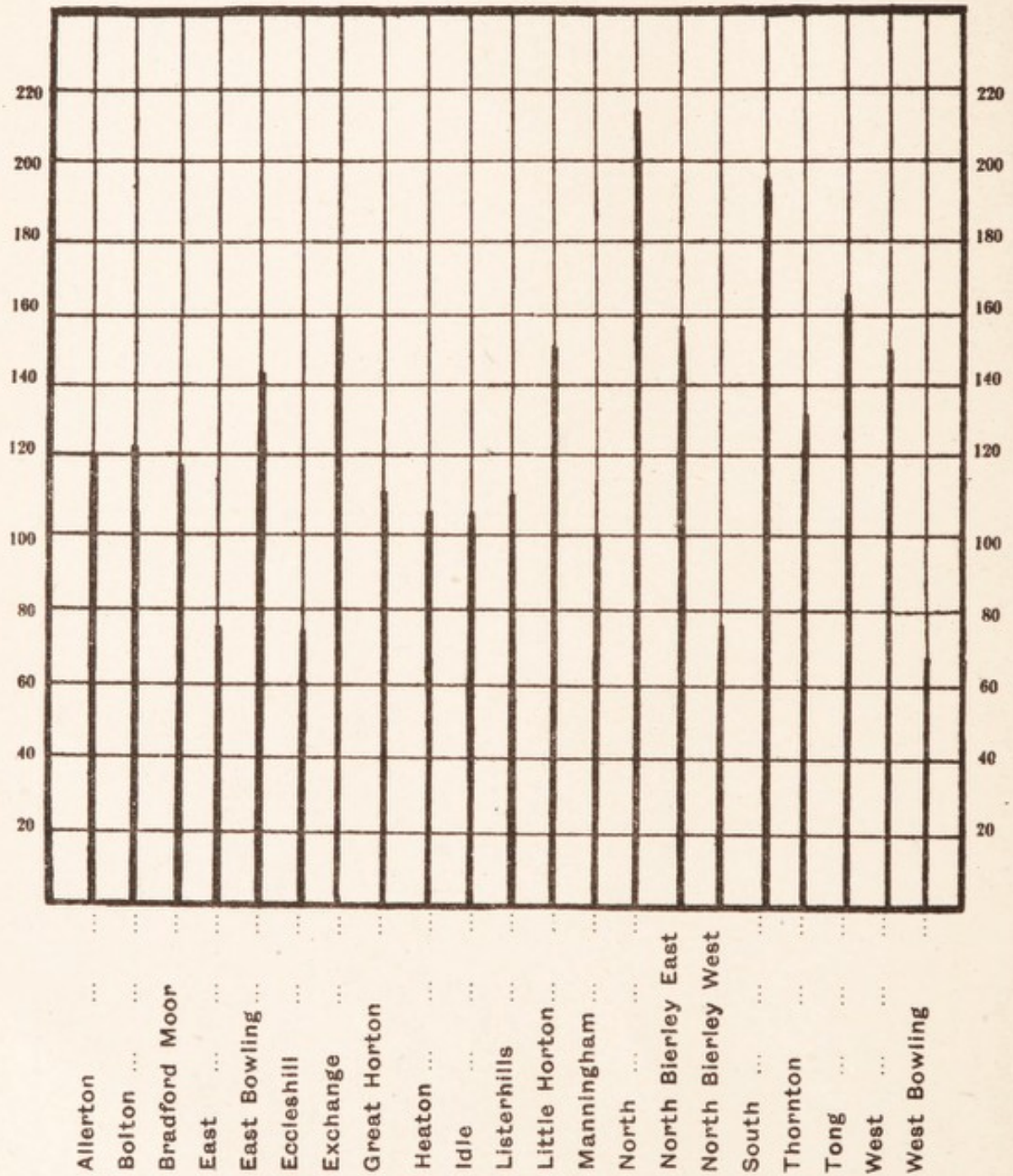
	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Allerton	92	64	98	76	95	65	73	70	85	120
Bolton	119	63	72	70	81	96	95	106	86	121
Bradford Moor ..	132	131	152	110	149	121	158	159	134	118
East	93	92	156	99	112	126	114	116	128	75
East Bowling ..	124	144	142	117	107	143	112	157	149	144
Eccleshill	62	109	157	84	92	89	57	99	96	74
Exchange	207	230	293	185	196	149	333	271	214	162
Great Horton ..	81	131	51	76	90	118	121	74	86	113
Heaton	72	152	94	69	87	82	67	108	45	104
Idle	102	171	91	67	73	50	73	106	143	104
Listerhills	163	147	195	129	189	150	162	88	121	111
Little Horton ..	126	114	111	114	103	110	137	116	172	152
Manningham ..	111	141	129	70	159	97	112	115	151	99
North	100	166	230	126	194	192	160	95	195	214
North Bierley (East)	131	108	161	68	129	119	81	124	107	158
North Bierley (West)	112	75	106	144	82	62	67	72	165	76
South	165	131	194	119	185	176	204	176	221	195
Thornton	140	122	204	55	116	74	122	76	73	132
Tong	140	114	135	68	94	155	56	147	61	165
West	106	161	210	178	139	171	172	159	214	147
West Bowling ..	122	99	103	73	137	99	96	86	105	64
City	116	127	140	99	128	122	123	118	132	123

INFANT MORTALITY PER 1000 BIRTHS, 1884—1918.



Average for 35 years—151.

DIAGRAM SHOWING COMPARATIVELY THE INFANT MORTALITY PER
1000 BIRTHS IN THE MUNICIPAL WARDS, 1918.



(B) MATERNITY.

The following municipal agencies contribute in Bradford to the work of the supervision of the expectant mother. (a) Maternity Hospital and antenatal clinic where skilled medical advice and treatment when necessary are given; (b) general midwives of the city, including 12 municipal midwives; (c) health visitors, staff, and inspector of midwives. Notification of pregnancy is not in operation, but expectant mothers become known to the local authority chiefly through the practising midwives and the health visitors.

Midwives Act, 1902.—At the beginning of the year there were 50 midwives practising in the City, of whom 35 held the Central Midwives Board Certificate or a certificate from a recognised hospital, while 15 were on the register as *bona fide* practitioners before the passing of the Midwives Act, 1902. At the close of the year, there were 32 trained, and 12 untrained midwives in practice in Bradford. Four of these untrained women do not practise as midwives, but register in case of emergency.

In Bradford the midwives attended in 1918 2,602 cases or 67·2 per cent. of the registered births. The number of cases attended by each midwife has varied from none up to 177 as is seen in the following table :—

NUMBER OF CASES ATTENDED BY MIDWIVES, 1918.

Number of Cases	Trained Midwives		Untrained Midwives	
	No.	Total Cases	No.	Total Cases
Over 150	2	340	—	—
130—150	6	829	1	144
110—130	—	—	1	121
90—110	2	180	1	90
70—90	4	295	—	—
50—70	2	108	—	—
30—50	5	202	2	77
10—30	8	154	2	38
Under 10	3	15	3	9
None	3	—	5	—
Total	35	2123	15	479

The number of notifications of sending for medical help was 432, or 16.6 per cent. of their cases. It will be noticed that the number of cases attended by the midwives is larger and the number of medical aid notices much larger than formerly. In 295 cases medical aid was called in on account of the mother, and in 137 cases on account of the child.

MEDICAL AID NOTIFICATIONS.

Mother.					
Adherent Placenta .. .. .	..	..	..	..	5
P.P. Hæmorrhage .. .. .	..	..	..	..	3
A.P. Hæmorrhage .. .. .	..	..	..	..	9
Instrumental Delivery .. .. .	..	..	..	..	105
Malpresentation .. .. .	..	..	..	..	21
Ruptured Perinæum .. .. .	..	..	..	..	75
High Temperature .. .. .	..	..	..	..	15
Heart Trouble .. .. .	..	..	..	..	4
Retained Membrane .. .. .	..	..	..	..	8
Eclampsia .. .. .	..	..	..	..	4
Skin Eruption .. .. .	..	..	..	..	1
Placenta Prævia .. .. .	..	..	..	..	5
Dropsy .. .. .	..	..	..	..	1
Septic Condition .. .. .	..	..	..	..	7
Abortion .. .. .	..	..	..	..	14
Albumunuria .. .. .	..	..	..	..	1
Puerperal Mania .. .. .	..	..	..	..	1
Chest Trouble .. .. .	..	..	..	..	3
Debility after Labour .. .. .	..	..	..	..	12
Debility during Pregnancy.. .. .	..	..	..	..	5
Previous Premature Births .. .. .	..	..	..	..	1
Previous Still Births .. .. .	..	..	..	..	2
Purulent Discharge during Pregnancy .. .. .	..	..	..	..	1
Other Causes .. .. .	..	..	..	..	10
Total .. .. .	..	..	..	..	<u>295</u>

Child.

Debility	66
Malformations	6
Convulsions	6
Skin Disease	6
Inflammation in Eyes	51
Icterus	2
Total	137

Notice was sent to the Local Supervising Authority of the deaths of 15 infants under the care of midwives before the arrival of a medical practitioner. The midwives reported 59 cases of still-births, or about 2·3 per cent. of their cases.

The notices received from the trained and untrained midwives may be summarised as follows :—

Midwives.	Still Births.	Medical Aid.	Puerperal Fever.	Death of Infants before Doctor's arrival.	Ophthalmia Neonatorum.
Trained ..	48	334	2	13	34
Untrained ..	11	98	—	2	12
Total	59	432	2	15	46

The number of inspections made by the Midwives Inspector was 680, of which 181 were inspections of the midwives' homes, registers and appliances, 260 special inspections of their work, 180 special visits to supervise the care of the infant's eyes, and 79 were visits of inquiry respecting cases of still birth.

One midwife was complained against, and a *prima facie* case of negligence was found. She was reported to the Central Midwives' Board,

and struck off the roll. Three other midwives had their names removed from the Roll at their own request.

A course of lectures for the purpose of preparing pupil midwives for the Examination of the Central Midwives' Board was given under arrangements made with the Education Committee by a recognised teacher and was attended by 25 pupils.

Antenatal Work. The antenatal work done by the municipal midwives, the maternity centre, and the health visitors, has continued to grow, 2,321 visits were made in 1918 to the homes of mothers before confinement by municipal midwives and health visitors, and 265 expectant mothers attended the antenatal centre during the year. The total number of births attended by the municipal midwives during the year was 1,089, and they made in all 12,855 visits to their patients. The number of municipal midwives increased during the year from 8 to 10.

The number of still births notified in 1918 was 169; the number notified each year since 1912 has been as follows: 1912, 230; 1913, 270; 1914, 237; 1915, 235; 1916, 208; 1917, 200; and in 1918, 169. Special enquiries were made into those still births notified by the midwives, with the following results:—

STILL BIRTHS, 1918.

DURATION OF INTRA-UTERINE LIFE.

Time.	Cases.
Under 7 months	6
7 months	15
8 months	8
Full time	30

CONDITION OF FÆTUS.

Number macerated	35
Number not macerated	24

PRESENTATION.

Vertex	46	Footling	3
Breech	7	Funis	3

It will therefore be noticed that in 50 per cent. of the cases the still births occurred at full time, while in about 50 per cent. of the cases the foetus had died some time before labour set in.

Of the 59 still births in the practice of midwives 6 or 10 per cent. were illegitimate children ; this is 1.5 per cent. above the rate of illegitimacy among live births.

The apparent causes of the still birth may be set out as follows :—

Cause.	Number of Cases.
Malpresentation	6
Syphilis	14
Over Exertion	2
Maternal Shock (Fright, 2 ; Accident, 11)	13
General Debility of Mother	12
Asphyxia	3
Anencephalic Monsters	2
Unknown	7
	—
Total	59

The duration of labour in 2 of these cases of still birth was under 1 hour ; in 16 between 1 and 4 hours ; in 23 between 4 and 8 hours ;

in 10 between 8 and 12 hours ; in 7 between 12 and 18 hours ; and in 1 over 24 hours.

It would therefore seem that the presentation was associated with the cause of the still birth in 10 per cent. of the cases ; some maternal condition in about 53 per cent. of the cases ; and syphilis in about 23 per cent. of the still births.

In 33 cases of still birth the mother was between 20 and 30 years ; in 8 between 31 and 35 years ; in 12 between 36 and 40 years ; and in 6 over 40 years of age.

The pregnancy at which the still birth occurred was in 17 the first ; in 13 the second ; in 8 the third ; in 2 the fourth ; in 4 the fifth ; in 3 the sixth ; in 5 the seventh ; in 1 the eighth ; in 3 the ninth ; and in 3 the eleventh.

RATE OF STILL BIRTHS AT EACH PREGNANCY.

In 11 cases the women had previously borne still-born children, as follows :—

Number of previous still born children.	Cases.
1	6
2	3
3	—
4	2
	—
Total	<u>11</u>

The liability to still birth is therefore much greater among women who have previously borne still-born children.

The number of births which took place in the municipal maternity hospital in 1918 was 165.

(C) INFANCY.

During the year 1918 the number of births registered in Bradford was 3,871, while the number notified under the Notification of Births Act, 1907, was 3,802.

During the past year about 94 per cent. of the births registered have been notified.

RECORD OF PREVIOUS YEARS.

	1913	1914	1915	1916	1917	1918
Births registered	5811	5709	5062	4913	3879	3871
Births notified	5666	5667	5124	5070	3988	3802
*Notifications to 100 registrations	97.3	99.2	101.2	103.2	102.8	98.2

* The comparisons here are not quite accurate as the births notified include still births which are not registered.

TIME OF RECEIPT OF NOTIFICATIONS OF BIRTH IN 1918.

Persons notifying	Receipt of Notification.					1-2 months	2-3 months	Total	Per cent. received late
	Within 2 days	3-7 days	1-2 weeks	2-3 weeks	3-4 weeks				
Doctor	603	251	16	4	3	—	1	878	31.3
Midwife	1979	460	14	1	—	1	—	2455	19.4
Father	168	68	6	1	—	—	—	243	30.9
Doctor and Midwife ..	28	1	—	—	—	—	—	29	3.4
Father and Doctor ..	3	—	—	—	—	—	—	3	—
Father and Midwife ..	5	—	—	—	—	—	—	5	—
Institutions	174	15	—	—	—	—	—	189	7.9
Total	2960	795	36	6	3	1	1	3802	22.1

Following the receipt of the notification a large proportion of the births are visited. Speaking generally all cases notified by midwives are visited as soon as possible after the birth as well as those cases with doctors in attendance where the home circumstances are known to be poor. The number of infants notified in 1918 visited was 3,489.

BIRTHS VISITED IN 1918.

Person in attendance	Times between Birth and Visit					Total
	1 week	2 weeks	3 weeks	4 weeks	Over 4 weeks	
Doctor ..	65	238	367	160	355	1185
Midwife ..	1436	423	171	80	145	2255
Institution .	1	4	12	9	23	49

Of the 3,489 births visited it was considered that 116 required visitation once only during the first year while 3,373 were selected for frequent revisitation during their first year of life. The total number of visits paid in 1918 to infants was 32,331.

FEEDING OF INFANTS COMPLETING FIRST YEAR.

	Hand fed from birth	Mixed feeding from birth	Wholly breast fed				
			Under 1 month	Under 3 months	Under 6 months	Under 9 months	9 months and over
Infants ..	146	40	198	321	300	257	1368
Percentage	5.6	1.5	7.5	12.2	11.4	9.8	52.0

The feature of this Table as compared with previous years is, that during 1918 a larger proportionate number of infants of those breast fed were breast fed for at least six months, while a larger proportion were hand or mixed fed from birth.

WORK OF MOTHERS IN 1918.

	Outside the home			Inside the Home
	Factories	Other Work	Total	
Within six months before birth ..	544	144	688	1892
Within six months after birth	131	40	171	2399

This table as compared with the previous year shows a larger proportionate number of mothers employed outside the home before birth and a smaller proportionate number so employed after birth.

Of the 688 mothers working within six months before confinement 329 were employed within three months before the birth, and of the 171 mothers working within six months after confinement 102 returned to work within three months after the birth.

Infant Clinic and Hospital. The number of infants registered for the first time at the Infant Clinic in 1918 was 1,606, while the number of infants admitted to the infant hospital was 210. The following tables show the growth of the work since its inception.

INFANT CLINIC.

Year	New cases	Percentage of births registered	Total attendances during 1918	Average weekly attendances	Average daily attendances
1913	1,525	26.2	19,206	369	74
1914	2,488	43.6	31,193	600	120
1915	1,987	39.3	28,192	540	108
1916	1,998	40.6	23,490	452	90
1917	1,721	44.4	19,194	369	74
1918	1,606	41.5	17,068	328	65

INFANT HOSPITAL.

Year	Admitted	Discharged		Died
		Cured or improved	Unimproved or removed	
1915	132	98	34	9
1916	184	126	38	32
1917	184*	77	19	25
1918	210*	72	35	36

* There were 65 cases in 1917 and 68 in 1918 admitted only for observation or special treatment.

It will be seen from the first table that the number attending the clinic has been, despite the preoccupations of the war, remarkably well maintained, an average of considerably more than 40 per cent. of the infants born having been brought to the infant clinic. In order to extend still further the work and render it more easy for mothers to attend with their infants, 4 centres were opened in various districts of the city in 1918, and in the current year two more branch centres were added. At these district clinics one of the medical staff of the infant centre in Morley Street attends on one morning or afternoon weekly, while the health visitor for the district is also in attendance.

The ages at which the infants were first brought to the clinics are seen in the following table, which shows that 213 or 13·3 per cent. were brought under one month of age, 831 or 51·7 per cent. from 1 to 3 months, 385 or 24·0 per cent. from 3 to 6 months, 130 or 8·1 per cent. from 6 to 9 months, and 47 or 2·9 per cent. over 9 months old.

The average weights of infants on registration at the clinic is also seen in the following table:—

AGES AND AVERAGE WEIGHTS IN LBS. ON REGISTRATION.

	Age of Infant.													
	Weeks				Months									
	-1	-2	-3	-4	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
Average Weight ...	5.5	6.5	6.7	7.2	8.1	10.3	10.3	11.7	13.6	13.7	14.2	15.4	16.5	16.9
Number of Infants..	1	17	62	133	525	306	208	111	66	54	43	33	31	16

The low average weight reflects the poor average general condition and nutrition of the children when first brought to the clinic.

A somewhat higher proportion of infants was found in 1918 on registration at the clinic to be breast fed, 49.8 per cent. as against 48.5 in 1917, and 43.6 in 1916. The proportion of infants found classified as of bad nutrition was 27.6 per cent. No less than 93.1 per cent. of the infants when registered presented some abnormality, which in the largest proportion of cases had reference either to the bones or the gastro-intestinal tract. The total number of diseases or defects noted among the 2,172 infants under review at the clinic in 1918 was 14,289 or nearly 7 per child. Of these 2,172 infants, 148 died during the year, but a considerable number of those infants (65) who died, had ceased some time previously attending the clinic.

The number of illegitimate children brought to the clinic was 165 or 50.6 per cent. of the total illegitimate births registered during the year.

(D) EARLY CHILDHOOD.

In 1915 a Centre was opened in Edmund Street to continue the supervision of children from the period of infancy until they arrived at school age. The following table shows the number of new cases registered each year, the total attendances, and the average attendances.

YOUNG CHILD CLINIC.

Year	New cases registered	Total attendances	Average weekly attendances	Average daily attendances
1915 (5 months)	600	1493	72	15
1916	1045	4601	90	18
1917	996	9555	184	37
1918	983	10983	212	43

During the year 1,993 children (985 boys and 1,008 girls) were examined and when necessary treated; these children were found to present 2,805 defects, or an average of 1.4 defects per child. The following table shows the main classes of these defects as they were noted in each sex.

DISEASES AND DEFECTS IN YOUNG CHILDREN.

Diseases	Number affected			Percentage affected		
	Males	Females	Total	Males	Females	Total
Alimentary	369	341	710	37.5	33.8	35.6
Respiratory	183	192	375	18.6	19.0	18.8
Circulatory	24	28	52	2.4	2.8	2.6
Nervous	23	26	49	2.3	2.6	2.5
Infectious	100	93	193	10.1	9.2	9.7
Tuberculosis	29	49	78	3.0	4.9	3.9
Rickets	69	70	139	7.0	7.0	7.0
Syphilis	24	26	50	2.4	2.6	2.5
Throat, Nose, Ear ..	135	143	278	13.7	14.2	13.9
Eye	32	30	62	3.2	3.0	3.1
Teeth	31	27	58	3.1	2.7	2.9
Skin—Contagious ..	136	148	284	13.8	14.7	14.2
Skin—Non-contagious ..	41	57	98	4.2	5.7	4.9
Accidents	8	14	22	.8	1.4	1.1
All other conditions ..	191	166	357	19.4	16.5	17.9
Total Defects ..	1395	1410	2805	141	140	140

The very large amount of alimentary, respiratory, and skin diseases will be noted in the table, and the low proportion of tuberculosis and syphilis.

(E) EMPLOYMENT OF CHILDREN ACT, 1903.

The number of offences discovered during the year against the Bye-laws was 51, as compared with 124 in the previous year, 207 in the year 1916, 486 in the year 1915, 228 in the year 1914, 336 in 1913, 178 in 1912, 315 in 1911, 439 in 1910, 277 in 1909, 375 in 1908, and 724 in the year 1907. In two cases where the offence was repeated after warnings had been given, the employers were prosecuted, and in the remaining cases the employers were served with warning notices and supplied with printed copies of the Bye-laws.

The following is a summary of the offences committed :—

Children employed after 8 p.m. on weekdays	2
„ before and after school hours for more than 20 hours in a week	2
„ under 11 years of age	4
„ the whole of the day on Saturday	18
„ both morning and evening	7
„ on Sundays	2
„ during school meal hours	12
„ after 8 a.m. and before 5 p.m. on weekdays	4
	51
Total	51

Children's Performances. During the year 97 children were licensed by the Magistrates to take part in public entertainments at the various theatres and other places of amusement. Visits were made in each case to see that the conditions of the license were carried out, and that the children were suitably cared for and educated. All the conditions were found to be satisfactory. Visits were also made to places of entertainment at times when no licenses were in operation, but no children were found to be taking part without having been licensed by the Magistrates.

The following prosecutions were undertaken under the Employment of Children Act Bye-laws :—

For offence against the Bye-laws, two persons were proceeded against and fined in all 10s. and 2s. costs.

VI.—HOSPITALS.

In the table on page 12 of this report will be found a list of the various hospitals admitting cases from Bradford. In this part only municipal hospitals will be dealt with.

The Council possess, in addition to the Maternity Hospital and the Infant Hospital, both of which are referred to in another part of this report, the following hospitals—Leeds Road Hospital, Bierley Hall Hospital, Odsal Sanatorium, and a special hospital for affections of the Eye, Throat, Nose and Ear, and have a right to admit patients suffering from infectious disease into three hospitals owned by the joint boards of Calverley, North Bierley, and Thornton.

The following summary shows the number and character of the cases admitted to infectious and tuberculous hospitals in 1918 :—

	Leeds Road	North Bierley	Calv'ley	Th'rnton	Bierley Hall	Odsal	Total
Scarlet Fever		—	146	—	—	—	146
Diphtheria		215	—	—	—	—	215
Typhoid Fever		—	—	17	—	—	17
Erysipelas		—	—	2	—	—	2
Cerebro Spinal Fever		—	—	11	—	—	11
Puerperal Fever		—	—	3	—	—	3
Tuberculosis		—	—	—	199	208	407
Measles		—	—	4	—	—	4
Other Diseases		—	—	6	—	—	6
Totals		215	146	43	199	208	811

The number of patients and character treated at the Special Hospital for Eye, Ear, etc. cases during the year is as follows :—

	Remaining in Hospital 31st Dec. 1917.	Admitted.	Discharged.	Died.	Remaining in Hospital 31st Dec., 1918.
Ophthalmia Neonatorum ...	...	22	22	...	...
Nursing Mother ...	...	10	10	...	...
Tonsils and Adenoids ...	...	595	595	...	...
Eye Cases ...	1	40	39	...	2
Ear Cases ...	...	23	21	...	2
Nose Cases ...	...	4	4	...	...
Venereal Diseases ...	...	1078	1078	...	...
Other Diseases ...	...	17	17	...	...
Totals ...	1	1789	1786	...	4

ODSAL SANATORIUM.

The Sanatorium was opened for the reception of cases of pulmonary tuberculosis on 21st September, 1916, with a total accommodation of 84 beds. From that time till the end of 1918, there were altogether 609 admissions, but of these 75 were return cases admitted for the second or third time. Thus the number of individuals admitted was 534, an average of 237 per annum.

During 1918, 208 cases were admitted. Of these 183 were insured persons, and the remaining 25 were uninsured.

Dr. R. F. Chance, the Medical Superintendent, has prepared the following report with respect to the work done during 1918.

Of the cases admitted, in 30 the diagnosis of pulmonary tuberculosis was not confirmed, these being classified as follows :—

Debility	6
Tuberculosis of Spine	3

Bronchitis	3
Pleurisy	2
Unresolved Pneumonia	2
Empyema	1
Cancer	1
Emphysema	1
Bronchiectasis	1
Locomotor Ataxy	1
Bronchitis and Asthma	1
Tuberculosis of Hip	1
Tuberculous Meningitis	1
Colic	1
Disseminated Sclerosis	1
Multiple Tuberculosis	1
Tuberculous Periostitis	1
Influenzal Pneumonia	1
Functional Aphonia	1

At the beginning of 1918 there were 79 cases under treatment ; at the end of 1918 there remained 69 cases, hence the next three tables refer only to the 188 cases of pulmonary tuberculosis discharged during the 12 months.

All classes of cases were admitted to the Sanatorium, advanced and dying cases as well as those in the early curable stage. Nearly half the cases were classed on admission as in 3rd Stage, according to the Turban-Gerhardt classification.

(A) *All Cases (including Soldiers and Sailors).*

	Stage 1.	Stage 2.	Stage 3.
Insured (per cent.)	27·44	24·39	48·17
Poor-Law	—	42·86	57·14
Non-insured	23·53	17·65	58·82
All Cases	26·06	24·48	49·46

AVERAGE AGE ON ADMISSION.

164 Insured	..	..	..	..	..	33.00 years.
7 Poor-Law	..	..	..	..	..	53.57 ..
17 Non-insured	..	..	..	..	..	19.84 ..
						<hr/>
Average	..	..	..	..	..	32.14 ..

DURATION OF STAY IN ODSAL.

Insured	..	..	..	..	..	106.87 days.
Poor-Law	..	..	..	..	..	372.43 ..
Non-insured	..	..	..	..	..	176.32 ..
						<hr/>
Average	..	..	..	..	..	123.36 ..

Before admission to the Sanatorium the patients had been off work for an average period of 18.5 weeks, of which several weeks can be put down to the time the man's name was on the waiting list for admission.

When the previous history of each patient was investigated, one could trace back the first evidence of tuberculosis for over 40 months on the average, whereas the first symptoms of the present illness or attack dated back on the average for 7 months.

REASON FOR DISCHARGE.

Fit for work or school	..	..	..	21.28 per cent.
Improved	..	..	..	15.96 ..
Transferred to other Institutions	..	..	..	2.13 ..
Died	..	..	..	12.77 ..
Misconduct	..	..	..	17.00 ..
At own request	..	..	..	21.81 ..
Contrary to medical advice	..	..	..	9.05 ..

Taking the last three items of the above table it will be seen that nearly half the total number (47·8 per cent.) left before it was advisable for them to do so. "Misconduct" means breach of Rules, for which unfortunately there is no remedy but dismissal. The dismissals have been for cigarette smoking, gambling, breaking bounds and staying out all night after leave has been given for an hour or two. "At own request" has in the main been for domestic reasons, chiefly, either illness of the wife or financial difficulties at home. Under "Against medical advice" are classed those cases who as they say "have done their three months," and cannot be persuaded to stay or to realize that they are ill, when they do not feel ill. It is felt that this is chiefly due to their being told in the first place that they will be "all right" after "two or three months at a Sanatorium." Many of those "uncompleted" cases were fit for light part-time work, but rarely if ever for full work even under the best hygienic conditions.

When one considers that the average stay of Insured Patients is only 106 days, and the large number leaving against advice, one realises how very inadequate is this "period of 3-months." It is rarely a long enough period in which to hope to get definite arrest of the trouble even in the earliest cases, and is never so in the more advanced.

Of the 188 cases 31 were too ill to be weighed, either on admission or during their stay. On admission the remaining patients each weighed, on the average, 18 lbs. less than his highest known weight. Of the 157 patients weighed 129 or 82·17 per cent. gained 9·25 lbs. or an average of 8·4 ounces per week; 28 or 17·83 per cent. lost 3·88 lbs. or an average of 3·5 ounces per week. The Rations supplied were those allowed by the Local Government Board for patients in Sanatoria, as far as they could be obtained.

In estimating the result of treatment as set out in the following tables, there have been excluded all the cases, 24 in number, who stayed for less than 27 days. Of these 8 died.

RESULT OF TREATMENT.

Very much improved	25.00 per cent.
Much improved.. .. .	15.24 ..
Improved	35.37 ..
Stationary	7.93 ..
Worse	6.71 ..
Died	9.75 ..

Altogether 75 per cent. improved materially under treatment.

CAPACITY FOR WORK.

Fit for full work	23.17 per cent.
Fit for light work	32.93 ..
Fit for walking exercise	14.03 ..
Fit only for rest or bed	20.12 ..
Died	9.75 ..

(B) Soldiers and Sailors only.

During the period under review, 88 ex-soldiers and sailors were discharged. In respect of stage of disease on admission, result of treatment, and capacity for work on discharge, the figures differ very little from those for all classes of patients taken together, but the comparison tends to be slightly more favourable to the ex-service men.

In the following tables the results of the patients in the different stages of the disease are classed separately for comparison.

	Stage 1.	Stage 2.	Stage 3.	Total.
Average duration of stay (days)	83.15	84.81	120.97	92.18
Average gain in weight (ounces)				
57 cases	130.35	124.33	163.9	139.63
Average loss in weight (ounces)				
15 cases	15.40	49.43	77.00	43.60

RESULT OF TREATMENT.

Very much improved (per cent.)	52·17	17·39	3·57	22·97
Much improved	21·74	26·09	14·29	20·27
Improved	21·74	47·82	35·71	35·13
Stationary	4·35	—	10·71	5·41
Worse	—	8·70	21·43	10·81
Died	—	—	14·29	5·41

CAPACITY FOR WORK.

Fit for full work (per cent.)	52·17	13·04	3·57	21·62
Fit for light work	21·74	60·87	32·14	37·83
Fit for walking exercise ..	21·74	13·04	17·86	17·57
Fit only for rest or bed ..	4·35	13·05	32·14	17·57
Died	—	—	14·29	5·41

After Results. To ascertain the degree of permanence of the results attained by treatment in the Sanatorium enquiries from ex-patients brought the following results. Cases other than tuberculosis are not included. These were distributed as follows :—

99 were doing full work.

30 were doing light or intermittent work.

50 were unable to work.

76 died in Sanatorium.

99 had died since discharge.

13 were again in Sanatorium.

35 did not reply.

24 were lost sight of.

Total .. 426

VII.—BACTERIOLOGICAL LABORATORY.

The total number of bacteriological examinations conducted for the local authority in 1918 was 3,361 ; this is exclusive of examinations in connection with venereal disease already reported on. Of these 2,170 were carried out at the Bacteriological Laboratory, and 1,128 by the Veterinary Inspector, and 63 by the Leeds School of Medicine.

The following table shows the conditions for which these examinations were made :—

BACTERIOLOGICAL EXAMINATIONS, 1918.

Condition	Bacteriological Laboratory	Elsewhere	Total
Enteric Fever	62	—	62
Diphtheria	857	—	857
Tuberculosis :			
Sputum	1095	—	1095
Milk	—	1088	1088
Urine, &c.	9	—	9
Bovine Sputum	—	103	103
Meningococci	112	—	112
Other Examinations ..	35	—	35
Total ..	2170	1191	3361

VIII.—HOUSING.

The number of new houses built during the past ten years in each Ward and certified as fit for human habitation in accordance with the Bradford Waterworks and Improvement Act, 1871, is shown in the Table on page 72. The following statement shows the number of new buildings certified each year since 1904 as fit for human habitation.

Year.	New Buildings.	Year.	New Buildings.	Year.	New Buildings.
1904	1458	1909	476	1914	394
1905	1057	1910	626	1915	306
1906	655	1911	396	1916	128
1907	637	1912	393	1917	32
1908	486	1913	349	1918	38
1904 -08	859 (average)	1909 -13	448 (average)	1914 -18	179 (average)

It will therefore be noticed that during the past thirteen years there has been a serious diminution in the number of new houses being built.

NEW BUILDINGS.

Showing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1909-1918.

WARDS.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Allerton	29	62	40	21	10	13	10	4	...	2
Bolton	32	55	15	10	13	3	...	...	...	...
Bradford Moor	84	50	31	81	60	31	38	28	5	...
East	21	1	14	10	...	23	14	...	...	...
East Bowling... ..	10	3	12	39	6	3	...	...	...	...
Eccleshill	17	46	23	25	31	20	16	2	1	...
Exchange ... ..	...	...	...	...	...	2	1	...	...	...
Great Horton	30	42	37	32	58	62	26	21	6	...
Heaton	29	23	11	34	38	40	43	8	7	2
Idle	6	13	21	10	32	36	34	5	...	...
Listerhills ... ..	...	...	...	...	...	...	...	...	...	...
Little Horton	42	16	4	4	7	2	...	...	...	4
Manningham	52	88	68	42	24	37	17	17	7	...
North	18	3	20	6	2	...	...	...	1	...
North Bierley East	17	4	8	8	...	3	13	7	1	29
North Bierley West	5	44	29	20	21	48	28	4	2	...
South	15	...	...	1	1	...	...	...	...	...
Thornton ... ..	...	1	3	...	1	2	1	...	2	...
Tong	17	26	35	15	20	...	2	...	...	1
West	1	114	...	2	...	62	...	...	...	...
West Bowling	51	35	25	33	25	7	63	32	...	...
CITY TOTAL...	476	626	396	393	349	394	306	128	32	38

IX.—FOOD.

(A) MILK SUPPLY.

So far as can be estimated it would appear that the average quantity of milk consumed in the city in 1919 daily amounted to about 11,000 gallons, of which about 6,900 gallons were produced within the city boundaries, and about 4,100 gallons outside. There are 400 farms within the City area, and of these 371 are dairy farms with 724 cowsheds, housing approximately 4,085 dairy cows.

The inspection of dairy cattle is carried out by a veterinary inspector (Mr. C. Pitts, M.R.C.V.S.), who made during the year 2,485 visits to dairy farms and inspected on 5,212 occasions cowsheds in the city; at these inspections 31,349 examinations were made of dairy cattle, the dairies, can-houses, and milk-vessels were also inspected. The Veterinary Inspector collected and examined 1,025 samples of milk, 64 contained pus, 7 contained tubercle bacilli, and the rest were negative; he also examined 103 specimens of mucus expelled by dairy cows coughing which were collected for tubercle bacilli, 48 were positive and 55 negative. Sixty-three samples of milk were obtained and submitted to Leeds University to be tested by inoculation tests; 4 of these were reported to be tuberculous.

The animals found tuberculous were kept under observation. Marks of identification are taken and the udder are examined and samples of milk taken at short intervals to ascertain if the milk is tuberculous or the udder has become infected with tubercle bacilli.

In addition to these bacteriological examinations by the Veterinary Inspector 12 bottles of mixed milk purchased from dairymen during transit from the cowkeeper to the dairymen from farms where defective udders were known to exist were examined, but these were found to be free from pus and germs.

In the routine examinations of dairy cattle 53 dairy animals were found to be suffering from tuberculosis, 7 of which were affected with tuberculosis of the udder, 3 were sold to dealers and lost sight of ; 17 were destroyed at a Knacker's yard. Two complaints of milk were investigated, one a sample of sour milk, the other a dirty milk : and both were remedied.

Seven cases of suspected anthrax in dairy cattle were reported, 5 of which were confirmed by the Veterinary Inspector of the Board of Agriculture. These were destroyed and all necessary precautions taken to avoid further outbreaks. The infected places were visited every other day for 10 days to examine the animals in contact with a view to safeguarding the milk. The infected places were under the supervision of the Police during the time the cattle were isolated and while the restrictions of the order applied. At two dairy farms there was a second outbreak of Anthrax following immediately after the first. This was due no doubt to the fact that the first animal being bled on the premises.

One dairy cow coming into the city from an area infected with foot and mouth disease was isolated, and examined on several occasions, but fortunately did not contract the disease.

Cowsheds. There were 2 persons registered as cowkeepers and milk purveyors. Three warning notices were sent to cowkeepers to clean their premises. The persons complied with the notices. Six cowsheds were closed which did not comply with the regulations with respect to the Dairies, Cowsheds, and Milk Shops Orders. Three cowkeepers afterwards complied with the regulations and re-opened the sheds

Milk Shops, Dairies, and Purveyors of Milk. There were at the end of the year 261 vendors of milk registered and residing within the City. During the year 20 new milk purveyors were registered.

These registered milk vendors may be classified as follows :—

Cowkeepers and retailers	100
Retailers only (in the streets or from their homes) ..	107
Milkshops (including dairies, confectioners, small grocers, restaurants, and other shops)	54

The number of visits made to these premises was 410, and generally the premises were found in a fairly satisfactory state. In addition to these 261 vendors residing in the city 49 dairymen came into the city from surrounding districts to sell milk by retail.

The milk supply produced within the city is supplemented from 175 sources outside the boundary. From these sources the milk arrives in Bradford in 99 cases by rail, in 15 by tramways, and in 54 by road. The total amount of milk produced outside the city boundary and consumed within is estimated to be about 4,100 gallons daily.

Chemical Examination of Milk. During the year 454 samples of milk were analysed by the City Analyst, and the results are shown in tabular form on the following page. These show that 2·2 per cent. of the samples gave an analysis under 3·0 per cent. of fat, and 71·3 per cent. over 3·5 per cent. of fat, whilst 9·2 per cent. of these samples gave an analysis under 8·5 per cent. of non-fatty solids, and 48·4 per cent. over 9·0 of non-fatty solids.

The total number below 3·0 per cent. of fat and 8·5 per cent. of non-fatty solids was 52 or 15·1 per cent. of the samples.

RESULTS OF MILK ANALYSIS, 1918.

Per cent.	Fat																			Total over					
	Unfat 2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2		4.3	4.4	4.5	4.6	
Under 7.5						1				1															2
7.5											1														1
7.6																									1
7.7																									1
7.8																									1
7.9																									4
8.0																									3
8.1																									6
8.2																									4
8.3																									8
8.4																									10
8.5																									25
8.6																									32
8.7																									29
8.8																									55
8.9																									51
9.0																									70
9.1																									63
9.2																									48
9.3																									24
9.4																									13
9.5																									2
9.6 and over																									-
Totals ..					3	7	12	13	21	34	40	30	33	35	40	19	34	21	21	21	21	16	13	41	454

Non-Fatty Solids.

Municipal Milk Depot. The business done at the Milk Depot is shown in the following tabular statement :—

	1916-17	1917-18	1918-19
Sterilized Milk sold (pints)	11,549	7,875	Nil
Raw Milk sold, wholesale and retail (galls.)	102,619	113,616	31,381
Raw Milk supplied to Institutions (galls.)	61,505	71,353	78,663

(B) SALE OF FOOD AND DRUGS ACTS.

The number of samples of food and drugs taken under these Acts and submitted to the Public Analyst for analysis by the Food and Drugs Inspector was 739. Of these 661 were certified as genuine, and 78 as adulterated or doubtful.

In 21 cases the vendors were summoned before the magistrates for adulteration of food and drugs. One was proceeded against for obstruction and was fined the maximum penalty of £20.

Penalties and costs amounting to £162 7s. 6d. were inflicted.

Under the special arrangement with traders and others 2 samples were submitted for analysis, of which one was genuine and one adulterated.

The following table shows the nature of articles submitted for analysis :—

Article.	Number submitted	Adulterated or Doubtful
Milk	455	48
Milk (condensed, etc.)	9	1
Cream	2	1
Preserved Cream ..	2	—
Butter	5	—
Cheese	3	—
Margarine	5	—
Lard	8	—
Rice	8	—
Pepper	7	—
Mustard	7	—
Jam	5	—
Custard Powder ..	20	3
Coffee	13	—
Cocoa	15	—
Other Articles of Food	71	5
Drugs	104	20
Totals ..	739	78

(C) SLAUGHTERHOUSES AND MEAT INSPECTION.

The number of private slaughterhouses within the city is 42, and one knacker's yard. Fourteen of these are subject to annual license, and 28 are registered slaughterhouses. The knacker's yard is licensed.

One thousand and forty-nine visits have been paid to these premises during the year. One thousand six hundred and fifty-two visits have been made to premises where potted meat and sausage are prepared. These places are generally found to be clean and satisfactory.

No seizures of unsound or diseased meat have been made during the year. One person was prosecuted for the sale of horse flesh contrary to the Sale of Horseflesh, etc. Regulation Act, 1889, and was convicted and fined 20s.

The number of carcasses condemned wholly or partly was 1,275. These were as follows :—

CARCASES WHOLLY OR PARTLY CONDEMNED AND DESTROYED.

	Wholly	Partly	Total
Cows	147	423	570
Heifers	24	61	85
Bullocks	6	51	57
Calves	50	101	151
Sheep	132	62	194
Pigs	92	105	197
Horses	—	21	21
Totals	451	824	1275

The total weight of meat found unwholesome or unsound and destroyed was as follows :—

WEIGHT IN LBS.

Beef	99,491
Veal	7,126
Mutton	5,896
Pork	9,912
Offals	31,151
Total	153,576lbs.
68 Tons, 9 cwts., 24 lbs.	

The total number of animals slaughtered in the public abattoirs is as follows :—

	St. James's	Bolton Lane	Total
Beasts ..	7911	3871	11782
Sheep ..	29264	14818	44082
Lambs ..	2801	5497	8298
Calves ..	10491	393	10884
Pigs ..	4643	1143	5786
Horses ..	—	367	367
Totals ..	55110	26089	81199

Of these animals 370 beasts, 92 pigs, and 19 horses were found tuberculous. The extent and incidence of the disease is shown in the following table :—

	Beasts		Pigs		Horses	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Wholly destroyed ..	99	0·84	30	0·53	—	—
Partially destroyed ..	28	0·24	20	0·34	—	—
Internal organs only destroyed ..	243	2·06	42	0·72	19	5·17
Totals	370	3·14	92	1·59	19	5·17

I am indebted to Mr. Frank Matthewman, Markets Superintendent, for the particulars as to the total number of animals slaughtered at the public abattoirs.

(D) OTHER ARTICLES OF FOOD.

The total quantity of fish, game, poultry, fruit, and vegetables destroyed during the year amounted to 57 tons, 16 cwts., 2 qrs., 26 lbs. The number of rabbits destroyed during the year was 8,773, compared with 1,389 in 1917. 2,009 were English and Scotch, 6,764 being Colonial.

Twenty-four applications were entered on the books at the markets requesting inspection of goods, which in each case were found unfit for human food. They were surrendered to the Inspector and subsequently destroyed.

Five hundred and twenty-six visits were made to retail fish, game, and poultry dealers' premises, and all were found satisfactory. There were many personal applications made to the Inspector.

Fried Fish Shops. At the close of the year there were 287 fried fish shops in the city. Seven hundred and twenty-one visits were made to fried fish shops during the year.

Ice Cream. An Order made by the Food Controller dated December 29th, 1917, prohibited the manufacture or sale of Ice Cream, and the Order remained in operation at the close of the year under review.

Fish Curing. During the year 235 visits were made to fish curing premises, which were found satisfactory.

Three seizures of unsound food were made. Proceedings were instituted against the owners, and convictions were recorded in each case.

No. of case	Nature of goods	Penalties
1	Unsound poultry	£ s. d. 3 0 0
2	Unsound fish	1 0 0
3	Unsound fish	10 0 0

During the year there were two prosecutions for breaches of the Offensive Trade Bye-laws :—

No. of case	Offence	Penalties
1	Establishing an offensive trade without authority	£ s. d. 1 0 0
2	Continuing the above offence	0 10 0

X.—WORKSHOP AND SHOP INSPECTION, &c.

(A) FACTORY AND WORKSHOP ACTS, 1901.

INSPECTIONS. The total number of workshops on the register is now 2,845, and of bakehouses 359, as compared with 2,846 and 391 respectively last year.

	Workshops	Bakehouses
Visits made by the Shop Inspectors	2,139	905
" " Sanitary Inspectors	724	—
Total	2,863	905

Thirty-five employers were found who had failed to keep on their premises the list of outworkers, and four hundred and seventy-four employers failed to send in on the specified dates the list of outworkers employed by them. After a warning had been given in 16 cases prosecutions were undertaken and penalties and costs of £12 5s. were imposed.

SANITARY DEFECTS IN WORKSHOPS, ETC. During the year the Factory Inspectors have made 47 complaints in writing to the Town Clerk relative to the sanitary condition of the factories and workshops. These were investigated and where necessary statutory notices were served.

Particulars.	Number of Cases.
Workshops without Abstract of the Factory and Workshop Act (notified to H.M. Inspector of Factories)	98
Other reports to H.M. Inspector of Factories	2
Dirty workshops limewashed and cleansed	122
Dirty bakehouses limewashed and cleansed	148
Workshops without closet accommodation	1

Particulars.	Number of Cases.
Workshops without separate closet accommodation for sexes	10
Workshops with insufficient closet accommodation ..	43
Workshops with foul or defective w.c.'s or privies ..	347
Workshops where additional ventilation was required..	6
Overcrowded	1
Gas stoves without provision for carrying off fumes ..	14
Dangerous places in workshops	3
Various other nuisances	440
Total	1235

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

I.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (Including Factory Laundries)	313	61	—
WORKSHOPS (Including Workshop Laundries)	3319	105	1
WORKPLACES (Other than Outworkers' premises in- cluded in part 3 of this Report)	136	68	—
TOTALS... ..	3768	234	1

II.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness	122	122	...	...
Want of ventilation	6	6	...	...
Other nuisances	458	458	...	...
* Sanitary accommodation {				
insufficient	44	39	...	...
unsuitable or defective	347	345	...	...
not separate for sexes	10	10	...	...
<i>Offences under the Factory and Workshop Act—</i>				
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ...	148	148	...	...
TOTALS	1135	1128	...	—

* Section 22 of the Public Health Acts Amendment Act, 1890, adopted.

III.—HOMEWORK.

NATURE OF WORK.		OUTWORKERS' LIST, SECTION 107.									
		List received from Employers.					Notices served on Occupiers as to keeping or sending lists.		Prosecutions.		
		Sending twice in the year.		Sending once in the year.			Failing to permit inspection of lists.	Failing to send lists.			
		Lists.	Outworkers.	Lists.	Outworkers.	Workmen.					
		Con-tractors.	Workmen.	Con-tractors.	Workmen.	Con-tractors.	Workmen.				
WEARING APPAREL—		276	208	440	19	16	19	230	5		
(1) Making, &c.	...	...	14	...	...	...	...	...	...	...
(2) Cleansing and Washing	...	16	56	59	...	...	...	18	...	...
Furniture and Upholstery	...	2	...	4	...	...	...	1	...	...
Curtains	...	...	2	...	...	...	...	...	...	...
Electro	...	4	8	16	...	...	...	4	...	...
Umbrellas, &c.	...	2	6	2	...	...	...	1	...	...
Locks, Latches and Keys	...	...	...	2	1	...	1	2	...	...
Household Linen	...	...	...	...	...	...	...	1	...	...
Paper Bags...	...	...	...	...	...	...	...	1	...	...
Button Carding	...	...	...	...	1	...	30	2	...	...
Weaving, &c.	...	190	257	383	30	37	37	215	1	10	
TOTALS	...	490	551	906	51	53	87	474	1	15	

IV.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.		Number.
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshops	2845
	„ Bakehouses	359
	Total number of workshops on Register ...	3204

V.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901)	98
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (S. 5, 1901))	Notified by H.M. Inspector
	Reports (of action taken) sent to H.M. Inspector
	47
	55
Other	2
Underground Bakehouses (S. 101) :—	
In use at the end of the year	37

(B) SHOP ACTS 1912 AND 1913.

The number of visits and investigations made to shops where young persons are employed was 1,823. In 23 shops the employers had failed to exhibit the notice referring to the provisions of the Act, and stating the number of hours during which young persons may be employed. The employers were cautioned. One young person was

employed in a shop after having been previously on the same day employed in a Factory or Workshop for the full number of hours permitted by the Factory and Workshop Act. In this case the employer was warned that a repetition of the offence would involve prosecution.

Special visits were made to 206 shops where female assistants are employed, and in one case it was found that no seats were provided, but after warning this was remedied at once.

In 38 cases it was found that no notice had been fixed specifying the closing day. Seventeen shops were found open and the occupiers selling non-exempted articles ; in 2 cases proceedings were taken against the offenders, and the remainder were warned. Twenty-two shops were found open, and the occupiers not displaying the mixed trade notices specifying the exempted trade for which they were remaining open after the closing hour on the weekly half holiday. All these persons were warned that a repetition of the offence would involve them in legal proceedings.

In 35 cases it was found that the employer had failed to provide the prescribed form, relating to their assistants' weekly half holiday ; as these employers were all first offenders they were cautioned. In 7 cases shop assistants were found employed during their weekly half holiday, and in one case the offender was prosecuted. Seven cases were found where assistants were not having the correct intervals for meals, as prescribed by the Act, and the offenders were warned.

Closing Orders. A number of visits have been specially made at nights after the closing hour in connection with Closing Orders affecting various classes of shops. Closing Orders are now in force affecting the following classes of shops :—Butchers', Hay, Straw and Corn Merchants', and Jewellers'. One shop was found open in contravention of these Orders ; the occupier was warned that a future offence would involve

prosecution. Three occupiers of shops were found not to be displaying Official copies of the Closing Orders ; as these were all first offenders the occupiers were cautioned.

PROSECUTIONS.

The following summary shows that 3 prosecutions were undertaken under the Shops Act, 1912, and fines amounting to £1 1s. and 3s. 6d. costs were imposed.

Nature of Offence.	No. of Cases.	Penalties.			Costs.		
		£	s.	d.	£	s.	d.
Failing to allow assistants a weekly half holiday	1	—			0	3	6
Failing to observe weekly half holiday	2	1	1	0	—		

(C) RAG FLOCK ACT, 1911, ETC.

During the year the Shops Inspector obtained and submitted to the City Analyst for analysis 13 samples of flock. One of the samples was found not to conform to the standard prescribed by the Local Government Board's Regulations. The owner of the flocks was prosecuted and fined 10s. and £2 2s. costs.

Fabrics (Misdescription) Act, 1913. Convictions obtained in 1914 in connection with the samples of flannelette with a misleading description as to its non-inflammability or safety from fire would appear to still retain its good effects. The Shops Inspector has been unable during the year under review to obtain any samples of fabrics to which were attributed expressly or inferentially the quality of non-inflammability or safety from fire.

XI.—CLOSET ACCOMMODATION.

During the year 21 privies were converted into water closets and the ashpits in connection with the privies were replaced by dry ash pits or dust bins.

CONVERSION OF PRIVIES AND ASHPITS.

COMPARATIVE TABLE SHOWING THE PROGRESS MADE IN THE
CONVERSION OF PRIVIES INTO WATER CLOSETS.

Year.	Dwelling-houses.		Factories and Workshops.		Other Premises.		Totals.	
	W.C.'s.	Privies.	W.C.'s.	Privies.	W.C.'s.	Privies.	W.C.'s.	Privies.
1908	1854	25	254	2	78	5	2186	32
1909	1969	12	194	2	28	1	2191	15
1910	1945	18	217	2	—	—	2162	20
1911	2128	8	202	—	35	2	2365	10
1912	2917	9	196	—	95	—	3208	9
1913	3990	1	160	—	88	—	4238	1
1914	3123	1	127	—	14	—	3264	1
1915	2028	—	151	—	50	—	2229	—
1916	155	—	128	—	16	8 pails	299	8 pails
1917	30	—	70	—	—	—	100	—
1918	27	1	125	—	6	—	158	1

ESTIMATE OF SANITARY ACCOMMODATION AT THE END OF 1918.

(i.) Dwelling-houses.

	No. of Houses	Water Closets	Waste Water Closets	Privies
WATER CLOSETS.				
More than one sanitary convenience to each house ..	5078	8147	560	1620
One to each house	32970	32970	—	—
Less than one to each house ..	16039	8416	—	—
WASTE WATER CLOSETS.				
One to each house	7297	—	7297	—
Less than one to each house ..	250	—	126	—
PRIVIES.				
One to each house	5965	—	—	5965
Less than one to each house ..	7703	—	—	3560
Totals	75302	49533	7983	11145

SUMMARY.

	Number.	Percentage.
Houses with water closets	54,087	72·0
Houses with waste water closets ..	7,547	10·0
Houses with privies only	13,668	18·0

(ii.) Business and other Premises.

	No. of Premises	Water Closets	Waste Water Closets	Privies
Factories, workshops, and other business premises ..	4280	10482	—	358
Places of worship, schools, clubs, public institutions, &c.	451	2910	—	256
Totals	4731	13392	—	614

(iii.) Totals.

Number of water closets	62,925
Number of waste water closets	7,983
Number of privies	11,759
	————— 82,667
Number of wet ashpits	8,156
Number of dry ashpits	30,286
Number of dust bins	8,121
	————— 46,563

RECORD OF PLANS PASSED BY THE HEALTH COMMITTEE.

Seventy plans have been approved by the Health Committee for the construction of the following works :—

17 water closets affecting 17 dwelling-houses.	
2 dust bins	2 ..
1 privy and ashpit ..	2 ..
6 water closets ..	4 licensed premises.
2 urinals	2 ..
108 water closets ..	46 factories and workshops.
1 urinal	1 factory.
3 water closets ..	3 schools, clubs, etc.
4 water closets ..	1 park.

Sixty-one complaints, affecting Factories and Workshops were investigated, and in connection therewith 18 notices were served requiring the necessary alterations and amendments to be carried out.

XII.—GENERAL NUISANCE WORK.

(A.) DRAINAGE.

Nine hundred and eighty-seven tests were applied by the Sanitary Inspectors for the purpose of ascertaining the condition of drains and other sanitary fittings in connection with dwelling-houses and other premises. The following table gives the analysis of the various tests and the results obtained therefrom :—

NATURE OF TEST.	No. of Tests.	RESULT.	
		Positive.	Negative.
Volatile	577	150	427
Coloured water	364	173	191
Smoke	46	19	27
Totals	987	342	645

Included in the above figures are 252 tests made to the drains of houses where Infectious Disease occurred. Particulars of these are as follows :—

DISEASE.	No. of Tests.	No. found Defective.	Percentage Defective.
Diphtheria	131	19	14·5
Typhoid Fever	24	3	12·5
Other Diseases	97	5	5·1

In 57 cases the system of drainage was such as to render impracticable the application of a test.

The drainage of 24 blocks of property comprising 118 houses were dealt with under Section 41 of the Public Health Act, 1875, as against 91 houses in 1917. These defects were found as the result of tests being applied to the drainage after 6 cases of Infectious Disease ; in 5 cases after complaints from the tenants of bad smells in the cellar ; in 8 cases after complaints from similar sources of water in the cellar ; and in 5 cases from defects found by the District Inspectors during the progress of drainage work. All these cases were dealt with by the City Surveyor after being referred to him by the Health Committee.

During the year 65 down spouts have been disconnected from drains and sewers, as against 91 last year. Accounts have been received and passed for payment for the disconnection of 13 down spouts at 16 houses, as against 42 down spouts at 31 houses last year. The total cost of the work involved was £26 16s. 10d., or an average of approximately 41s. 4d. for each down spout, and the total amount payable by the Corporation was £13 8s.

Smoke Prevention. Four notices were served by the District Inspectors for contravention of the powers for the control of the smoke nuisance.

The Health Committee in consideration of the difficulty experienced in obtaining suitable fuel for steam raising purposes decided not to take legal proceedings. The offenders in each case were cautioned.

SMOKE PREVENTION. RECORD OF NOTICES AND PROSECUTIONS.
1908-1918.

Year	Notices served	Prosecutions	Cases dismissed	Withdrawn	Fines			Costs			Total		
					£	s.	d.	£	s.	d.	£	s.	d.
1908	68	38	—	1	10	18	6	15	5	0	26	3	0
1909	81	29	—	4	8	0	0	11	0	0	19	0	0
1910	67	22	—	4	7	10	0	6	18	0	14	8	0
1911	44	18	—	2	6	4	0	5	18	0	12	2	0
1912	83	23	6	1	40	0	0	31	5	0	71	5	0
1913	15	3	—	1	5	0	0	3	3	0	8	3	0
1914	13	8	—	4	20	0	0	11	14	0	31	14	0
1915	16	9	—	1	14	0	0	1	8	0	15	8	0
1916	4	3	2	—	1	0	0	—	—	—	1	0	0
1917	—	—	—	—	—	—	—	—	—	—	—	—	—
1918	4	—	—	4	—	—	—	—	—	—	—	—	—

(B) SANITARY INSPECTORS' WORK.

During the year the District Sanitary Inspectors have made 96,986 inspections and visits for the investigation and suppression of nuisances.

The total number of nuisances reported amounted to 13,335.

The following statement shows the nature and amount of work performed by the Inspectors during the year, together with the figures for the five preceding years for the purpose of comparison.

PARTICULARS OF WORK DONE, 1913-1918.

	Number of Cases.					
	1913	1914	1915	1916	1917	1918
<i>Drainage and Sanitary Arrangements—</i>						
Choked drains cleansed	1364	1543	1689	1483	2030	1575
Drains amended	889	792	905	882	624	596

	No. of Cases.					
	1913	1914	1915	1916	1917	1918
Drains reconstructed	1544	1278	866	265	113	114
Extra drains provided	288	453	374	50	22	2
Cellars drained	47	54	46	28	20	29
Drains underneath houses abolished	27	52	57	34	12	16
Drainage systems intercepted from sewer	9	18	34	12	6	—
Open drain inlets trapped	96	19	2	11	6	—
Waste pipes trapped	—	84	78	43	41	36
Waste pipes disconnected	121	107	53	59	27	24
Rain water pipes disconnected ..	865	916	683	377	91	65
Rain water conductors repaired or renewed	2501	2400	2753	3806	2994	3871
House sinks repaired or renewed ..	77	109	116	65	112	75
New house sinks provided	83	81	51	34	11	7
Water closet pedestals renewed ..	182	158	148	115	396	272
Water closets and flushing apparatus repaired	405	408	428	326	833	723
Water closets cleansed	214	142	141	246	392	233
Water closet apartments cleansed and limewashed	591	607	912	881	1919	1244
Water closet apartments properly lighted and ventilated	—	3	47	33	61	32
Soil pipes repaired or renewed ..	128	80	101	69	46	35
Indoor soil pipes abolished	7	2	5	6	—	1
Urinals cleansed, amended, or screened	28	42	39	34	42	47
Urinals remodelled	6	14	4	1	1	—
New urinals provided	2	2	—	1	1	2
<i>Privies and Ashpits—</i>						
Privy structures abolished	—	110	183	20	21	—
Deposit of slops in ashpits prohibited	195	147	53	95	42	85
General repairs executed	935	1016	1053	997	1459	1074
Privy apartments cleansed and lime- washed	245	86	293	270	629	393
Dust bins provided or renewed ..	161	175	345	432	284	310
<i>Dwelling-houses, Etc.—</i>						
Dampness excluded	180	167	197	155	132	150
Roofs repaired	423	357	525	536	369	680
General repairs executed	423	304	679	635	462	611

	No. of Cases.					
	1913	1914	1915	1916	1917	1918
Houses or part cleansed or limewashed	230	230	294	538	308	284
Ventilation improved	226	23	45	32	33	41
Overcrowding abated	33	61	60	53	19	9
Cellar areas cleansed	38	62	91	94	65	39
Caravans removed	27	97	62	19	33	—
Number of houses reported for provision of privies	—	—	—	—	—	4
<i>Courts, Backyards, Stable Yards—</i>						
Paving repaired in yards and passages	243	286	231	319	239	107
Yards and passages newly paved ..	28	18	31	13	65	1
Yards cleansed	311	181	407	673	411	254
Passages cleansed and limewashed ..	371	363	342	206	380	186
<i>Keeping of Animals, Etc.—</i>						
Improper keeping of swine prohibited	5	8	7	2	1	19
Improper keeping of fowls, etc., prohibited	47	55	33	40	24	9
Accumulations of offensive matter removed	320	227	279	290	139	125
Accumulations of manure removed	177	156	228	155	45	23
Manure pits repaired	23	13	24	10	6	4
Manure pits provided	5	3	6	2	—	—
<i>Miscellaneous Nuisances—</i>						
Dangerous places made secure ..	192	171	165	248	327	296
Effluvium nuisances abated	—	12	43	15	14	23
Other unclassified nuisances abated	27	11	30	21	6	22
<i>Special Inspections—</i>						
Graveyards	324	300	342	439	148	101
Offensive trade premises	419	519	591	530	343	298
Schools inspected	—	1104	1097	1085	1002	681
Zymotic diseases investigated and subsequent visits	2795	2154	2458	2574	1492	1506
Complaints specially investigated ..	1226	1341	1428	1333	1438	1535

The number of statutory notices served for the abatement of nuisances was 4,653, as against 6,167 last year.

The number of preliminary notices served for dangerous places to be made secure was 32 as against 43 last year.

In default of compliance with notices served 23 cases were heard before the City Magistrates and fines and costs amounting in the aggregate to £5 11s. were inflicted. In one case an Order made by the Court was subsequently complied with in the time specified in the Order. In 13 cases the necessary works were carried out before the hearing in Court, and the costs paid into Court. In 5 cases adjournments were granted to enable the work to be completed. In each case this was done to the satisfaction of the Corporation. In 2 cases small fines were inflicted, and in the remaining 2 cases the defendants were fined in default of compliance with Orders made by the Court for the abatement of the nuisances.

During the year 711 complaints as to nuisances were made at this office, either personally or by letter. These immediately received the attention of the Inspector concerned. Last year the number was 424.

The number of dangerous and unfenced places dealt with under the direction and supervision of the Inspectors of this Department was 296, as against 327 last year.

One hundred and one visits have been made to the various graveyards in the City by the District Inspectors, as against 148 for the previous year. No irregularities were observed.

There have been no additions to the number of urinals or underground lavatories in the city during the past year.

One hundred and fourteen cases of soldiers or civilians arriving in the city either as convalescents or contacts in Infectious Disease were kept under observation for the requisite period.

MATTERS REFERRED TO THE INSPECTOR OF NUISANCES BY THE HEALTH VISITORS.

Nature of Defects.	1913	1914	1915	1916	1917	1918
Damp houses	52	34	10	13	30	51
House roofs, walls and ceilings defective	37	43	75	32	29	104
House windows defective	16	21	—	2	4	19
Cellars containing water	4	5	—	3	5	10
Structural dilapidations	19	5	—	4	5	—
Bad smells	7	13	14	4	6	23
Choked or defective drains	42	32	39	17	60	184
Chimney flues defective	6	2	2	2	9	13
Dangerous places	5	3	—	3	2	4
Rainwater conductors defective	8	9	6	4	9	54
Defective water supply fittings	1	9	—	1	19	38
Defective w.c. pedestals and fittings ..	35	45	12	11	33	112
Choked water closets	22	38	11	12	37	69
Want of repairs to privies and ashpits ..	38	58	16	10	39	93
Filthy privies and water closets	1	2	3	—	6	7
Defective yard flagging	1	14	1	1	3	—
Foul accumulations.. .. .	1	5	2	—	2	16
Filthy and verminous houses	—	—	3	—	12	17
Filthy yards	—	—	4	1	4	—
Overcrowding	—	—	8	3	6	12
Miscellaneous	8	13	12	1	5	32
Totals	314	355	169	124	325	858

MATTERS REFERRED TO THE CITY SURVEYOR'S AND OTHER DEPARTMENTS.

Dangerous places	196
Foul and defective sewers and sewer vents	8
Gullies requiring breaking down to	1
Defective paving and flagging	24
Buildings erected in back yards	13
Miscellaneous	4
Wastes of water (Waste Water Department)	902
Choked street gullies (Street Cleansing Department) ..	2267

XIII.—LODGING HOUSES AND CANAL BOATS.

(A) COMMON LODGING HOUSES.

At the end of the year there were 23 registered Common Lodging Houses in the city, comprising 132 sleeping rooms, and affording accommodation for 1,300 persons.

Two Common Lodging Houses have been closed during the year, viz. :—73, Captain Street, and 27 and 29, Sackville Street.

Application for the transfer of the registry of the keepers of Common Lodging Houses has been made in two cases, which were both granted.

The supervision of these places is still being carried out by the District Sanitary Inspectors, who have made a total of 1,126 inspections during the year.

The total number of lodgers frequenting these places was 331,199, as against 407,331 for the previous year, this being a decrease of 76,132, or approximately 208 persons nightly.

The following table shows the proportion of single men, single women, young persons, children, and couples frequenting these houses :—

ADULTS		Couples	8 to 21 years		Under 8 years	
Males	Females		Males	Females	Males	Females
287438	33808	4266	469	924	1	27

The whole of the houses have been cleansed and limewashed in accordance with the provisions of the Public Health Act, 1875.

(B.) INSPECTION OF CANAL BOATS.

The number of canal boats inspected within the city boundaries was 175. Sixteen boats did not comply with the Canal Boats Acts and Regulations. The following is a detailed list of the breaches found to exist :—2 cabins filthy, 4 no certificate of registration on board, 5 boats not properly marked and numbered, 2 defective water casks, 4 cabins required painting, 4 decks required caulking, and 5 general repairs required. Total number of breaches, 26.

Statutory notices were served and complied with. No cases of infectious disease were notified during the year. At present there are no boats registered with this Authority. It will be observed from this list of offences committed during the year that with few exceptions the boats coming under the supervision of the Authority were generally in good condition, the offences being of a minor character.

XIV.—MISCELLANEOUS.**(A) AMBULANCE WORK AND DISINFECTION.**

The ambulance station for cases of Infectious Disease is situated at the Disinfecting Station, Canal Road. The number of patients removed in 1918 by the ambulances was 811.

The total number of articles disinfected at the Disinfecting Station in Canal Road during the year, was 10,219. The number of houses disinfected by the Disinfecting Officer was 1,088. In addition, disinfection was carried out at the request of the Military Authorities, manufacturers, property owners, and others, for which a charge was made. The amounts received totalled £24 14s. 1d.

(B) PUBLIC MORTUARY.

During the past year 90 bodies have been deposited and 30 post mortem examinations made.

(C) - CREMATORIUM.

The remains of 20 persons were cremated during 1918 at the Scholemoor Crematorium, in comparison with 10 during the previous year.

The following table, prepared by the Cremation Society of Great Britain, shows the number of Cremations carried out in Great Britain since the year 1885.

Table of Cremations carried out in Great Britain since the year 1885.

1885-93	458	125	150	137	173	240	240	301	273	275	*143	138	95	140	108	119	105	106	114	125	128	124	153	125	129	142	4366
1894	...	47	58	52	51	62	88	83	96	81	92	98	97	90	98	116	106	114	124	149	172	184	165	179	178	197	2810
1895	...	...	1	10	16	12	16	20	18	20	24	19	35	44	30	28	30	28	39	44	49	57	63	71	67	74	815
1896	...	...	...	2	10	27	23	40	40	54	35	40	35	46	34	32	46	37	50	52	66	48	54	58	62	69	960
1897	...	...	...	...	...	...	...	...	17	13	18	20	15	17	29	37	15	21	25	27	23	16	34	25	24	43	419
1898	...	...	...	...	...	...	...	...	1	2	1	7	4	13	8	6	9	9	12	15	11	11	16	10	15	17	167
1898	...	...	...	...	...	...	...	...	...	5	158	220	252	298	290	364	421	415	542	591	662	671	730	633	719	820	7731
1899	...	...	...	...	...	...	...	...	...	1	5	8	16	12	12	14	19	16	13	14	11	7	22	23	34	42	269
1900	...	...	...	...	...	...	...	...	...	...	1	19	22	25	33	18	30	38	44	40	50	53	45	63	49	64	603
1901	...	...	...	...	...	...	...	...	...	...	...	...	16	15	16	24	19	12	17	24	16	28	20	22	17	34	280
1902	...	...	...	...	...	...	...	...	...	...	...	...	9	23	18	19	24	22	20	32	21	42	45	43	68	70	456
1903	...	...	...	...	...	...	...	...	...	...	...	...	1	14	13	6	13	14	13	9	15	18	12	11	10	20	169
1904	...	...	...	...	...	...	...	...	...	...	...	...	7	6	18	12	18	8	10	12	15	20	21	14	25	50	236
1905	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	80	118	153	390
1906	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1908	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1909	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1910	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1912	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1913	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1914	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1915	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1916	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	491	172	209	201	250	341	367	444	445	451	477	569	604	743	707	795	855	840	1023	1134	1188	1279	1416	1366	1515	1795	19,671

* Municipally controlled.

APPENDIX.

TABLES REQUIRED BY THE LOCAL GOVERNMENT BOARD.

TABLE I.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1918 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Numbers	NETT.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.		
1	2	3	4	5	6	7	8	9	10	11	12	13
1913	290,540	5808	5811	19.62	4372	14.76	91	193	741	128	4474	15.11
1914	290,642	5792	5799	19.64	4490	15.45	106	196	693	122	4580	15.76
1915	280,737	5655	5692	17.36	4617	16.45	108	236	622	123	4745	16.90
1916	271,105	4913	4918	16.67	4157	15.33	149	328	581	118	4336	15.99
1917	266,338	3901	3879	13.06	3960	14.87	172	297	513	132	4085	15.34
1918	259,707	3909	3871	13.30	4776	18.38	176	369	477	123	4969	19.13

TABLE II.
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1918.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.														TOTAL CASES REMOVED TO HOSPITAL.							
	At all Ages.	At Ages—Years.						Allerton.	Bolton.	Bradford Moor.	East.	East Bowling.	Eccleshill.	Exchange.	Great Horton.	Heaton.	Idle.	Listerhills.	Little Horton.	Manningham.	North.		North Bierley East.	North Bierley West.	South.	Thornton.	Tong.	West.	West Bowling.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.																							65 and upwards.
Measles ...	3868	122	2055	1594	71	23	3	220	166	307	277	197	76	21	241	291	21	139	160	422	153	162	60	207	158	164	93	333	4
Smallpox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Group) ...	281	5	58	168	33	15	2	7	6	14	13	16	8	1	12	8	3	8	33	16	15	16	25	17	3	1	6	53	215
Erysipelas ...	114	3	3	12	10	30	40	2	...	5	8	4	3	1	1	6	5	6	3	7	...	4	1	6	4	2	8	38	2
Scarlet Fever ...	197	2	41	129	15	9	1	11	6	11	6	14	8	2	22	12	2	7	18	22	11	7	8	5	4	13	4	4	146
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	32	...	...	5	10	10	5	...	...	7	1	2	...	...	5	3	...	2	1	1	...	1	...	1	...	2	2	2	17
Continued Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever ...	13	...	...	...	4	9	...	...	...	1	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	2	6	3
Cerebro-Spinal Meningitis ...	15	...	1	7	4	3	...	...	...	1	1	1	...	...	3	...	...	...	1	1	...	...	...	...	...	1	2	4	11
Poliomylitis ...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalm. Neonatorum ...	71	69	1	1	...	...	...	...	...	3	4	5	1	2	2	3	3	1	3	12	8	3	1	8	...	2	2	8	14
Pulmonary Tuberculosis ...	626	4	17	69	143	260	115	16	13	49	38	24	18	10	30	25	17	41	45	41	52	18	20	61	11	8	39	50	...
Other forms of Tuberculosis ...	180	8	21	65	38	33	12	1	8	14	11	7	4	1	8	8	8	10	8	26	12	6	2	15	1	7	11	12	...
Infective Enteritis ...	91	35	44	9	3	...	...	...	...	4	10	17	...	2	2	...	1	9	18	1	3	...	...	15	...	...	1	8	...
Anthrax ...	11	...	...	...	3	5	3	...	...	...	...	1	...	1	...	...	...	1	...	1	...	...	...	...	...	...	5	2	...
Scabies ...	508	12	90	230	60	91	21	20	25	60	20	28	9	8	24	13	2	51	33	41	12	6	6	27	8	11	17	87	...
TOTALS ...	6009	261	2331	2290	394	488	202	277	224	476	389	316	127	49	351	369	62	276	324	591	266	223	125	362	190	211	192	608	408

Isolation Hospital provided by the City Council, situate in the South Ward; also one in Thornton provided by a Conjoint Board. Patients are also sent to the Calverley and North Bierley Conjoint Hospitals, situate outside the Borough. The Sanatoriums provided by the City Council are situate in North Bierley East and West Bowling.

TABLE III.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1918.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									TOTAL DEATHS WHETHER OF "RESIDENTS" OR "NON-RESIDENTS" IN INSTITUTIONS IN THE DISTRICT.	
	All ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.		
All causes { Certified ...	4964	472	181	294	252	290	763	1293	1419	856	
Uncertified	5	2	...	...	...	1	...	1	1	...
Enteric fever ...	2	...	...	...	...	...	1	1	...	1
Smallpox ...	...	...	...	...	...	...	...	...	...	...
Measles ...	111	20	24	55	11	...	1	...	...	8
Scarlet fever ...	...	...	...	...	...	...	...	...	...	...
Whooping-cough ...	81	36	24	19	2	...	...	...	...	5
Diphtheria and croup	43	1	2	17	22	...	...	1	...	...
Influenza ...	708	16	21	56	58	91	222	169	75	43	
Erysipelas ...	10	...	1	...	...	...	1	2	6	7
Phthisis (Pulmonary Tuberculosis) ...	368	6	5	1	16	90	142	99	9	115	
Tuberculous Meningitis ...	27	1	4	10	7	3	2	...	...	2
Other tuberculous diseases ...	54	5	3	8	11	8	11	7	1	8	
Cancer, malignant disease ...	356	...	...	1	1	1	21	206	126	57
Rheumatic fever ...	13	...	...	...	4	1	2	4	2	1
Meningitis ...	38	11	1	5	6	4	7	4	...	20	
Organic Heart Disease ...	391	1	1	1	5	15	56	149	163	54	
Bronchitis ...	511	34	14	9	6	4	31	121	292	124	
Pneumonia(all forms)	441	47	52	56	34	25	69	96	62	77	
Other diseases of Respiratory organs ...	51	...	2	2	5	1	8	17	16	4	
Diarrhœa and Enteritis ...	42	36	6	...	...	...	...	...	...	16
Appendicitis and Typhlitis ...	15	...	...	...	4	2	3	6	...	11
Cirrhosis of liver ...	20	1	...	...	...	...	1	14	4	5
Alcoholism ...	2	...	...	...	...	...	...	2	...	2
Nephritis and Bright's Disease ...	35	...	...	5	2	...	3	13	12	2
Puerperal fever ...	4	...	...	...	...	1	3	...	...	2
Other accidents and Diseases of pregnancy & parturition	12	...	...	...	...	3	9	...	...	5
Congenital debility and Malformation, including premature birth ...	181	173	2	2	2	...	1	1	...	23	
Violent deaths, excluding Suicide ...	112	2	3	11	15	11	16	25	29	31	
Suicides ...	27	...	...	...	...	1	10	8	8	3
Other defined diseases ...	1263	87	15	35	41	25	138	321	601	228	
Diseases ill-defined or unknown ...	51	...	1	1	...	4	3	28	14	2	
	4969	477	181	294	252	290	761	1294	1420	856	
Sub-Entries included in above figures	14. Cerebro-spinal Meningitis	7	1	3	2	1	3
	28. Poliomyelitis
	22. Anthrax	3	1	1	1	1

Convulsions	...	...	11	2	...	...	13	8	3	3	1	28
Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	...	...	...	1	1	1	3	9	7	7	8	34
Pneumonia (all forms)	...	...	...	...	1	...	1	5	14	13	14	47
{ Diarrhea	...	...	...	...	...	1	1	2	...	4	1	8
{ Enterit	...	...	...	...	2	...	2	11	8	5	2	28
Gastritis	...	...	...	...	...	...	...	2	1	...	1	4
Syphilis	...	...	...	...	...	...	...	16	18	4	2	40
Rickets	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation, overlying	...	...	...	...	...	...	...	...	...	...	...	...
Injury at birth	...	...	4	...	...	...	4	...	...	...	...	4
Atelectasis	...	...	2	1	3	...	6	...	...	...	...	6
{ Congenital Malformations	...	...	5	...	1	1	7	1	5	...	1	14
{ Premature Birth	...	...	65	9	3	5	82	5	1	...	1	89
{ Atrophy, Debility and Marasmus	...	...	20	5	3	3	31	13	16	4	4	68
Other Causes	...	...	2	5	2	1	10	7	5	4	3	29
			109	24	14	14	161	88	92	60	76	477

Nett Births in the year { legitimate, 3545. illegitimate, 326.
 Nett Deaths in the year of { legitimate infants, 399. illegitimate infants, 78.



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