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Contributors

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1914

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County

Borough



of Bolton.

ANNUAL REPORT

OF THE

Medical Officer of Health

AND

School Medical Officer

FOR

1914.

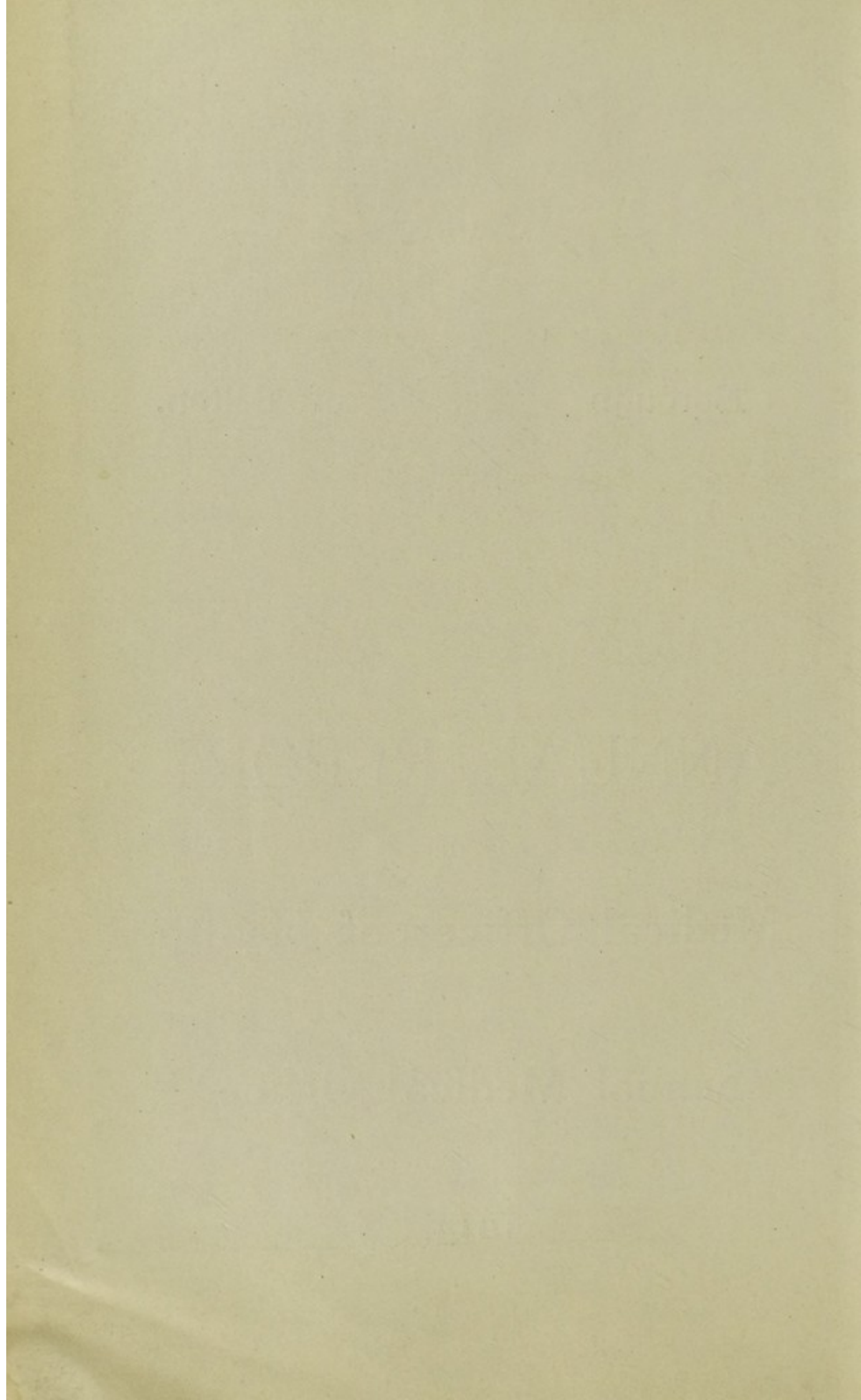


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**Extracts from Memorandum of Local Government Board
as to the Annual Reports of the Medical Officer
of Health.**

"The Report should be chiefly concerned with the conditions affecting health in the district, and with the means for improving those conditions. It should contain an account, brought up to the end of the year under review, of the sanitary circumstances of the district, and of any improvement or deterioration which may have occurred during the year in these circumstances. Care should be taken to report fully and explicitly on the influences affecting or threatening to affect injuriously the public health in the district, and on the action which has been taken, or which may still be needed, with a view to combat those influences. It is of especial importance that the Medical Officer of Health should record what action has been taken to remedy unhealthy conditions which have been reported by him in previous annual reports, or in special reports presented during the year under review, and that attention should be called afresh year by year to such as remain unremedied."

The subjects to be specially borne in mind are :—

- (1) Physical features of the district.
- (2) Housing.
- (3) Population, occupations and influence on health.
- (4) Water supply, sufficiency, wholesomeness and freedom from risk of pollution.
- (5) Sewerage and drainage.
- (6) Excrement and refuse disposal, system in vogue, defects if any.
- (7) Sanitary inspection and administration of the district.
- (8) Premises and occupations over which the Council have supervision.
- (9) Prevalence of and control over acute infectious diseases.
- (10) Prevalence of and control over Tuberculosis.
- (11) Investigation of other diseases.
- (12) Infant Mortality.
- (13) Vital Statistics.
- (14) Schools and their sanitary condition and action taken in regard to the health of the scholars.
- (15) Medical inspection of school children as part of the duties of School Medical Officer.

PUBLIC HEALTH DEPARTMENT,
BOLTON,

10th February, 1915.

GENTLEMEN,

I have the honour to present to you the report on the health and sanitary circumstances of the County Borough of Bolton for 1914. No new administrative work has been introduced during the year, but the schemes for the treatment of tuberculosis have been extended and consolidated, and much additional work has been imposed by sanatorium benefit under the Insurance Act.

The reports on the medical inspection of school children, the Food & Drugs Act, and the isolation of infectious diseases, are included in this report.

I have to express my obligation to the various members of the Public Health and Medical Inspection staffs for their assistance in the preparation of this report, and for their ready and willing help on all occasions.

I have also to thank the Chairman and Vice-Chairman and members of the Sanitary Committee for their support and interest in the work of the Public Health Department.

I am,

Yours obediently,

JOHN E. GOULD,

Medical Officer of Health,
School Medical Officer.

COUNTY BOROUGH OF BOLTON.

SANITARY COMMITTEE.

The Mayor—Ald. J. SEDDON, J.P.

Chairman—Ald. E. ASPINALL, J.P.

Vice-Chairman—Coun. W. HARGRAVES, J.P.

Ald. KNOWLES EDGE, J.P.	Coun. G. S. IKIN.
„ J. YOUNG, L.R.C.P., J.P.	„ P. KNOTT.
Coun. C. AINSWORTH, J.P.	„ A. LEAKE.
„ S. BELLIS.	„ W. R. LYTHGOE, J.P.
„ G. E. BLACKBURN.	„ W. MARSHALL.
„ J. BOARDMAN.	„ E. MONKS, M.B.
„ H. BOMMER.	„ F. STEEL.
„ J. ECKERSLEY.	„ R. TOOTILL, M.P., J.P.
„ T. H. HAYTHORNTHWAITE.	„ G. UNSWORTH.
„ A. E. HOLT.	

PUBLIC HEALTH & MEDICAL INSPECTION STAFF.

Public Analyst and Bacteriologist—

HARRY HURST, B.Sc. Lond and Sheff., F.I.C.

Veterinary and Chief Meat Inspector—W. H. BRIDGE, M.R.C.V.S.

District Inspectors—1. GEORGE SOUTHERN.

2. EDWARD OAKES, Cert. R. San. I.

3. EVAN SUMNER, M. R. San. I. and
Cert. for Food.

4. THOMAS ORMROD, Cert. R. San. I.

5. FRED S. ROSCOE, Cert. R. San. I.

6. HAROLD THOS. OGDEN, Cert. R. San. I.

Chief Clerk & Inspector of Nuisances—

HERBERT DANIELS, Cert. R. San. I.

Chief Disinfectors—JOHN WILSON.

Health Visitors—1. Miss S. A. RAMSDEN, C.M.B., Cert. R. San. I.

2. Miss A. I. MURPHY, 3 years' Cert.

3. Miss B. FYLES, Cert. R. San. I.

School Nurses—1. Miss G. A. JONES, 3 years' Cert., C.M.B.

2. Miss G. DUNSTER, 3 years' Cert.

Matron Borough Fever Hospital—Miss ELIZ. BATEMAN.

Assistant Medical Officer of Health and Assistant School Medical Officer—

JOHN MCKEAGUE, L.R.C.P., L.R.C.S. Edin., D.P.H. Dublin.

Tuberculosis Officer and Assistant Medical Officer of Health—

C. W. PAGET MOFFATT, M.A. Lond., M.B., B.C., D.P.H., Cantab.

Medical Officer of Health and School Medical Officer—

JOHN E. GOULD, M.D. Lond., D.P.H. Cantab.

COUNTY BOROUGH OF BOLTON

LOCAL GOVERNMENT ACT, 1888

THE BOROUGH OF BOLTON

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LOCAL GOVERNMENT ACT, 1888

THE BOROUGH OF BOLTON

SECTION I.

Vital and Mortal Statistics.

GEORGE J.

VIII and Moral Statistics

SUMMARY OF VITAL AND MORTAL STATISTICS 1914.

Position	...	Lat. 53° 35' N., Lon. 2° 37' W
Elevation above sea level	...	230ft. to 1450ft.
Geological Formation : Boulder Clay and Sand over Coal Measures.		
Area in Acres	...	15283
Population	...	185247
Density	...	12·1
New Houses Certified, 1914	...	271
Estimated No. of houses in the Borough (31st March, 1914)	...	43140
No. of houses where gross rental does not exceed £26 per annum.	...	40907
No. of new houses erected from Dec., 1909, to 31st March, 1914, where the gross rental does not exceed £26 per annum	...	1979
Rateable Value at 31st December, 1914	...	£872759
Births	...	4104
Birth-rate	...	22·1
Deaths	...	2721
Death-rate (corrected for Institutions)	...	14·6
Corrected Death-rate (ascertained by application of Registrar-General's Factor 1·0876)	...	15·8
Average Death-rate (1904-13)	...	15·8
Infantile Mortality	...	118
Epidemic Death-rate (Seven Chief Diseases)	...	1·66
Diarrhœa Death-rate	...	·73
Diarrhœa and Enteritis (under 2 years), Death rate per 1000 Births	...	41·66
Phthisis Death-rate	...	·90
Other forms of Tuberculosis, Death-rate	...	·29
Respiratory Death-rate	...	3·00
Rainfall (27 years' average 41·787)	...	46·76
97 Great Towns Birth-rate	...	24·9
97 Great Towns Death-rate	...	14·6
97 Great Towns Infantile Mortality	...	113
97 Great Towns Diarrhœa and Enteritis (under 2 years), Death-rate per 1000 Births	...	26·09
England and Wales Birth-rate	...	23·6
England and Wales Death-rate	...	13·9
England and Wales Infantile Mortality	...	105
England and Wales Diarrhœa and Enteritis (under 2 years), Death-rate per 1000 Births	...	20·41

Population and Area.

For the middle of 1914, the estimated population was 185,247, the area 15,283 acres or 23·8 square miles, giving a density of 12·1 persons per acre.

Births.

4104 births were registered during the year, of which 2085 were males and 2019 females. This is equal to a birth-rate of 22·1 which is slightly higher than last year, but lower than the rate for the 97 great towns of England and Wales.

The illegitimate births numbered 187, and were 4·5 per cent. of the total births. 21 of the illegitimate births occurred in the Workhouse.

137 stillbirths were notified during the year.

Deaths.

During the year, 2721 deaths were registered, of which 1336 were males, and 1385 females. Corrections have been made for "transferable deaths," i.e., Bolton residents who died in outside districts, and for those persons who belonged to outside districts who died in Bolton.

The total number of non-residents who died in Bolton was 60, of whom 54 died in the Infirmary.

366 Bolton residents died in various institutions outside the Borough, the deaths occurring at the following places:—262 in the Poor Law Infirmary, 62 in Lunatic Asylums, 42 in various towns, chiefly in Lancashire.

The death-rate was 14·6 per 1000 inhabitants, the third lowest on record. The "corrected death-rate," i.e., the crude death-rate multiplied by a factor to bring Bolton on the same basis as regards age and sex distribution as other towns, was 15·8. Mortality is higher in infancy, and in old age, than at any other age period, and is also higher in the male than in the female. Bolton is favourably constituted as regards the age and sex of its population, and therefore the crude death-rate must be multiplied by a factor greater than unity.

The death-rate varied from 8·5 in Smithills to 25·7 in Exchange Ward.

TABLE I.
POPULATIONS, BIRTH-RATES, &c., IN WARDS, 1914.

WARD.	Population.	Area.	Density.	Birth-rate.	Death-rate.	Infantile Mortality.		Zymotic Death-rate.
						1914	Av. 1909-13	
West	26286	450	58·4	22·7	15·8	98	127	1·02
Halliwell	22609	358	63·1	21·1	13·1	123	107	·88
Bradford	19694	285	69·1	25·7	18·7	157	159	3·85
Derby	19064	300	63·5	26·0	18·4	152	153	2·88
East	9574	160	59·8	26·5	22·9	149	170	3·76
Rumworth	9501	163	58·2	28·8	14·9	113	141	2·63
Church	8293	390	21·2	13·6	12·0	53	110	·12
North	7429	150	49·5	21·2	12·6	113	110	1·07
Exchange	4192	105	39·9	21·2	25·7	236	160	3·81
Old Borough	126642	2361	53·6	23·4	16·5	130	138	2·08
Great Lever	13348	867	15·3	14·0	11·0	117	126	1·42
Tonge	10175	830	12·2	22·2	10·6	88	115	·88
Astley Bridge	8488	1780	4·7	20·1	11·4	105	76	·35
Smithills... ..	7916	2108	3·7	18·4	8·5	75	81	·12
Hulton	6818	1620	4·2	23·9	10·1	61	91	1·02
Deane-cum-Lostock	4502	2601	1·7	22·4	10·8	79	110	·44
Darcy Lever-cum-Brightmet	4254	1372	3·1	19·2	13·1	60	113	·70
Heaton	3104	1744	1·7	18·3	9·0	35	46	·32
Added Area	58605	12922	4·5	19·3	10·6	84	101	·76
Extended Borough	185247	15283	12·1	22·1	14·6	118	128	1·66

DEATH-RATES IN CHIEF LANCASHIRE TOWNS.

1914.

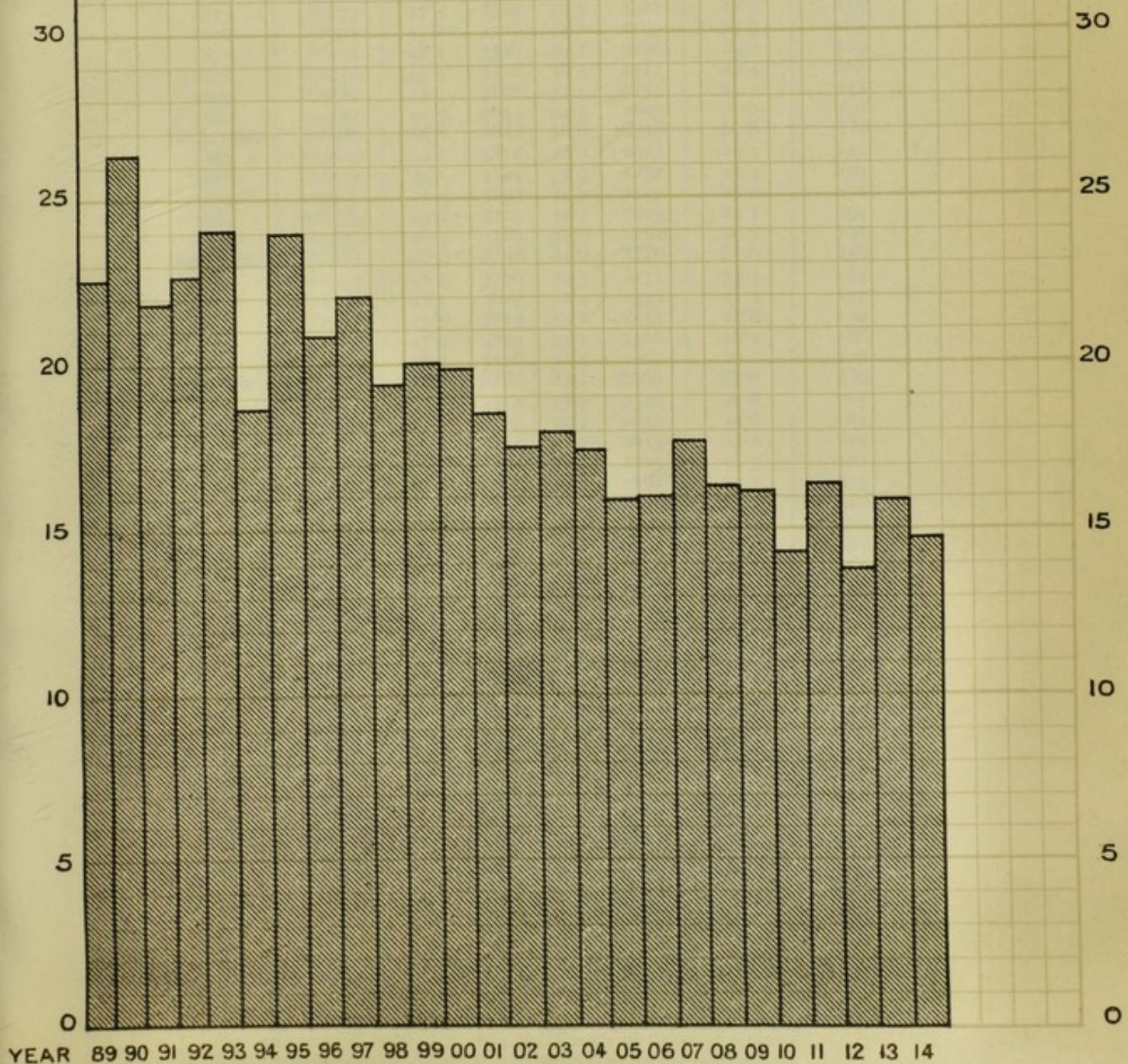
(COMPILED FROM THE QUARTERLY RETURNS OF THE REGISTRAR
GENERAL).

England and Wales	13·9
97 Great Towns	14·6
<hr/>	
BOLTON	14·4
Blackburn	14·6
Preston	15·6
Rochdale	15·8
Bury	15·8
Warrington	15·8
Burnley	16·0
Bootle	16·1
Salford... ..	16·5
Manchester	16·6
St. Helens	16·6
Wigan	17·4
Oldham	17·6
Liverpool	19·3

DEATH-RATES

1889 - 1914.

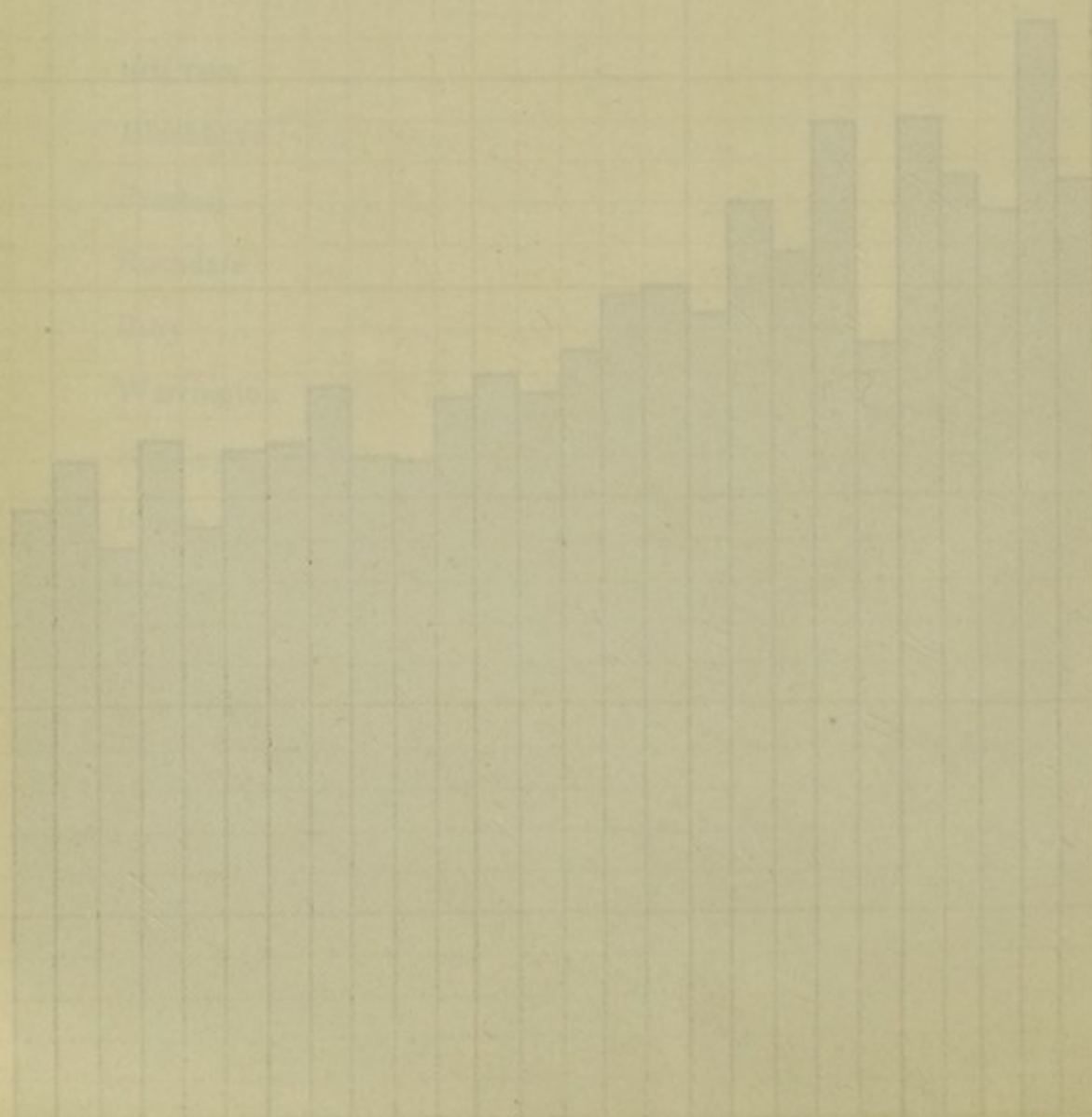
PER 1000 INHABITANTS.



DEATH-RATES

1889-1914

PER 1000 INHABITANTS



1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914

TABLE II.

POPULATIONS, DENSITIES, BIRTH-RATES, DEATH-RATES AND
INFANTILE MORTALITY IN PREVIOUS YEARS.

Year.	Population	Density	Births	Birth-rate.	Deaths.	Death-rate	Infantile Mortality.
1773	5600	3.0					
1791-1800	14437	7.8					
1801-1810	20444	11.1					
1811-1820	27364	14.8					
1821-1830	37240	20.2					
*1831-1840	46579	25.3					
1841-1850	55167	29.9					
1851-1860	61645	33.5				30.7	
1866	76206					29.2	
1867	77468					29.0	
1868	78704					25.0	
1869	79960					26.6	
1870	81400					27.4	
1861-1870	75999	41.2				29.4	
1871	83095	45.1				26.1	
1872	84072	45.6				28.0	
1873	85061	46.2				23.3	
1874	86061	46.7	3526	40.9	2219	25.7	178
1875	87073	47.3	3552	40.7	2403	27.5	193
1876	88097	47.8	3722	42.2	2199	24.9	169
1877	89133	48.4	3596	40.3	2226	24.9	169
†1878	102919	43.5	3952	38.3	2313	22.4	181
1879	103819	43.9	3897	37.5	2233	21.5	158
1880	104727	44.3	4644	44.3	2835	27.0	179
1871-1880	91405	45.8	3841	40.6	2346	24.8	175
1881	105643	44.7	3811	36.0	2022	19.1	151
1882	106567	45.1	3834	35.9	2277	21.3	170
1883	107499	45.5	3697	34.3	2157	20.0	171
1884	108439	45.9	3701	34.1	2615	24.1	194
1885	109387	46.3	3788	34.6	2282	20.8	161
1881-1885	107507	45.5	3766	34.9	2270	21.0	169
1886	110343	46.7	3786	34.3	2572	23.3	184
1887	111308	47.1	3627	32.5	2393	21.4	172
1888	112281	47.5	3729	33.2	2453	21.8	170
1889	113263	47.9	3759	33.1	2528	22.3	166
1890	114253	48.3	3726	32.5	2986	26.1	176
1886-1890	112289	47.5	3725	33.1	2586	22.9	173
1891	115253	48.8	3914	33.9	2516	21.6	165
1892	116261	49.2	3769	32.4	2648	22.6	185
1893	117278	49.6	3874	33.0	2813	23.8	200
1894	118309	50.1	3719	31.4	2215	18.5	162
1895	119337	50.5	3960	33.1	2862	23.7	213
1891-1895	117286	49.6	3847	32.7	2610	22.2	185
1896	120380	50.9	3792	31.7	2496	20.7	165
1897	121433	51.5	3985	32.8	2671	21.9	184
1898	122495	51.8	3800	31.0	2350	19.1	167
‡1899	162222	10.6	4878	30.0	3238	19.9	180
1900	164240	10.7	4775	29.0	3222	19.6	170
1896-1900	138154	35.1	4246	30.9	2795	20.2	173
1901	168531	11.0	4648	27.5	3085	18.3	172
1902	169798	11.1	4779	28.1	2959	17.4	132
1903	171065	11.1	4700	27.4	3062	17.8	151
1904	172332	11.2	4736	27.4	2994	17.3	167
1905	173599	11.3	4481	25.8	2754	15.8	166
1901-1905	171065	11.1	4668	27.2	2968	17.3	157
1906	174866	11.4	4599	26.3	2794	15.9	138
1907	176133	11.5	4476	25.4	3073	17.4	145
1908	177400	11.6	4573	25.7	2874	16.2	148
1909	178667	11.6	4750	26.5	2892	16.1	126
1910	179934	11.7	4380	24.3	2568	14.2	116
1906-1910	177400	11.6	4555	25.6	2840	16.0	134
1911	181202	11.8	4163	22.9	2962	16.3	160
1912	182534	11.9	4128	22.6	2505	13.7	96
1913	183879	12.0	3999	21.7	2895	15.7	142
1914	185247	12.1	4104	22.1	2721	14.6	118

* Incorporation in 1838 with 48000 population and 1840 acres.

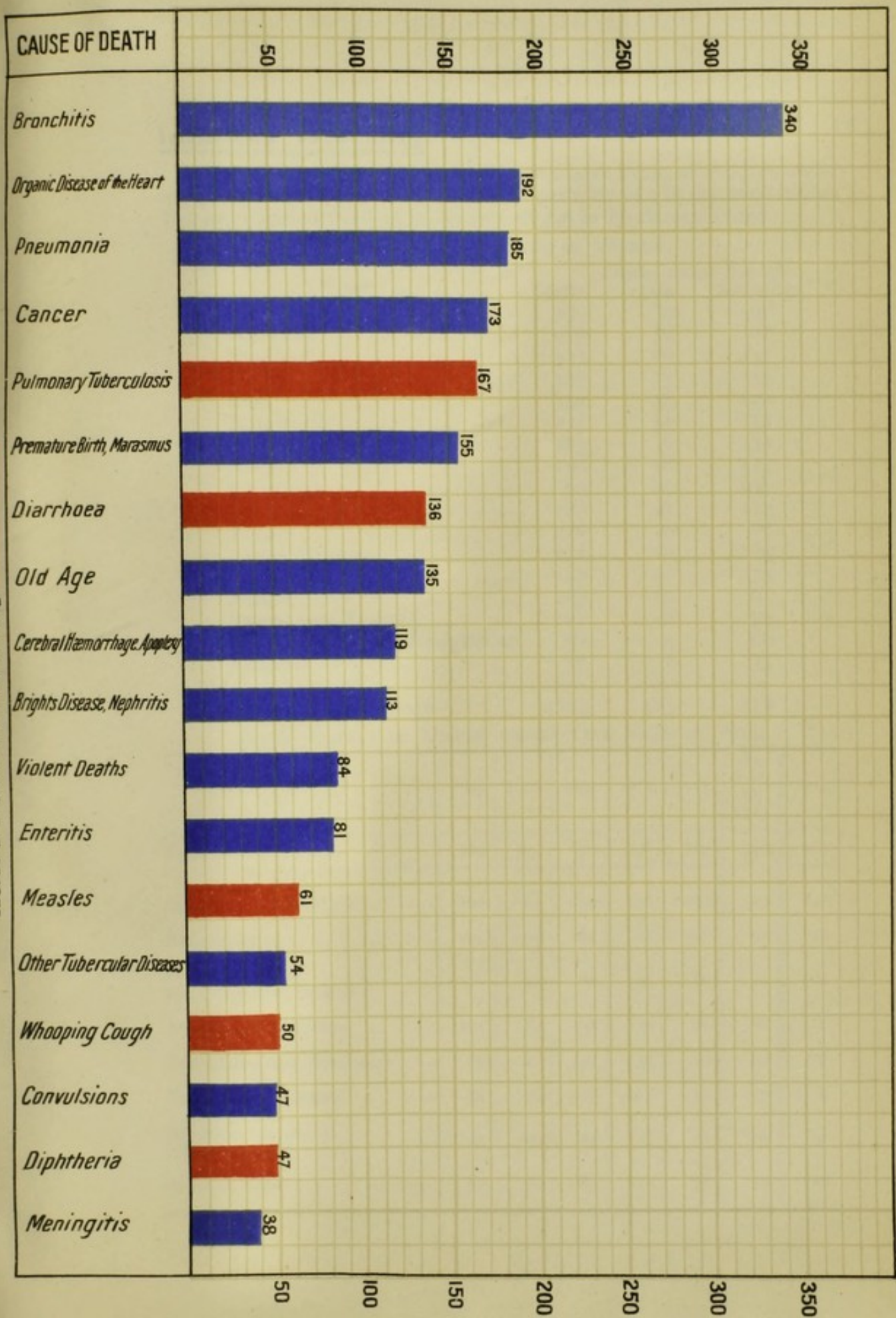
† Added in 1878 part of Rumworth with 163 acres and 3000 population.
and part of Halliwell with 358 acres and 10,000 population.

‡ Borough extended and 38000 added to the population.

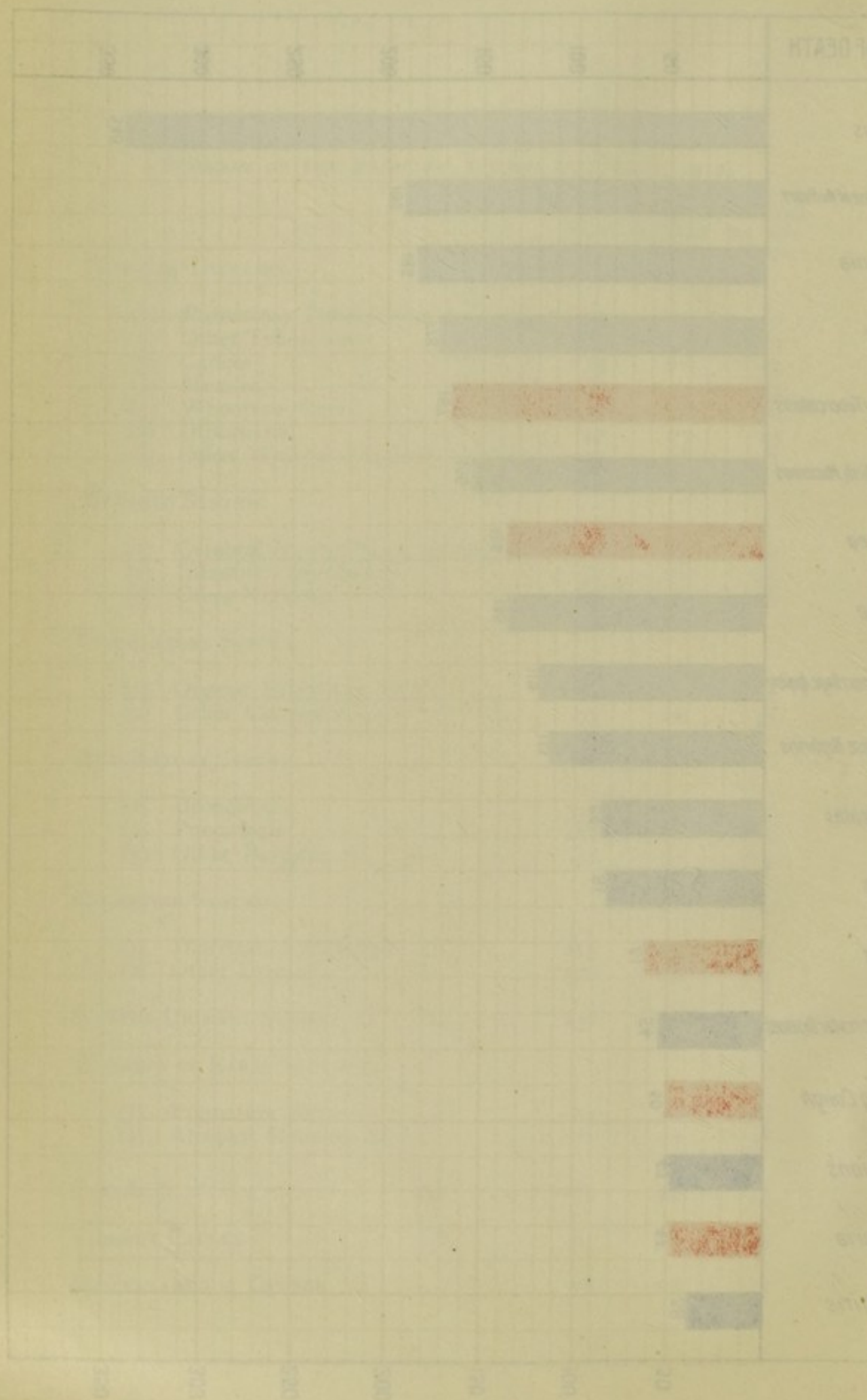
SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1914.

						No. of Deaths.	Per cent of Total Deaths.	Death-rate per 1000 of Pop.
GENERAL DISEASES.								
(1)	Pulmonary Tuberculosis...	...	...	...	...	167	6.1	.90
(2)	Other Tubercular...	...	...	...	...	54	1.9	.29
(3)	Cancer ..	...	...	...	...	173	6.3	.93
(4)	Measles ...	...	...	...	...	61	2.2	.32
(5)	Whooping Cough	...	...	...	...	50	1.8	.26
(6)	Diphtheria ...	...	...	...	...	47	1.7	.25
(7)	Other General Diseases...	...	...	...	...	133	4.8	.71
NERVOUS SYSTEM.								
(1)	Cerebral Hæmorrhage, Apoplexy	...	...	...	...	119	4.3	.64
(2)	Infantile Convulsions	...	...	...	...	47	1.7	.25
(3)	Other Nervous	...	...	...	...	123	4.5	.66
CIRCULATORY SYSTEM.								
(1)	Organic Disease of Heart	...	...	...	...	192	7.0	1.03
(2)	Other Circulatory	...	...	...	...	72	2.6	.38
RESPIRATORY SYSTEM.								
(1)	Bronchitis ...	...	...	...	...	340	12.4	1.83
(2)	Pneumonia	...	...	...	...	185	6.7	.99
(3)	Other Respiratory	...	...	...	...	32	1.1	.17
DIGESTIVE SYSTEM.								
(1)	Diarrhœa & Enteritis	...	...	...	...	217	7.9	1.17
(2)	Other Digestive	...	...	...	...	120	4.4	.64
GENITO-URINARY SYSTEM						137	5.0	.73
DISEASES OF EARLY INFANCY.								
(1)	Premature Birth	...	...	...	...	84	3.0	.45
(2)	Atrophy, Debility, &c.	...	...	...	...	71	2.6	.38
OLD AGE.						135	4.9	.72
VIOLENT CAUSES.						84	3.0	.45
MISCELLANEOUS CAUSES						78	2.8	.42

COMPARATIVE VIEW OF THE PRINCIPAL CAUSES OF DEATH. 1914.



4101



Infantile Mortality.

485 or 17 per cent. of the total deaths were those of children under one year of age, equal to an infantile mortality of 118 per 1000 births. The rates varied from 35 in Heaton to 236 in Exchange Ward.

INFANTILE MORTALITY IN WARDS.

WARD.	Births.	Deaths under 1 year.	Infantile Mortality.
West	599	59	98
Halliwell	479	59	123
Bradford	507	80	157
Derby	497	77	152
East	254	38	149
Rumworth	274	31	113
Church	113	6	53
North	158	18	113
Exchange	89	21	236
Great Lever	188	22	117
Tonge	226	20	88
Astley Bridge	171	18	105
Smithills	146	11	75
Hulton	163	10	61
Deane-cum-Lostock	101	8	79
Darcy Lever-cum-Brightmet	82	5	60
Heaton	57	2	35
Borough	4104	485	118

CHIEF CAUSES OF DEATH UNDER ONE YEAR OF AGE.

	1909	1910	1911	1912	1913	Av. 1909 to 1913	1914
Total Deaths	599	509	670	398	569	549	485
Diarrhoea and Enteritis	68	84	249	36	129	113	137
Respiratory... ..	105	94	84	66	107	91	45
Premature Birth and Congenital Defects }	121	98	85	99	86	97	101
Atrophy and Debility	101	71	102	59	74	81	71
Convulsions and Meningitis	76	47	47	57	70	59	37
Tuberculous Diseases	16	16	16	21	16	17	9
Epidemic Diseases } (excluding Diarr.) }	25	29	24	29	39	29	37
All other Causes	87	70	63	31	48	59	48

As can be seen from the table on page 9, in an ordinary year 50 per cent. of the deaths under one year are due to diarrhœa and immaturity ; when diarrhœa is very prevalent the percentage is greater. If the deaths from these two causes could be reduced to what may be considered a fair proportion, the infantile mortality in Bolton would compare favourably with that for England and Wales, Diarrhœa is most prevalent during a hot and prolonged dry summer, at a time when flies are numerous and active, and there is good cause to believe that the common house fly is the carrier of the germs of diarrhœa and other diseases from privy-middens, manure pits and other filth accumulations to milk jugs, sugar basins and food receptacles. To reduce the chances of infection therefore, dangerous material in the neighbourhood of houses should be quickly got rid of and not allowed to accumulate, and back yards kept scrupulously clean and scavenging work properly carried out.

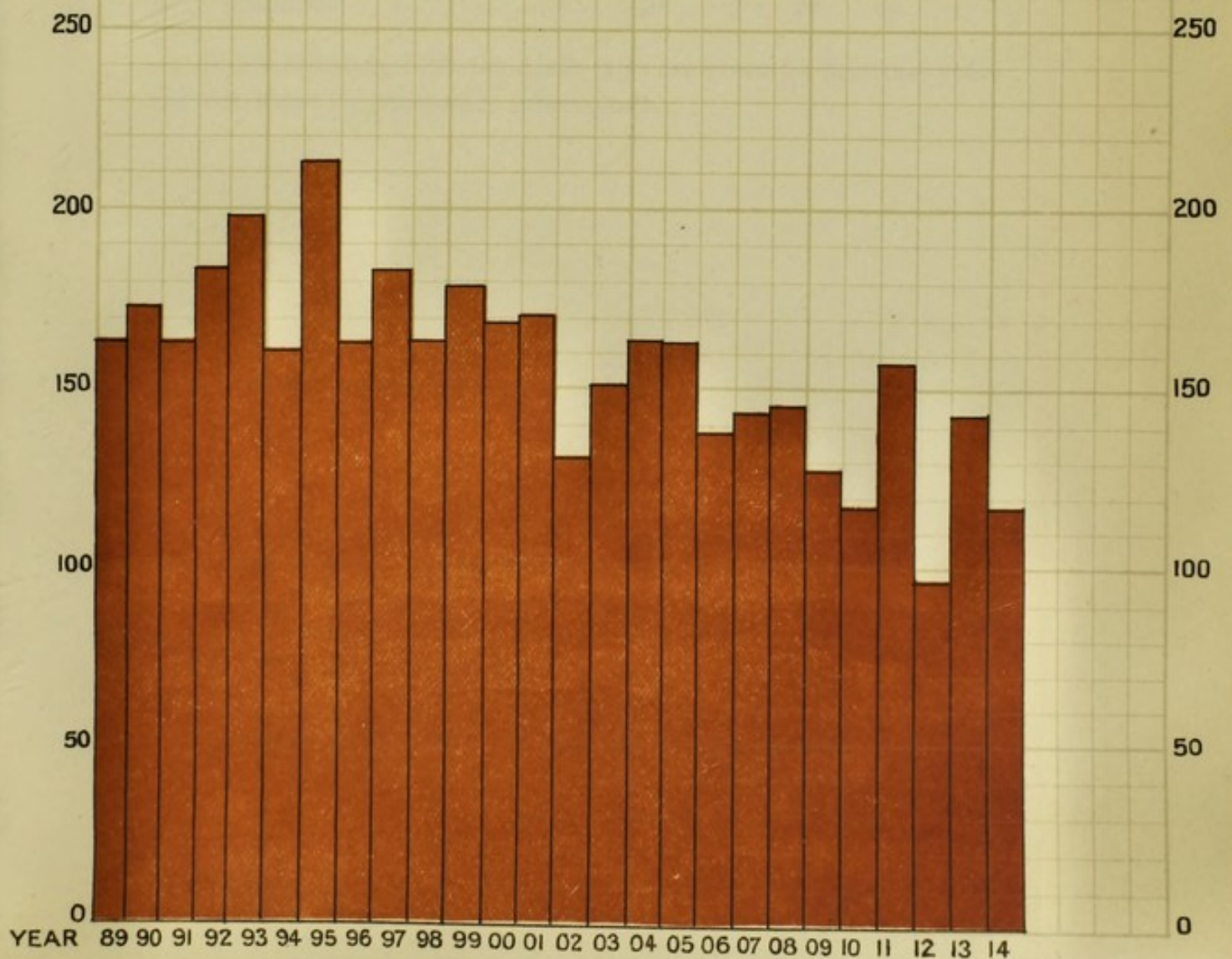
For the prevention of immaturity and prematurity, the best means at present is to improve the standard of motherhood by means of instructions in mothercraft and the reduction of poverty and ignorance.

The following is a short summary of the eighth column of Table 11 and shews the average quinquennial infant mortality in Bolton from 1876.

Quinquennium.		Average rate.
1876-1880	...	171
1881-1885	...	169
1886-1890	...	173
1891-1895	...	185
1896-1900	...	173
1901-1905	...	157
1906-1910	...	134
1911	...	160
1912	...	96
1913	...	142
1914	...	118

INFANTILE MORTALITY.

1889-1914.



INFANTILE MORTALITY

1883-1911



Mortality from Epidemic Diseases.

309 deaths were registered from the seven chief epidemic diseases. This is equal to a death-rate of 1.66, slightly lower than last year.

CAUSES OF DEATH FROM EPIDEMIC DISEASES.

				1910	1911	1912	1913	1914
Seven Chief Zymotics	Smallpox	...	...	—	—	—	—	—
	Scarlet Fever	...	...	37	12	11	3	3
	Diphtheria and Memb. Croup			29	40	21	32	47
	Enteric and Continued Fever			12	23	11	16	12
	Measles	...	...	2	61	35	85	61
	Whooping Cough	...	...	53	13	39	49	50
	Diarrhoea	...	...	63	279	18	152	136
	Influenza	...	...	16	7	27	25	17

In the following table the death-rates are given for previous years and also those for pulmonary tuberculosis.

TABLE III.

DEATH-RATES FROM THE SEVEN EPIDEMIC DISEASES, AND PULMONARY TUBERCULOSIS, 1866-1914.

Year.	Small-pox.	Scarlet Fever.	Diphtheria and Membr. Croup	Fever.	Measles.	Whooping Cough.	Diarrhea.	Seven Chief Epidemic.	Pulmonary Tuberculosis.
Av. 1866-1870	·06	1·40	·03	·68	·86	·55	1·88	5·7	—
Av. 1871-1880	·11	1·10	·02	·50	·68	·71	1·74	4·7	—
1886	—	·14	·06	·16	1·23	·67	1·39	4·4	1·69
1887	—	·32	·06	·31	·80	·24	1·29	3·06	1·61
1888	—	·45	·06	·33	·29	·50	·99	2·6	1·64
1889	—	·56	·25	·27	1·39	·55	·91	4·1	1·38
1890	—	·48	·12	·22	·83	·92	·94	3·53	1·61
Av. 1881-1890	·019	·27	·07	·21	·73	—	1·19	—	1·67
1891	—	·18	·08	·27	·47	·38	·81	2·22	1·56
1892	—	·25	·11	·17	·36	·92	1·10	2·95	1·32
1893	·05	·28	·06	·28	1·38	·66	1·67	4·42	1·46
1894	—	·08	·04	·21	·16	·51	·57	1·59	1·38
1895	—	·17	·12	·41	1·00	·56	1·74	4·03	1·56
1896	—	·32	·07	·41	·04	·83	·85	2·50	1·39
1897	—	·18	·03	·29	1·77	·32	1·63	4·16	1·53
1898	—	·16	·06	·28	·25	·36	1·80	2·93	1·78
1899	—	·22	·08	·33	·57	·27	1·59	3·08	1·49
1900	—	·12	·12	·29	·22	·50	1·13	2·40	1·74
Av. 1891-1900	·005	·19	·07	·28	·62	·53	1·28	3·02	1·52
1901	—	·30	·15	·23	·64	·29	1·43	3·05	1·69
1902	·04	·68	·27	·23	·18	·30	·41	2·14	1·49
1903	·01	·34	·22	·21	·28	·05	·88	2·01	1·27
1904	·005	·12	·16	·21	·09	·78	·90	2·29	1·28
1905	—	·02	·09	·19	·52	·04	1·04	1·92	1·20
1906	—	·09	·13	·22	·01	·11	1·18	1·77	1·15
1907	—	·17	·11	·14	1·32	·36	·37	2·49	1·05
1908	—	·11	·08	·20	·01	·46	·88	1·77	1·21
1909	—	·13	·11	·18	·22	·19	·28	1·14	1·20
1910	—	·20	·16	·06	·01	·29	·35	1·08	1·08
Av. 1901-1910	005	·21	·14	·18	·32	·28	·77	1·96	1·26
1911	—	·12	·22	·12	·33	·07	1·53	2·41	1·03
1912	—	·06	·11	·06	·19	·21	·09	·73	·99
1913	—	·01	·17	·08	·46	·26	·81	1·83	·83
1914	—	·01	·25	·06	·32	·26	·73	1·66	·90

TABLE IV.

METEOROLOGICAL OBSERVATIONS, 1914

(From the Borough Meteorologist's Report).

(From the Borough Meteorologist's Report).

Month.	Baro- meter	Readings of Thermometers.					Elastic Force of the Aqueous Vapour.	Mean Amount of Humidity Saturation per 100°.	Rain.		Registered Sunshine in Hours.
	Corrected and Reduced to 32° Far. Mean sea level.	Maximum.	Minimum.	Mean.	Range.	Dew-point.			Amount Collected.	Number of Days.	
January ...	30° 150	42° 9	34° 3	38° 73	8° 5	34° 7	° 201	87° 2	3° 097	18	hours. 9° 0
February ...	29° 657	49° 0	37° 9	43° 21	11° 1	38° 6	° 234	88° 0	2° 283	18	22° 1
March ...	29° 562	47° 6	39° 1	43° 02	7° 3	38° 0	° 229	86° 8	4° 878	25	66° 8
April ...	30° 059	57° 9	41° 1	48° 33	16° 8	42° 1	° 268	75° 3	1° 451	12	168° 9
May ...	30° 095	59° 5	42° 9	45° 48	14° 0	44° 3	° 292	79° 0	2° 904	19	99° 8
June ...	30° 004	65° 4	51° 7	56° 10	16° 2	48° 7	° 344	71° 2	1° 802	14	180° 0
July ...	29° 825	67° 8	53° 2	60° 85	14° 2	52° 6	° 397	76° 2	5° 993	20	118° 6
August ...	30° 003	68° 5	52° 2	58° 64	16° 3	53° 9	° 416	80° 0	3° 642	13	150° 5
September ...	30° 064	63° 3	47° 9	55° 19	15° 5	48° 7	° 344	78° 4	4° 977	14	151° 9
October ...	30° 046	55° 8	45° 9	49° 84	10° 3	46° 7	° 319	88° 5	2° 839	15	39° 2
November.	29° 833	49° 2	38° 8	44° 03	10° 2	41° 6	° 263	87° 7	6° 166	21	28° 3
December.	29° 534	47° 8	35° 9	39° 81	8° 6	33° 4	° 191	90° 6	6° 732	26	10° 2
Mean or Total 1914 ...	29° 902	56° 2	43° 4	48° 60	12° 4	43° 6	° 291	82° 4	46° 764	216	1045° 3
Yearly Averages 1887-1913 ...	29° 974	53° 4	41° 6	46° 95	11° 7	41° 7	278	81° 5	41° 787	211	1007° 6

SECTION II.

Infectious Diseases

AND

Hospital Isolation.

SECTION II.

Infectious Diseases
AND
Hospital Isolation.

Notification of Infectious Diseases.

1038 notifications were received during the year, slightly in excess of 1913, but much below the average for the last ten years, the rate per 1000 of the population being 3·4 for ordinary infectious diseases and 2 per 1000 for all forms of tuberculosis.

There were 291 scarlet fever, 190 diphtheria, 51 enteric fever, 9 puerperal fever, 90 erysipelas, 303 pulmonary tuberculosis, 69 non-pulmonary tuberculosis, and 35 ophthalmia neonatorum, and 1 from anthrax.

The deaths numbered 3 from scarlet fever, 47 from diphtheria, 12 from enteric fever, 4 puerperal fever, 1 ophthalmia neonatorum, 61 measles, 50 whooping cough, and 136 diarrhoea.

NOTIFICATION RATES PER 1000 POPULATION.

		Total.	Scarlet Fever.	Enteric Fever.	Diphtheria.
Bolton	...	3·44	1·57	·28	1·03
Bootle	...	4·13	2·64	·09	·85
Wigan	...	4·65	2·45	·75	·47
Burnley	..	5·27	2·81	·19	1·14
St. Helens	...	6·02	3·38	·20	1·19
Bury	...	6·04	4·26	·13	·98
Blackburn	...	6·73	5·24	·22	·46
Rochdale	...	7·77	5·08	·19	1·57
Liverpool	...	7·87	4·81	·16	1·64
Manchester	...	9·41	7·04	·22	1·18
Oldham	...	10·84	8·42	·13	1·08
Salford	...	12·60	9·67	26	1·50
Preston	...	12·85	9·66	·38	1·81
Warrington	...	18·18	15·15	·37	1·70

TABLE V.

DISTRIBUTION OF NOTIFIED DISEASES IN WARDS, 1914.

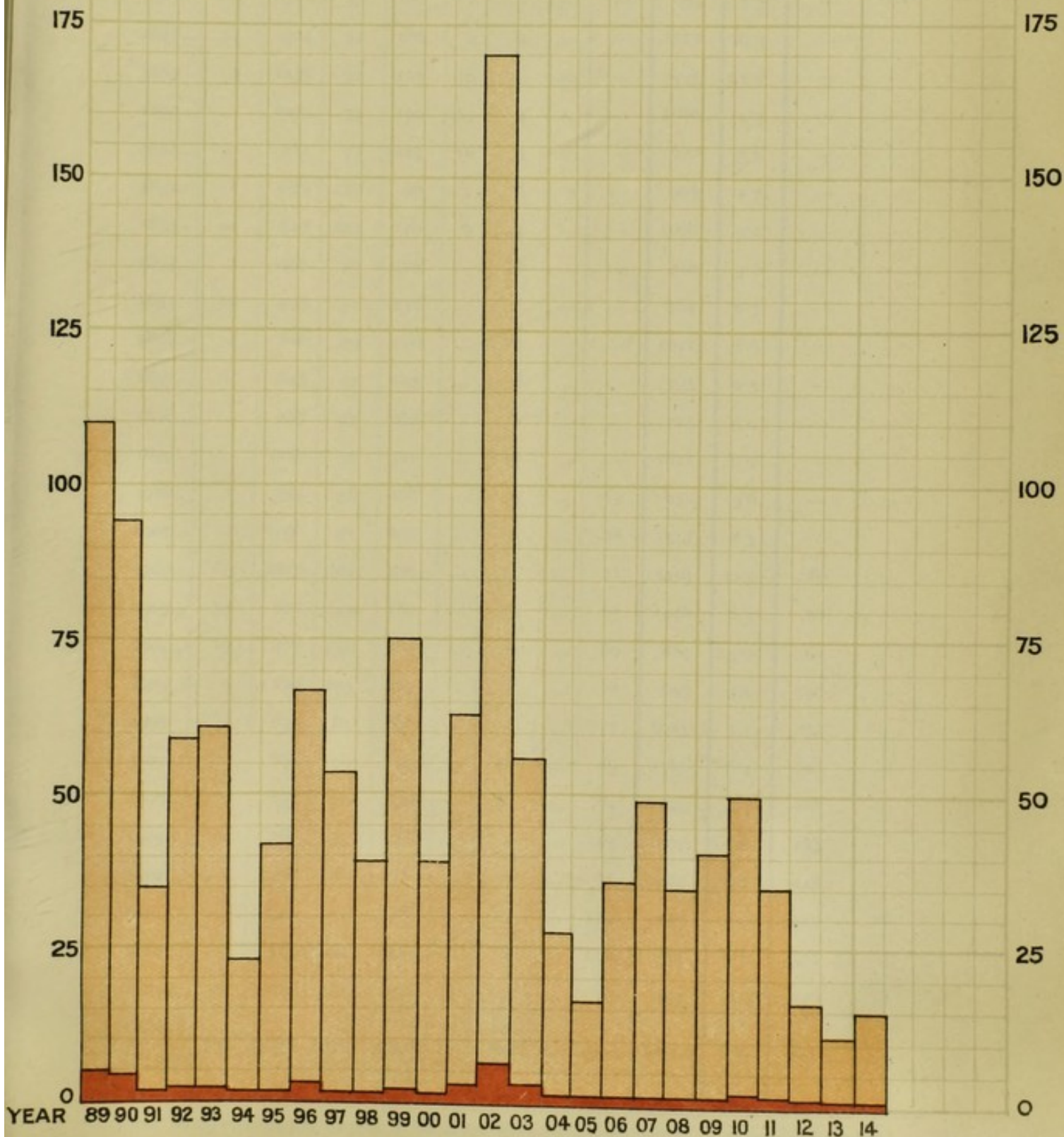
WARDS.	Scarlet Fever.	Diphtheria and Memb. Croup.	Enteric Fever and Continued Fever.	Puerperal Fever.	Erysipelas.	Total.	Rate per 1000.	Ophthalmia Neonatorum.	Acute Poliomyelitis.	Pulmonary Tuberculosis.	Non. Pul. Tuberculosis.
West	28	14	9	2	12	65	2.4	4	...	44	11
Halliwell	16	14	2	...	6	38	1.6	3	...	27	3
Bradford	18	38	5	...	8	69	3.5	4	...	34	6
Derby	24	29	8	4	13	78	4.0	3	...	34	7
East... ..	19	3	6	...	7	35	3.6	4	...	19	4
Rumworth	15	24	2	1	9	51	5.3	3	...	13	1
Church	18	1	1	...	5	25	3.0	2	...	13	4
North	15	1	6	...	4	26	3.4	1	...	14	8
Exchange	15	2	1	...	1	19	4.5	7	...	31	6
Old Borough... ..	168	126	40	7	65	406	3.2	31	...	229	50
Great Lever	42	23	4	...	6	75	5.6	1	...	14	5
Tonge	15	4	5	...	6	30	2.9	1	...	8	4
Astley Bridge	30	1	...	...	1	32	3.7	1	...	17	4
Smithills	9	4	1	...	3	17	2.1	...	...	11	2
Hulton	13	17	1	...	4	35	5.1	...	...	10	3
Deane-cum-Lostock	3	7	...	...	...	10	2.2	...	...	7	1
Darcy Lever-c-Brightmet	10	6	...	2	5	23	5.4	1	...	5	...
Heaton	1	2	...	...	...	3	.9	...	...	2	...
Added Area	123	64	11	2	25	225	3.8	4	...	74	19
Extended Borough	291	190	51	9	90	631	3.4	35	...	303	69

SCARLET FEVER

□ CASES PER 10000 INHABITANTS

■ DEATHS PER 10000 INHABITANTS

1889 — 1914.



SCARLET FEVER

CASES PER 1000 INHABITANTS

DEATHS PER 1000 INHABITANTS

1889-1914

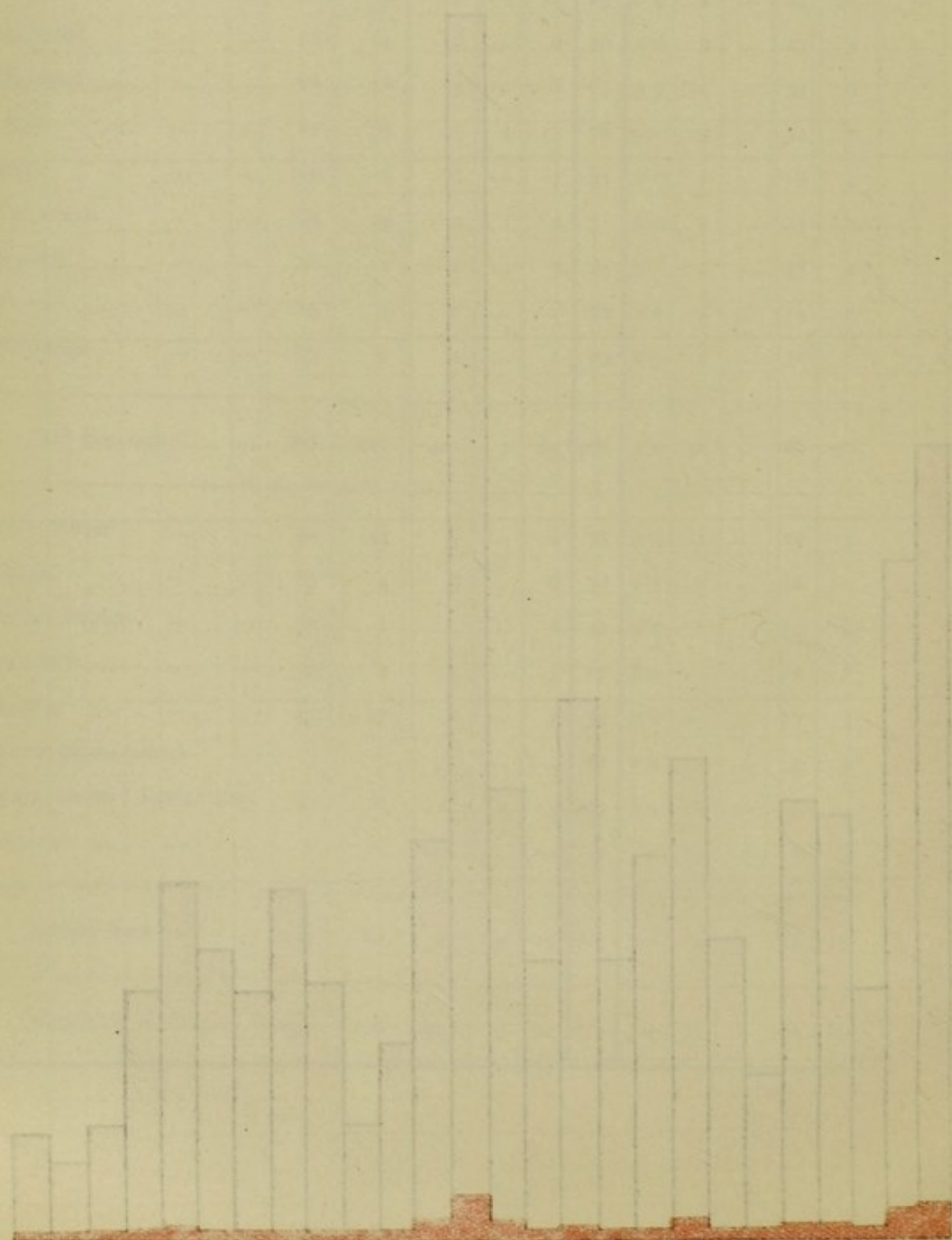


TABLE VI.

INFECTIOUS DISEASES NOTIFIED FROM 1880 TO 1914.

Year	Small-pox	Scarlet	Diphtheria, Membr Croup	Enteric Contin'd	Typhus	Puer-peral	Cholera	Erysipelas	Total	Rate per 1000 population	Phthisis	Opthal. Neon.
1882...	267	259	19	77	30	3	...	...	655	6.1	...	...
1883...	3	193	9	79	9	3	1	...	207	1.9	...	...
†1884...	13	303	11	153	6	3	4	...	493	4.5	...	...
1885...	6	186	8	57	...	4	...	...	261	2.3	...	...
1886...	...	322	18	60	3	3	...	...	406	3.6	...	...
1887...	...	721	22	107	2	1	...	...	853	7.5	...	...
1888...	11	924	51	180	2	4	...	...	1172	10.3	...	...
1889...	4	1256	92	127	16	...	...	...	1495	13.0	...	...
1890...	...	1071	74	102	15	4	...	...	1266	10.9	...	...
1891...	...	411	93	145	16	5	...	...	670	5.8	...	...
1892...	1	683	112	98	2	8	1	...	905	7.7	...	...
1893...	44	747	123	170	2	4	...	...	1090	9.2	...	...
1894...	2	267	25	118	...	16	...	...	428	3.6	...	...
1895...	10	495	34	238	...	7	...	...	784	6.5	...	...
1896...	1	816	29	186	...	10	...	...	1042	8.6	...	...
1897...	...	645	17	125	...	8	...	...	795	6.5	...	...
1898...	...	487	27	208	...	2	...	...	724	5.9	...	...
*1899...	...	1226	52	321	...	12	...	...	1611	9.9	...	...
1900...	1	644	56	208	...	9	...	13	931	5.6	...	...
1901...	...	1066	91	219	...	8	...	28	1412	8.3	...	...
1902...	63	2910	202	196	...	14	...	71	3456	20.2	80	...
1903...	55	971	142	180	...	15	...	85	1448	8.3	92	...
1904...	19	477	150	160	...	9	...	69	884	5.0	92	...
1905	2	292	103	165	...	5	...	78	645	3.6	149	...
1906	...	630	84	197	...	9	...	123	1043	5.7	252	...
1907...	...	866	79	135	...	18	...	89	1187	6.4	188	...
1908...	...	637	76	192	...	10	...	84	999	5.3	200	...
1909...	5	760	95	138	...	4	...	105	1107	5.8	235	...
1910...	...	906	106	71	...	8	...	91	1182	6.2	245	...
1911...	...	649	172	88	...	10	...	124	1043	5.7	245	26
1912...	...	313	92	48	...	3	...	109	565	3.1	321	23
1913...	...	208	118	53	...	4	...	70	453	2.4	349	26
1904 to 1913	2.6	573.8	107.5	124.7	...	8.0	...	94.2	910.8	4.9	227.6	...
1914...	...	291	190	51	...	9	...	90	631	3.4	303	35

First Year Notification, 1878. † Isolation Hospital Established. * Borough Extended.

Scarlet Fever.

291 notifications were received, equal to 1·5 per 1000 inhabitants, the deaths numbering only 3, or ·01 per 1000, the lowest death-rate recorded in the Borough from this disease. 152 patients or 52 per cent of those notified were treated in the Borough Isolation Hospital.

SCARLET FEVER IN PREVIOUS YEARS.

Year.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1902	534	710	734	932
1903	434	258	184	95
1904	158	84	115	120
1905	55	56	67	114
1906	106	79	113	332
1907	192	148	199	327
1908	235	207	110	85
1909	144	166	169	281
1910	219	236	254	197
1911	212	139	154	144
1912	100	44	52	117
1913	73	49	36	50
1914	56	48	55	132

Diphtheria and Membranous Croup.

190 cases were notified in 176 houses as suffering from diphtheria, equal to a case-rate of 1 per 1000 of inhabitants. The certified deaths numbered 47 or ·25 per 1000.

42 out of the 61 schools were affected, the highest number in any one school during the year being 15. There were 124 cases amongst school children, and 42 contacts of school children.

155 tubes of antitoxin were supplied for 118 cases to 32 medical practitioners.

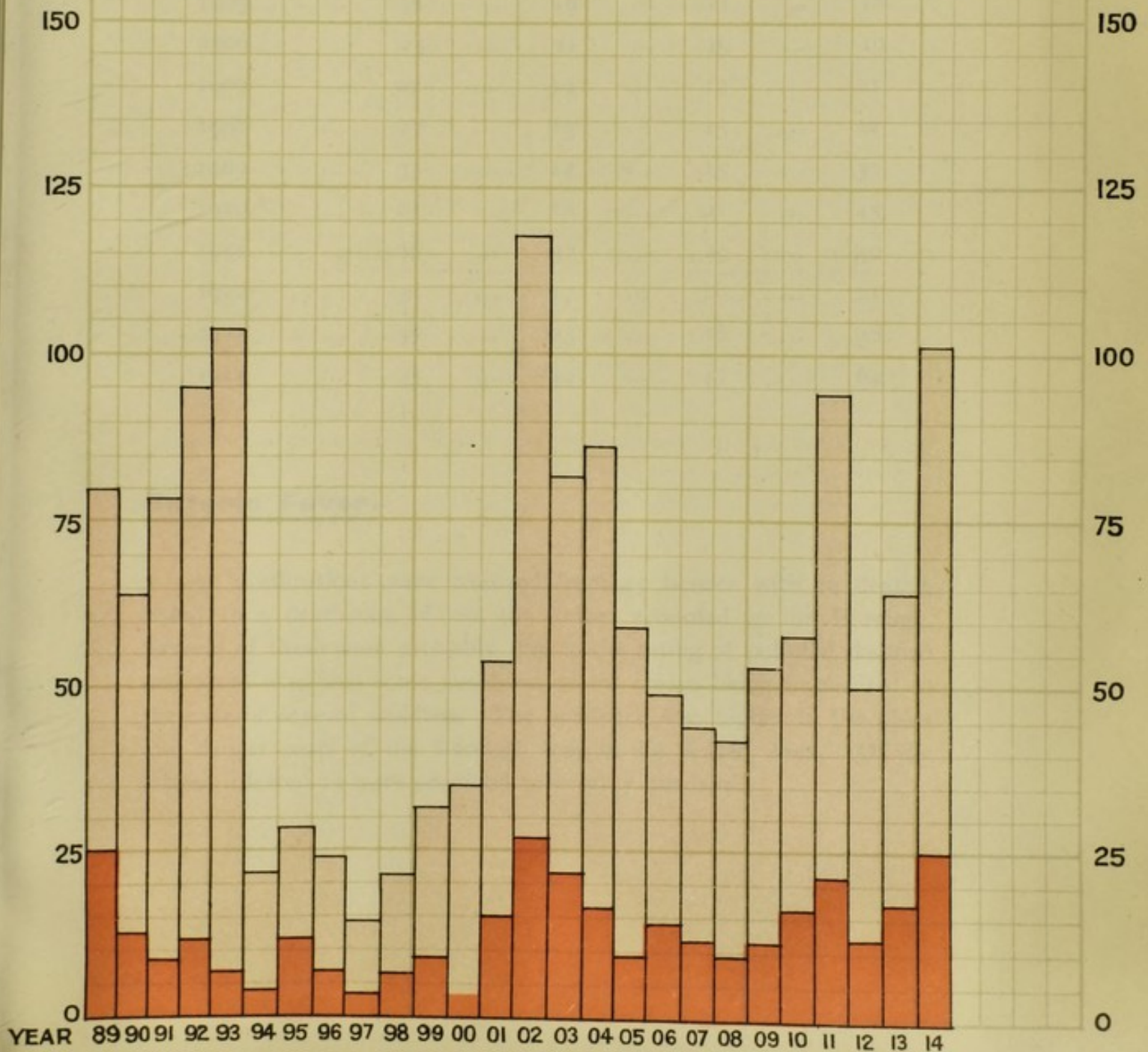
The age distribution was :—

Age.	No. Notified.	Deaths.
0—1	2	3
1—2	8	5
2—3	5	2
3—4	14	5
4—5	16	4
5—10	97	21
10—15	18	6
15 and upwards	30	1

DIPHTHERIA

1889-1914.

□ CASES PER 100000 INHABITANTS
■ DEATHS PER 100000 INHABITANTS



DIPHTHERIA

1889-1914

CASES PER 10000 INHABITANTS
DEATHS PER 10000 INHABITANTS

Annual Report of the Board of Health



QUARTERLY RETURNS IN PREVIOUS YEARS.

Year.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
1900	...	18	...	5	...	9	...	24
1901	...	17	...	15	...	17	...	42
1902	...	47	...	53	...	32	...	70
1903	...	60	...	25	...	37	...	20
1904	...	19	...	21	...	46	...	64
1905	...	48	...	16	...	21	...	18
1906	...	25	...	21	...	19	...	19
1907	...	27	...	19	...	12	...	21
1908	...	27	...	13	...	15	...	21
1909	...	35	...	14	...	15	...	31
1910	...	21	...	18	...	21	...	45
1911	...	66	...	37	...	29	...	40
1912	...	34	...	17	...	20	...	21
1913	...	37	...	25	...	18	...	38
1914	...	35	...	44	...	47	...	64

Enteric Fever.

51 notifications were received from 45 houses with 12 deaths, equal to a death-rate of $\cdot 06$, the lowest recorded in the Borough. Several of these were probably due to the eating of polluted shellfish and there was also some suspicion of ice cream being implicated in the case of several children. The incidence was higher in the older and denser parts of the Borough than in the Added Area. Of the houses infected 15 were provided with privy-middens.

QUARTERLY RETURNS IN PREVIOUS YEARS.

Year,		1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.
1899	...	88	...	32	...	91	...	110
1900	...	57	...	26	...	40	...	85
1901	...	34	...	15	...	83	...	87
1902	...	51	...	32	...	43	...	70
1903	...	34	...	21	...	68	...	55
1904	...	24	...	23	...	39	...	72
1905	...	49	...	17	...	41	...	57
1906	...	45	...	39	...	31	...	82
1907	...	30	...	22	...	39	...	44
1908	...	32	...	28	...	61	...	71
1909	...	46	...	24	...	14	...	54
1910	...	15	...	7	...	16	...	33
1911	...	16	...	14	...	32	...	26
1912	...	10	...	6	...	9	...	23
1913	...	15	...	10	...	14	...	14
1914	...	19	...	5	...	8	...	19

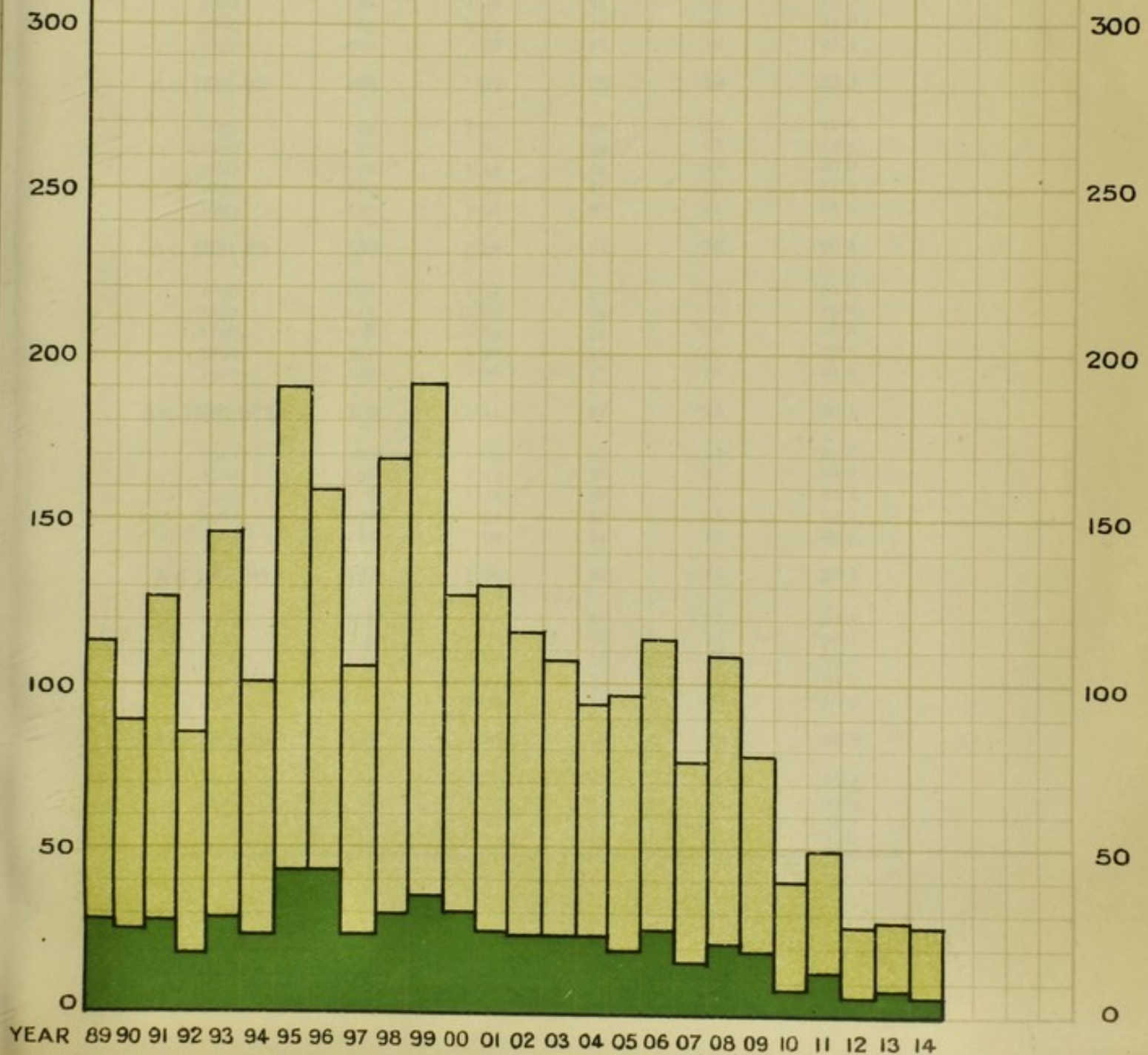
Other Notifiable Diseases.

90 Erysipelas, 9 puerperal fever, 1 anthrax, and 35 ophthalmia neonatorum cases were notified during the year.

ENTERIC FEVER

1889-1914

□ CASES PER 100000 INHABITANTS
■ DEATHS PER 100000 INHABITANTS.



ENTERIC FEVER

1889-1914

☐ CASES PER 10000 INHABITANTS
☒ DEATHS PER 10000 INHABITANTS

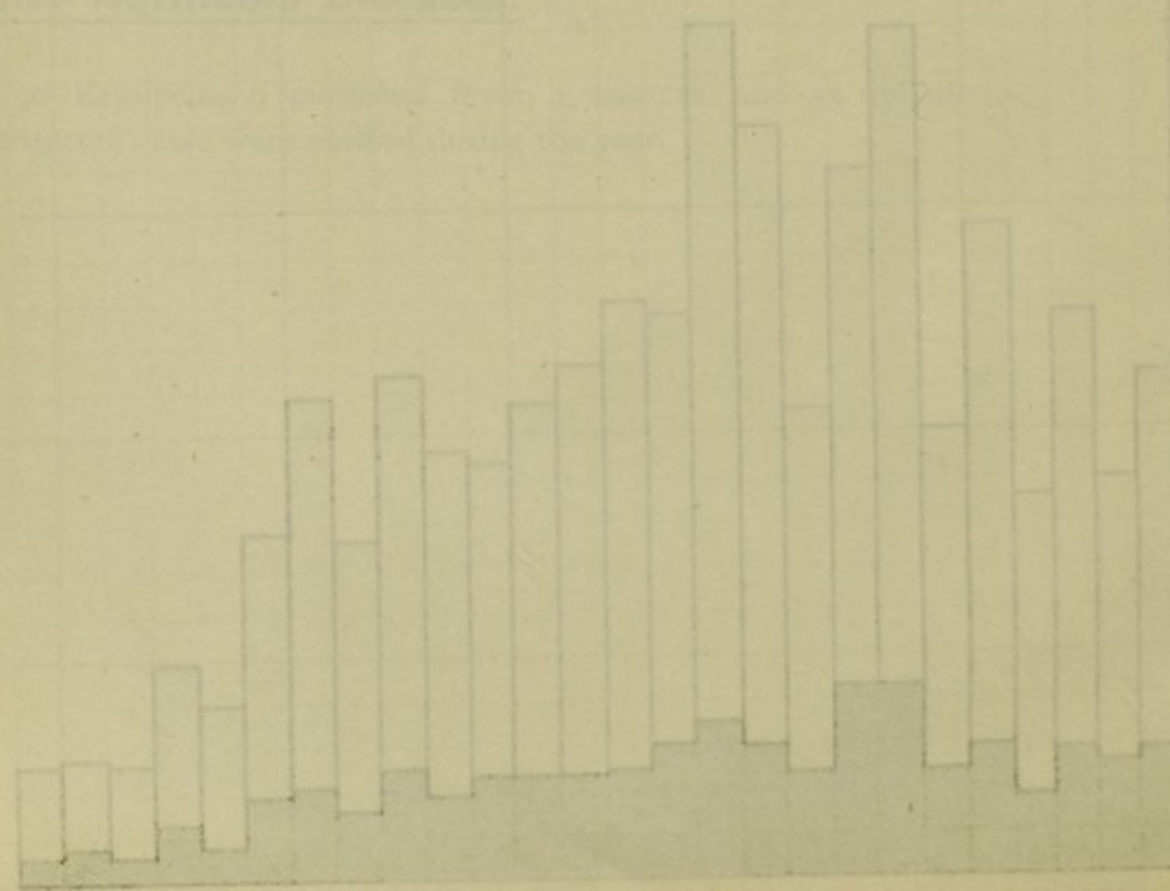


TABLE VII.

ENTERIC FEVER IN BOLTON, 1882—1914.

Year	Cases	Case-rate per 1,000 of Population	Deaths	Death-rate per 1000 of Population	Death-rate per cent. of Cases
1882	77	·72	17	·15	22·0
1883	75	·69	17	·15	22·6
1884	152	1·39	26	·23	17·1
1885	57	·51	17	·15	29·8
1886	60	·53	12	·10	20·0
1887	107	·95	31	·27	28·9
1888	180	1·58	31	·27	17·2
1889	125	1·09	31	·27	24·8
1890	102	·88	22	·18	21·5
Av. 1881-90	103	·92	22	·19	22·3
1891	145	1·24	30	·26	20·6
1892	97	·83	19	·16	17·5
1893	170	1·44	34	·28	20·0
1894	117	·98	25	·20	21·3
1895	237	1·98	50	·41	21·0
Av. 1891-95	153	1·29	31	·26	20·4
1896	186	1·54	50	·41	26·8
1897	125	1·02	24	·20	19·2
1898	208	1·69	35	·28	16·8
1899	321	1·97	55	·33	17·1
1900	208	1·26	47	·28	22·5
Av. 1896-1900	209	1·51	42	·25	20·1
1901	219	1·29	39	·23	17·8
1902	192	1·13	36	·23	18·8
1903	178	1·04	36	·21	20·2
1904	158	·91	37	·21	23·4
1905	164	·94	34	·19	20·7
Av. 1901-05	182	1·06	36	·21	20·1
1906	197	1·12	40	·22	20·3
1907	135	·76	26	·14	19·2
1908	192	1·08	37	·20	19·2
1909	138	·77	33	·18	23·9
1910	71	·39	12	·06	16·9
Av. 1906-10	146	·82	29	·16	19·9
1911	88	·84	23	·12	26·1
1912	48	·24	11	·06	22·9
1913	53	·28	16	·08	30·1
1914	51	·27	12	·06	23·5

Measles and Whooping Cough.

The deaths from measles numbered 61, the largest number occurring in the month of December. Of these 57 were under 5 years, and 4 between 5 and 10 years of age. Several schools were closed in order to prevent the spread of the disease.

50 deaths were registered from whooping-cough, about half the deaths occurring in March, April, May and June, the others being evenly distributed throughout the remaining months of the year.

Diarrhœa.

The total deaths from diarrhœal diseases including epidemic or summer diarrhœa and infective enteritis, numbered 136; those under 2 years of age dying from all forms of diarrhœa and enteritis numbered 171. The chart has been arranged so as to shew diarrhœa deaths per 1000 of population and also the diarrhœa and enteritis deaths per 1000 births as suggested by the Registrar General. The summer was a wet one, but for ten weeks the average 4 ft. temperature was above 57° Far. The rainfall during the year was above the average, but the reserve of water was below the average owing to the low rainfall in 1913.

The death-rate per 1000 of population from diarrhœa was '92, above the average for the last five years.

It is satisfactory to note that the average of 1901-10 has been maintained during the last 4 years (1911-1914), and that during the last 8 years the diarrhœa death-rate has only once been above 1 per 1000 of the population.

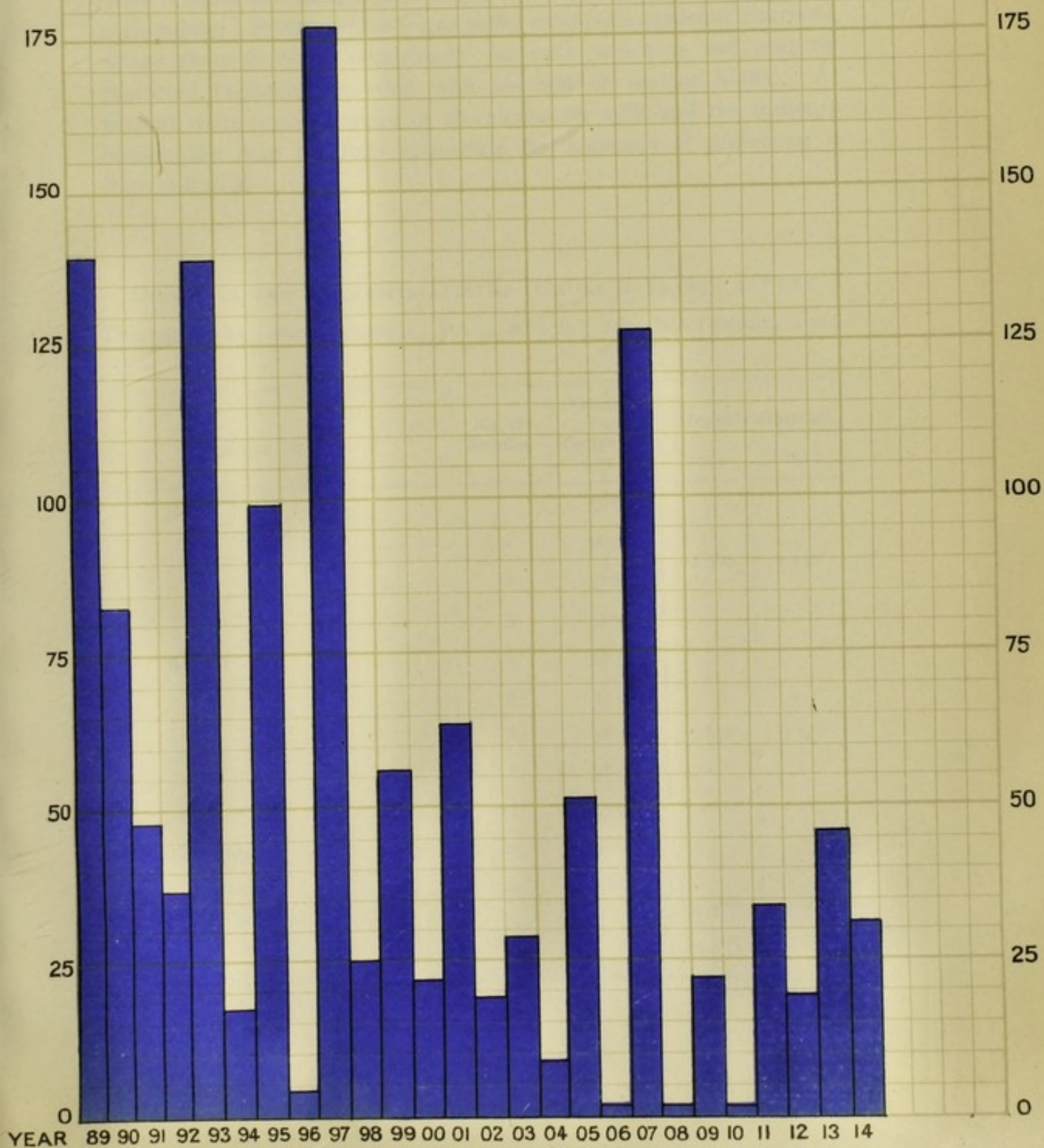
From 1905-10 the death-rate was amongst the lowest of the Lancashire towns, but during the last three years our position has not been so favourable and in the 3rd quarter of 1914 there was a higher death-rate per 1000 births than any town except Wigan.

The number of deaths from diarrhœa depends upon the length of the period and the degree of heat during the summer months and the food for flies provided in the neighbourhood of dwellings, such as privy-middens, manure heaps and other offensive accumulations.

MEASLES

DEATHS PER 100000 INHABITANTS

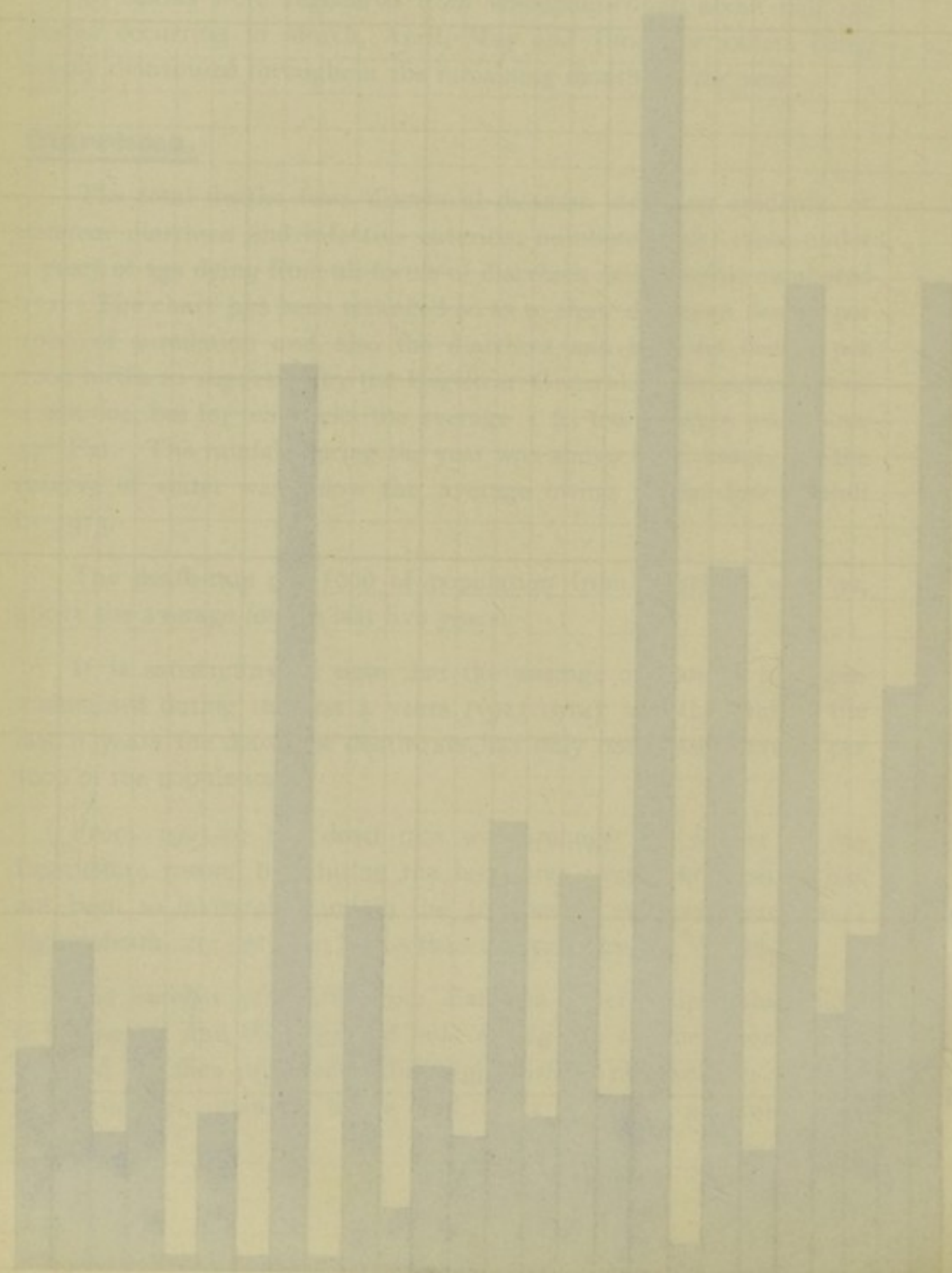
1889-1914



MEASLES

DEATHS PER 10000 INHABITANT

1889-1914



As the time for the development of a fly from the laying of the eggs occupies a period of nearly 8 weeks, several months of warm weather are necessary, as few flies survive the winter. The souring of milk probably plays an important part in the aggravation if not in the initiation of the disease. Where good sanitary conditions prevail there is much less danger than where offensive material is allowed to accumulate. Privy-midden towns suffer most from epidemic diarrhoea, where there is every opportunity for milk which is not properly protected becoming crowded with bacteria of various kinds. At present there is no standard of cleanliness for milk and the ordinary householder does not fully appreciate the necessity of protecting it from pollution.

DIARRHŒA AND ENTERITIS DEATHS (UNDER 2 YEARS), 4 FEET TEMPERATURE, AND RAINFALL, JULY, AUGUST AND SEPTEMBER, 1914.

WEEK ENDING					No. of Deaths.	Average 4-Feet Temperature.	Monthly Rainfall.	
							1914	1913
July	4	55.6	5.993"	1.237"
	11	...	...	...	1	56.9
	18	...	...	...	2	57.6
	25	...	...	...	3	57.9
August	1	5	57.5	3.642"	3.312"
	8	...	...	...	5	57.2
	15	...	...	...	8	57.4
	22	...	...	..	8	58.0
	29	...	...	...	14	57.8
September	5	21	58.2	4.977"	2.069"
	12	...	...	...	24	58.3
	19	...	...	..	15	57.4
	26	...	...	...	18	55.0

DIARRHŒA IN BOLTON, 1866-1914.

1866-1870	...	1·88 per 1000 pop.
1871-1880	...	1·74
1881-1890	...	1·19
1891-1900	...	1·28
1901-1910	...	·77
1911	...	1·53
1912	...	·09
1913	...	·81
1914	...	·92

Bolton compared with other Lancashire Towns.

TOWN.	Diarrhœa D.R. 1905-1910.	Diarrhœa & Enteritis, under 2 years.			
		Per 1000 pop.	Per 1000 Births.		
		1911	1912	1913	1914
97 Great Towns	* ·63	+ 1·31	† 10·91	‡ 29·33	* 25·85
Liverpool	1·01	1·96	20·42	38·14	41·40
Manchester	·84	1·53	14·18	32·21	26·94
Salford	·84	1·51	14·84	31·09	27·41
Bolton	·69	1·87	8·57	43·60	41·66
Oldham	·74	1·55	12·58	33·38	23·06
Blackburn	·61	1·47	12·89	40·76	17·78
Preston	1·01	1·39	12·08	50·66	32·68
Burnley	1·23	2·44	16·17	54·30	33·20
St. Helens	·75	2·14	11·28	36·94	27·98
Rochdale	·41	1·01	11·42	30·14	14·75
Wigan	1·07	2·33	15·63	48·02	43·19
Warrington	·88	1·76	12·01	37·07	24·71
Bootle	1·08	1·83	12·42	48·32	39·39
Bury	·57	·96	9·79	37·82	26·37

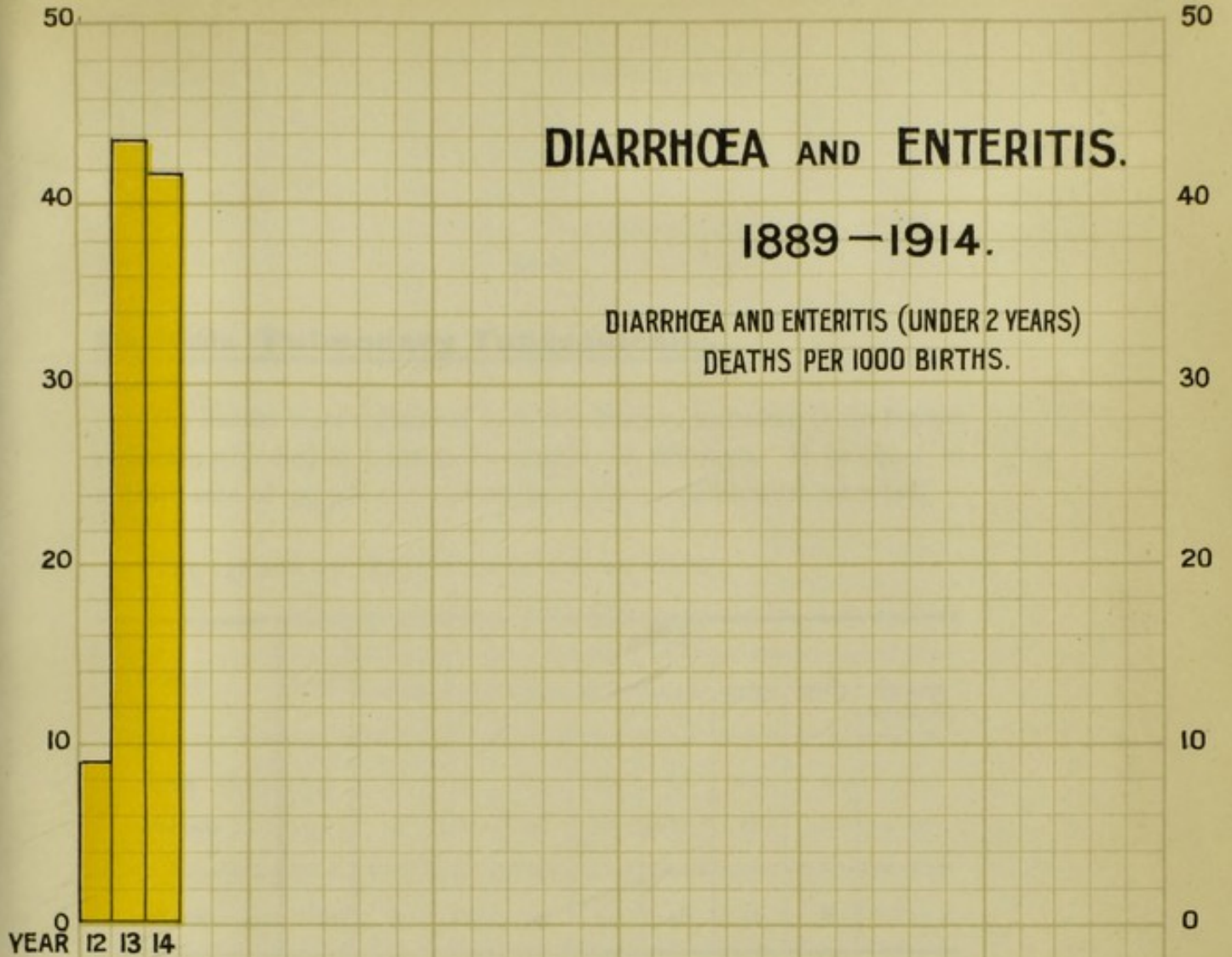
NOTE. *76 Great Towns.

+77	..	..
†95	..	..
‡96	..	..
897	..	..

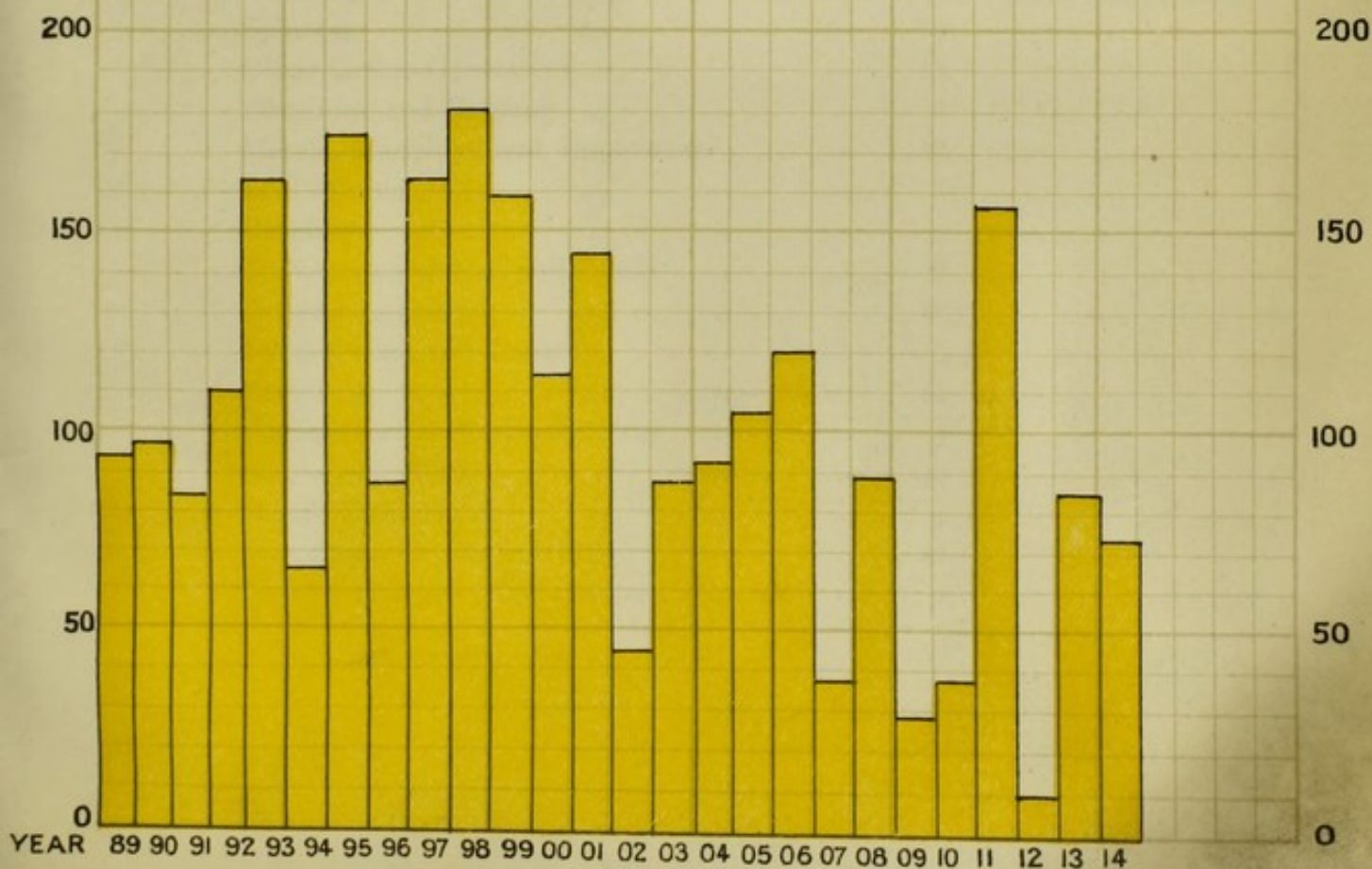
DIARRHOEA AND ENTERITIS.

1889-1914.

DIARRHOEA AND ENTERITIS (UNDER 2 YEARS)
DEATHS PER 1000 BIRTHS.



ALL DIARRHOEA DEATHS PER 100,000 INHABITANTS.



DIARRHOEA AND ENTERITIS

1889-1914

DIARRHOEA AND ENTERITIS (UNDER 5 YEARS)
DEATHS PER 1000 BIRTHS

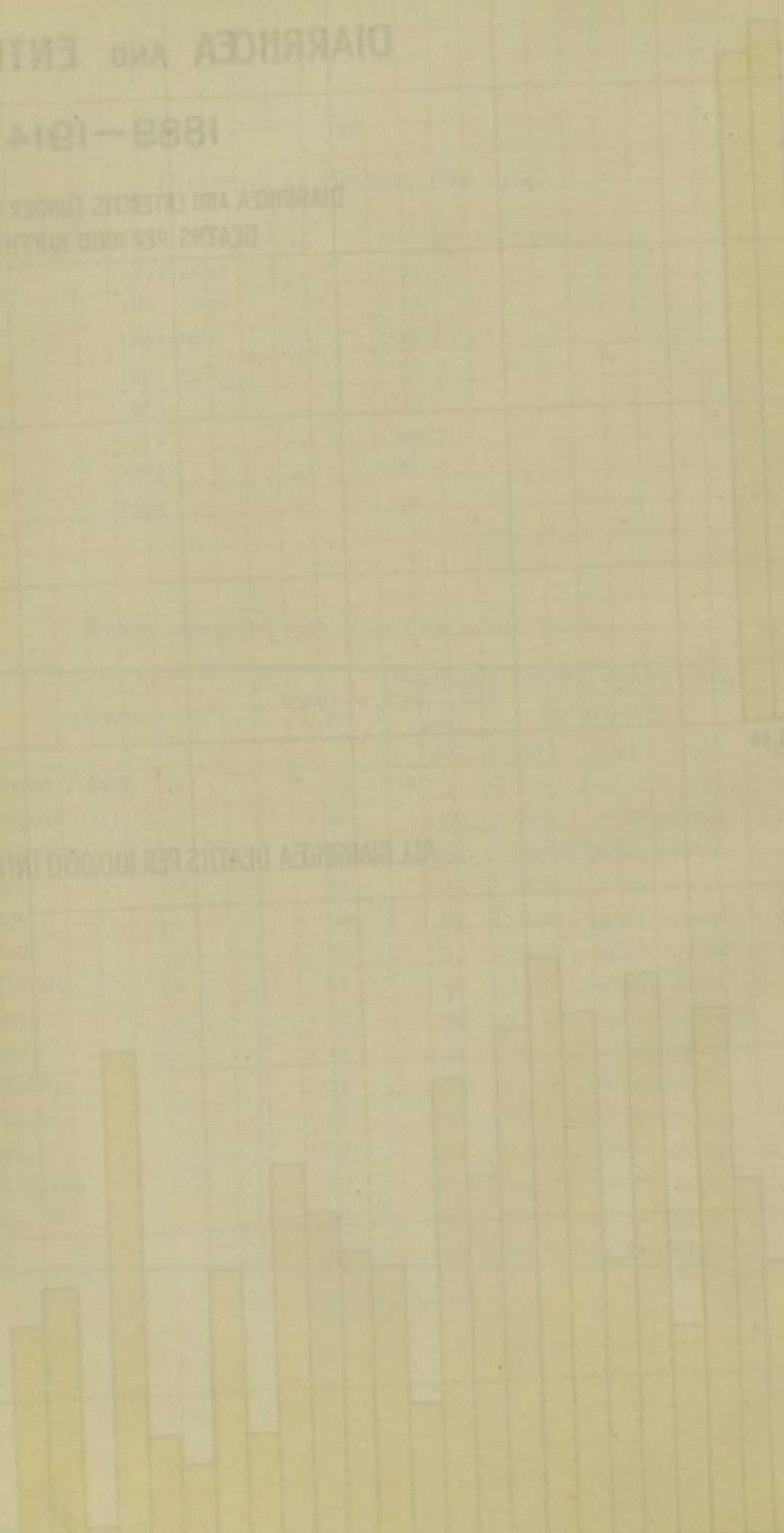
ALL DIARRHOEA DEATHS PER 10000 INHABITANTS

200

150

100

50



Phthisis (Pulmonary Tuberculosis).

167 deaths were registered from this disease, including those Bolton residents who died in institutions outside the Borough. It is equal to a death-rate of '90 per 1000 inhabitants, the second lowest recorded.

The age and sex distribution are shewn below :—

SEX.	Total	AGES							
		Under 5	5-15	15-25	25-35	35-45	45-55	55-65	65 and upwards
Male	75	1	4	7	16	18	20	8	1
Female	92	2	6	26	18	28	11	...	1
Total.....	167	3	10	33	34	46	31	8	2

The occupations of those who died were as follows :—

Weaving	...	...	...	...	11
Spinning	...	...	...	...	14
Other Cotton Operatives	...	...	...	...	13
Bleaching and Printing	...	...	...	...	1
Metals, Machines, and Implements	...	...	...	...	11
Coal Mining	...	...	...	...	1
Buildings	...	...	...	...	5
Conveyance of Men and Goods	...	...	...	...	6
General Labourers	...	...	...	...	11
Food, Drink, and Tobacco	...	...	...	...	5
Dress, etc.	...	...	...	...	4
Commercial or Business Clerks	...	...	...	...	3
Household Work	...	...	...	...	49
School Children...	...	...	...	...	4
Miscellaneous Occupations	...	...	...	...	22
No Occupation or Occupation Unknown	...	...	...	...	7

167

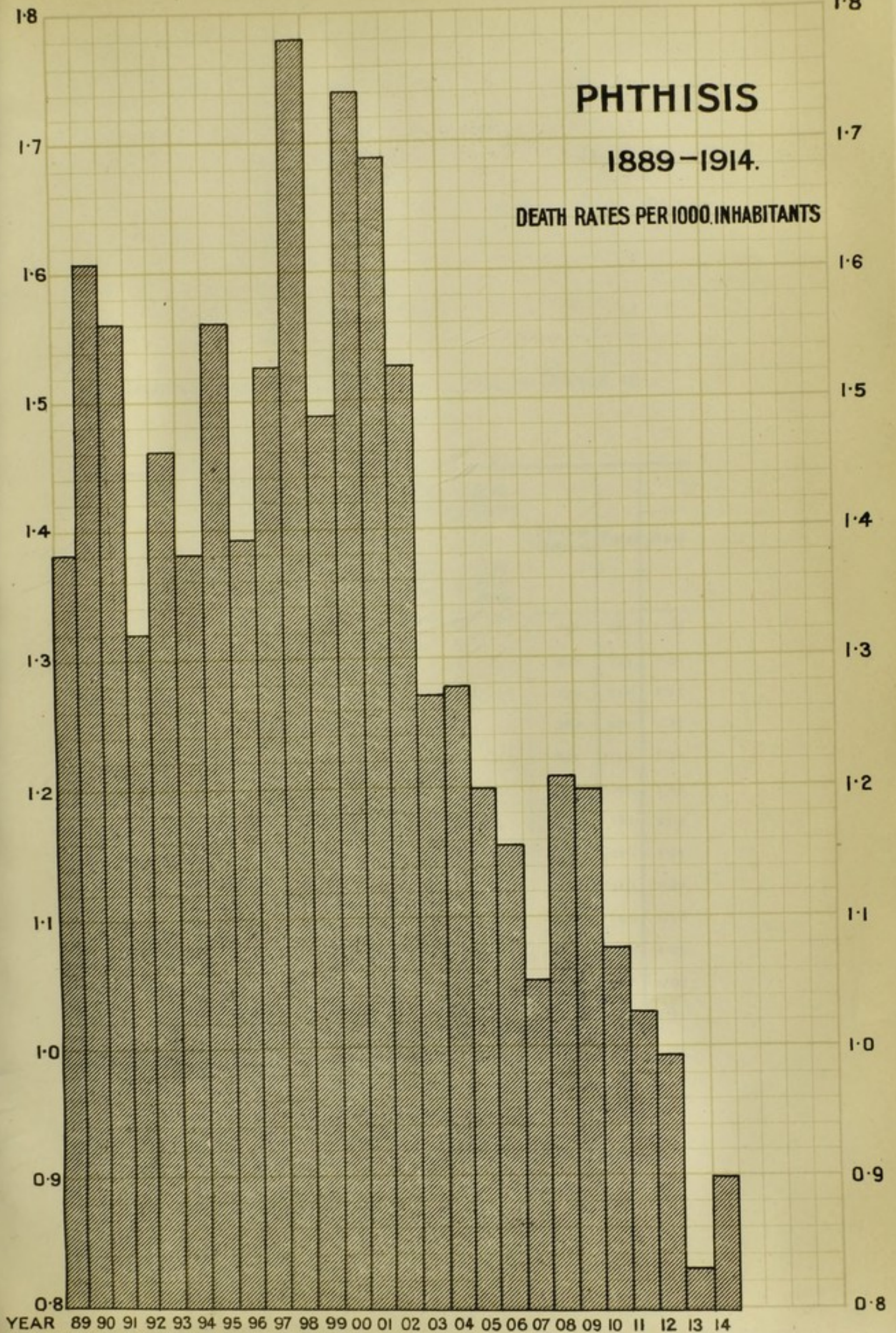
TABLE VIII.
PHTHISIS DEATH RATES IN WARDS, 1909-1914.

WARD.	1909	1910	1911	1912	1913	Aver'ge 1909 to 1913	1914
West	1'34	1'69	1.13	1'13	'90	1'23	'72
Halliwell	'93	1'01	1'00	'85	'71	'90	'70
Bradford	1'46	'96	1'01	'91	1'31	1'13	1'26
Derby	1'25	1'15	'78	1'10	'89	1'03	1'10
East	1'39	'80	'91	1'33	'93	1'07	'94
Rumworth	1'27	1'02	1'67	1'09	1.28	1'26	'73
Church	'83	'83	1'31	'95	'60	'90	'96
North	1'34	'94	1'61	'94	'53	1'07	1'21
Exchange	2'46	1'05	'89	1.78	1'61	1'55	3'33
Old Borough ...	1'29	1'13	1'09	1'05	'94	1'10	1'01
Great Lever	1'20	.83	'89	'39	'69	'80	'59
Tonge	'84	1'34	1'02	'30	'79	'85	'29
Astley Bridge	'73	'97	'72	'95	'35	'74	'82
Smithills	1'07	'88	'56	1'36	'39	'85	'37
Hulton	'84	'65	1'27	1'55	'90	1'06	1'46
Deane-cum-Lostock ...	'75	'97	'71	'93	'22	'71	'44
Darcy Lever-c-B'met..	1'25	'74	1'46	'96	'23	'92	'70
Heaton	1'89	1'10	'35	1'37	'99	1'14	'96
Added Area ...	1'01	'95	'89	'85	'59	'85	'66
Extended Borough.	1'20	1'08	1'03	'99	'83	1'02	'90

PHTHISIS

1889-1914.

DEATH RATES PER 1000. INHABITANTS



PH 11212

1881-1914

DEATH RATES PER 1000 INHABITANTS

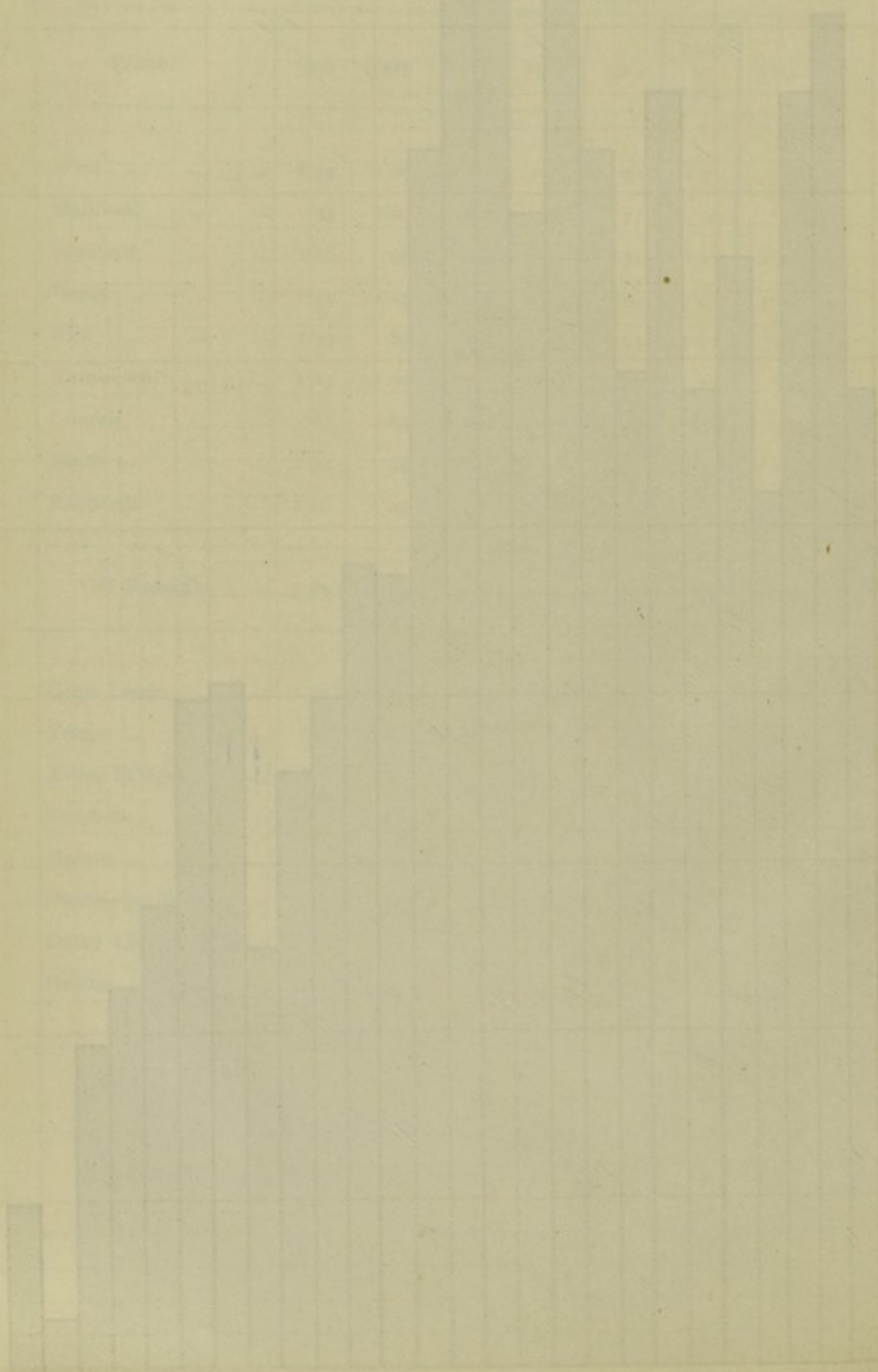


TABLE IX.

DEATHS FROM PULMONARY TUBERCULOSIS IN BOLTON IN
PREVIOUS YEARS.

Year	Residents in Public Institutions out of Borough				Public Institu- tions in Borough		Private Houses	Total	Rate
	Work- house	Lunatic Asylums		Others	Resi- dents	Non- Resi- dents			
		Work- house Cases	Other Cases						
1901	43	2	4	...	...	...	236	285	1.69
1902	36	2	11	1	2	...	201	253	1.49
1903	34	3	6	1	1	1	173	218	1.27
1904	20	4	8	...	...	...	189	221	1.28
1905	22	4	10	...	3	...	171	210	1.20
1906	19	1	5	...	2	...	175	202	1.15
1907	40	6	5	...	...	...	135	186	1.05
1908	52	...	10	...	1	...	153	216	1.21
1909	53	2	6	...	3	...	152	216	1.20
1910	47	...	7	1	...	...	140	195	1.08
1911	39	...	6	2	...	...	140	187	1.03
1912	37	...	9	3	...	...	133	182	.99
1913	37	1	5	2	...	...	109	154	.83
1914	32	...	5	3	12	...	115	167	.90

NOTIFICATION OF TUBERCULOSIS.

The following notifications of pulmonary tuberculosis were received under the Bolton Corporation Act, 1905, and of non-pulmonary tuberculosis under the Public Health (Tuberculosis) Regulations, 1913.

		Pulmonary		Non-Pulmonary		Total
		M	F	M	F	
Private Practitioners	...	118	139	29	19	305
School Medical Inspector	...	5	9	2	1	17
Medical Officers of Institutions		26	6	11	7	50
Totals		149	154	42	27	372

There were also received under the Public Health (Tuberculosis) Regulations, 1913, on forms C. & D., the following information concerning admissions and discharges of patients suffering from tuberculosis.

Institution.		Admitted.		Discharged.	
Meathop	...	49	...	50	
Wilkinson	...	49	...	62	
Townley	...	*129	...	154	

Note :—* 9 months only.

The occupations of those pulmonary cases notified were :—

Cotton Spinning	...	...	42
Cotton Weaving	...	...	16
Bleaching and Printing	...	...	5
Metals, Machines and Implements	...	...	12
Coal Mining	...	...	5
Building Construction	...	...	4
Painters, Decorators, etc.	...	...	3
Conveyance of Men and Goods	...	...	10
General Labourers	...	...	32
Food, Drink and Tobacco	...	...	5
Dress, etc.	...	...	5
Commercial or Business Clerks	...	...	6
Domestic Service	...	...	9
Household Work	...	...	51
School Children	...	...	31
Miscellaneous Occupations	...	...	37
No Occupation or Occupation Unknown	...	...	30

The details as to notification of pulmonary tuberculosis both during the periods of voluntary and compulsory notification are given below.

VOLUNTARY NOTIFICATION.

Year.		Institutions.		Medical Practitioners.		Total.
1902	(6 mos).	14	...	66	...	80
1903	...	17	...	75	...	92
1904	...	37	...	55	...	92
1905	(9 mos).	11	...	43	...	54

COMPULSORY NOTIFICATION.

1905	(3 mos).	...	19	...	76	...	95
1906		...	36	...	216	...	252
1907		...	45	...	143	...	188
1908		...	35	...	165	...	200
1909		...	58	...	177	...	235
1910		...	27	...	218	...	245
1911		...	36	...	209	...	245
1912		...	70	...	251	...	321
1913		...	83	...	266	...	349
1914		...	67	...	305	...	372

TREATMENT.

Total applications for treatment	...	...	...	224
Insured persons	...	...	...	186
Non-insured persons	...	...	...	38
Pulmonary tuberculosis	...	...	...	205
Non-pulmonary tuberculosis	...	...	...	19
Consultations	...	...	...	131
Evidence of tuberculosis	...	...	...	77
No evidence of tuberculosis	...	...	...	40
Under observation...	...	...	...	14

Patients treated during the year 1914 including those under treatment at the beginning of the year—

	Insured	Dependents	Non-insured	Total
Meathop	58	...	9	67
Wilkinson	32	...	31	65
Heswall	—	...	3	9
Baschurch	—	...	2	2
Hospital	65	...	15	85
Dispensary	39	...	11	50
Domiciliary	52	...	—	52
Totals ...	246	13	71	330

Aftercare and assistance were provided by the Sanatorium Benefit Sub-Committee and the Sanitary Committee to necessitous persons :—

Persons assisted	...	...	...	...	...	38
Food tickets	...	...	...	...	...	32
Quarts of milk	...	...	...	...	...	470
Eggs...	...	...	...	...	...	1320

The result of treatment in Sanatoria from 1906-1914 as shewn here includes all those insured and non-insured persons sent by the Sanitary Committee but does not include those uninsured persons treated at Wilkinson Sanatorium.

Year	Arrested	Impr'd	Slightly Impr'd	No Impr'm't	Died	Total
1906	1	1	—	1	—	3
1907	7	—	3	2	—	12
1908	9	9	—	3	—	21
1909	12	8	1	5	—	26
1910	9	4	1	4	—	18
1911	12	10	—	3	1	26
1912	11	10	2	2	—	25
1913	37	37	1	7	2	84
1914	29	30	—	14	2	75

The new pavilion specially erected for the treatment of consumptives in the grounds of the Eastern Borough Hospital was opened for the admission of patients on the 8th July, 1914, and the old pavilion temporarily used for that purpose was vacated. The complete scheme for the treatment of tuberculosis in Bolton is now constituted as follows :—

(1) Sanatoria, for the treatment of early cases in which the working capacity is likely to be restored. 16 beds at Meathop Sanatorium, Westmorland; 10 beds at Wilkinson's Sanatorium, Bolton, under the control of the Sanitary and Insurance Committees; 20 beds at Wilkinson's Sanatorium provided free of cost by the Trustees for the poorer patients who are not insured, making a total of 46 beds for early cases of pulmonary tuberculosis. 6 beds at the Royal Liverpool Country Hospital for children, Heswall, for children suffering from non-pulmonary tuberculosis.

(2) Hospital, where the restoration of some working capacity may be expected, where patients may be educated in the proper means of preventing the spread of the disease, where cases are admitted for observation, and special cases may be temporarily isolated. 24 beds under the control of the Sanitary Committee, 12 of which are allotted to insured patients.

The beds in these two institutions have proved sufficient for curable and improvable cases, and over 80% of the applicants suffering from pulmonary tuberculosis have received institutional treatment during the year.

(3) Tuberculosis Clinic or Dispensary in the Public Health Office, for examination, consultation and special treatment. The Clinical Tuberculosis Officer attends at the Clinic at stated times and these are printed on the instructions given to every notified consumptive. Many patients are recommended after institutional treatment to continue the special forms of treatment at the Clinic, and all are encouraged to submit themselves for inspection after discharge from sanatorium or hospital and receive advice and instructions. Cases that require it are visited at their homes and those in necessitous circumstances are recommended to the various philanthropic agencies for assistance.

The Sanatorium Benefit Sub-Committee of the Insurance Committee have constituted themselves an After-Care Committee for insured persons, to render assistance to tuberculous patients not forthcoming from any other source, and the Sanitary Committee assist in every way they can those who are non-insured.

Homes for progressive and very advanced cases requiring continuous care and nursing have not yet been provided by the Sanitary Committee or philanthropic agencies, but ample accommodation has been provided by the Poor Law Guardians, and many of these patients by reason of their poverty are compelled to seek their assistance.

The Departmental Committee on Tuberculosis expressed the opinion that it was desirable that in course of time schemes for institutional treatment established by Counties and County Boroughs should be developed so as to make provision for all classes including Poor Law cases.

Curative facilities however are of little avail unless they are accompanied by financial provision to relieve the economic condition of distress caused by the withdrawal of the head of the family as a wage earner. Many are deterred from seeking sanatorium benefit lest they should lose their work, or be recommended to seek lighter employment with lower wages. Few even among those in whom the disease appears to be arrested after prolonged sanatorium treatment can with safety return to their original employment, especially if it involves indoor work or unhealthy surroundings. Most of them are advised to obtain if possible open-air-work in a healthy climate, especially those from manufacturing towns. Many drift back to their ordinary occupations and lose the chance of becoming permanently benefited.

The best after-care would be adequate assistance until the full working capacity is restored and suitable employment obtained.

At present, sanatorium treatment with graduated exercise holds the field, and no specific has as yet been found to give anything like such good results. According to some eminent experts in treatment, tuberculin is of no use in incipient cases but only in advanced cases ; according to others, it is of no use in advanced but only in incipient cases. Some say that it is only of use in children, others, that it may be dangerous in its use. In a few selected cases it may be useful, but the general opinion at present is that there is not sufficient proof as yet of its value.

With the large resources now provided under the Insurance Act it behoves us therefore to be careful and to use them economically and wisely and to adopt only those measures which have proven their value.

Preventive Measures.

In addition to the usual measures which have been in operation for several years, such as disinfection of houses, bedding and clothes, careful enquiry is now made with regard to contacts. Any person living with a consumptive, who is not in good health, and all those who are willing, are advised to present themselves for examination by the Tuberculosis Officer who treats the information obtained in confidence. At the back of the printed instructions distributed to notified consumptives, the hours at which the Tuberculosis Officer attends at the Clinic are stated. Any inhabitant of Bolton who suspects that he or she is suffering from tuberculosis is invited to attend for examination and advice. By these means it is hoped that many suspects may be induced to seek skilled advice in the early stages when recovery is possible, and not postpone their applications till the later stages when recovery is more than doubtful.

Tuberculosis is believed by some to be mainly a childrens' disease, all children being infected before 12 years of age, and that it is to their advantage in order to establish some immunity. Whether that be true or not, what is tolerably certain is that most of them get well and that fatal phthisis in children is of relatively short duration. A careful search therefore amongst children of school age should get good results, especially if all suspicious cases were given a month's holiday in the country or seaside.

To attempt to get rid of a tubercular stock by compulsory isolation would no doubt lead to concealment. It is too drastic a step, especially as with careful patients the danger is slight, while the hardships would be great.

The ideal plan would be to prevent the existing stocks of tubercular strains from developing the disease, by periodical examination of young adults from the time of leaving school till they arrive at mature manhood, so that by warning and directing their career the dangers that beset them might be avoided.

General Remarks.

All investigators agree that in the main it is a disease of small wages and poor dwellings, and although the value of prolonged sanatorium treatment in early cases with proper after care and adequate assistance is recognised to be very effective in a large proportion of cases, many believe that the large sums now being spent on sanatoria, hospitals and dispensaries would be better spent in more active measures for improving the conditions under which people live and work, and raising the nutrition of the families in the presence of the disease. That is to say, that relief in some form or other should be associated with prevention and improved sanitary conditions. As evidence of the importance placed upon home conditions I quote a well known physician who has many years' experience in the dispensary and sanatorium treatment of tuberculosis. He wrote recently as follows:—"If these conditions (fresh air, sanitary and clean dwellings) can recover the sick man gravely affected with tuberculosis, why are they not made generally available for the prevention of the disease."

"The hope of the future for the tuberculosis problem is the projection of the searchlight into the home. To be effective it must be conducted along scientific and humanitarian lines. It cannot be affected satisfactorily by an inquisitorial visit of a lay officer, with whatever powers he may be endowed. The great guiding principle must be the education of our people by skilled and sympathetic teachers, who will be listened to because they speak of knowledge and from the heart."

"It is a depressing reflection in this 20th century that for the most part men and women are woefully ignorant of the larger measures of healthy living and self protection. The object lesson of the sanatorium must be enforced in the home. The great difficulty is the ignorance and helplessness of the average household in respect of air, cleanliness and food."

Isolation Hospitals.

During the year there were admitted to the two Borough Hospitals, Eastern and Western, 152 persons suffering from scarlet fever, 36 from enteric fever, 35 from diphtheria, 7 other diseases, and 75 pulmonary tuberculosis.

The deaths numbered 1 from scarlet fever, 4 enteric fever, 9 diphtheria, 12 pulmonary tuberculosis, and 1 from other disease.

The new pavilion specially erected in the grounds of the Eastern Hospital for the treatment of persons suffering from pulmonary tuberculosis was opened during the year and the patients who had been treated temporarily in an old pavilion were transferred to the new one. Dr. Moffatt, the School Medical Inspector, was appointed Tuberculosis Officer for the treatment of patients admitted to the the pavilion and at the Tuberculosis Dispensary.

The staff was increased by one wardmaid and is now constituted as follows :—

1 Matron	4 Wardmaids
3 Sisters	1 Cook
1 Ambulance Nurse	5 House Servants
5 Staff Nurses	4 Laundresses
7 Probationers	2 Porters
	2 Gardeners

One nurse contracted enteric fever and died. No other serious illness was reported amongst the staff whose health and efficiency were well maintained during the year.

The patients received every attention and most skilful treatment from Dr. Moffatt, and Miss Bateman performed most efficiently the duties of Matron.

The staff of nurses have performed their duties with their usual devotion and have been most sympathetic to the little ones under their care.

ADMISSIONS AND DEATHS AT THE BOROUGH HOSPITAL, 1914.

Month	Total		Scarlet Fever		Enteric Fever		Diphtheria		OTHER DISEASES			
	A'ted	Died	A'ted	Died	A'ted	Died	A'ted	Died	Pul. Tuberculosis		Other Diseases	
									Admitted	Died	Admitted	Died
January ...	21	2	12	...	2	...	3	...	3	1	1	1
February ..	17	2	5	1	2	...	2	1	6	...	2	...
March ...	18	3	6	...	5	1	1	1	5	1	1	...
April ...	23	5	8	...	2	...	6	3	6	2	1	...
May ...	26	3	11	...	2	1	3	1	10	1	...	...
June ...	16	5	7	...	1	1	5	2	3	2	...	...
July ...	21	..	9	...	3	...	3	...	5	...	1	...
August ...	25	2	13	...	...	...	3	...	9	2	...	...
September	30	2	11	...	7	1	1	1	11	...	...	...
October ...	44	1	29	...	3	...	5	...	7	1	...	...
November.	27	1	19	...	1	...	...	...	7	1	...	...
December.	37	1	22	...	8	...	3	...	3	1	1	...
Total ...	305	27	152	1	36	4	35	9	75	12	7	1

SECTION III.

Work of Health Visitors.

Notification of Births.

Schools for Mothers, &c.

Control of Midwives.

Health Visitors' Work.

Never before has so much effort been put forth to secure better conditions of living for the succeeding generation. Nothing can be more valuable and effective, or better performed than the present work of health visiting by trained and skilled women officials, and though the results so far have not led to so great a reduction in the infantile mortality as might have been expected, an appreciable diminution has taken place. The difficulties are too great to be overcome solely by educational efforts and require years of endeavour with a view to abolish poverty and ignorance in its grossest forms.

The inspection of school children has revealed defects such as inflammatory conditions of nose and throat, defective sight, and imperfect teeth which profoundly affect the health of children in after years, and has led to the establishment of school clinics, where some diseases are treated and advice and instruction are offered to all who wish to avail themselves of it. The state endowment of the campaign against tuberculosis and the payment by Insurance Committees for those who are insured, has prompted Local Authorities to establish Tuberculosis Dispensaries where advice and treatment are offered to all those who are afflicted with this disease. The provision of meals for school children which temporarily relieve the underfed, is also of educational value in showing the children how or what to eat. The basis of this campaign against infantile mortality, children's diseases and tuberculosis must be educational and should be undertaken by skilled and trained officials, supplemented by assistance in the form of food and clothing by voluntary agencies. The mere distribution of leaflets unless followed by oral and practical instruction is often useless and wasteful, as the mothers who most need the instruction seem unable to understand or take advantage of information supplied in this form.

Hot and dry summers still yield their toll of deaths from diarrhoea, the number being twice and sometimes three times as great as in ordinary years; the infantile mortality being increased by 50%. A large percentage of deaths is due to immaturity and prematurity which depend directly upon the physical fitness of the mothers and the care which they are able to give to their offspring.

In a measure, ignorance is responsible for a high mortality, but to a greater degree poverty and the necessity of undertaking work wholly unsuitable to the expectant and nursing mother.

In spite of opinions to the contrary it has yet to be shewn that the poorer mothers do not lay out their scanty means to the best advantage in the provision of food for their children.

Voluntary societies are to be commended for affording every assistance where necessary in necessitous cases.

The simple principles of mothercraft which are now universally inculcated may be summarised thus :—

1. To persevere with natural feeding up to the end of the ninth or tenth month, even if the mother goes out to work.
2. Not to wean but to supplement with cows' milk.
3. To avoid irregular and too frequent feeding by day as well as by night. Day interval 3 hours, night 6 to 8 hours.
4. To urge expectant mothers to seek advice.
5. To avoid stimulants which are harmful to both nursing and expectant mothers.

There has been no alteration in the work of the Health Visitors, whose duties are to 'follow up' the notifications of births in those houses where advice and assistance may be required, to visit all cases of ophthalmia neonatorum, to inspect midwives' houses and to report as to their mode of practice, and generally to report on any condition likely to affect the health of children under one year of age, and expectant and nursing mothers, and to give instruction in mothercraft and child welfare. The work accomplished during the year is conveniently set out in tabular form.

Details concerning the births notified during the year :—

1.	Total births notified	...	...	3779
2.	Total births registered	...	...	4104
3.	Workhouse births...	...	...	28
4.	Workhouse births (legitimate)	..		7
5.	Workhouse births (illegitimate)	...		21
6.	Born living	...	...	3642
7.	Stillborn ...	...	...	137
8.	Notified by Medical Men	...	...	646
9.	Notified by Midwives	...	...	3133
10.	Deaths under one year of age	...		485

Summary of visits made by Health Visitors :...

1.	Total visits to houses	...	...	7414
2.	Birth enquiries	...	...	2601
3.	Revisits to births	...	...	4092
4.	Death enquiries, under one year	...		250
5.	Visits re summer diarrhoea	...		78
6.	Visits to midwives' houses	...	...	107
7.	Visits to puerperal cases	...	...	9
8.	Visits to ophthalmia cases	...	...	38
9.	Visits to consumptives	...	...	317
10.	Necessitous consumptives assisted	...		38
11.	Necessitous mothers assisted	...		56

Of the 38 cases of ophthalmia notified and kept under observation, 3 children became blind in one eye. There was no case of total blindness noticed.

To necessitous mothers was distributed :—

9 Food tickets ; 294 pints of milk ; 84 tins of glaxo.

The following conditions were found amongst newly born children visited by the Health Visitors :—

1.	Healthy	...	...	...	2196
2.	Delicate	...	...	...	215
3.	Premature	...	...	...	122
4.	Stillborn	...	...	...	68

METHOD OF FEEDING.

1.	Breast fed only	...	...	...	1645
2.	Breast fed partly	...	...	...	420
3.	Artificially fed	...	...	...	468
4.	Long tube bottles found	...	...	...	55

OTHER INFORMATION.

1.	No. of mothers returning to work within three months of birth of child	...	...	250
2.	Houses clean	...	...	2383
3.	Houses dirty	...	...	205

METHOD OF FEEDING INFANTS DYING FROM ALL CAUSES.

1.	Breast fed only	...	...	...	64
2.	Breast fed partly	...	...	...	51
3.	Artificially fed	...	...	...	135

METHOD OF FEEDING OF INFANTS WHO DIED FROM DIARRHŒA.

1.	Breast fed only	...	...	...	10
2.	Breast fed partly	...	...	...	18
3.	Artificially fed	...	...	...	50

CLOSET ACCOMMODATION IN HOUSES WHERE DIARRHŒA DEATHS OCCURRED.

1.	Privy middens	...	...	...	34
2.	Pails	...	...	...	19
3.	W.W.C.	...	...	...	19
4.	F.W.C.	...	...	...	6

Schools for Mothers and Allied Agencies.

There are five Schools for Mothers and two Kitchens for Mothers in Bolton which are doing very useful work in the instruction of mothers in infant care, domestic hygiene, simple cookery, and needlework, and also giving assistance in dinners to mothers and milk for the children.

The Secretaries have kindly supplied me with the following details of the work accomplished and assistance given during the year 1914.

SCHOOLS FOR MOTHERS. (FIVE CENTRES).

No. of Meetings ...	206	Milk distributed ...	11000 qts.
Mothers on the Roll	760	Dried milk ...	60 tins
Attendances ...	4311	Dinner tickets given	3120

KITCHEN FOR MOTHERS, 7, CROOK ST.

Meetings for instruction	15	Dinners given ...	5295
Average attendance...	20	Average no. per day	17
Mothers on roll during the year ...	96		

KITCHEN FOR MOTHERS, DERBY ST. (RECENTLY OPENED).

Mothers on roll ...	42	Dinners to mothers	974
Average Attendance	20	Dinners to children	544

Control of Midwives.

64 notifications of their intention to practice within the Borough were received from midwives during the year.

The following 271 notifications were received from 45 midwives in accordance with the regulations of the Central Midwives Board:—

- 177 Sending for Medical help.
- 3 Deaths of children.
- 1 Death of mother.
- 86 Stillbirths.
- 2 Prepared body for burial.

The midwives' houses have been inspected, and I have examined the case books, instruments, temperature and pulse records, and appliances of each midwife during the year. From the registers of cases I found that they attended 2837 cases out of a total of 4104 births in the year.

When there has been danger of infection, the midwives' clothing has been disinfected at the Borough Disinfecting Station.

SECTION IV.

Animals and Food Inspection.

Public Analyst's Report.

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Animals and Food Inspection.

Public Analyst's Report.

Animals and Food Inspection.

(W. H. BRIDGE, M.R.C.V.S.)

I have the honor of submitting my annual report for the year ending December 31st, 1914.

It is matter for general regret that our country is involved in hostilities with kindred nations, and although the economic conditions of this country have been wonderfully preserved, yet there are factors operating generally which are far reaching and have had a disturbing effect not felt in normal times. Certain branches of agriculture, stock breeding, dairying and other trades associated are passing through a very perplexing period.

During the last two or three years Foot-and-Mouth Disease has been prevalent on our shores, fortunately, through stringent measures promptly administered by the Board of Agriculture and Fisheries the disease has been stemmed and now practically stamped out. The restrictions and conditions considered necessary for the suppression of the disease have, however, had a very serious effect upon the farmer and breeder, as the free movement of cattle has been prohibited.

The countries available for our dairy and meat supplies have been unusually taxed, the result being enhanced prices all round. In addition, since war was declared a vast number of men for our army and navy have had to be catered for, and to cope with this demand, practically all our colonial meat supply has been commandeered, thus throwing an increased burden upon our already over taxed industry. I am afraid that the portend is not very encouraging. A very undesirable outcome arising from the present high price of meat, and the increased

cost of feeding stuff is a disposition on the part of farmer and stock breeder, to place upon the market half fed cattle and still more unfortunately calves, which ought to be retained to replenish the already depleted stocks. In order to hold in check this pernicious tendency every effort is being exerted by the department in the inspection of meat and veal prepared for human consumption.

ANTHRAX.

Under the Anthrax Order of 1910 a case of anthrax was detected at the Public Abattoirs in a well nourished cow, which had been sent there for slaughter and inspection. The carcass was immediately forwarded for destruction to the Wellington Yard, and the orders of the Board of Agriculture and Fisheries were duly executed.

PARASITIC MANGE.

Six cases of Parasitic Mange have been reported and after examination of the horses the reports were found to be correct. Although there is an increase in the number of horses affected, it is in consequence of the disease appearing where a large number are stabled together. It is satisfactory, however, to state that all the horses have recovered.

SWINE FEVER.

I am sorry to report that notwithstanding the efforts of the Board of Agriculture and Fisheries to arrest the disease, swine fever appears to be on the increase, for in the year 1912 there were 2334 outbreaks in 48 weeks and during the same period in 1914 there were 4119 while the slaughtered numbered 37768. England appears to be the great centre of the disease and more especially the southern districts. The figures in regard to swine fever show how persistent is the prevalence of this disease, and how ineffectual so far have been the costly measures adopted for its repression. Fortunately in our own district the disease has not been detected.

GENERAL INSPECTION.

Beasts	...	...	...	...	...	8621
Calves	...	...	...	...	...	472
Sheep	...	...	...	...	...	42600
Swine	...	...	...	...	...	6956
Store Cattle...	...	...	...	...	...	3217
Slaughter-houses	...	...	...	...	...	781
Railway Sidings	...	...	...	...	...	335
Markets and Fairs	...	...	...	...	...	737
Shops	...	...	...	...	...	703
Dairy Farms	...	...	...	...	...	136
Cattle on Farms	...	...	...	...	...	2796

CARCASSES FOUND TO BE AFFECTED WITH DISEASE.

No.	Disease.	Cows.	Bulls.	Heifers.	Bullocks	Calves	Sheep	Pigs	Whole carcasses destroyed.	Parts & organs destroy'd
469	Tuberculosis	447	2	17	1	...	...	2	54	415
5	Pneumonia ...	5	...	...	...	...	...	...	...	5
72	Pleurisy ...	69	...	3	...	...	...	...	...	72
5	Pericarditis ...	4	...	...	...	1	...	...	2	3
12	Hepatitis ...	10	1	...	...	1	...	...	4	8
2	Nephritis ...	1	...	...	...	1	...	...	...	2
6	Mastitis ...	6	...	...	...	...	...	...	...	6
6	Metritis ...	6	...	...	...	...	...	...	...	6
5	Eversion of Womb ...	4	...	1	...	...	...	...	...	5
1	Enteritis ...	...	...	...	...	...	...	1	1	...
6	Moribund ...	5	...	...	...	...	...	1	6	...
1	Laryngitis ...	1	...	...	...	...	...	...	...	1
1	Jaundice ...	...	...	...	...	...	...	1	1	...
3	Emphysema	2	...	1	...	...	...	...	...	3
1	Erysipelas ...	...	...	...	...	...	...	1	1	...
1	Septicæmia ...	1	...	...	...	...	...	...	1	...
2	Immature ...	...	...	...	...	2	...	...	2	...
1	Anthrax ...	1	...	...	...	...	...	...	1	...
1	Gangrenous Udder ..	1	...	...	...	...	...	...	1	...
12	Rheumatism	10	1	1	...	...	...	...	...	12
2	Traumatism...	1	1	...	...	...	...	...	2	...
5	Fractures ...	3	...	2	...	...	...	...	...	5
2	Hyperæmia ...	1	...	...	...	...	...	1	1	1
4	Emaciation ...	3	...	1	...	...	...	...	4	...
435	Suspected & Minor Diseases ...	393	3	28	...	3	8	...	...	29
1060		974	8	54	1	8	8	7	81	573

From the above figures it will be observed that the difficulty of obtaining our meat supply from the usual markets is still apparent as there is a greater number of home fed cattle slaughtered in our abattoirs than previously, consequent upon the depleted condition of the stocks in the surrounding countries.

I am sorry it is necessary to report that proceedings have had to be instituted against a local butcher for exposing for sale on his premises in the Market Hall 31 pieces of meat (beef and mutton), which were obviously unwholesome and unfit for human food. The defendant was fined 3/- for each piece of meat which amounted to £4 13. od. and 10/- costs.

FARM VISITATIONS.

I have made 156 visits to the farms in the area of the County Borough and examined 2695 dairy cattle and am pleased to state that considered as a whole there is a marked improvement both as regard the class of beasts and the general management of the farms. In one or two districts unfortunately, difficulty to secure sufficient ventilation is still encountered, for even where ample ventilators have been provided some of the farmers are obstinate enough to refuse their use, and no less than 8 warning letters have been issued to such farmers, which I think will have a beneficial effect. One of the insanitary farms complained of previously, has been pulled down and new and very satisfactory farm buildings erected on the old site. Four other farms have been remodelled and improved, while similar reconstructive work is under consideration on three other farms.

Under the Tuberculosis Order of 1914 (before it was suspended in August) two cows found to be suffering from tuberculosis were slaughtered and compensation paid to their owners. Another cow which was discovered to be giving tuberculous milk, the sale of which was prohibited, was slaughtered.

I have submitted 20 samples of milk for bacteriological examination obtained from cows whose udders presented some abnormality, but fortunately only 3 were found to be of a tubercular character, and these were dealt with as above stated.

FOOD DESTROYED.

	No.	Cwts	Qrs.	lbs.
Beef...	10	...	...
Beasts' hearts and livers	...	4	...	...
Sheeps' feet	...	2	...	...
Sheeps' kidneys	15
Rabbits	268	...	...	...
Tomatoes	...	1	1	...
Fish	...	31	2	...
Bacon	...	2	2	...
Raspberries	...	3	1	...
Pears	...	4	1	...
Yeast	1	2

During the year a constant and vigilant oversight has been maintained upon all cattle and sheep entering our district, also upon all the railway sidings, slaughter-houses, fairs, sale yards, tripe works knacker's yards, etc., where sanitary conditions have been rigidly enforced.

Food and Drugs.

Your inspectors engaged under this section for the purpose of obtaining samples of food for analysis have purchased during the year 429 samples of food, etc. Twenty-two milks, five butters, and ten other foods were found to be adulterated. Proceedings were instituted against ten offenders and warning letters sent to others, whose offences were of a less serious character. In addition, one defendant was fined 2/6 and 5/6 costs for selling margarine without being labelled, and another for refusing to sell to an inspector a sample of milk, was fined 10/- and 10/- costs.

I feel a little hesitancy in approaching the question of the fines imposed by the justices upon the defendants appearing before them from time to time, but am sure if the penalties for wrong doing were made more commensurate with the offence, this department's work would be facilitated and the public health better safeguarded.

For the list of samples of food purchased see appended list.

The samples purchased were as follows: —

Nature of Sample.	No.
Milk	226
Cream	3
Butter	46
Cheese	2
Margarine	11
Lard	6
Sugar	1
Flour	5
Coffee	10
Coffee Mixtures	2
Cocoa	5
Jellies and Confectionery	6
Rice	12
Baking Powder	4
Vinegar	17
Pepper	14
Cordials	5
Bacon	3
Potted Shrimps, Potted Lobster	2
Potted Meats	8
Tinned Peas	1
Soup	1
Spirits	18
Port Wine	3

DRUGS.

Cream of Tartar	1
Tartaric Acid	1
Camphorated Oil	3
Olive Oil	4
Almond Oil	1
Grey Powder	1
White Precipitate	1
Orange Quinine Wine	2
Turpentine	1
Easton Syrup	1
Tincture and Liniment of Iodine	2

SUMMARY OF OFFENCES AND ACTION TAKEN.

Article.	Nature of Adulteration.				Result.
Milk	2.6%	added water	...	...	No action
Milk	2.6%	" "	...	...	"
Milk	4.7%	" "	...	...	Informal Sample
Milk	5.6%	" "	...	...	No action
Milk	6.0%	" "	...	...	"
Milk	7.6%	" "	...	...	Informal Sample
Milk	18.8%	" "	...	...	Fined 10/- and 8/- costs
Milk	2.0%	deficient in fat	...	...	Warning letter
Milk	5.0%	" "	...	...	" "
Milk	6.7%	" "	...	...	No action
Milk	7.3%	" "	...	...	Warning letter
Milk	11.0%	" "	...	...	Case dismissed
Milk	11.3%	" "	...	...	No action
Milk	15.7%	" "	...	...	Fined 2/6 and 8/- costs
Milk	18.7%	" "	...	...	Dismissed on payment of costs
Milk	20.0%	" "	...	...	Informal Sample
Milk	36.7%	" "	...	...	Fined 5/- and 19 6 costs
Milk	1 part of formalin pr. 5000 of milk				Explanation accepted by Local Authority
Milk	18.0%	deficient in fat and 6.5 grains Boric Acid per gall	...	...	Fined 5/- and 8/- costs
Milk	59.4	grains of Boric Acid per gall	...	...	Informal Sample
Milk	60.7	" "	"	"	Explanation accepted by Local Authority
Milk	78.1	" "	"	"	Explanation accepted by Local Authority
Milk	Refusal to sell				Fined 10/- and 10/- costs
Cream	4.2	grains of Boric Acid per lb.	...	...	Informal Sample
Cream	8.6	" "	"	"	Informal Sample
Butter	Consisted of Margarine				Informal Sample
Butter ... ..	"	"	...	...	Dismissed on payment of costs 3/6
Butter ... ..	"	"	...	...	Fined 5/- and 12/6 costs
Butter ... ..	"	"	...	...	Fined £1 and 9/- costs
Butter	1.3%	excess water	...	...	No action
Margarine	Exposed for sale unlabelled				Fined 2/6 and 5/6 costs
Sugar	Consisted of Cane Sugar, dyed to resemble Demerara				No action
Lime Juice Cordial	3.4	grains of Sulphurous Anhyd.	...	...	No action
Potted Shrimps	38.5	grains of Boric Acid per lb.	...	...	Summons withdrawn on payment of costs 3/6
Lobster Paste	4.34	" "	"	"	No action
Sausage	15.75	" "	"	"	No action
Sausage	17.36	" "	"	"	No action
Sausage	34.72	" "	"	"	Warning letter
Sausage	52.08	" "	"	"	Warning letter

Milk and Cream Regulations, 1912.

REPORT FOR THE YEAR ENDING 31st DECEMBER, 1914.

1. Milk and cream not sold as preserved cream.

		No. of samples examined for the presence of a preservative.	No. in which a preservative was reported to be present.
Milk	...	226	5
Cream	...	3	2

Nature of preservative in each case and action taken under the Regulations in regard to it :—

<u>MILK.</u>	(a) 6.5 grains of boric acid per gall. Vendor fined 5/- and 8/- costs. Sample also 18% deficient in fat.	
	(b) 60.7 grains of boric acid per *gall.	} No action taken. Vendors explanation accepted by Local Authority.
	(c) 78.1 do.	
	(d) 59.4 do.	
	(e) 1 part of formalin in 5000 of milk.	

<u>CREAM.</u>	(a) 8.6 grains of boric acid per lb.	} No action taken. Vendors explanation accepted by Local Authority.
	(b) 4.2 do.	

2. Cream sold as preserved cream.

No samples submitted.

3. Thickening substances.

No evidence of any addition.

Public Analyst's Report.

(HARRY HURST, B.Sc., F.I.C.)

The following comparative table shows the number of samples analysed, and tests made during the years 1913 and 1914:—

SANITARY COMMITTEE.

	1913	1914
Samples submitted by Inspectors under the Sale of Food and Drugs Acts ...	414	429
Examinations made for the M.O.H. (Bacteriological Examinations) ...	461	541
Examinations made for the Veterinary Inspector	21	22
Miscellaneous analyses and examinations	18	20

WATERWORKS COMMITTEE.

Analyses of Water	331	444
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GAS COMMITTEE.

Number of tests made	344	335
Total... ..	1589	1791

This table shows a useful increase on the previous year.

The number of samples taken under the Food and Drugs Acts works out at 2·3 per 1000 of population.

The Local Government Board suggest as a minimum 2 samples per 1000 of population, but prefer that 3 samples per 1000 should be taken, which would require that for this Borough the total should be increased to 550.

The collection of samples has been undertaken by the Inspectors appointed under the Food and Drugs Acts, working under my suggestion as to what class of food or drug shall be taken and has been carried out diligently and efficiently. They have, when occasion demanded, undertaken evening sampling.

SANITARY COMMITTEE.

Samples submitted by Inspectors (Sale of Food and Drugs Acts).

Foods.			Total Analysed.	Genuine.	Adulterated.	Per cent. Adulterated.
Milk	...	...	226	204	22	9.7
Cream	...	...	3	1	2	66.6
Butter	...	...	46	41	5	10.9
Cheese	...	...	2	2	...	...
Margarine	...	...	11	11	...	...
Lard	...	...	6	6	...	...
Sugar	...	...	1	...	1	100.0
Flour	...	...	5	5	...	...
Coffee	...	...	10	10	...	...
Coffee Mixtures	...	...	2	2	...	...
Cocoa	...	...	5	5	...	...
Jellies & Confectionery	...	...	6	6	...	...
Rice	...	...	12	12	...	...
Baking Powder	...	...	4	4	...	...
Vinegar	...	...	17	17	...	...
Pepper	...	...	14	14	...	...
Cordials	...	...	5	4	1	20.0
Bacon	...	...	3	3	...	...
Potted Shrimps	}		2	...	2	100.0
„ Lobster						
Potted Meats	...	...	8	4	4	50.0
Tinned Peas	...	...	1	1	...	...
Soup	...	...	1	1	...	...
Spirits	...	...	18	18	...	...
Port Wine	...	...	3	3	...	...

DRUGS.

Cream of Tartar ..	1	1	...	...
Tartaric Acid ...	1	1	...	...
Camphorated Oil	3	3	...	...
Olive Oil... ..	4	4	...	...
Almond Oil ...	1	1	...	...
Grey Powder ...	1	1	...	...
White Precipitate	1	1	...	...
Orange Quinine Wine	2	2	...	...
Turpentine ...	1	1	...	...
Easton Syrup ...	1	1	...	...
Tincture & Liniment of Iodine ...	2	2	...	...

	1913	1914
Total number of samples analysed ...	414	429
Total number of samples adulterated...	49	37
Per cent. of samples adulterated ...	11.8	8.7

The decrease in the percentage of adulterated samples is exceedingly satisfactory, denoting a closer supervision of the food supply than that which previously obtained.

The per cent. of adulterated samples for England and Wales for the year 1913 was 8.2. The figures for 1914 are not yet available.

Included in the previous list are the following Informal Samples:—

Sample.	Total Analysed.	Genuine.	Adulterated.
Milk	14	8	6
Butter	5	5	1
Lard	1	1	...
Cream	3	1	2
Rice	2	2	...
Vinegar	1	1	...
Turpentine...	1	1	...
Spirits	6	6	...
Almond Oil ...	1	1	...

The useful practice of informal sampling has been more extensively undertaken during the year, and much useful information has been obtained as to vendors who would, if opportunity arose, sell goods not of the nature, substance, and quality demanded.

MILK. The average composition (exclusive of skimmed milk) of the milk supply for the Borough, is:—

		Milk fat.	Solids-not-fat.	Water.
1913	...	3.33	8.86	87.81
1914	...	3.53	8.87	87.60

which is a marked improvement and very satisfactory.

The following table shows the average composition during each month of the year.

Month.		No. of Samples.		Milk-Fat.		Non-Fatty Solids.
January	...	17	...	3.63	3.50	8.85
February	...	32	...	3.52		8.84
March	...	8	...	3.35		8.84
April	...	28	...	3.45	3.47	8.91
May	...	2	...	3.45		8.80
June	...	14	...	3.52		9.01
July	...	31	...	3.74	3.57	8.71
August	...	8	...	3.25		8.87
September	...	17	...	3.72		8.93
October	..	25	...	3.67	3.56	8.89
November	...	5	...	3.53		8.76
December	...	21	...	3.49		9.05

I have again adopted the following scheme of showing the extent to which adulteration is practised.

Percentage.				No. containing added water.	No deficient in fat.
	5% and under	...	...	3	2
Greater than	5% and not exceeding 10%	..	..	3	2
"	10%	"	15%	—	2
"	15%	"	20%	1	4
"	20%	...	...	—	1

In addition the following samples were preserved with :—

- (a) 6.5 grains of Boric Acid per gallon (also 18.0% deficient
- (b) 59.4 " " " in fat).
- (c) 60.7 " " "
- (d) 78.1 " " "
- (e) 1 part of formalin per 5,000 of milk.

The Local Authority being of opinion that many interested in the sale of milk were unaware of the Milk Regulations of 1912, it was decided to warn the vendors of the above samples and further to circularise the milk sellers that the above regulations were in force and that future cases would be dealt with.

I have again followed the arbitrary classification as to quality :—

		1913	1914
Milk containing less than 3.1% of fat	poor quality	29.2	9.2%
" " 3.1 to 3.4% (inclusive)	fair quality	29.7	36.9%
" " more than 3.4%	good quality	41.1	53.9%
(Minimum legal limit 3 per cent.)			

In the report for 1913 I called attention to the process of "toning" which I believe was then extensively practised by the milk men of this Borough, an examination of the preceding data will show that this reprehensible practice has markedly decreased.

It seems desirable here to call attention to the following case :—

A sample of milk reported as 11.0% deficient in fat was dismissed by the Magistrates, they being of opinion that the sample was sold as received from the cow. Moreover there seems to be, among certain sections of the public, an idea that there is a difficulty in complying with the standard of a minimum of 3.0% milk fat in milk. I should like to state that milk of minimum fat limit is far below the general average of that yielded by a herd of cows in healthy condition, and also that this minimum is easily exceeded in a manufacturing centre like Bolton, as the figures for the monthly averages show.

Public Health (Milk & Cream) Regulations, 1912.

These Regulations were made by the Local Government Board and came into operation on October 1st, 1912.

They provide that:—

1. No preservative whatever shall be added to milk intended for sale for human consumption.
2. No preservative whatever shall be added to Cream sold as 'Cream.'
3. Cream may be sold containing a preservative provided it is sold as (a) 'Preserved Cream,' (b) That the article contains more than 35 per cent. by weight, of fat, (c) That the vessel in which it is sold is labelled in a manner prescribed by the Regulations, stating the nature and amount of the preservative employed, and (d) That the preservative used is either Borax, Boric Acid or a mixture of these or Hydrogen Peroxide.
4. The addition of any 'Thickening Substance' to either Cream or Preserved Cream is Prohibited.

CREAM. 3 Samples were examined for the presence of preservatives, in two of these Boric Acid was found. (See comments under Preservatives in Milk).

BUTTER. 46 Samples of Butter have been examined of which five were adulterated. Four of these consisted entirely of Margarine and one sample contained 1.3 per cent. excess water. (Maximum limit 16.0 per cent.

All the samples were examined for the presence of preservatives, all were satisfactory, Boric Acid being the only agent employed and in no case did this exceed 0.25 per cent.

CHEESE. 2 Samples only have been taken during the year, both of which proved satisfactory.

SUGAR. A Sample of Demerara Sugar on examination was found to consist of cane sugar, dyed to resemble Demerara. In view, however, of the decision given in London Courts, no action was taken.

RICE. 12 Samples have been taken, six of these were "faced" with talc, ranging from 0.20—0.44 per cent. (Limit 0.50 per cent.)

JELLIES & CONFECTIONERY. 6 Samples were examined, two of the Jellies contained a small amount of Salicylic Acid (0.35 grains per lb.) which is quite innocuous.

VINEGAR. 17 Samples have been analysed and the whole of these have been reported as genuine. Three of the samples were of inferior quality. The methods of brewing however vary widely, giving great variation in analytical data. Taking into consideration that the findings on these three samples were consistent with certain methods of brewing I did not think further comment necessary.

CORDIALS. 5 Samples have been examined, one of these was adversely reported on as containing Sulphurous Anhydride to the extent of 3.4 grains per pint. The L.G.B. having declined to suggest any limit, no action was taken.

COCOA. 5 Samples have been examined, two of these were cheap inferior brands, containing much husk.

POTTED SHRIMPS, LOBSTER & POTTED MEATS. 10 Samples were analysed, six of which were preserved with Boron Compounds, in the following four:—

Potted Shrimps	...	38.5 grains per lb. of Boric Acid.
Sausage	... ..	17.36 " " "
do.	... ..	34.72 " " "
do.	... ..	52.08 " " "

preservative was found in excess of the L.G.B. limit (17½ grains of Boric Acid per lb.)

TINNED PEAS. 1 Sample was examined for the presence of copper and other deleterious metals, the former was present and found not to exceed 1 grain per pound and was moreover declared on the label.

SPIRITS. 18 Samples of Spirits have been submitted by Inspectors. In no case did a sample exceed the legal limit of degrees under proof, but in the majority of cases watering had been taken advantage of to the fullest extent.

OTHER FOODS. Where no remarks are made, the foods are genuine and of good quality.

DRUGS. During the year 18 samples were taken, of which none were adulterated.

BACTERIOLOGICAL EXAMINATIONS FOR THE MEDICAL OFFICER OF HEALTH.

		Number Examined.		Positive.		Negative.		Doubtful.		Percentage of Positive.
Tuberculosis	...	432	...	111	...	321	...	—	...	25·7
Diphtheria	...	58	...	32	...	25	...	1	...	55·2
Enteric Fever	...	51	...	27	...	24	...	—	...	52·9

BACTERIOLOGICAL EXAMINATIONS FOR THE VETERINARY INSPECTOR.

	Number Examined.		Positive.		Negative.		Percentage of Positive.
Milks for Tubercle	20	...	3	...	17	...	15'0
Cow's Udder for Tubercle	...	1	...	1	—	...	100'0
Blood for Anthrax	1	...	1	...	—	...	100'0

MISCELLANEOUS WORK.

Examination of Swan for poison	...	...	...	Parks Committee.
„ of Diaphragms used in high pressure lamps	...	...	...	Gas Committee.
„ of Straining Pad for Milk	...	...	...	M.O.H.
„ of Disinfectant	...	...	...	M.O.H.
„ of 2 Samples of Pills...	...	...	...	M.O.H.
„ of 1 Sample of Lead Plaster	...	...	...	M.O.H.
„ of 1 Sample of Butter	...	...	...	M.O.H.
„ of green deposit on stones, and colour occurring in Wayoh Reservoir	...	...	...	Water Engineer.
„ of water from borehole for the inform- ation of the Waterworks Engineer	...	...	...	Water Engineer.
„ of 2 Samples of Water for the inform- ation of the Waterworks Engineer	...	...	...	Water Engineer.
„ of Atmospheric Pollution, from June to December.	...	...	...

Investigation of Atmospheric Pollution.

Since June, analysis have been undertaken for the Committee for the Investigation of Atmospheric Pollution and reports sent to the M.O.H.

Metric tons of deposit per square kilometer during the month.										
Month.	Rainfall in mms.	Insoluble Matter.			Soluble Matter.		Total Solids.	Included in insoluble matter.		
		Tar.	Carbon- aceous other than tar.	Ash.	Loss on Ignition.	Ash.		Sulphate as So ₄ .	Chlorine.	Ammonia.
June ...	45	0.14	1.20	3.15	1.80	3.42	9.71	1.96	0.49	0.05
July ...	135	0.09	2.16	4.75	5.43	5.43	17.86	3.35	1.19	0.06
August ...	89	0.02	2.94	6.14	2.49	6.41	18.01	3.66	0.49	0.06
September ...	126	0.07	2.02	7.54	7.06	7.57	24.28	4.05	1.88	0.08
October ...	72	0.21	1.85	7.52	3.17	8.34	21.09	4.73	0.92	0.05
November ...	156	0.10	1.77	3.89	7.12	14.25	27.13	8.46	2.63	0.14
December ...	171	0.10	2.89	8.88	4.77	11.59	28.23	6.47	3.24	0.15

GAS COMMITTEE.

Examinations have been continued twice weekly on the quality of the gas supplied, for

1. Illuminating Power.
2. Total Sulphur.
3. Ammonia.
4. Sulphuretted Hydrogen.

and reports furnished to the Gas Committee.

These reports may be summarised :—

	Illuminating Power (St'n'd Candles)		Total Sul- phur (per 100 cubic ft.)		Ammonia (per 100 cubic ft.)		Sulphuretted Hydrogen	
January ...	16.97	...	30.63	...	0.240	...	none.	
February ...	17.70	...	30.01	...	0.489	...	"	
March ...	18.79	...	30.73	...	0.190	...	"	
April ...	18.46	...	31.08	...	0.308	...	"	
May ...	17.58	...	28.10	...	0.371	...	"	
June ...	16.67	...	20.57	...	0.411	...	"	
July ...	17.94	...	32.43	...	0.625	...	"	
August ...	20.05	...	31.43	...	0.497	...	"	
September...	18.23	...	41.99	...	2.074	...	"	
October ...	19.02	...	34.42	...	1.125	...	"	
November ...	18.24	...	26.73	...	0.708	...	"	
December ...	17.46	...	29.36	...	0.646	...	"	

Average for

the year ... 18.09 ... 30.61 ... 0.641 ... none.
which findings are in every way satisfactory.

WATERWORKS COMMITTEE.

During the year weekly examinations of the whole of the Borough Supply, Chemical and Bacteriological, have been continued; the findings occur in the monthly abstract of the Water Committee Report.

A reference to these analyses will show that although the raw water has been frequently of very poor quality, the filtered has been uniformly good; B. Coli being absent in the majority of cases in 100 ccs. showing careful and efficient filtration, which is highly satisfactory.

Section V.

Sanitary Work.

Sanitary Work

The following is a list of the various sanitary work done during the year 1900.

1. The first item on the list is the work done in the various districts.

2. The second item is the work done in the various districts.

3. The third item is the work done in the various districts.

4. The fourth item is the work done in the various districts.

5. The fifth item is the work done in the various districts.

6. The sixth item is the work done in the various districts.

7. The seventh item is the work done in the various districts.

8. The eighth item is the work done in the various districts.

9. The ninth item is the work done in the various districts.

10. The tenth item is the work done in the various districts.

11. The eleventh item is the work done in the various districts.

12. The twelfth item is the work done in the various districts.

13. The thirteenth item is the work done in the various districts.

14. The fourteenth item is the work done in the various districts.

15. The fifteenth item is the work done in the various districts.

16. The sixteenth item is the work done in the various districts.

17. The seventeenth item is the work done in the various districts.

18. The eighteenth item is the work done in the various districts.

Abstract of Sanitary Work.**PLACES UNDER INSPECTION.**

Common Lodging-houses	...	...	...	...	...	57
Houses Let-in Lodgings	...	...	...	...	...	60
Factories	...	...	...	...	...	373
Factory Chimneys	...	...	...	...	...	257
Workshops and Workplaces	...	...	...	...	...	710
Bakehouses	...	...	...	...	...	267
Offensive Trades	...	...	...	...	...	27
Slaughterhouses	...	...	...	...	...	49
Cowkeepers	...	...	...	...	...	157
Cowsheds	...	...	...	...	...	331
Milkshops	...	...	...	...	...	470
Public Sanitary Conveniences...	...	...	...	...	...	17
Travelling Vans	...	...	...	...	...	65

ABSTRACT OF WORK DONE DURING 1914.

Complaints from Public	...	...	...	...	...	187
Nuisances Reported	...	...	...	...	...	3393
Letters Written or Verbal Notices	...	...	...	...	...	1197
Informal Notices Issued	...	...	...	...	...	1452
Legal Notices Issued	...	...	...	...	...	113
Smoke Observations	...	...	...	...	...	586
Smoke Nuisances Reported	...	...	...	...	...	30
Smoke Notices Served...	...	...	...	...	...	21
Houses Fumigated	...	...	...	...	...	743
Articles Disinfected	...	...	...	...	...	4905
Articles Destroyed	...	...	...	...	...	263
Houses, etc., Limewashed	...	...	...	...	...	243
House Repairs	...	...	...	...	...	747
Overcrowding abated	...	...	...	...	...	19
Houses Demolished	...	...	...	...	...	48
Houses Closed	...	...	...	...	...	37
Houses Made Fit	...	...	...	...	...	112
Privy Ashpits Converted into Water Closets	...	...	...	...	...	605
Drains Reconstructed	...	...	...	...	...	210
Yards Completely Flagged	...	...	...	...	...	187
Samples of Food, etc., Purchased	...	...	...	...	...	429
Samples Adulterated or other Offences	...	...	...	...	...	39
Adulteration Prosecutions	...	...	...	...	...	12

Housing of the Working Classes.

In the last annual report a short summary of the work done from 1874 up to the present time under the Housing of the Working Classes and Local Acts was given and the statistical summary is included below.

During 1914 there were 49 unfit houses demolished, 37 closed, and 112 made fit for habitation ; a total of 197.

There were inspected in accordance with the regulations under the Housing and Town Planning Act, 1140 houses ; of these 197 being considered unfit for habitation. There was no difficulty in persuading the landlords to make most of them fit for habitation, and only 15 were closed under the powers of the Bolton Corporation Act, 1872.

The number of back-to-back and single houses has now been reduced to 1658 as compared with 2558 in 1901. On the 31st March, 1914, the number of inhabitable houses in Bolton was returned by the Chief Rate Collector as 43140, of these 3·8 per cent are back-to-back or single houses.

From 1874 to 1895 there were 538 demolitions of insanitary houses, from 1896 to 1914 there have been 1023 demolitions, 476 closed, 588 made fit and 105 improved. The amount expended, including the money borrowed for reconstruction schemes was from 1874 to 1895 a sum of £8412 and from 1896 to 1914 a sum of £35198 making a total of £43610.

The table here given summarises the work done since 1874.

TABLE I.

ABSTRACT OF HOUSES DEMOLISHED, CLOSED, MADE FIT OR
IMPROVED (1874 TO 1914).

Date	Demolished	Closed	Made Fit	Improved	Total
1874—1885	...	...	...	...	293
1886—1895	...	...	...	...	245
1896	23	9	10	29	71
1897	85	14	24	21	144
1898	17	11	8	...	36
1899	22	7	3	...	32
1900	59	44	8	...	111
1901	42	22	79	...	143
1902	18	18	19	...	55
1903	85	20	19	42	166
1904	52	3	46	...	101
1905	39	9	10	10	68
1906	69	17	17	...	103
1907	43	65	24	...	132
1908	124	43	43	...	210
1909	111	17	87	...	215
1910	115	58	45	...	218
1911	5	44	24	1	74
1912	44	22	2	...	68
1913	22	16	8	2	48
1914	48	37	112	...	197
Total ...	1023	476	588	105	2192

Housing Inspection.

Dwelling-houses inspected for all purposes and sanitary condition reported upon	...	...	...	...	18060
Houses inspected and records submitted to Sanitary Committee in accordance with regulations made by L.G.B. under Housing and Town Planning Act, 1909					1140
Houses considered unfit for habitation	...	...	...		197
Representations made by M.O.H. under Bolton Corporation Act, 1872	..	...	...	...	15
Houses closed by order of Sanitary Committee under Bolton Corporation Act, 1872	...	...	...	...	15
Defects remedied without a closing order	...	...	..		182
Houses made fit after closing order	...	..	...	...	Nil

GENERAL CHARACTER OF DEFECTS FOUND:—

House disrepair and dampness	...	...	...	...	111
Light and ventilation defective	...	...	...	...	65
Yards requiring paving	..	...	...	...	12
Yards common or insufficient	...	...	...	...	168
Drainage defective	...	...	...	...	7
Closet accommodation insanitary or insufficient	...	...	...	...	35
Houses dirty	...	...	...	...	11
Houses overcrowded	...	...	...	...	Nil

TABLE II

ENUMERATION OF BACK-TO-BACK AND SINGLE HOUSES IN WARDS,
1914.

Ward.	Back-to-Back	Single.	Total, 1914	Total, 1903
East	189	64	253	595
Derby	210	33	243	375
Bradford	288	49	337	457
Exchange	123	87	210	324
West	89	72	161	211
Church	85	19	104	136
Halliwell	31	40	71	83
North ... ..	...	4	4	14
Rumworth	14	4	18	20
Astley Bridge	25	40	65	97
Smithills	22	29	51	58
Darcy Lever-cum-Brightmet	8	24	32	44
Tonge	34	...	34	34
Deane cum-Lostock... ..	2	39	41	43
Heaton ... ..	...	34	34	34
Total	1120	538	1658	2525

Closet Accommodation.

During the year 1914 there were 605 conversions of privy-middens or pails into water-closets.

From 1899-1914 inclusive, 9742 closets have been converted at a cost to the Corporation of £19436, and replaced by water-closets and 272 have been demolished. In new houses during the same period, 8145 water closets have been provided.

The present numbers of privy-middens and pails as compared with those of 1898 are :—

District.	Privy-middens.			Pails.	
	1898	1914		1898	1914
Old Borough ...	12740	5774	...	6782	6309
Added Area ...	7581	5151	...	22	26
Whole Borough	20321	10925	...	6804	6335

In the Old Borough in 1898 the numbers were :—

Privy-middens and Pails	...	...	...	19522
Water-closets	...	...	...	7587

At present the numbers are :—

Privy-middens and Pails	...	...	...	12083
Water-closets	...	...	...	17540

Formerly in the Old Borough 75 per cent were on the dry system and 25 per cent. on the water-carriage system, now 40·3 per cent are on the dry system, and 59·7 per cent. on the water-carriage system.

TABLE III.
CLOSET ACCOMMODATION, 1914.

	No. of Closets Converted or Demolished, 1914.				Conversions in Old Houses and Additions in New Houses, 1914.				Present Closet Accommodation, 1914.				Per Cent. on	
	P.M.	Pail.	W.W.C.	F.W.C.	P.M.	Pail.	W.W.C.	F.W.C.	P.M.	Pail.	W.W.C.	F.W.C.	Dry System.	Water System.
Old Borough	346	35	10	...	...	...	...	532	5774	6309	10975	6565	40.8	59.2
Great Lever	21	...	1	...	...	...	...	34	1221	...	1115	551	42.3	57.7
Tonge	66	...	...	...	...	...	...	94	1240	...	786	494	49.2	50.8
Astley Bridge	68	...	...	...	...	...	...	90	640	7	506	991	30.2	69.8
Smithills	21	...	...	...	...	...	...	42	348	3	728	549	21.6	78.4
Hulton	20	...	...	...	...	...	...	46	500	...	596	344	34.7	65.3
Darcy Lever-cum- Brightmet	...	...	...	...	...	...	...	26	628	...	183	177	63.6	36.4
Deane-cum-Lostock	13	...	...	...	...	...	...	30	369	4	213	269	43.6	56.4
Heaton	15	...	...	...	...	...	...	29	205	12	152	414	27.7	72.3
Extended Borough	570	35	11	...	...	...	...	923	10925	6335	15254	10354	40.3	59.7

Common Lodging Houses.

The number of registered houses in Bolton is 57, four houses having been closed and two placed on the register during the year. Accommodation is provided for 1571 persons.

The distribution of the houses is as follows :—

Ward.	Houses.	Rooms.	Beds.
Exchange	20	109	421
East	31	174	982
Church	3	18	79
Derby	2	15	31
West	1	5	14

All notices from the Sanitary Inspectors have been complied with and there has been no contravention of the bye-laws.

Accommodation for the sexes :—

Description.	Houses.	Males.	Females.	Couples
Males only... ..	40	1206	—	—
Females only	1	—	18	—
Females and Couples	2	—	16	8
Males and Couples	6	71	—	14
Males, Females, and Couples	8	89	43	42
	—	—	—	—
	57	1366	77	64

Houses Let-in-Lodgings.

Twelve houses were closed during the year and two placed on the register, leaving a total of 60 registered houses in the Borough at the end of the year.

The Ward distribution is as follows :—

Ward.	Houses.	Rooms.	Accommodation.
Exchange	28	124	322
East	18	64	165
Derby	14	61	180

The rooms let by these houses are as follows :—

1	house	lets	14	rooms
1	"	"	8	"
1	"	"	7	"
7	houses	let	6	"
3	"	"	5	"
3 ¹	"	"	4	"
9	"	"	3	"
5	"	"	2	"
2	"	"	1	room

Vans, Tents, &c.

65 vans have been inspected during the year, viz :—46 on the Wholesale Market and Victoria Square, 12 at Lee Clough, Astley Bridge, 6 on land in Bridgeman Street, and 1 in Gate Street. All the vans were found to be in a clean state and there was no nuisance which necessitated any action by the Sanitary Authority. There were 54 males, 61 females, and 28 children in such vans, and all were found to be in good health.

Factories.

13 complaints were received from the Factory Inspector during the year, of which 9 referred to unsuitable closet accommodation, 2 to insufficient closet accommodation, 1 to drain untrapped, and 1 to accumulation of refuse.

FACTORY AND WORKSHOP INSPECTION.—I. INSPECTION.

Premises.	Number of		
	Inspections	Written Notices	Prosecutions
Factories (including Factory Laundries) ...	172	3	...
Workshops (including Workshop Laundries)...	351	20	...
Workplaces (other than Outworkers' premises included in Part 3 of this Report) ...	172	...	...
Total	695	23	...

2. 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	12	12	...	...
Want of ventilation	4	4	...	...
Overcrowding... ..	2	2	...	...
Want of drainage of floor	7	6	...	...
Other nuisances	60	58	...	...
Sanitary accommodation {	insufficient ...	7	6	...
	unsuitable or defective ..	1	1	...
	not separate for sexes ...	...	...	...
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bake-house (s. 101) ... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ... ..	...	...	...	...
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	2	2	...	...
Total	95	91	...	...

FACTORY AND WORKSHOP INSPECTION.—3. HOME WORK.

<i>List of Outworkers (s. 107):—</i>					Number of	
					Lists	Outwork'rs
Lists received twice in the year	...	...	...	...	16	124
List received once in the year	...	...	...	...	8	55
Address of out- workers	forwarded to other Authorities				6	
	received from other Authorities				...	
Inspection of outworkers' premises	...	...	...	...	115	
<i>Home work in unwholesome or infected premises:—</i>					Wearing Apparel	Other
Notices prohibiting home work in unwholesome premises (s. 108)	...	...	...	...	...	...
Cases of infectious disease notified in home workers' premises	...	...	...	...	...	...
Orders prohibiting home work in infected premises (s. 110)	...	...	...	...	...	...

4. REGISTERED WORKSHOPS.

<i>Workshops on the Register (s. 131) at the end of the year:—</i>					Number	
Bakehouses, including underground	...				267	
Other Workshops	...	...	...	...	710	
Total number of Workshops on Register	...	...			977	

5. OTHER MATTERS.

Class						Number
<i>Matters notified to H.M. Inspector of Factories :—</i>						
Failure to affix Abstract of the Factory and Workshop Act (s. 133)						2
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5) ...						15
Notified by H.M. Inspector						
Reports (of action taken) sent to H.M. Inspector...						10
Other (Fire Escapes) ... ..						...
<i>Underground Bakehouses (s. 101) ;—</i>						
Certificates granted during the year						1
In use at the end of the year						23

Workshops and Workplaces.

2 complaints were received from the Factory Inspector referring to dirty condition of walls and ceilings.

The number and character of trades in registered workshops are:—

Trade.	No. in Trade.	Trade.	No. in Trade.
Bakers	267	Leather Dealers	5
Dressmakers, Drapers, &c....	128	Brush Makers	5
Boot and Clog Makers and		Ironmongers	5
Repairers	117	Wheelwrights	5
Tailors	62	Funeral Furnishers	4
Milliners	60	Skip Makers	4
Cabinet Makers	23	Sign Writers... ..	4
Joiners, etc.	22	Umbrella Makers	4
Tinplate Workers	19	Picture Framers	4
Plumbers	17	Bedding Manufacturers	3
Ice Cream Manufacturers	16	Bookbinders	3
Cotton-waste Dealers	13	Coach Builders	3
Saddlers	12	Drysalter	3
Underclothing Makers	12	Paper Dealers	3
Printers	11	Provision Merchants	3
Stocking Knitters	9	Scale Makers	3
General Smiths	9	Tarpaulin Manufacturers	3
Watch and Clock Makers	9	Tripe Works	3
Laundries	7	Window Blind Makers	3
Coopers, etc.	7	Chemical Works	2
Horse-shoeing	7	Clog Iron Makers	2
Sugar Boilers	6	Masons	2
Cycle Makers	6	Rope Makers	2
Rag Sorters	6	Miscellaneous Trades	49
Chemists	5		

Bakehouses.

At the end of the year there were 267 bakehouses on the register, of which 23 were underground and certified in accordance with Section 99 of the Factory and Workshop Act.

The ward distribution of the underground bakehouses is as follows:—Halliwell, 2; Bradford, 5; Derby, 3 East, 3; Church, 4; North, 1; Exchange, 3; Smithills, 1; and Astley Bridge, 1.

Offensive Trades and Slaughterhouses.

16 of the slaughterhouses in Bradford Ward as shown in the following table are in one building constituting the Abattoirs belonging to the Markets Committee of the Bolton Corporation.

TABLE IV.
OFFENSIVE TRADES AND SLAUGHTERHOUSES.

Trade.	Added Area.	West.	Halliwell.	Bradford.	Derby.	East.	Church.	North.	Rumworth.	Exchange.	Total.
Tripe Boilers ...	1	...	...	3	...	...	2	...	...	...	6
Fellmongers and Tanners ...	...	1	...	1	...	...	...	...	...	...	2
Hide and Skin Depots ...	...	...	...	...	...	1	...	...	...	1	2
Gut Scraping ...	...	...	...	1	...	...	...	...	...	...	1
Blood Boiler ...	...	...	...	...	...	...	1	...	...	...	1
Tallow Melter ...	...	...	...	...	...	...	...	...	...	1	1
Soap Works ...	1	...	...	...	...	...	...	...	...	...	1
Chemical Works ...	...	...	...	...	...	1	1	...	...	...	2
Muriatic Acid Works ...	1	...	...	...	...	...	...	...	...	...	1
Tar and Ammoniated Sulphate Works...	1	...	...	...	...	...	...	...	...	...	1
Brick Works ...	6	...	1	...	...	...	...	...	1	...	8
Knackers' Yard ...	...	...	...	...	...	...	1	...	...	...	1
Total Offensive Trades ...	10	1	1	5	...	2	5	...	1	2	27
Slaughterhouses ...	9	4	3	20	2	2	2	1	1	5	49
Total ...	19	5	4	25	2	4	7	1	2	7	76

Smoke Abatement.

During the year 1914 there have been 586 observations taken, 30 nuisances reported, 1 prosecution, 21 notices served to abate, 2 warnings given, and in 6 cases no action was taken as alterations to the boilers were in hand with a view to the abatement of the smoke nuisance.

TABLE V.

CHIMNEYS UNDER OBSERVATION, ARRANGED IN CLASSES, 1914.

Class.		Districts.						Total
		1	2	3	4	5	6	
1	No. of chimneys that have emitted practically no black smoke in $\frac{1}{2}$ hour's observation ...	6	7	7	15	10	16	61
2	No. of chimneys that have emitted under 1 minute of black smoke in $\frac{1}{2}$ hour's observation ...	12	9	9	7	41	19	97
3	No. of chimneys that have emitted 1 minute but less than 2 minutes of black smoke in $\frac{1}{2}$ hour's observation ...	14	16	7	11	7	21	76
4	No. of chimneys that have emitted 2 or more minutes of black smoke in $\frac{1}{2}$ hour's observation ...	3	6	...	3	4	7	23
	TOTAL ...	35	38	23	36	62	63	257

TABLE VI.
HIGH STREET BATHS—NUMBER AND CLASS OF BATHERS, 1914.

Month.	No. of Weeks	Swimming Baths.			Slipper Baths.	Needle Baths.	Vapour Baths.	Season Ticket Holders.	School Children (Free).	Police. (Free).	Territorials (Free).	Total	Corresponding period last year.
		at 3d.	at 2d.	at 1d.	at 6d.	at 4d.							
January ...	5	399	533	561	68	92	8	30	370	340	97	2498	1838
February ...	4	415	619	653	79	96	11	23	326	502	78	2802	1784
March ...	4	516	701	873	79	100	6	29	318	420	66	3108	2073
April ...	5	1025	1204	1754	110	189	30	48	438	722	184	5704	3858
May ...	4	1191	1277	1958	97	154	25	32	338	441	115	5628	4830
June ...	4	1606	1731	2693	141	219	17	64	378	751	126	7726	6686
July ...	5	2503	2070	3880	350	438	29	61	341	1182	258	11112	7068
August ...	4	1881	1597	3290	118	153	22	39	338	730	165	9939	7656
September ...	4	1356	1342	3485	124	150	25	33	280	579	170	7594	6203
October ...	4	693	871	1713	70	91	13	32	278	627	108	4910	4124
November ...	5	559	896	1380	71	116	20	23	250	472	134	4640	3284
December ...	4	429	642	849	44	81	14	17	324	538	155	3228	2517
Total ...	52	12573	13483	23119	1351	1879	220	431	3979	7304	1656	68889	51921

TABLE VII.
TURKISH BATHS.—NUMBER AND CLASS OF BATHERS, 1914.

Month	No. of Weeks	Massage	Books of Tickets		Cash Tickets		Slipper Baths		Medicated Baths	Total.	Corresponding period last year
			1st Class	2nd Class	1st Class	2nd Class	1st Class	2nd Class			
January ...	5	17	38	39	111	133	7	12	1	358	355
February ..	4	21	42	38	93	101	4	7	1	307	320
March ...	4	27	52	37	111	100	7	11	10	355	323
April ...	5	29	51	30	143	146	8	4	5	416	442
May ...	4	18	39	29	122	95	7	9	9	328	347
June ...	4	5	47	31	115	124	7	6	7	342	305
July ..	5	25	47	38	139	123	10	12	9	403	251
August ...	4	20	45	37	71	74	5	9	2	263	304
September	4	8	38	37	98	86	9	12	3	291	280
October ...	4	44	49	27	84	88	9	3	5	309	317
November	5	35	62	35	119	109	6	7	6	379	387
December.	4	32	41	29	91	85	9	5	20	312	284
Total ...	52	281	551	407	1297	1264	88	97	78	4063	3915

CONTENTS.

SECTION VI.

Medical Inspection of Schools
AND
School Children.

Medical Inspection of Schools

School Children

SECTION VI

CONTENTS.

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**Extracts from the Circulars of the Board of
Education as to Annual Reports of School
Medical Officers.**

“The Annual Report should be made by the School Medical Officer to the Local Education Authority, who will send six copies to the Board of Education.”

“Where the Medical Officer of Health is also School Medical Officer, it may be convenient that the Annual Report which he is required to make in the latter capacity should be issued together with his Annual Report on the health of the district.”

“The scope of the Report should cover, as much as possible, the ground indicated under the following heads:—Hygienic conditions in schools, correlation of school and public health service, organisation and supervision of medical inspection, extent and scope of medical inspection, facts disclosed by medical inspection, home circumstances of children inspected, treatment of defects, special schools, teaching of hygiene, open-air schools.”

GENTLEMEN,

I have the honour to present to you the report on the medical inspection of school children for 1914.

It gives details of the work performed by the School Medical Inspector and School Nurses.

It includes also an account of the treatment provided at the newly established School Clinic.

Two changes have taken place in the staff during the year owing to the resignation of Dr. Moffatt and Nurse Hughes.

I have to thank both the present and former members of the staff for their assistance in the preparation of this report.

I am,

Yours obediently,

JOHN E. GOULD,

School Medical Officer.

*To the Chairman and Members
of the Medical Inspection Sub-Committee.*

General Information.

The population of Bolton for the middle of 1914 was 185247, and the rateable value £872759. The Education Rate for 1913-14 was 1s. 6½d. in the £. The cost of medical inspection was £709 12s. 9½d. less grant of £227 11s. 1d., or 14d. in the £.

ELEMENTARY SCHOOLS.				1913.	1914.
Voluntary Schools ...	...	...	...	36	36
Departments ...	...	...	...	75	75
Council Schools ...	...	...	...	21	21
Departments ...	...	...	...	40	41
Special Schools ...	...	...	...	4	4

ACCOMMODATION.					
Voluntary Schools ...	...	...	...	17243	17355
Council Schools ...	...	...	...	18574	18574
Special Schools ...	...	...	...	396	396
Total Accommodation ...	...	...	...	36213	36325

ON THE ROLLS.					
Average on rolls (including half-timers) ...	...	...	...	30079	30153
Average in attendance (inc. half-timers) ..	...	...	...	25926	25955
Per cent. attending (exclusive of half-timers)	...	...	...	88·5	88·8
Average number of Half-Timers on Rolls	...	...	...	1682	1810
Under 5 on rolls (average) ...	...	...	...	2883	2858
Under 5, average attendance ...	...	...	...	1706	1686
Per cent. attending...	...	...	...	59·1	58·9

Hygienic Conditions in Schools.

There is a steady improvement in the sanitary condition of the Bolton schools, and every effort is being made to bring the older schools into a satisfactory condition. In a few of these the means of ventilation are not as efficient as they might be, but little more can be done without costly alterations. I am satisfied however that if the teachers use the means available in an intelligent manner there need be no danger to the health of the children.

The schools and playgrounds are kept clean, and the painting and decorating which are very satisfactorily carried out have brightened and greatly improved the appearance of the schools.

The schools are regularly visited by the Sanitary Inspectors with a view to the detection of nuisances and any defects found are notified to the Managers.

The following improvements have been effected during the year :—
Sanitary conveniences improved 2, urinals reconstructed 5, ventilation improved 2, lighting improved 1, drains reconstructed 1, playgrounds paved 1.

Infectious Diseases in Schools

The 1913 epidemic of measles subsided in July and very few cases and no deaths occurred until June, 1914 when the disease became prevalent again. During the year 61 deaths have been attributed to this disease, the highest number occurring in one month being nine in September and October.

17 Infants Departments were closed for periods varying from one to three weeks for the purpose of preventing the spread of the disease. 50 deaths occurred from whooping cough and one school was closed. Two infants departments have been closed, one for mumps and one for chickenpox. There has been a slight increase in the number of diphtheria cases but in no case has there been more than 15 cases in any one school. Scarlet fever shewed a slight increase in the last quarter but the number for the whole year was much below the average of the last ten years and compared very favourably with other Lancashire towns.

Organisation of Medical Inspection.

Two changes have been made in the staff during the year owing to the resignation of Dr. Moffatt, the Assistant School Medical Officer, and Miss Hughes, a School Nurse. The staff is now constituted as follows :—

School Medical Officer...	..	MEDICAL OFFICER OF HEALTH.
Asst. School Medical Officer ...	J	McKEAGUE, L.R.C.P., L.R.C.S., D.P.H.
School Nurses	{	MISS G. A. JONES, 3 years' cert., C.M.B.
	{	MISS G. DUNSTER, 3 years' cert.
Clerk ... ..	...	JAMES SMITH.

All the arrangements for inspection have worked satisfactorily and there has been cordial co-operation between the Medical Inspection, the Public Health and the Education Staffs, and the Teachers.

The Inspection and Treatment Clinic is now held in suitable rooms at the Derby Street Council School every morning from 9 to 10-30, Wednesday afternoons at 2-30, and Saturday mornings at 9. The rooms formerly used at the Public Health Offices have been appropriated for the Tuberculosis Clinic or Dispensary. The sanction of the Board of Education for the treatment of minor ailments at a School Clinic was obtained during the year. The treatment is to be limited to common skin diseases (including treatment of ringworm by drugs), minor external diseases of the eye, discharging ears and uncleanliness associated with pediculosis.

The parents continue to take an interest in the medical inspection of their children, and no difficulty is experienced in securing their attendance if required at the School Clinic.

During 1914, parents have attended the medical inspection of their children in larger numbers than in any former year. The figures are given below.

PRESENCE OF PARENTS.

Dept.	No. Examd.	No. of Parents present.	Per Cent.
Entrants ...	3517	1518	43·1
Leavers ...	2871	492	17·1
Total ...	6388	2010	31·4

Extent and Scope of Medical Inspection.

The routine groups are the entrants and leavers, i.e., children between 3 and 6, and 12 and 14 respectively.

In addition to the above a large number of specials have been examined and re-examined at the schools and the school clinic.

All the children attending the special schools for the blind, the deaf and mentally defective are examined annually.

The inspection clinic has been held, as in previous years, on Wednesday afternoon and on Saturday morning.

SUMMARY OF WORK DONE.

1. Total children examined :—	...	...	...	7879
(a) Entrants ...	...	...	...	3517
(b) Leavers ...	...	...	...	2871
(c) Specials at School	...	...	...	742
(d) Specials at Clinic	...	...	...	749
2. Referred for further examination from those examined at school	...	...	...	375
3. Total examinations :—	...	...	...	10538
(a) Examinations at School	...	...	...	7130
(b) Re-examinations at School	...	...	...	500
(c) Examinations at Clinic...	...	...	...	2908
4. No. of visits to Schools by Med. Inspr. and Staff for Routine Work	...	...	...	280
5. No. of visits to houses by School Nurses	...	...	...	598
6. Special visits to schools <i>re</i> epidemic diseases and uncleanness	...	...	...	8

NUMBER OF CHILDREN INSPECTED DURING 1914.

A.—“CODE” GROUPS.

Entrants.								
Age.			3	4	5	6	Other Ages.	Total.
Boys	...	...	192	478	856	233	50	1809
Girls	...	...	195	384	832	259	38	1708
Total	...	...	387	862	1688	492	88	3517

Leavers.							Grand Total.
Age.		12	13	14	Other Ages.	Total.	
Boys	...	1093	49	Nil.	257	1399	3208
Girls	...	1163	46	1	262	1472	3180
Total	...	2256	95	1	519	2871	6388

B.—GROUPS OTHER THAN “CODE.”

			Intermediate Group.	Special Cases.	No. of Children Re-Examined.
Boys	...	...	Nil	231	257
Girls	...	...	Nil	298	243
Total	...	...	Nil	529	500

Facts disclosed by Medical Inspection.

JOHN McKEAGUE, L.R.C.P., L.R.C.S., D.P.H.

CLASSIFIED LIST OF DEFECTS NOTIFIED TO PARENTS FOR TREATMENT AMONGST ENTRANTS AND LEAVERS NUMBERING 6388.

	No.	%
Nutrition	2	'03
Clothing	22	'34
Footgear	10	'15
Uncleanliness :		
Boys	57	1'77
Girls	1194	37'54
Ringworm... ..	17	'26
Scabies	3	'04
Skin Diseases	29	'45
External Eye Diseases	4	'06
Defective Vision requiring Spectacles ...	296	4'63
Ear Diseases	56	'87
Teeth Defects	40	'62
Tonsils	88	1'37
Tonsils and Adenoids	109	1'70
Adenoids	109	1'70
Mouth Breathers... ..	2	'03
General Debility	11	'17
Suspected Tuberculosis	48	'75
Pulmonary Tuberculosis	4	'06
Non-Pulmonary Tuberculosis	2	'03
Rickets	7	'10
Deformities	24	'37
Heart Diseases	22	'34
Nervous Diseases	8	'12
Pyrexia	2	'03
Infectious Diseases	6	'09

EXCLUSION NOTICES, 1914.

Insufficient Clothing	4
Verminous Conditions	118
Sore Heads	59
Nits and Dirty Heads	46
Ringworm	276
Ringworm ?	3
Scabies	26
Skin Diseases	33
External Eye Diseases	10
Defective Vision	9
Ear Diseases	3
Teeth Defects	—
Tonsils	2
Tonsils and Adenoids	3
Adenoids	6
Acute Tonsillitis	6
General Debility	40
Suspected Tuberculosis	73
Pulmonary Tuberculosis	61
Non-Pulmonary Tuberculosis... ..	15
Pott's Disease	2
Rickets	1
Deformities	—
Heart Diseases	21
Nervous Diseases	25
Pyrexia	1
Infectious Diseases	1
Miscellaneous Conditions	82
Total	926

OBSERVATIONS ON SOME DEFECTS AND DISEASES IN
SCHOOL CHILDREN.

In every hundred children inspected it was found that :—

- 99 had Good Clothing.
- 1 had Bad Clothing.

- 97 had Good Boots.
- 3 had Bad Boots.

- 80 had Clean Heads.
- 19 had Nits present.
- 1 had Head Lice present.

- 98 had Clean Bodies.
- 2 had Dirty Bodies.

- 4 had Excellent Nutrition.
- 93 had Average Nutrition.
- 3 had Nutrition below the average.

- 11 had Enlarged Tonsils and Adenoids.
- 1 had Discharging Ears.

- 53 had Sound Teeth.
- 30 had less than 4 Decayed Teeth.
- 17 had 4 or more Decayed Teeth.

TEETH.

Caries of the teeth is still the outstanding defect found, and occurred in 46.28 per cent. of the children examined.

Had a careful examination of the mouth been made with dental mirror and probe in each case the proportion of decayed teeth would have been found to be still larger.

Oral Sepsis was most commonly found in connection with the temporary teeth of the Entrants. In each case the parent was advised to obtain dental treatment.

Only one child of the 2871 leavers showed any evidence of repair work having been done to decayed teeth.

The average parent of the elementary school child only thinks of extraction. The benefits of conservative treatment are quite beyond their experience.

The cost to the parent of such repair work (in the absence of a dental clinic) is a bar to the suggestion of such treatment.

The condition of the teeth has a marked influence on the health of the child.

Malnutrition and many other ills are the result of decayed teeth. The establishment of a clinic for the dental treatment of the Bolton children would be extremely beneficial.

TONSILS AND ADENOIDS.

At the routine inspection 8·8 per cent had symptoms more or less marked of enlarged tonsils or adenoids. Slight forms of tonsillar enlargement have been included in the above percentage which therefore represents a larger number than required operative treatment.

The most important exciting causes of adenoids are :—acute and chronic catarrh of the nose and naso-pharynx, that is, the space at the back of the nose, and the acute infectious fevers. Heredity may play a part, it is certain that they tend to “run” in families. Some races are especially predisposed to these growths.

Adenoids are much more frequent in temperate, cold and damp climates, causing in the first instance catarrhal conditions of the upper respiratory passages.

Adenoid growth most commonly occurs between the ages of 3 and 12 years.

The principal ill effects of the presence of adenoids and enlarged tonsils are :—ear disease and deafness, anæmia, stupidity and inaptitude for mental exertion, night terrors and broken sleep, nasal quality of speech, bronchitis and other lung troubles.

With regard to treatment, all cases of obviously diseased tonsils and all cases of adenoids causing any trouble by obstructing respiration, causing mouth breathing or deafness were recommended for surgical treatment. Cases of simple hypertrophy or enlargement of the tonsils were noted but not recommended for treatment.

In some cases where the child was already debilitated by recurrent catarrhs, it was often suggested that the throat should be attended to as soon as the child got stronger. This view is erroneous for experience proves these children can never get strong until the tonsils and adenoids are removed.

Sir St. Clair Thomson says, "The beneficial results of the operative removal of these obstructions are generally so excellent that there need be no hesitation in recommending it wherever indicated. There are few operations in surgery where the results are so promptly beneficial and the general and life-long benefits to the child are so excellent. The flabby, dull, listless and stupid child becomes healthy-looking, bright and active, and its existence becomes a joy instead of an endurance."

VISION.

Children under six years do not have their eyesight tested unless special attention is drawn to vision.

The statistics given refer only to the leavers. The child records its own acuteness of vision by reading test type (Snellen's), at a distance of 6 metres (20 feet), each eye being tested separately. A spectacle frame with a moveable opaque disc was used for this purpose. The following tables give the result of the examinations. The upper figure is the distance in metres between the child and the test type. The lower figure is the number of metres from which letters of a certain size should be seen by a person with average vision, i.e. 6/6: 6/18 means that the smallest type which can be seen from a distance of 6 metres should normally be seen at a distance of 18 metres. The following table shows the condition of the sight in each eye of the 1416 boys and 1474 girls examined in the routine group.

RIGHT EYE.

LEFT EYE.	BOYS									GIRLS.								
	+6	6	9	12	18	24	36	60		+6	6	9	12	18	24	36	60	
	+	6	9	12	18	24	36	60		+	6	9	12	18	24	36	60	
+6
6	...	888	57	15	8	...	1	1	...	...	816	69	2	3	...	...	...	...
9	...	80	139	15	7	2	2	...	...	...	106	247	18	8	2	2	1	...
12	...	7	25	27	14	2	...	...	...	...	1	21	31	8	2	1	...	...
18	...	8	5	7	36	10	...	1	...	...	4	9	17	46	8	...	...	...
24	...	2	8	...	4	7	2	2	...	...	...	1	1	4	16	2	...	...
36	...	3	2	1	1	1	12	2	...	...	2	...	1	4	2	7	1	...
60	...	1	2	...	1	1	1	6	...	...	1	3	...	...	...	...	7	...
0
Totals	...	989	238	65	71	23	18	12	...	...	930	350	70	73	30	12	9	...

TOTAL ... 1416

TOTAL ... 1474

+6 means vision more acute than normal.

From the above table we get the following facts:—

Of the boys, 888 or 62·71% had normal sight or sight better than normal.

Of the girls, 816 or 55·35% had normal sight, or sight better than normal.

	Boys.	Girls.
Vision defective, but not worse than $\frac{6}{12}$ in the worst eye	25.77%	33.58%
Vision $\frac{6}{18}$, or worse in the worst eye	11.51%	11.05%
Equal vision in each eye	78.74%	79.37%
Better vision in right eye than in left	11.29%	12.00%
Better vision in left eye than in right	9.95%	8.61%

It will be seen that there is a larger proportion of defective vision amongst the girls. The term "defective vision" includes all cases designated as $\frac{6}{18}$ or worse and also some cases better than $\frac{6}{18}$ (cases of hypermetropia or hypermetropic astigmatism) which exhibit symptoms of eye strain.

Children who find any difficulty in reading $\frac{6}{18}$ —the parents are advised to obtain medical treatment. 127 were found wearing spectacles at the routine inspection.

SQUINT.—126 cases were found. It is extremely important that early treatment be secured for this defect owing to the possibility of ensuing blindness if the case is neglected, and when early treatment (before the age of five years) is provided, reduction of the deformity and recovery of sight may be expected.

EAR DISEASE.—Discharging Ears—1.52 per cent of the children examined had a purulent discharge. The seriousness of this defect is such that parents should endeavour to secure treatment until the child is cured. Only by perseverance will the risk of permanent deafness and the greater danger of brain complications be reduced and finally removed.

When as a result of infectious disease or other cause, a child suffers from discharging ears, prompt and adequate treatment is necessary, and the earlier such is obtained the better for the child and the sooner will the ear be healed.

Greater attention on the parents' part, to those of their children who suffer from diseased tonsils and adenoids, would diminish the number of children affected with discharging ears and permanent deafness.

DISEASES OF THE HEART.—Sixty-nine (1·08 per cent) with definite organic lesions were noted, of which 18 were congenital. Murmurs, the origin of which was functional were heard in 31 cases (·48 per cent.)

In every case, suitable instructions were given to the parents or teachers.

The great predisposing cause of organic heart disease in children is rheumatism. In the above cases a definite history of rheumatism, "growing pains," measles, or scarlet fever was obtained. It is not sufficiently recognised that the outward signs of rheumatism in children are often very unobtrusive and consist of vague "growing pains" which, though so slight are frequently accompanied by an inflammatory process of the valves of the heart, from which the child never completely recovers.

It is essential that children when attacked by "growing pains" should receive prompt medical attention.

NUTRITION.—As will be seen from the summary 4·75 per cent. of the children were above normal, 92·89 per cent. were normal, 2·14 per cent. were below normal, and 13 children (·20 per cent.) were bad.

These figures indicate that the nutrition of the school children of Bolton is fairly satisfactory.

In assessing the state of nutrition, the points taken note of were the tone and elasticity of the skin and sub-cutaneous tissue, the state of the mucous membranes and the condition of the muscles.

The chief cause of defective nutrition is insufficient food both as regards quantity and quality, a child must not only have and be able to assimilate enough nutritious material from his or her daily food for immediate purposes, but also be able to assign so much towards growth and building up a constitution. It is quite possible to be feeding and

still not properly nourishing a child. It is obvious from the fact that practically all children are born healthy, that defective nutrition is due to dietetic ignorance on the parents' part or to paternal neglect.

It should be widely known that a sound constitution can only be built up during the early years of life.

Cases of malnutrition from whatever cause are carefully followed up, frequently re-inspected and weighed at the Clinic.

It is found that these children rapidly improve under efficient treatment, and are soon able to return to school.

TUBERCULOSIS.—Four (·06 per cent.) cases of pulmonary tuberculosis besides 49 (·76 per cent.) having suspicious signs of incipient phthisis were found at the routine inspection. Amongst the special cases, four children were found to be suffering from phthisis.

Medical treatment was sought in every case and the children were frequently re-inspected at the Clinic.

The total number of school children notified from all sources to the Medical Officer of Health as suffering from phthisis was 31, 14 of whom were notified by the School Medical Inspector.

The age and sex distribution of the 31 cases is as follows :—

Age.	Boys.					Girls.
3
4	1
5	2	...	...	3
6	4	...	...	5
7	1	...	...	1
8	1
9	2	...	...	...
10	1	...	...	...
11	2	...	...	2
12	2	...	...	1
13	3
14
			<hr/> 14			<hr/> 17

During 1914, ten children died of phthisis. Pulmonary tuberculosis in a form which can be diagnosed with certainty is rare amongst school children.

The question of the prevalence of pulmonary tuberculosis in children is still a vexed one. Those cases which some medical men classify as incipient phthisis, others would undoubtedly call definite phthisis. Nearly all cases found are very early ones.

"Open" pulmonary tuberculosis—cases in which tubercle bacilli are found in the sputum are rare amongst children. The cause of tuberculosis is the entrance of the tubercle bacilli into the system by means of food (particularly milk) or in the air breathed. Unhygienic conditions and habits, food insufficient in quality and quantity, decayed teeth, bad air, loss of sleep and rest favour the growth of the germ in the body.

Good nutrition is the greatest obstacle to an attack of tuberculosis. A child with good blood, good chest capacity and clear nasal breathing which ensures a good supply of air to the lungs, has little to fear.

In order to render any scheme for the elimination of tuberculosis effective or complete, it must first begin with the children; with those suffering from tuberculosis, and those predisposed thereto, or under such conditions of health and environment as may favour its development.

It is much cheaper to cure children suffering from malnutrition than to treat pronounced cases requiring prolonged treatment under sanitary conditions.

The most important measures that can be utilized to prevent tuberculous infection in childhood, are those directed in the first place to the provision of all that is best both in housing and feeding, whereby the natural forces of resistance are strengthened and amplified, and in the second place to the elimination of gross infection by way of tuberculous sputum or tuberculous milk.

The establishment of a sanatorium for children suffering from tuberculosis, malnutrition, rickets, &c., would be the most important step to take in the campaign against tuberculosis.

OTHER TUBERCULOSIS.—Tubercular peritonitis 1 ; tubercular peritonitis ? 1 ; tubercular glands of neck 1 ; enlarged tubercular glands 1 ; tubercular abscess on right side of neck 1 ; scars of tubercular abscess 2 ; tubercular disease of left ankle-abscess discharge 1.

RICKETS.—35 cases were found at the routine inspection and 6 specials.

Rickets is a peculiar form of malnutrition, and not simply a disease of the bones.

The cause of rickets may be summed up as unhygienic conditions, nursing by an exhausted mother, improper diet (deficiency of fats and proteids and excess of starches) and lack of fresh air.

Rickety children often show enlarged tonsils and adenoids, and they are affected with tuberculosis in larger proportion than other children.

Most cases of rickets arise between the fifth and eighteenth months of life. A poorly nourished mother may give birth to rickety children, and again, the disease may not appear before late infancy.

With the establishment of a good general diet and out-door habits the disease loses its distinguished characteristics and either disappears or passes into a case of ordinary malnutrition. Permanent deformities however often remain.

GLANDULAR ENLARGEMENT.—48 cases of marked glandular enlargement were found.

The chief causes of enlargement of the submaxillary and cervical glands are defective teeth, enlarged tonsils and adenoids, pediculi in the hair, skin diseases of the head and neck, tuberculosis, and the ordinary infectious diseases of childhood.

RINGWORM.—There were 3 cases of scalp ringworm found amongst the entrants at the routine inspection, and 2 cases of this disease found amongst the leavers.

Ringworm of the scalp is a disease due to the invasion of the hair shaft by a fungus. A child becomes infected from another child already suffering from the disease, either by direct contact in play, by using the same brush, or by putting on the same cap, or in some such way.

The disease has nothing to do with dirt, not necessarily with neglect, and a child in any station of life may become infected by contact with the disease.

Its presence renders the child affected unfit for school for months and often for years.

The following figures for 1914 show a decrease in the number of children affected by this disease as compared with previous years. This decrease may confidently be expected to continue as the result of treatment and inspection at the school clinic.

AGE AND SEX DISTRIBUTION OF RINGWORM CASES, 1914.

Age	Boys.		Girls.		Total.
	Scalp.	Body.	Scalp.	Body.	
3	...	1	1	...	2
4	2	2	...	1	5
5	28	6	12	6	52
6	41	8	21	5	75
7	18	10	23	8	59
8	15	14	10	6	45
9	14	8	5	9	36
10	9	8	7	6	30
11	14	9	4	3	30
12	4	3	5	2	14
13	1	1	1	2	5
14	...	...	...	...	...
Total...	146	70	89	48	353

AGE AND SEX DISTRIBUTION OF RINGWORM CASES,
ABSENT FROM SCHOOL ON DEC. 31ST, 1914.

Age.	Boys.		Girls.		Total.
	Scalp.	Body.	Scalp.	Body.	
3	...	...	1	...	1
4	2	...	...	...	2
5	5	1	2	...	8
6	21	...	10	...	31
7	4	...	5	1	10
8	4	1	2	2	9
9	2	3	2	1	8
10	3	1	2	...	6
11	2	...	1	...	3
12	...	...	2	...	2
13	...	...	...	...	...
14	...	...	...	...	...
Total...	43	6	27	4	80

MENTAL DEFECTS.—11 cases were noted at the routine inspection and 18 specials.

The majority of the above cases are merely dull and backward and not defective within the meaning of the Act (Defective and Epileptic) and may not be admitted to a special school certified by the Board of Education under this Act.

The provision of special classes for such mentally backward children under special teachers would be an advantage.

Children in these classes would necessarily be medically examined at frequent intervals, and opportunity thus offered for the transference of these backward children to ordinary elementary schools or to the schools for the mentally defective, as the occasion might demand.

VACCINATION.

Department.		No. Ex'md	No. of Marks.										
			1	2	3	4	5	6	7	8	9	10	0
Entrants.	Boys	1809	199	352	164	621	2	...	...	...	...	...	471
	Girls	1708	165	287	156	700	1	...	...	...	...	...	399
Leavers	Boys	1399	131	290	192	693	1	1	...	...	...	...	91
	Girls	1472	133	354	178	678	1	...	...	...	...	...	128
Total		6388	628	1283	690	2692	5	1	...	...	...	...	1089

No evidence of vaccination :—

Entrants	...	24·7 per cent.	} 1089
Leavers	...	7·6 per cent.	

CLOTHING AND FOOTGEAR.—In 99·10 per cent of the children examined the clothing was found satisfactory. Unsatisfactory footgear was found in 3·02 per cent. of the entrants and leavers, and occurred principally amongst the boys.

During the past year the Queen Street Mission has supplied 1863 pairs of clogs to necessitous Bolton children.

CLEANLINESS.—It is gratifying to note that the standard of cleanliness amongst the children attending the Bolton schools has considerably risen during the past year. At the routine inspection it was found that 80 per cent. of the children had clean heads, and 98·37 per cent. had clean bodies. This satisfactory improvement is entirely due to the unflagging watchfulness and perseverance on the part of the teachers and school nurses.

HEIGHTS AND WEIGHTS.—The children are weighed and measured in their ordinary indoor clothes, but without shoes.

The weighing and measuring is done by the teachers. The following table, both in English and Metric, shows the average heights and weights of entrants and leavers examined during 1914, and the comparison given is the average standard of the Anthropometrical Committee of the British Association.

HEIGHT AND WEIGHT TABLE.

Age.	No.	Average Height		England and Wales		Average Weight		England and Wales	
		cms.	ins.	cms.	ins.	kilos	lbs.	kilos	lbs.
Boys									
3—4	183	92·5	36·4	93·5	36·8	14·9	32·8	15·4	34·0
4—5	463	97·8	38·5	97·8	38·5	16·2	35·7	16·9	37·3
5—6	817	102·4	40·3	104·1	41·0	17·3	38·2	18·1	39·9
12—13	1014	136·6	53·8	139·4	54·9	31·7	69·9	34·8	76·7
13—14	46	141·0	55·5	144·5	56·9	33·3	73·4	37·5	82·6
GIRLS									
3—4	186	90·7	35·7	92·0	36·2	14·2	31·3	14·3	31·6
4—5	368	96·0	37·8	97·0	38·2	15·6	34·3	16·4	36·1
5—6	792	101·3	39·9	102·9	40·5	16·7	36·9	17·8	39·2
12—13	1072	137·7	54·2	141·2	55·1	31·8	70·0	34·7	76·4
13—14	41	140·0	55·1	146·6	57·7	33·7	74·3	39·5	87·2

The above Heights and Weights are practically identical with those of last year.

CONDITION.		ENTRANTS.					LEAVERS.					TOTAL.					SPECIAL CASES.				
		1793	1685	3478	98-89	1347	1422	2769	96-44	3140	3107	6247	97-79	228	295	523	98-86				
Heart and Circulation.	No Disease	8	12	20	.56	22	27	49	1.70	30	39	69	1.08	2	2	4	.75				
	Organic	3	1	4	.11	16	11	27	.94	19	12	31	.48	1	...	1	.18				
	Functional	5	10	15	.42	14	12	26	.90	19	22	41	.64	...	1	1	.18				
	Anæmia																				
Lungs.	No Disease	1765	1664	3429	97-49	1393	1460	2853	99-37	3158	3124	6282	98-34	227	289	516	97-54				
	Chronic Bronch	18	19	37	1.05	1	5	6	.20	19	24	43	.67	...	1	1	.18				
	Tuberculosis	3	1	4	.11	...	...	...	...	3	1	4	.06	1	3	4	.75
	Tuberculosis Susp.	19	19	38	1.08	4	7	11	.38	23	26	49	.76	2	5	7	1.32				
Nervous System.	Other Diseases	4	5	9	.25	1	...	1	.03	5	5	10	.15	1	...	1	.18				
	No Disease	1792	1703	3495	99-37	1389	1460	2849	99-23	3181	3163	6344	99-31	227	296	523	98-86				
	Epilepsy	2	...	2	.05	...	1	1	.03	2	1	3	.04	1	...	1	.18				
	Chorea	2	...	2	.05	4	2	6	.20	6	2	8	.12	1	2	3	.56				
Skin.	Other Disease	13	5	18	.51	6	9	15	.52	19	14	33	.51	2	...	2	.37				
	No Disease	1794	1696	3490	99-23	1374	1454	2828	98-64	3168	3150	6318	98-90	212	291	503	95-08				
	Ringworm (Body)	7	3	10	.28	...	2	2	.06	7	5	12	.18	6	2	8	1.51				
	(Head)	1	2	3	.08	1	1	2	.06	2	3	5	.07	1	1	2	.37				
Rickets.	Impetigo	1	4	5	.14	6	2	8	.27	7	6	13	.20	6	2	8	1.51				
	Scabies	1	...	1	.02	9	6	15	.52	10	6	16	.25	4	1	5	.94				
	Other Disease	5	3	8	.22	9	7	16	.55	14	10	24	.37	2	1	3	.56				
	No Disease	1794	1692	3486	99-11	1397	1470	2867	99-86	3191	3162	6353	99-45	230	293	523	98-86				
Deformities.	Slight .....	...	...	...	...	1	1	2	.06	1	1	2	.03	...	1	1	.18
	Marked	15	16	31	.88	1	1	2	.06	16	17	33	.51	1	4	5	.94				
	No Deformity	1779	1696	3475	98-80	1346	1427	2773	96-58	3125	3123	6248	97-80	230	297	527	99-62				
	Deform. Present	30	12	42	1.19	53	45	98	3.41	83	57	140	2.19	1	1	2	.37				
Tuberculosis Non. Pulm.	No Disease	1806	1707	3513	99-88	1397	1470	2867	99-86	3203	3177	6380	99-87	230	297	527	99-62				
	Glandular	1	...	1	.02	...	1	1	.03	1	1	2	.03	...	...	...	...
	Bones and Joints .....	...	...	...	...	...	1	1	.03	...	1	1	.01	1	1	2	.37
	Other Forms	2	1	3	.08	2	...	2	.06	4	1	5	.07	...	...	...	...
Speech.	Not Defective	1800	1704	3504	99-63	1386	1471	2857	99-51	3186	3175	6361	99-57	230	297	527	99-62				
	Defective Articulation	8	3	11	.31	1	...	1	.03	9	3	12	.18	...	1	1	.18				
	Stammering	1	1	2	.05	12	1	13	.45	13	2	15	.23	1	...	1	.18				
	Dull and Backward .....	...	...	...	...	1	...	1	.03	1	...	1	.01	...	...	...	...
Mental Condition.	Ment. Defective	7	4	11	.31	...	...	...	...	7	4	11	.17	...	...	...	...
	No Defect	1780	1675	3455	98-3	1378	1431	2809	97-9	3158	3106	6264	98-1	...	...	...	...
	Defective	29	33	62	1.7	21	41	62	2.1	50	74	124	1-9	...	...	...	...

Review of the methods available for "following up" and the Treatment of Defects.

Work accomplished:—

Children treated at School Clinic...	...	...	...	278
Number of attendances of above children	...	...	...	644
Total number examined at Clinic	...	...	...	1124
Operations performed	...	...	...	105
At Bolton Infirmary	...	...	...	88
By Private Practitioners	...	...	...	14
At Townley Hospital	...	...	...	2
At Pendlebury Children's Hospital	...	...	...	1
Children treated for pulmonary tuberculosis and suspected tuberculosis	...	...	...	44
At Southport Convalescent Home	...	...	...	25
Wilkinson Sanatorium	...	...	...	2
Borough Hospital	...	...	...	6
Townley Hospital	...	...	...	2
Heswall	...	...	...	9
Children treated for debility	...	...	...	58
Southport Convalescent Home	...	...	...	57
Blair's Hospital	...	...	...	1
Medical and Home treatment	...	...	...	330
Defects under treatment—31st, Dec. 1914	...	...	...	124
Medical	...	...	...	54
Infirmary	...	...	...	13
Home treatment	...	...	...	13
Promised treatment	...	...	...	44

Conditions treated by operation and otherwise	...	...	...	...	...	757
Uncleanliness	...	...	...	...	...	218
Ringworm	...	...	...	...	...	17
Skin Diseases	...	...	...	...	...	21
Glasses provided	...	...	...	...	...	133
External Eye Diseases	...	...	...	...	...	31
Ear Diseases	...	...	...	...	...	6
Teeth Defects	...	...	...	...	...	28
Tonsils and Adenoids	...	...	...	...	...	134
Nasal Obstruction	...	...	...	...	...	1
General Debility	...	...	...	...	...	28
Suspected Tuberculosis	}	...	...	...	...	44
Pulmonary Tuberculosis						
Rickets	...	...	...	...	...	16
Hernia	...	...	...	...	...	3
Septic Wounds	...	...	...	...	...	4
Heart Diseases	...	...	...	...	...	8
Rheumatism	...	...	...	...	...	1
Bronchitis	...	...	...	...	...	7
Chorea	...	...	...	...	...	3
Infectious Diseases	...	...	...	...	...	10
Miscellaneous Defects	...	...	...	...	...	38

TABLE SHOWING TREATMENT OBTAINED BY ENTRANTS
HAVING NOTIFIED DEFECTS.

Disease or Defect.	No. Notfd.	Under Trtmt.	Had Trtmt.	Impvd.	Cured.	Nothing Done.	Absent or Left.
Ringworm	13	...	...	...	9	...	4
Scabies	1	...	...	...	1	...	...
Skin Diseases	14	1	...	1	9	2	1
External Eye Diseases ...	3	...	...	2	...	1	...
Defective Vision requiring spectacles	101	6	29	3	2	34	27
Ear Disease	26	1	3	5	5	6	6
Teeth Defects	36	...	4	1	19	1	2
General Debility	6	2	...	2	...	...	2
Suspected Tuberculosis ...	38	8	19	...	3	...	8
Pulmonary Tuberculosis ...	4	2	...	1	...	...	1
Non.-Pulm. Tuberculosis ...	...	...	...	...	...	...	...
Rickets... ..	6	1	1	1	...	1	2
Deformities	18	...	2	...	1	8	7
Heart Diseases... ..	11	1	...	6	...	2	2
Nervous Diseases	3	...	...	1	...	...	2
Pyrexia	1	...	...	...	1	...	...
Infectious Diseases	5	1	...	...	4	...	...
	No. Notfd.	Under Trtmt.	Had Oper.	Had Trtmt.	Nothing Done.	Absent or Left.	
Tonsils... ..	45	6	7	5	20	7	
Tonsils & Adenoids	85	11	17	12	29	15	
Adenoids	67	6	7	16	26	12	
Mouth Breathers	2	1	...	...	1	...	

TREATMENT OF DEFECTS IN SCHOOL CHILDREN.—Where medical inspection reveals defects calling for treatment, parents are notified of the same.

Necessitous parents can always obtain "recommends" for the treatment of their children at the local Infirmary.

SCHOOL CLINIC.—The work undertaken at the clinic may be divided under two headings (1) Inspection (2) Treatment.

(1) INSPECTION CLINIC.—The School Medical Officer and Nurses attend every Wednesday afternoon and Saturday morning, when children are sent for examination. The cases which attend average 50 each day and include :—

(a) Children found during routine inspection, and require a more detailed examination than can be carried out at school.

(b) Children sent by teachers and school attendance officers, the majority of these children being sent with reference to their fitness for school.

(c) Children absent from school who attend for periodical re-examination, in order that the School Medical Officer may be satisfied that proper treatment is being obtained.

(2) TREATMENT CLINIC.—The Clinic is held at the Derby Street Council School in two rooms specially fitted up for the purpose, one as a waiting room, the other for treatment. The treatment clinic was established in October, 1914, in order to deal with cases of contagious skin diseases, viz. :—ringworm, impetigo, scabies conjunctivitis, ear discharges, and minor ailments.

Experience proved that the majority of the above cases did not receive adequate attention.

A number of such cases are now being treated at the School Clinic, and one of the nurses devotes the whole of each morning to the work, under the supervision of the School Medical Officer.

Ringworm of the head is at present treated by drugs only, for many cases of this disease the only effective treatment is the application of the X-rays.

INSPECTION CLINIC, 1914.

No. of children attended	...	...	...	...	...	1124
No. of attendances made by such children	...	...	...	...	...	2908

DISEASES OR DEFECT.	ATTENDANCES.					CHILDREN.
Skin Diseases...	1333	...	...	364
Tuberculosis	507	...	...	108
Vision	265	...	...	166
Tonsils and Adenoids	135	...	...	92
Ear Diseases	65	...	...	42
Uncleanliness...	142	...	...	41
Heart Diseases	41	...	...	28
Nervous Diseases	68	...	...	36
Mental Conditions	20	...	...	16
Deformities	24	...	...	16
Infectious or Contagious Diseases	13	...	...	8
Rickets	13	...	...	9
Teeth	6	...	...	4
Lung Diseases	32	...	...	19
Speech Defects	—	—
Nil	70	...	...	65
Other Conditions	325	...	...	110
			<u>3059</u>			<u>1124</u>

TREATMENT CLINIC, 1914.

No. of children treated	...	...	...	...	...	278
No. of attendances made by such children	...	...	...	...	...	644

Blind and Deaf Children.

Accommodation is provided for both resident and day scholars in the Thomasson Memorial School.

There are 48 places each for blind and deaf day scholars and 20 places for each class for residents.

At the end of 1914, there were 12 resident blind scholars and 10 resident deaf scholars. In addition 18 blind and 17 deaf children attended as day scholars.

5 blind children were admitted during the year and 3 left; 1 deaf child was admitted and 12 left.

Of the resident scholars 7 were maintained by the Bolton Education Authority and 15 by other Authorities.

The school is pleasantly situated in the best part of the town and the sanitary condition is all that can be desired.

Special Schools.

Accommodation for mentally and physically defective children is provided at Flash Street and Kay Street Schools. In the former 120 mentally defective and 90 physically defective are provided for, and at the latter 100 mentally defective.

At the end of 1914 there were 93 mentally defective on the register at Flash Street, 60 being boys and 33 girls. At Kay Street there were 72 on the register of whom 51 were boys and 21 girls.

The results of an examination made by the School Medical Inspector during the year gave the following results:—

				Flash St.					Kay St.	
				Boys	Girls				Boys	Girls
A.	...	...	...	40	19	...	26	6		
B.	...	...	...	6	1	...	5	1		
C.	...	...	...	4	3	...	10	10		
Not Classified	...			2	3	...	5	3		
Epileptic	...	...		2	...	...	...	...
Fit for transfer	...			2	...	...	...	...
				—	—				—	—
				56	26	...	46	20		
Absent...	...	...		4	7	...	5	1		

NOTE.—Class A, self-supporting. B, self-supporting under supervision. C, need permanent care.

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General Remarks

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Appendix.

TABLE
CAUSES OF

2

CAUSES OF DEATH.	Total.	SEX.		AGE.																
		M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	
				to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55		
General Diseases.																				
Small Pox																				
Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Not Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Doubtful	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	3	2	1	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria & Croup	47	18	29	3	5	2	5	4	21	6	1	...	...	...	...	...	...	...	...
Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	12	3	9	...	...	...	...	...	2	...	2	3	1	...	...	2	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	3	2	1	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...
Septicæmia (not puerperal)	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia (not puerperal)	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles	61	34	27	15	23	8	8	3	4	...	...	...	...	...	...	...	...	...	...
German Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	50	20	30	19	20	4	4	2	1	...	...	...	...	...	...	...	...	...	...
Chicken Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mumps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	17	8	9	2	...	...	1	...	...	...	...	2	2	...	1	2	3	...	...
Cholera Nostras	5	2	3	1	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rabies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders, Farcy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax, Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	161	73	88	2	...	...	...	...	4	6	18	15	17	16	26	17	16	15	...
Acute Miliary Tuberculosis,																				
Acute Phthisis	6	2	4	...	1	...	...	...	...	...	...	...	1	...	1	2	...	...	...
Tubercular Meningitis	15	9	6	2	5	1	...	2	1	1	2	...	...	...	...	...	...	...	...
Tabes Mesenterica	2	1	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Other Peritoneal and																				
Intestinal Tubercle	20	11	9	4	4	...	1	...	3	3	...	2	1	1	...	...	...	...	...
Tuberculosis of Spinal Column	7	7	...	...	...	...	...	...	2	...	1	...	1	1	...	...	...	...	...
Tuberculosis of Joints	4	...	4	...	...	...	...	...	1	1	...	...	...	...	...	1	...	...	...
Lupus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scrofula	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of other Organs	3	1	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...
General Tuberculosis	3	1	2	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
Rickets	2	2	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	6	2	4	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Purulent Ophthalmia	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Venereal Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cancer of the Buccal Cavity	16	12	4	...	...	...	...	...	...	...	...	...	...	...	...	...	4	3	...
" Stomach, Liver	60	28	32	...	...	...	...	...	...	...	...	...	...	...	...	4	1	7	...
" Peritoneum, Intes-																				
tines and Rectum	26	15	11	...	...	...	...	...	...	1	...	...	...	1	2	1	1	...	...
" Female Genital																				
Organs	18	...	18	...	...	...	...	...	...	...	...	...	...	1	1	4	2	2	...
" Breast	17	...	17	...	...	...	...	...	...	...	...	...	...	...	1	1	1	2	...
" Skin	5	4	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
of other Organs	31	18	13	...	...	...	...	...	...	...	1	...	1	2	1	6	3	...	...
Other Tumours	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever,																				
Acute Rheumatism	17	7	10	...	...	...	...	...	2	4	2	1	1	...	2	1	...	...	...
Chronic Rheumatism Gout,																				
Osteo-Arthritis,	11	1	10	...	...	...	...	...	...	...	...	...	...	1	1	...	1	1	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diabetes	24	8	16	...	...	...	...	...	...	2	...	1	1	1	3	2	4	...	...
Exophthalmic Goitre	4	...	4	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...
Leucocythæmia	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Anæmia, Chlorosis	17	11	6	...	1	...	...	...	...	...	1	...	1	1	2	1	4	...	...
Purpura	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism, Delirium Tremens	4	3	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...
Occupational Lead Poisoning	2	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...
Other General Diseases	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total General Diseases	685	311	374	57	58	21	20	11	40	19	32	24	26	28	39	45	42	54	...	

WARD.

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever c-Br'htmet
...
...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...
...	...	...	...	...	...	19	28	...	1	6	1	8	...	8	4	2	2	6	6	1	...	...	1	1
...	...	2	...	...	...	...	12	...	2	1	...	2	...	2	2	...	...	1	1	...	...	...	1	...
...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	57	4	2	12	3	4	25	1	2	7	...	...	2	...	...	...	...	2	1
...	...	...	...	...	...	49	1	3	6	6	2	5	...	2	7	4	...	5	4	...	1	...	4	1
...
1	3	...	...	...	...	3	14	...	...	3	...	6	...	1	5	...	1	...	1	...	...	...	...	...
...	...	1	...	...	...	1	4	...	2	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...
...
...
...
3	...	2	...	...	...	2	159	8	9	19	13	25	8	8	20	8	2	7	16	2	3	7	3	3
1	...	...	...	...	...	1	5	1	...	...	1	...	...	...	1	2	...	...	...	1	...	...	...	...
...	...	...	...	...	...	10	5	1	...	3	...	2	1	...	3	...	...	...	3	...	...	2	...	...
...	...	...	...	...	...	1	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	9	11	2	3	5	...	2	1	1	2	...	...	1	1	1	...	...	1	...
...	...	...	...	1	...	...	7	...	1	3	...	...	...	1	...	...	1	...	...	...	...	1	...	...
...	...	...	...	...	...	...	4	...	...	2	...	...	...	...	...	...	...	...	...	...	1	...	1	...
...
1	...	...	...	...	...	...	3	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	1	2	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...
...	...	...	...	...	...	6	...	...	1	...	...	1	...	1	3	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	2	...	1	1	...	...	16	1	...	4	...	1	1	1	4	1	...	...	2	...	1	...	...	...
14	12	6	6	...	1	...	60	3	3	12	2	7	1	2	8	2	...	2	10	...	3	2	2	1
4	4	6	...	...	...	...	26	...	...	3	1	4	...	1	2	...	2	2	5	...	1	1	2	2
1	...	4	...	1	...	...	18	...	2	3	...	1	2	2	3	...	...	...	2	...	1	1	1	...
3	3	3	1	...	...	...	17	1	1	1	...	3	...	...	2	...	1	...	2	1	1	3	1	...
...	...	1	...	...	...	...	5	...	1	...	...	2	...	1	...	...	...	1	...	...	...	...	...	...
5	3	4	1	...	...	...	31	1	1	5	...	2	...	3	10	1	...	1	1	...	...	2	4	...
1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
...	2	...	...	...	...	...	17	...	1	3	...	...	...	2	4	...	...	2	2	...	1	2	...	...
1	1	2	3	...	...	...	11	...	1	3	...	1	1	...	...	...	...	1	2	...	1	...	...	1
...
2	4	2	1	...	...	...	24	...	...	4	2	2	2	...	5	...	...	...	4	...	2	...	2	1
...	...	...	...	...	...	...	4	...	...	2	...	...	...	...	1	...	1	...	...	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
2	2	...	...	...	...	1	16	1	...	2	...	1	1	2	...	1	...	2	3	1	...	1	1	1
...	...	...	...	...	...	...	4	...	...	...	...	...	...	1	...	...	...	...	2	1	...	...	...	...
...	...	...	...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
42	36	33	13	3	1	167	518	25	49	97	27	103	19	41	95	22	10	35	73	8	16	25	27	13

TABLE
CAUSES OF

4

CAUSES OF DEATH.	Total.	SEX.		AGE.														
		M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45	50
				to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55
Nervous System and Organs of Special Sense.																		
Meningitis, Inflammation of																		
Brain ...	38	22	16	7	8	2	...	2	9	4	...	1	...	...	1	1	...	2
Encephalitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Locomotor Ataxy ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Other Diseases of Spinal Cord,																		
Poliomyelitis ...	12	6	6	...	...	...	...	...	...	...	...	1	1	...	...	3	1	2
Apoplexy ...	18	6	12	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Cerebral Congestion...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Cerebral Hæmorrhage ...	100	51	49	...	...	...	...	...	...	1	...	...	...	1	2	3	4	7
Softening of Brain ...	8	3	5	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Hemiplegia ...	4	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paraplegia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other forms of Paralysis ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
General Paralysis of Insane ...	11	9	2	...	...	...	...	...	...	...	...	...	1	...	2	2	2	...
Other forms of Mental Alienation ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy ...	17	7	10	...	...	...	...	...	...	...	1	3	...	2	3	...	3	3
Convulsions (non-puerperal ; 5 years and over) ...	2	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Infantile Convulsions,																		
Teething (under 5 years ...	47	27	20	30	16	1	...	...	...	...	...	...	...	...	...	...	...	...
Chorea ...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Hysteria, Neuralgia, Sciatica ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Neuritis, ...	7	3	4	...	...	...	...	...	...	...	...	1	1	...	1	...	2	...
Cerebral Tumour ...	4	3	1	...	...	...	...	...	...	1	...	...	...	...	2	1	...	...
Idiocy, Imbecility ...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Other Diseases of Nervous System ...	4	2	2	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...
Diseases of the Eyes and Annexa ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mastoid Disease ...	4	3	1	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...
Other Diseases of the Ears ...	6	1	5	...	...	...	...	...	2	1	...	1	...	...	...	...	...	2
Total Nervous System, &c....	289	149	140	37	24	4	...	2	13	8	2	6	3	6	10	14	12	23
Circulatory System.																		
Pericarditis ...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Acute Endocarditis, Acute																		
Myocarditis ...	21	10	11	...	...	...	...	...	...	1	3	...	5	2	...	2	...	44
Valvular Disease ...	104	44	60	...	...	...	...	...	3	1	5	2	8	6	8	5	12	177
Fatty Degeneration of Heart ...	23	12	11	...	...	...	...	...	...	...	...	...	1	3	...	1	...	44
Other Organic Disease of Heart...	65	26	39	...	...	...	...	...	...	2	1	...	4	1	1	5	2	99
Angina Pectoris ...	6	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
Aneurysm ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Other Diseases of the Arteries ...	26	16	10	...	...	...	...	...	...	...	...	...	...	...	1	...	...	44
Embolism and Thrombosis ...	12	4	8	...	...	...	...	...	...	...	...	...	...	1	...	...	...	13
Diseases of the Veins, Phlebitis...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
Status Lymphaticus ...	2	2	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Other Diseases of Lymphatic System ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmorrhage ; other Diseases of the Circulatory System ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Circulatory System ...	264	118	146	...	...	...	...	...	6	3	7	5	12	13	15	11	19	411

WARD.

	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever c-Br'htmet
	1	...	...	...	...	...	19	19	...	4	4	2	5	...	1	7	...	1	3	8	1	1	...	...	1

	...	...	1	...	...	...	...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1	2	1	...	...	...	...	12	1	...	1	...	2	...	...	1	...	...	2	1	1	...	2	...	1
1	3	6	2	3	...	1	...	18	...	2	2	1	2	3	1	...	...	...	2	4	1	...	...	...	...
0	22	18	16	13	2	1	...	100	9	3	18	2	11	7	11	4	3	1	9	8	1	5	3	2	3
	2	...	1	3	...	...	...	8	...	...	...	...	2	...	2	...	...	1	1	1	...	1	...	...	...
1	1	...	...	1	...	1	...	4	...	...	1	...	...	...	...	...	...	...	...	1	...	1	1	...	...

	1	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...
4	...	...	...	...	...	...	...	11	...	...	2	2	1	...	1	3	...	...	...	2	...	...	...	...	...

2	...	...	...	...	...	...	...	17	...	2	4	1	1	3	2	1	...	...	...	...	...	1	...	...	2
	...	1	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	...	...	...	...	...	...	47	...	4	5	8	...	11	...	2	3	1	...	...	11	1	1	...	...	...
	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
1	1	...	...	...	...	...	...	7	...	...	1	...	1	1	...	1	...	...	...	1	...	...	...	2	...
	...	...	...	...	...	...	...	4	...	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
	1	...	...	...	...	...	...	4	...	...	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...

	...	...	...	...	...	...	1	3	...	...	1	...	...	...	...	...	...	1	...	1	...	...	1	...	...
	...	...	...	...	...	...	...	6	...	...	...	2	2	...	...	1	...	...	...	1	...	...	...	...	...
19	33	27	21	20	2	3	67	222	16	17	45	10	38	17	23	23	4	4	17	40	5	11	8	4	7
	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
2	...	1	1	...	...	...	...	21	...	2	2	...	5	1	3	1	...	2	2	2	...	...	...	...	1
7	10	7	10	3	...	...	...	104	4	6	15	3	9	3	8	12	1	1	7	16	...	4	4	7	4
5	4	3	1	1	...	...	...	23	1	3	5	...	4	2	2	3	...	...	...	1	...	1	...	1	...
8	9	11	5	5	2	...	...	65	3	2	9	...	11	4	6	4	2	1	4	10	...	5	3	1	...
...	2	1	1	...	1	...	...	6	...	1	2	...	...	...	...	...	...	...	2	...	1	...	...	...	...
1	...	...	...	...	...	...	...	3	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...
2	3	7	4	4	1	...	...	26	...	...	2	1	4	2	...	4	2	1	1	5	2	...	1	...	1
...	4	2	...	3	1	...	...	12	1	...	3	...	1	1	1	...	...	1	2	...	1	...	...	1	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	2	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...
...
25	32	32	22	16	5	...	...	264	9	14	40	4	35	13	20	24	5	6	16	38	3	12	8	11	6

CAUSES OF DEATH.	Total.	SEX.		AGE.																
		M.	F.	5	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	
				to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55		
Respiratory System.																				
Laryngitis ...	7	2	5	1	...	1	1	1	3	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Larynx ...	2	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Nasal Fossæ ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Bronchitis ...	340	171	169	22	10	1	5	1	2	1	2	2	3	3	6	10	20	2	...	
Broncho, Catarrhal and Lobular Pneumonia...	70	35	35	16	25	14	2	1	1	...	...	...	1	...	...	2	1	...	...
Lobar and Croupous Pneumonia	46	24	22	...	3	1	2	1	...	...	1	1	3	3	5	2	4	...	...
Pneumonia, ...	69	34	35	3	10	2	...	1	1	3	1	3	3	3	2	3	4	...	...
Pleurisy. Empyema ...	8	3	5	...	...	...	...	...	...	1	...	...	...	1	...	...	1	...	...
Pulmonary Congestion, Pulmonary Apoplexy	6	2	4	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Asthma ...	7	3	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Pulmonary Emphysema	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fibroid Disease of Lung	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Respiratory System ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Respiratory System ...	557	276	281	45	49	19	10	5	8	5	4	6	10	10	15	17	30	30	...	
Digestive.																				
Diseases of the Mouth and Annexe	5	3	2	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Pharynx, Tonsillitis, ...	4	3	1	...	...	...	...	...	1	...	...	...	1	...	...	1	...	...	...
Diseases of the Oesophagus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Perforating Ulcer of the Stomach	6	2	4	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Inflammation of the Stomach, Gastritis, Gastric Catarrh ...	17	8	9	7	1	1	...	...	...	...	...	...	2	...	...	...	...	...	3
Other Diseases of the Stomach ...	10	5	5	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...
Epidemic Diarrhoea, Infective Enteritis ...	94	50	44	59	14	3	1	1	...	...	...	2	...	2	...	1	2	...	...
Diarrhoea (not infective), Gastro- Intestinal Catarrh ...	39	19	20	22	7	2	...	...	1	...	...	1	...	...	...	...	...	...	...
Enteritis (not infective) Muco-Enteritis ...	22	16	6	15	2	...	...	...	...	...	1	...	...	...	...	...	1	...	...
Gastro-Enteritis (not infective)	59	31	28	38	11	5	1	...	...	...	...	...	...	...	...	...	...	...	...
Dyspepsia (under 2 years)	3	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Colic ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulceration of Intestines	2	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Duodenal Ulcer ...	3	3	...	...	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...
Appendicitis, Perityphlitis	17	8	9	...	...	...	...	1	...	2	2	2	2	1	...	1	2	...	...
Hernia ...	13	5	8	1	...	...	...	...	...	...	...	...	...	1	...	...	1	1	1
Intestinal Obstruction	11	7	4	1	...	...	...	...	...	1	...	...	1	1	...	1	1	1	1
Other Diseases of Intestines	2	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis of the Liver (not alcoholic) ...	19	13	6	...	...	...	...	...	...	...	...	...	...	2	1	2	1	5	...
Cirrhosis of the Liver (alcoholic)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Biliary Calculi ...	2	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Other Diseases of the Liver	5	2	3	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Diseases of the Spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peritonitis (not puerperal)	3	3	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...
Other Diseases of the Digestive System ...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Total Diseases of the Digestive System ...	337	182	155	151	35	12	3	2	3	3	4	6	6	10	3	11	10	12	...	
Genito-Urinary System and Annexe (non-venereal)																				
Acute Nephritis ...	13	7	6	...	1	1	...	...	1	2	...	1	...	1	1	1	...	...	...
Chronic Bright's Disease, Nephritis (unqualified) 10 years and over, Uræmia ...	94	44	50	...	...	...	...	...	1	...	...	...	...	1	3	2	9	8	...
Other Diseases of the Kidney and Annexe ...	6	1	5	...	...	...	...	...	...	...	...	...	...	1	2	...	1	...	...
Calculi of the Urinary Passages...	3	1	2	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...
Carried forward ...	118	55	63	...	1	1	...	...	2	2	...	2	...	4	6	4	11	10	...

WARD.																										
5 to 59	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever c-Br hitmet	
...	...	...	...	...	...	...	4	3	...	2	2	...	...	...	...	...	...	...	...	...	...	3	...	...
...	...	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
1	39	45	49	45	23	6	39	301	12	43	56	17	41	11	14	40	8	6	13	28	2	11	10	19	9	
2	2	1	1	...	1	...	58	12	2	11	13	...	14	3	1	6	2	3	6	5	2	...	1	1	...	
7	3	2	2	4	...	...	7	39	3	4	11	3	8	3	1	7	...	1	3	1	...	1	...	...
5	5	4	8	4	2	...	16	53	1	7	11	4	11	3	4	8	4	1	...	8	1	...	1	4	1	
1	3	1	...	...	...	...	...	8	...	...	1	...	...	...	...	2	1	...	1	2	...	...	1	...	...
...	...	2	1	...	...	...	2	4	...	1	1	...	2	...	...	...	...	...	...	2	...	...	...	...	...
1	1	1	1	...	...	...	...	7	...	1	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...
...	
1	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	
8	53	56	62	53	26	6	128	429	18	69	101	24	77	20	20	66	15	11	23	46	5	12	16	24	10	
1	...	...	...	...	...	...	4	1	...	...	...	...	1	1	...	...	...	...	1	1	...	...	1	...	...
1	...	...	...	...	...	...	...	4	...	...	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...
...	
1	...	...	1	1	...	...	...	6	...	...	1	1	1	...	...	1	...	...	...	1	...	...	...	1	...
1	...	1	1	...	...	...	9	8	4	...	2	...	1	1	...	2	2	...	1	2	...	...	1	1	...
3	...	1	2	...	1	...	1	9	...	...	3	...	...	...	1	...	...	1	1	3	...	...	...	1	...
3	2	3	1	...	...	...	78	16	1	9	3	4	25	...	4	35	...	...	7	5	...	...	1	...	...
1	...	1	3	1	...	...	31	8	1	6	8	5	8	...	1	...	1	...	3	3	...	...	2	1	...
...	1	1	...	1	...	...	17	5	1	1	7	1	2	...	1	2	1	...	1	4	...	...	...	1	...
2	1	...	1	...	...	...	55	4	1	14	9	1	4	2	...	12	2	...	3	5	1	3	1	...	1
...	...	...	...	...	...	...	3	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
...	
1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
2	...	1	1	...	...	...	1	16	...	...	4	...	1	2	1	...	1	1	1	2	...	2	...	1	1
2	1	1	1	3	...	1	1	12	1	...	2	...	1	1	...	3	1	...	...	3	...	...	1	...	...
...	...	2	...	2	...	...	1	10	...	...	1	...	1	2	...	1	1	...	...	3	...	...	1	1	...
...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
1	2	2	2	...	1	...	...	19	...	3	4	1	2	1	...	5	...	...	2	...	...	...	...	1	...
...	
...	...	1	...	...	...	...	...	2	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...
1	1	...	...	...	...	...	...	5	...	...	1	...	2	...	...	...	...	...	...	1	...	...	...	1	...
...	
...	...	...	...	...	...	...	1	2	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
20	8	14	13	8	2	1	203	134	9	35	47	14	54	10	8	63	10	5	20	34	2	5	8	11	2	
1	1	1	...	...	...	...	2	11	1	...	3	2	1	...	2	1	...	1	...	2	...	...	...	...	...
19	16	18	8	6	3	...	...	94	4	14	17	4	9	3	2	9	...	...	3	13	2	1	4	4	5
...	...	1	...	...	...	...	...	6	...	...	...	...	2	1	...	...	...	...	1	1	...	...	1	...	...
1	...	...	...	...	...	...	...	3	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...
21	17	20	8	6	3	...	2	116	5	14	21	7	12	4	4	11	...	1	4	16	2	1	7	4	5	

CAUSES OF DEATH.	Total.	SEX.		AGE.																	
		M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55		
				to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55			
Brought forward...	118	55	63	...	1	1	...	...	2	2	...	2	...	4	6	4	11	10	
Genito-Urinary System																					
& Annexa (non venereal) <i>Cont.</i>																					
Diseases of the Bladder ...	6	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Urethra, Urinary Abscess...	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Diseases of the Prostate ...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Non-venereal Diseases of Male Genital Organs ..	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine Hæmorrhage (non- puerperal) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine Tumour (non-cancerous) .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Uterus ...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Ovarian Cyst, Tumour (non- cancerous) ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Other Diseases of Female Genital Organs ...	3	...	3	...	...	1	...	...	...	...	...	1	...	1	...	...	...	...
Other Diseases of Genito-Urinary System ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Genito-Urinary System	137	66	71	...	1	2	...	...	2	2	...	2	2	4	7	5	13	11	
The Puerperal State.																					
Abortion, Miscarriage ...	2	...	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...
Other Accidents of Pregnancy...	2	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
Puerperal Hæmorrhage, Flooding	3	...	3	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...
Other Accidents of Childbirth ...	6	...	6	...	...	...	...	...	...	...	...	1	3	2	...	...	...	...
Puerperal Fever ...	4	...	4	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...
Puerperal Albuminuria and Convulsions ...	5	...	5	...	...	...	...	...	...	...	...	2	1	1	...	1	...	...	
Puerperal Insanity ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Phlegmasia Alba Dolens	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Diseases of the Breast	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Puerperal...	22	...	22	...	...	...	...	...	...	...	...	3	5	8	4	2	...	...	
Skin & Cellular Tissue.																					
Senile Gangrene ...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Gangrene ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carbuncle, Boil ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phlegmon, Acute Abscess	2	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulcer, Bedsore ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eczema ...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Pemphigus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Skin and Cellular Tissue ...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Total Diseases of the Skin, &c.	10	3	7	2	...	1	...	...	...	...	...	...	1	...	...	...	...	...
Diseases of the Bones and Locomotor System.																					
Diseases of the Bones ...	4	2	2	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...
Diseases of the Joints ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Locomotor System ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Locomotor System, &c. ...	4	2	2	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...
Malformations.																					
Congenital Hydrocephalus ...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Phimosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Malformation of the Heart ...	10	8	2	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Congenital Malformations	7	1	6	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Congenital Malformations	18	10	8	17	...	1	...	...	...	...	...	...	...	...	...	...	...	...

WARD.

55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c-Lostock	Rum worth	Haliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever c-Br hmet
21	17	20	8	6	3	...	2	116	5	14	21	7	12	4	4	11	...	1	4	16	2	1	7	4	5
...	1	2	1	1	1	...	...	6	...	...	...	...	1	1	3	...	...	...	...	...	...	...	1	...	...
...	1	...	...	...	...	4	...	1	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...
...	1	2	...	3	...	...	1	...	...	...	...	...	...	...	...	1	...	...	1	...	...
...	...	1	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...
...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	2	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...
...
21	18	23	10	7	5	2	3	134	6	17	23	8	13	5	7	13	...	1	4	17	2	2	9	5	5
...	2	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...
...	2	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
...	3	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...
...	6	2	...	...	...	1	1	...	1	...	1	...	...	...	...	...	...	...
...	4	...	...	2	...	...	...	...	2	...	...	...	...	...	...	...	...	...
...	5	...	...	...	1	1	...	...	...	...	2	1	...	...	...	...	...	...
...
...
...	22	2	...	3	2	3	1	1	4	2	...	3	1	...	...	...	...	...
...	1	1	...	...	...	2	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
...
...	2	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
2	...	1	...	...	...	...	...	3	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...
...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...
...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
3	...	1	1	1	...	...	3	7	...	...	2	...	3	...	1	3	...	...	...	1	...	...	...	...	...
...	1	...	...	...	...	...	...	4	1	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
...
...
...	1	...	...	...	...	...	...	4	1	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
...
...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
...	10	...	...	...	1	...	3	...	1	1	...	...	2	2	...	...	...	...	...
...	7	...	...	1	1	...	...	1	...	1	1	...	...	...	2	...	...	...	...
...	18	...	...	1	2	...	3	1	1	2	1	...	2	2	...	3	...	...	...

CAUSES OF DEATH.	Total.	SEX.		AGE.															
		M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45	50	
				to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55	
Diseases of																			
Early Infancy.																			
Premature Birth ...	84	44	40	84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility, Marasmus (infantile) ..	70	45	25	70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Icterus Neonatorum ...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sclerema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast Milk	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Umbilicus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis ...	7	5	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Injuries at Birth ...	5	3	2	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cyanosis Neonatorum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lack of Care ...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Early Infancy	168	99	69	168	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Old Age.																			
Senile Decay, Old Age	135	55	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Senile Dementia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Old Age	135	55	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Violent Causes.																			
1.—Accident.																			
Poisoning by Food ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Acute Poisonings	2	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Poisoning by Deleterious Gases, Suffocation ...	9	7	2	7	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Conflagration ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burns (conflagrations excepted)	8	4	4	...	2	...	2	...	1	1	...	...	...	...	...	...	...	...	...
Drowning ...	8	5	3	...	...	...	...	...	1	1	4	...	...	...	...	...	...	1	...
Firearms ..	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Cutting or Piercing Instruments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Falls ...	20	10	10	...	...	...	...	...	1	...	...	...	...	...	...	1	1	1	2
In Mines and Quarries	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Machinery ...	2	2	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...
Vehicles ...	11	10	1	...	...	...	1	...	...	1	...	...	1	1	3	...	1	1	...
Animals ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Weather Agencies ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise or not Stated	6	5	1	...	...	...	...	...	...	1	1	...	...	...	...	...	1	...	...
2.—Suicide.																			
Poison ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Asphyxia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hanging or Strangulation	5	3	2	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	1
Drowning ...	7	3	4	...	...	...	...	...	...	...	...	1	1	1	1	1	...	1	1
Firearms ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cutting or Piercing Instruments	3	3	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...
Other Suicides ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.—Homicide.																			
4.—Execution.																			
Total Violent Deaths	84	56	28	7	3	...	3	...	3	5	7	2	3	3	6	6	5	5	...
Ill-defined Causes.																			
Atrophy, Debility, Marasmus (age 1 and under 70)	5	5	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart Failure (age 1 and under 70)	3	2	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Syncope (age 1 and under 70)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teething, Dentition, (without Convulsions)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dropsy, Ascites, Anasarca	2	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Other Ill-defined Causes	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Ill-defined Deaths	11	9	2	1	3	1	...	...	1	...	...	...	...	1	...	...	...	1	...

									WARD.																
5 to 10	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c- Lostock	Runworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever c-Br tmet
...	...	...	...	...	...	...	84	...	4	4	10	3	11	2	6	14	2	3	8	8	...	...	1	6	2
...	...	...	...	...	...	...	70	...	...	1	13	5	12	2	1	12	...	2	2	7	...	2	7	3	1
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...
...	...	...	...	...	...	...	7	...	...	...	...	...	1	...	2	...	...	...	...	2	...	...	1	...	1
...	...	...	...	...	...	...	5	...	...	...	...	...	1	1	1	1	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	...	...	...	...	...	...	168	...	4	5	23	8	25	5	10	27	2	5	10	17	...	2	10	11	4
1	1	11	34	37	31	20	...	135	2	7	15	5	6	4	12	17	6	6	9	17	2	4	8	9	6
...
1	1	11	34	37	31	20	...	135	2	7	15	5	6	4	12	17	6	6	9	17	2	4	8	9	6
...
...	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
...	...	...	1	...	...	...	8	1	1	1	1	1	1	...	...	1	...	...	1	...	...	1	...	1	...
1	...	...	...	...	...	1	4	4	...	1	2	...	1	...	...	1	...	...	1	2	...	...	...	...	...
...	1	...	...	...	...	...	8	...	...	...	...	1	1	...	...	3	...	...	...	1	1	...	1	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
1	1	3	5	1	3	...	...	20	...	1	5	2	1	2	1	1	...	1	...	3	...	...	2	1	...
...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...
...	...	1	...	1	...	...	1	10	1	...	3	1	1	...	1	2	1	...	...	...	...	...	...	...	1
...
3	...	...	...	...	...	...	...	6	...	...	2	...	...	1	...	1	...	...	1	1	...	...	...	...	...
...
...
...
2	...	...	1	...	...	...	...	5	...	...	1	...	1	...	...	...	...	...	...	2	...	...	1	...	...
...	...	...	...	...	...	...	...	7	...	...	...	...	1	1	1	...	...	...	...	2	...	...	1	1	...
...	...	...	...	...	...	...	...	3	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1
...
7	2	4	7	2	3	1	13	71	2	3	16	5	7	5	3	12	2	1	3	11	1	1	5	5	2
...	1	...	...	...	...	...	4	1	...	1	1	...	2	...	1	...	...	...	...	...	...	...	...	...	...
...	1	1	...	...	...	...	...	3	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...	2	1	...	...	...	...	5	6	...	2	2	1	3	...	1	...	...	...	...	...	...	...	...	1	1

TABLE
SUMMARY OF CAUSES OF

CAUSES OF DEATH.	Total.	SEX.		AGE.															
		M.	F.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	
General Diseases ...	685	311	374	57	58	21	20	11	40	19	32	24	26	28	39	45	42	54	
Nervous System, &c. ...	289	149	140	37	24	4	...	2	13	8	2	6	3	6	10	14	12	23	
Circulatory System ...	264	118	146	...	...	...	...	...	6	3	7	5	12	13	15	11	19	41
Respiratory System ...	557	276	281	45	49	19	10	5	8	5	4	6	10	10	15	17	30	30	
Digestive System ...	337	182	155	151	35	12	3	2	3	3	4	6	6	10	3	11	10	12	
Genito-Urinary System &c. ...	137	66	71	...	1	2	...	...	2	2	...	2	2	4	7	5	13	11
The Puerperal State ...	22	...	22	...	...	...	...	...	...	...	...	3	5	8	4	2	...	...
Skin and Cellular Tissue	10	3	7	2	...	1	...	...	...	...	...	...	1	...	...	...	...	...
Locomotor System, &c.	4	2	2	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...
Malformations ...	18	10	8	17	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Early Infancy ...	168	99	69	168	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Old Age ...	135	55	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Violent Causes ...	84	56	28	7	3	...	3	...	3	5	7	2	3	3	6	6	5	55	
Ill Defined Causes ...	11	9	2	1	3	1	...	...	1	...	...	...	...	1	...	...	1	...
Grand Total ...	2721	1336	1385	485	173	61	36	20	76	45	56	55	68	83	99	112	133	1766	

I.
DEATH, 1914.

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									WARD.																
55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c-Lostock	Rum worth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar Lever-cBr'htmet
41	42	36	33	13	3	1	167	518	25	49	97	27	103	19	41	95	22	10	35	73	8	16	25	27	13
19	33	27	21	20	2	3	67	222	16	17	45	10	38	17	23	23	4	4	17	40	5	11	8	4	7
25	32	32	22	16	5	...	...	264	9	14	40	4	35	13	20	24	5	6	16	38	3	12	8	11	6
38	53	56	62	53	26	6	128	429	18	69	101	24	77	20	20	66	15	11	23	46	5	12	16	24	10
20	8	14	13	8	2	1	203	134	9	35	47	14	54	10	8	63	10	5	20	34	2	5	8	11	2
21.	18	23	10	7	5	2	3	134	6	17	23	8	13	5	7	13	...	1	4	17	2	2	9	5	5
...	...	...	...	...	...	...	...	22	2	...	3	2	3	1	1	4	2	...	3	1	...	...	...	...	...
3	...	1	1	1	...	...	3	7	...	...	2	...	3	...	1	3	...	...	...	1	...	...	...	...	...
...	1	..	...	...	...	...	...	4	1	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	18	...	...	1	2	...	3	1	1	2	1	...	2	2	...	3	...	...	...
...	...	...	...	...	...	...	168	...	4	5	23	8	25	5	10	27	2	5	10	17	...	2	10	11	4
1	1	11	34	37	31	20	...	135	2	7	15	5	6	4	12	17	6	6	9	17	2	4	8	9	6
7	2	4	7	2	3	1	13	71	2	3	16	5	7	5	3	12	2	1	3	11	1	1	5	5	2
...	2	1	...	...	...	...	5	6	...	2	2	1	3	...	1	...	...	...	...	...	...	...	...	1	1
175	192	205	203	157	77	34	775	1946	94	220	416	108	370	100	148	351	69	49	142	297	28	68	97	108	56

TABLE II.

POPULATIONS, BIRTHS AND DEATHS 1909-14.

Year	Population estimated to Middle of each Year	Births			Total Deaths registered in the District.		Transferable Deaths. of Non-residents Registered in the District of Residents not Registered in the District		Nett Deaths belonging to the District				
		Uncorrected Number.	Nett.						Under 1 year of Age.		At all Ages		
			Number	Rate	Number	Rate	Number	Rate per 1000 nett Births	Number	Rate			
1909	178667	4750	Corrected	26.5	2590	14.4	28	330	590	124	2892	16.1	
1910	179934	4380		24.3	2308	12.8	36	296	499	113	2568	14.2	
1911	181202	4125		38	22.9	2607	14.3	43	398	670	161	2962	16.3
1912	182534	4083		45	22.6	2181	11.9	39	363	398	96	2505	13.7
1913	183879	3976		23	21.7	2564	13.9	39	370	569	142	2895	15.7
1914	185247	4076	28	22.1	2416	13.0	60	365	485	118	2721	14.6	

CENSUS, 1911.

Total Population at all ages	...	...	...	180851
Total Families or Separate Occupiers...	...	...	...	40681
Average Number of Persons per House	...	...	...	4.4
Area of District in Acres (land and inland water)...	...	...	...	15283

TABLE IV.

INFANTILE MORTALITY DURING THE YEAR 1914.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE.

Cause of Death			Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 4 Weeks	4 Weeks and under 3 Months	3-6 Months	6-9 Months	9-12 months	Total Deaths under 1 Year
All Causes	Certified	Uncertified...	99 4	37 ...	24 ...	24 ...	184 4	89 ...	95 ...	55 ...	58 ...	481 4
Small Pox
Chicken Pox
Measles	1	...	...	1	...	...	5	9	15
Scarlet Fever	6	7	19
Whooping Cough	2	4	1	1	3
Diphtheria and Croup...
Erysipelas
Tuberculous Meningitis	1	...	...	1	2
Abdominal Tuberculosis	1	1	...	2	4
Other Tuberculous Diseases	1	...	2	3
Meningitis (<i>not Tuberculous</i>)	1	...	...	1	1	2	2	1	7
Convulsions	6	2	1	3	12	8	5	2	3	30
Laryngitis	1	1
Bronchitis	1	2	...	1	4	6	2	4	6	22
Pneumonia (all forms)...	1	...	...	...	1	2	5	3	8	19
Diarrhoea	1	1	2	4	18	33	19	10	84
Enteritis...	2	3	1	6	15	22	5	5	53
Gastritis	1	...	1	2	2	2	...	7
Syphilis	2	1	...	3	2	1	...	...	6
Rickets
Suffocation, overlying	1	1	...	1	3	2	1	1	...	7
Injury at Birth	4	1	...	...	5	...	...	...	...	5
Atelectasis	4	2	...	1	7	...	...	...	...	7
Congenital Malformations	5	5	2	1	13	3	1	...	...	17
Premature Birth	56	8	5	5	74	7	2	1	...	84
Atrophy, Debility and Marasmus	23	9	6	7	45	15	9	2	...	71
Other Causes	2	...	4	2	8	4	4	1	2	19
Totals	103	37	24	24	188	89	95	55	58	485

Nett Births in the year—Legitimate, 3917; Illegitimate, 187. Nett Deaths in the year of legitimate and illegitimate infants not available.

TABLE V.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1914.

Notifiable Disease	Number of Cases Notified.							Total Cases Notified in each Ward.																		
	At all Ages	At Ages—Years						West	Halliwell	Bradford	Derby	East	Rumworth	Church	North	Exchange	Great Lever	Tonge	Astley Bridge	Smithills	Hulton	Deane-c-Loxstock	Darcy L.-c-Br'm	Heaton	Total cases removed to Hospital	
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65																			65 and upwards
Small Pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	190	2	44	114	20	7	3	...	14	14	38	29	3	24	1	1	2	23	4	1	4	17	7	6	2	35
Erysipelas	90	1	1	1	6	30	41	10	12	6	8	13	7	9	5	4	1	6	6	1	3	4	...	5	...	...
Scarlet Fever	291	1	71	196	14	8	1	...	28	16	18	24	19	15	18	15	15	42	15	30	9	13	3	10	1	152
Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	51	...	1	15	14	16	2	3	9	2	5	8	6	2	1	6	1	4	5	...	1	1	...	...	...	36
Continued Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	9	...	...	...	1	8	...	...	2	...	...	4	...	1	...	...	...	...	...	...	...	...	2	...	...	...
Cerebro-spinal Meningitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poliomyelitis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum	35	35	...	...	...	...	...	...	4	3	4	3	4	3	2	1	7	1	1	1	...	...	...	1	...	...
Pulmonary Tuberculosis	303	3	4	34	56	147	54	5	44	27	34	34	19	13	13	14	31	14	8	17	11	10	7	5	2	173
Other forms of Tuberculosis.....	69	6	11	21	15	13	3	...	11	3	6	7	4	1	4	8	6	5	4	4	2	3	1	...	...	11
Anthrax	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....	1039	48	132	381	126	230	104	18	125	71	113	122	62	68	44	49	63	95	43	54	30	48	18	29	5	407

Isolation Hospital—Bolton Borough Infectious Diseases Hospitals, Hulton Lane, Deane, Bolton—Provided by Bolton Corporation.
 "Sanatoria" { Westmorland Sanatorium, Meathop, Grange-over-Sands ... —Governed by Trustees.
 Wilkinsons Sanatorium, Whitehill, Belmont Road, Bolton... —Governed by Trustees.
 Royal Liverpool County Hospital for Children, Heswall, Cheshire ... —Governed by Trustees.

