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Contributors

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County
Borough of Bolton.



ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH
FOR
→* 1904, *←

BOLTON :
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1905.

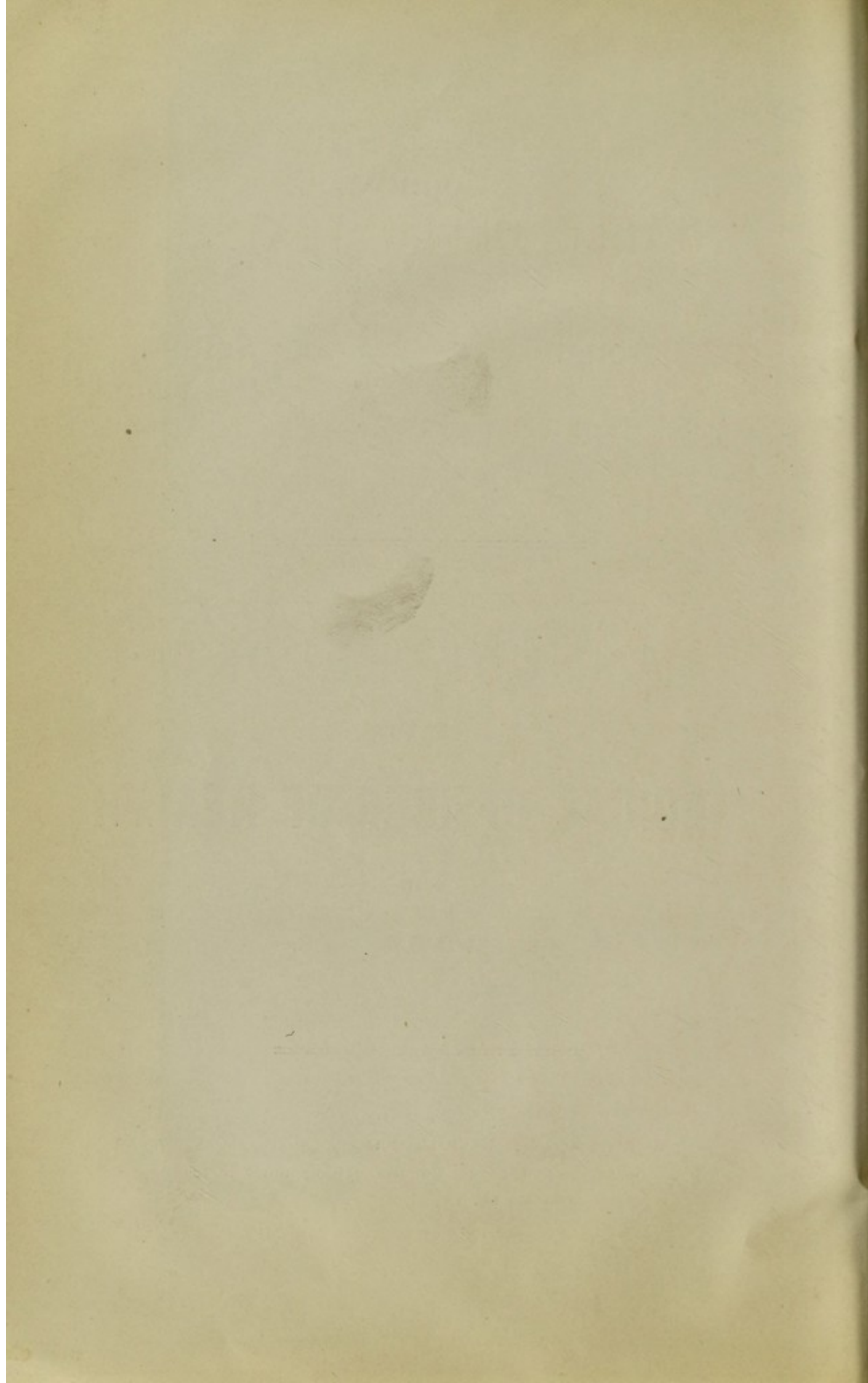
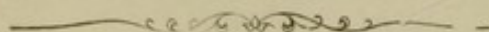


TABLE OF CONTENTS.



	Page
I.—Vital and Mortal Statistics.	
Summary	11
Population and Area	12
Births and Deaths	12
Bolton compared with 33 Great Towns	14
Population, Density, Birth-rates and Death-rates in Previous Years	15
Infantile Mortality	16
Epidemic Mortality	17
Summary of Causes of Death	21
Meteorological Observations	22
 II.—Infectious Diseases.	
Notification... ..	25
Enteric Fever	29
Diphtheria	34
Measles and Whooping Cough	36
Diarrhoea	38
Smallpox	42
Tubercular Phthisis (Pulmonary Tuberculosis)	46
Hospital Isolation	47
Midwives Act	50

III.—Sanitary Work. Page

Summary	55
Sanitary Staff	56
Housing of Working Classes	56
Closet Accommodation	60
Common Lodging Houses	64
Canal Boats	65
Travelling Vans	65
Factories	65
Smoke Abatement..	67
Workshops and Workplaces	72
Bakehouses	73
Cowsheds and Dairies	77
Offensive Trades and Slaughterhouses	81
Unsound Meat and Food	82
Public Analyst's Report	83
Baths and Lavatories	85
Scavenging	89

IV.—Appendix.

Causes of Death under Sex, Age, and Ward	2
Local Government Tables :	
Population, Births, and Deaths in Previous Years...	12
Ward Populations, Births, and Deaths	13
Infectious Disease	16
Causes of, and Ages, at Death	17

**Extract from Memorandum of Local Government Board,
October, 1902, as to Annual Reports of 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 especially borne in mind are :—

- (1) Physical features of the District.
- (2) House Accommodation.
- (3) Sewerage and Drainage.
- (4) Excrement and Refuse Disposal.
- (5) Water Supply.
- (6) Places over which the Council have supervision.
- (7) Nuisances.
- (8) Methods of dealing with infectious disease.

PUBLIC HEALTH DEPARTMENT,

TOWN HALL, BOLTON,

14TH FEBRUARY, 1905.

GENTLEMEN,

I beg to present to you my report for the year 1904, concerning the health and sanitary circumstances of the Borough, in accordance with the statutory duty imposed on me.

The report consists mainly of statistics, which are necessary for record and comparison with other districts.

The death-rate was next to the lowest on record, and Bolton's position in that respect among the thirty-three great towns was higher than it had ever been before.

There was a marked diminution in the number of cases of infectious disease, and although smallpox is still prevalent in several northern towns, the epidemic appears to have come to an end in Bolton.

The Midwives Act, 1902, comes into force in April, 1905, and the powers of the local supervising authority have been delegated to the Sanitary Committee.

Considerable progress was made in the demolition of insanitary property and the conversion of the old type of sanitary conveniences into water closets, but much still remains to be done.

I have much pleasure in recording my indebtedness to the Clerks, Sanitary Officials, and Hospital Staff for their ready and efficient assistance, and the Chairman and Members of the Sanitary Committee for their support and appreciation.

I am,

Yours obediently,

JOHN E. GOULD.

COUNTY BOROUGH OF BOLTON.

SANITARY COMMITTEE.

The Mayor—Ald. JOHN HEYWOOD, J.P.

The Deputy Mayor—Ald. JOHN MILES, J.P.

Chairman—Ald. GLEN PARK, M.D.

Vice-Chairman—Ald. KNOWLES EDGE.

Ald. W. H. BROWN, J.P.	Counc. HARGRAVES, J.P.
„ TONG.	„ HARLING.
Counc. ASPINALL.	„ JONES.
„ CARR.	„ MELLING.
„ DEMAINE.	„ MORRIS, L.R.C.P.
GREENWOOD.	„ SCOTT, J.P.
	„ YOUNG, L.R.C.P.

STAFF OF THE SANITARY DEPARTMENT.

Food Inspector—RICHARD SPENCER.

District Inspectors—1. JOHN McMILLAN (Cert. R.S.I.)

2. GEORGE SOUTHERN.

3. EDWARD OAKES (Cert. R.S.I.).

4. JOHN THOMAS LORD (Cert. R.S.I.).

5. EDWARD HERBERT FARAGHER (Cert. R.S.I.,
and Cert. for Food).

6. JOHN WILLIAM KING (Cert. R.S.I.).

Chief Clerk—JACOB HOLKER (Cert. R.S.I.).

Chief Disinfecter—JOHN WILSON.

Matron, Borough Fever Hospital—MARIAN STEVENSON.

Medical Officer of Health—J. E. GOULD, M.D. Lond., D.P.H. Camb.

Vital & Mortal Statistics.

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SUMMARY OF VITAL & MORTAL STATISTICS. 1904.

Position	Lat. 53° 35' N., Lon. 2° 37' W.
Elevation above sea level230ft. to 1450ft.
Geological Formation:—Boulder Clay and Sand over Coal Measures.	
Area in acres	15283
Population	175744
Density	11·4
Inhabited Houses—Census 1901	35995
Uninhabited Houses—Census 1901	3093
New Houses Certified 1901—1904 inclusive	1815
New Houses Certified 1904	464
Rateable Value	£772,850
Births	4736
Birth-rate	26·9
Deaths	2994
Death-rate (Corrected for Institutions)	17·0
Corrected Death-rate (ascertained by application of Registrar-General's Factor)	19·2
Average Death-rate (1894—1903)	19·6
Infantile Mortality	167
Epidemic Death-rate (Seven Chief Diseases)... ..	2·25
Diarrhœa Death-rate	·88
Diarrhœa Mortality per 1000 Births	32·9
Enteritis Mortality per 1000 Births	12·8
Phthisis Death-rate	1·25
Death-rate from other forms of Tuberculosis	·50
Respiratory Death-rate	3·34
Rainfall (10 years' average, 40)	34·74
76 Great Towns Death-rate	17·2
76 Great Towns Epidemic Death-rate	2·49
76 Great Towns Infantile Mortality	160

Population and Area.

For the middle of 1904 the population was **175744** on an area of **15283** acres, making a density of **11·4** persons per acre.

The Ward populations and densities are given in Table I.

Births.

4736 births were registered, equal to **26·9** per 1000, the lowest yet recorded. This diminishing birth-rate is common to other large towns in England and Wales. The illegitimate births numbered 203, and were 4·2 per cent. of the total.

Deaths.

2994 deaths were registered of persons resident in Bolton, including those who died in Institutions outside and excluding visitors who died in our Institutions. This was equal to a death-rate (recorded) of **17·0** per 1000, next to the lowest yet recorded, which was 16·9 for 1902. The death-rate for the 76 great towns was 17·2. There were 222 deaths in the Workhouse, 109 in the Bolton Infirmary, 49 in Lunatic Asylums, 21 in the Borough Fever Hospitals, and 7 in other Institutions outside the Borough. 28 of those who died in the Infirmary were non-residents. The average death-rate for the last ten years (1894-1903) was 19·6.

The birth-rates, death-rates, &c., in wards are given in the following table :—

TABLE I.

Populations, Birth-rates, &c., in Wards, 1904.

WARD.	Population.	Area.	Density.	Birth-rate.	Death-rate.	Infantile Mortality.	Zymotic Death-rate.
West	27572	450	61·2	24·3	17·9	194	2·53
Halliwell	21635	358	60·4	28·6	14·1	122	1·38
Bradford	20110	285	70·5	29·8	18·8	165	1·98
Derby	19685	300	65·6	30·5	18·7	171	2·99
East	10275	160	64·2	30·3	22·4	224	3·69
Church	8545	390	21·9	19·6	16·1	226	2·34
Rumworth	8165	163	50·0	30·1	19·9	239	4·04
North	7560	150	50·4	26·1	16·1	151	2·77
Exchange	5335	105	50·8	28·3	18·9	225	2·06
Old Borough	128882	2361	54·5	27·6	17·8	179	2·49
Great Lever	10290	867	11·8	22·7	12·6	153	1·16
Tonge	9725	830	11·7	26·3	14·3	121	1·95
Astley Bridge	8155	1780	4·5	22·0	13·6	122	·98
Smithills	5010	2108	2·3	26·5	11·7	127	1·19
Hulton	4950	1620	3·0	28·6	16·3	119	1·61
Darcy Lever-c-Breightm't ...	3508	1372	2·5	30·7	19·0	138	3·13
Deane-cum-Lostock ...	3230	2601	1·2	25·0	18·5	61	2·47
Heaton	1994	1744	1·1	18·5	20·5	270	1·00
Added Area	46862	12922	3·6	24·9	14·6	130	1·57
Extended Borough ...	175744	15283	11·4	26·9	17·0	167	2·25

Birth-rates, Death-rates from All Causes, Principal Epidemic Diseases, and Infantile Mortality in 33 Great Towns, 1904.

Towns.	Birth-rate.	Death-rate.	Epidemic Death-rate.	Infantile Mortality.				
76 Great Towns ...	29·1	...	17·2	...	2·49	...	160	
Croydon	26·1	...	13·8	...	1·55	...	129
Leicester	26·6	...	14·5	...	2·10	...	163
Wolverhampton	29·8	...	14·6	...	2·71	...	152
Derby	27·2	...	15·1	...	1·40	...	143
Cardiff	29·5	...	15·2	...	1·79	...	144
Bristol	26·0	...	15·4	...	1·63	...	134
Halifax	10·1	...	15·5	...	1·51	...	130
London	28·0	..	16·1	...	2·15	...	144
Brighton	23·4	...	16·6	...	1·58	...	134
West Ham	32·1	...	16·7	...	3·43	...	165
Portsmouth	28·2	...	16·8	...	2·12	...	141
Sheffield	31·9	...	16·8	...	2·20	...	158
Bolton	26·9	...	17·0	...	2·25	...	167
Blackburn	23·5	...	17·2	...	2·60	...	192
Bradford	22·0	...	17·5	...	2·42	...	167
Huddersfield	23·7	...	17·5	...	1·90	...	136
Nottingham	27·8	...	17·5	...	2·59	...	175
Swansea	30·5	...	17·7	...	2·23	...	172
Preston	28·2	...	17·8	...	2·91	...	183
Leeds	28·0	...	17·9	...	2·56	...	176
Hull	30·8	...	18·0	...	3·52	...	181
Oldham	24·9	...	18·1	...	2·32	...	156
Norwich	27·6	...	18·2	...	2·89	...	179
Gateshead	34·3	...	18·5	...	2·87	...	175
Plymouth	25·3	...	18·7	...	2·52	...	173
Birmingham	31·5	...	19·3	...	3·17	...	195
Newcastle-on-Tyne	30·5	...	19·3	...	1·78	...	156
Sunderland	34·4	...	19·4	...	2·34	...	165
Burnley	26·4	...	19·5	...	3·92	...	228
Birkenhead	33·1	...	19·8	...	3·70	...	180
Salford	31·7	...	21·0	...	4·36	...	193
Manchester	31·2	...	21·3	...	3·10	...	187
Liverpool...	33·5	...	21·9	...	4·65	...	196

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	
1861-1870	75999	41'2				27'5	
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	2985	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	168748	11'0	4648	27'5	3085	18'2	172
1902	171082	11'1	4779	27'4	2959	16'9	132
1903	173401	11'3	4700	27'1	3062	17'6	151
1904	175744	11'4	4736	26'9	2984	16'9	167

* Incorporation in 1838 with 48,000 population and 1,840 acres.

† Added in 1878 part of Rumworth with 163 acres and 3,000 population,
and part of Halliwell with 358 acres and 10,000 population.

‡ Borough extended and 38,000 added to the population.

Infantile Mortality.

792 or 26·5 per cent. of the total deaths were those of children under one year of age, equal to an infantile mortality of **167** per 1,000 births, lower than the average for the last ten years which was 169, but slightly higher than that for the great towns, which was **160**.

The infantile mortality in previous years is given in Table II, and that of the other 32 great towns on page 14.

The births, deaths under one year, and infantile mortality in the different wards for 1904 were :—

Ward.	Births.	Deaths under 1 year	Infantile Mortality
West	670	130	194
Halliwell	619	76	122
Bradford	600	99	165
Derby	601	103	171
East	312	70	224
Church	168	38	226
Rumworth	246	59	239
North	198	30	151
Exchange	151	34	225
Great Lever	234	36	153
Tonge	256	31	121
Astley Bridge	180	22	122
Smithills	133	17	127
Hulton	142	17	119
Darcy Lever-cum-Brightmet	108	15	138
Deane-cum-Lostock	81	5	61
Heaton	37	10	270

The deaths under one year were distributed as follows :—

	1903	1904
Diarrhoea	120	126
Respiratory Diseases ...	100	120
Debility, &c.	96	103
Premature Birth	88	101
Whooping Cough	3	73
Convulsions	71	57
Enteritis	37	47
Measles	15	5
	<hr/>	<hr/>
	530	632
Other Various Causes...	183	160
	<hr/>	<hr/>
	713	792

Mortality from Epidemic Diseases.

396 deaths were registered from the seven chief epidemic diseases, equal to a death-rate of **2·25** lower than the average for the last ten years, but not so low as that for 1903. The increase on 1903 was caused almost entirely by the high death-rate from whooping cough. It is lower, however, than that for the 76 great towns which was 2·49.

The causes of death are set out here, and the death-rates in previous years in Table IV.

CAUSES OF DEATHS FROM ALL EPIDEMIC DISEASES.

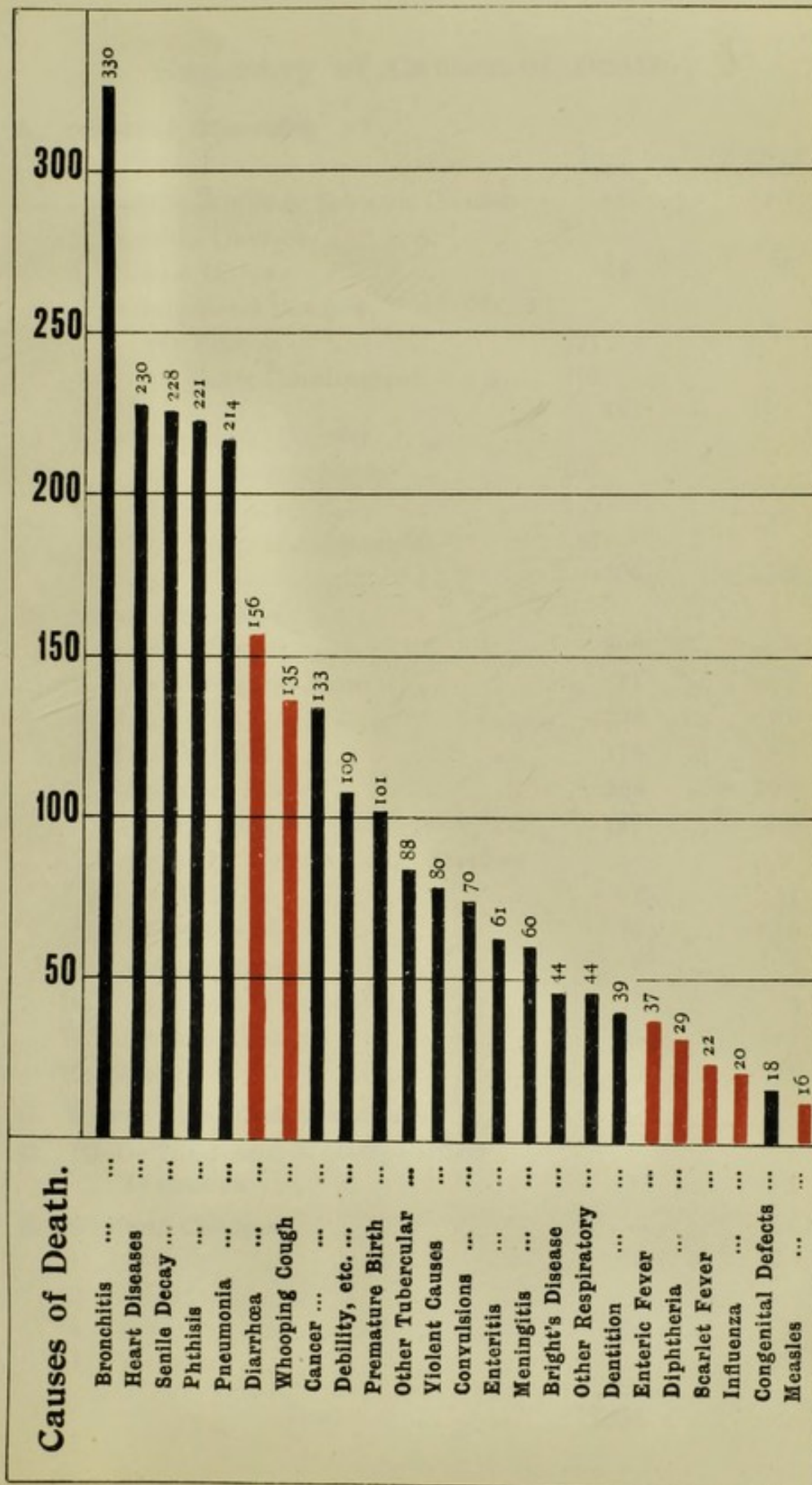
				1903	1904
Seven Chief Epidemic Diseases.	Small-pox	...	...	3	1
	Scarlet Fever	..	...	59	22
	Diphtheria and Membranous Croup..			38	29
	Enteric, Continued Fever		...	36	37
	Diarrhoea	...	...	151	156
	Measles	...	...	49	16
	Whooping Cough	...	...	9	135
	Influenza	...	...	33	20
	Other Epidemic Diseases	...	...	24	25
Total				402	441

TABLE III.

**Death-rates from the Seven Chief Epidemic Diseases.
1894-1904.**

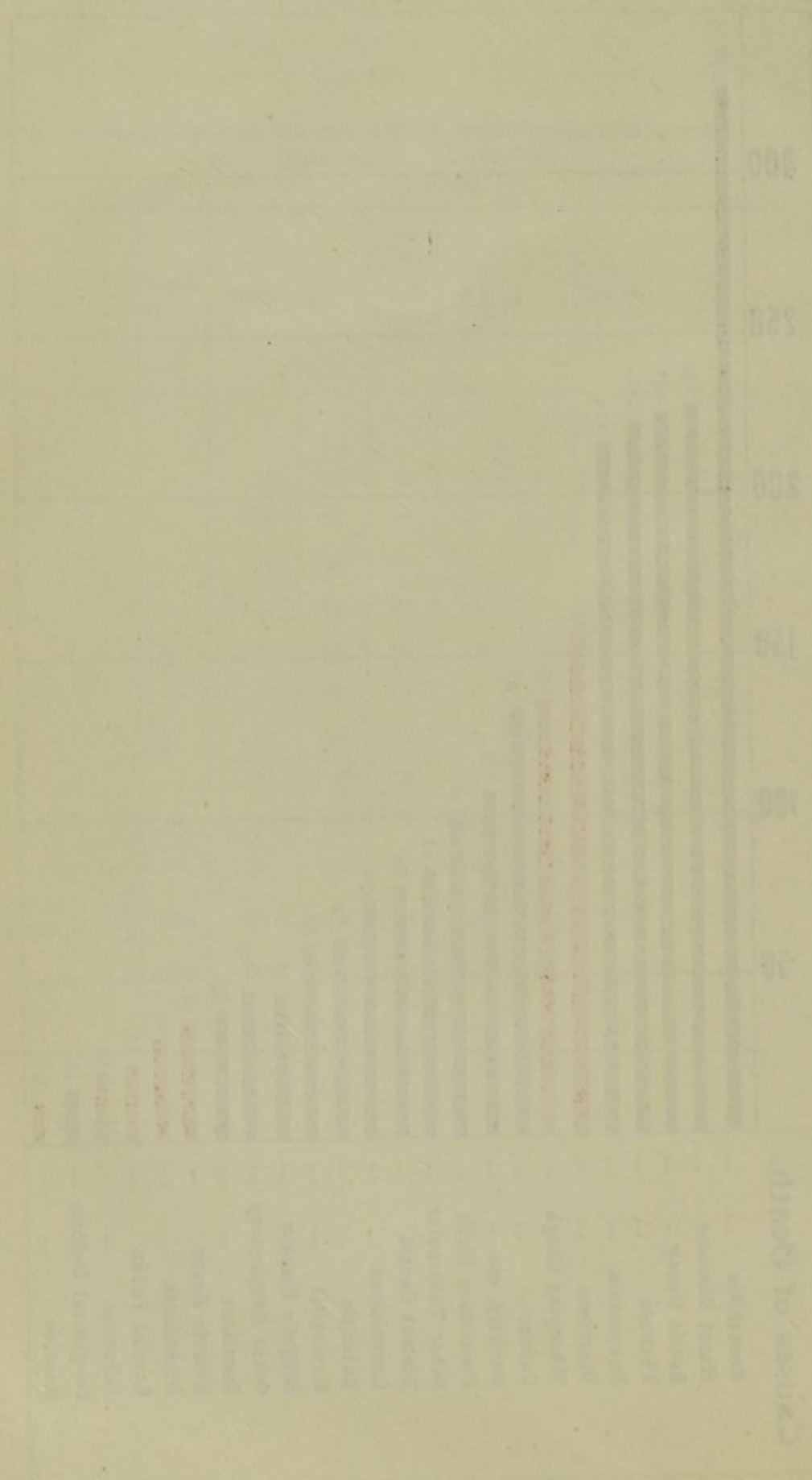
	Small-pox.	Measles	Scarlet Fever	Diphtheria and Membr. Croup	Whooping Cough	Fever	Diarrhoea	Seven Chief Epidemic
1894	—	·16	·08	·04	·51	·21	·57	1·59
1895	—	1·00	·17	·12	·56	·41	1·74	4·03
1896	—	·04	·32	·07	·83	·41	·85	2·50
1897	—	1·77	·18	·03	·32	·29	1·63	4·16
1898	—	·25	·16	·06	36	·28	1·80	2·93
1899	—	·57	·22	·08	·27	·33	1·59	3·08
1900	—	·22	·12	·12	·50	·29	1·13	2·40
1901	—	·64	·30	·15	·29	·23	1·42	3·05
1902	·04	·18	·68	·27	·30	·23	·40	2·12
1903	·01	·28	·34	·21	·05	·20	·87	1·98
Average 1894-1903...	·005	·51	·25	·11	·39	·28	1·20	2·78
1904	·005	·09	·12	·16	·76	·21	·88	2·25

Comparative View of Principal Causes of Death, 1904.



■ Deaths from Diseases other than Zymotics.
 ■ Deaths from Zymotic Diseases.

Comparative View of Principal Causes of Death, 1904.



Source: Bureau of Census, U.S. Department of Commerce, 1905.

Summary of Causes of Death.

A. General Diseases.

	No. of Deaths.	Per cent. of Total Deaths.
1. Specific Febrile or Epidemic Diseases	441	... 14·7
2. Parasitic Diseases	—	... —
3. Dietetic Diseases	10	... ·3
4. Constitutional Diseases		
(a) Phthisis	221	
(b) Other Constitutional	270	
	<hr/> 491	... 16·3
5. Developmental Diseases		
(a) Premature Birth	101	
(b) Old Age	228	
(c) Other Developmental	67	
	<hr/> 396	... 13·2

B. Local Diseases.

1. Nervous System	208	... 6·9
2. Organs of Special Sense	11	... ·3
3. Heart	230	... 7·6
4. Blood Vessels	113	... 3·7
5. Respiratory System	588	.. 19·6
6. Digestive System	197	... 6·5
7. Lymphatic System and Ductless Glands	3	... ·1
8. Urinary System	77	... 2·5
9. Generative System	6	... ·2
10. Pregnancy and Child Birth	13	... ·4
11. Locomotor System	5	... ·1
12. Skin	2	... ·1

C. Other Specified Diseases.

D. Ill-Defined and Not-Specified

Diseases	123	... 4·1
-----------------	-----	---------

E. Violent Causes.

1. Accidents	64	... 2·1
2. Homicide	—	—
3. Suicide	16	... ·5
4. Execution	—	—

Total	<hr/> 2994	
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TABLE IV.

Meteorological Observations, 1904.

Month	Baro- meter	Readings of Thermometers					Elastic Force of the Aqueous Vapour.	Mean amount of Humidity Saturation per 100°	Rain.	Registered Sunshine in hours	Mean amount of Ozone. 0 — None. 10 — Maximum.
	Corrected and Reduced to 32° Far, Mean sea level	Highest	Lowest.	Mean.	Range.	Dew-point			Amount Collected.		
	"	°	°	°	°	°	"	%	"	h. m.	
January ...	29·882	42·9	33·5	38·62	9·4	36·0	·216	93·0	3·668	11·30	·58
February...	29·538	40·5	33·0	36·60	8·9	32·8	·190	88·1	3·817	16·45	·66
March ...	29·996	43·7	33·8	37·85	9·9	34·2	·200	86·5	2·337	47·5	·04
April ...	29·881	51·6	40·9	45·53	10·7	40·2	·253	79·0	2·572	102·40	1·87
May ...	29·917	56·5	43·6	48·76	12·9	43·6	·291	77·7	2·934	92·30	·55
June ...	30·044	62·4	47·6	53·78	14·8	47·3	·328	73·2	1·418	179·50	·73
July ...	30·008	68·3	53·6	60·93	14·7	52·9	·405	74·5	1·708	151·55	·35
August ...	29·977	63·7	50·8	56·29	13·9	51·2	·380	79·2	4·642	150·45	1·10
September.	30·069	57·7	48·5	53·76	13·0	48·4	·341	80·0	1·732	101·35	·7
October ...	30·058	54·5	44·8	48·64	10·1	45·2	·309	87·5	2·602	63·20	1·6
November.	30·044	46·5	36·7	41·25	9·8	38·1	·238	90·1	3·724	21·45	1·8
December .	29·886	42·6	33·6	38·40	9·0	35·5	·214	91·9	3·287	11·40	·5
Mean or Total }	29·944	52·7	41·7	46·69	11·4	42·1	·280	83·4	34·741	951·20	·87
Yearly Averages, 1887-1904.	29·938	53·3	41·6	46·83	11·8	41·7	·277	81·3	40·159	1007·8	1·10

INFECTIOUS DISEASES.

THE CHURCH OF ENGLAND

Notification

884 cases were notified during 1904, a little more than half the number in 1903, and the smallest number since 1898. Of these **19** were smallpox, **477** scarlet fever, **158** enteric fever, **150** diphtheria and membranous croup, **9** puerperal fever, and **69** erysipelas. Smallpox occurred in the first and second quarters, being a continuation of the epidemic of 1902 and 1903. Scarlet fever was most prevalent in the first and fourth quarters, and enteric fever and diphtheria in the third and fourth quarters of the year.

The case rate was **5·0** per 1000 inhabitants, the lowest since 1894. It varied from 15·4 in Deane-cum-Lostock to 2·3 in Halliwell, the Old Borough being 4·5 and the Added Area 6·1 per 1000.

The epidemic death rate (seven chief diseases) was 2·25 per 1000, about the same as that for 1903. That for 76 great towns was 2·49. The death-rates per 1000 were: Smallpox ·005, scarlet fever ·12, diphtheria and membranous croup ·16, measles ·09, enteric fever ·21, whooping cough ·76, and diarrhoea ·88. Most of them were much lower than the 10 years' average, and only whooping cough was higher than those for 1903.

TABLE V.

**Weekly Notification of Scarlet, Enteric,
and Diphtheria, 1904.**

Week.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
	Scarlet Fever	Enteric Fever	Diphtheria	Scarlet Fever	Enteric Fever	Diphtheria	Scarlet Fever	Enteric Fever	Diphtheria	Scarlet Fever	Enteric Fever	Diphtheria
1	11	5	1	6	1	1	10	3	4	7	6	3
2	13	...	...	4	3	2	15	1	4	13	4	2
3	12	1	4	9	2	2	7	2	2	9	8	4
4	15	3	1	7	5	2	1	1	3	8	7	7
5	14	3	4	14	4	1	3	4	3	14	7	11
6	14	3	1	5	1	4	6	5	5	10	6	4
7	20	4	1	5	...	1	9	1	4	16	5	4
8	15	...	...	6	1	1	4	6	4	10	6	9
9	10	1	2	6	...	1	9	2	2	8	3	3
10	10	1	2	7	1	1	18	3	3	7	3	4
11	9	1	2	3	3	1	12	2	6	7	10	5
12	6	1	...	7	...	4	8	4	4	7	3	3
13	9	1	1	5	2	...	13	5	2	4	4	5
Total	158	24	19	84	23	21	115	39	46	120	72	64

TABLE VI.
Infectious Diseases Notified from 1879 to 1904.

Year	Smallpox	Scarlet	Diphtheria, Memb Croup.	Enteric	Continued	Typhus	Puerperal	Cholera	Erysipelas	Relapsing	Total.	Rate per 1000 of pop'n	Total admitted to Hospital
1879...	5	404	8	88	19	20	2	2	...	...	548	5'2	...
1880...	18	702	5	102	13	17	3	...	...	...	860	8'0	...
1881...	9	320	5	98	1	24	10	2	...	...	469	4'4	...
1882...	267	259	19	77	...	30	3	...	...	...	655	6'1	...
1883...	3	193	9	75	4	9	3	1	...	...	207	1'9	...
†1884...	13	303	11	152	1	6	3	4	...	...	493	4'5	62
1885...	6	186	8	57	...	...	4	...	...	...	261	2'3	120
1886...	...	322	18	60	...	3	3	...	...	...	406	3'6	208
1887...	...	721	22	107	...	2	1	...	...	...	853	7'5	296
1888...	11	924	51	180	...	2	4	...	...	...	1172	10'3	289
1889...	4	1256	92	125	2	16	...	...	...	...	1495	13'0	309
1890...	...	1071	74	101	1	15	4	...	...	...	1266	10'9	273
1891...	...	411	93	145	...	16	5	...	...	...	670	5'8	113
1892...	1	683	112	97	1	2	8	1	...	...	905	7'7	158
1893...	44	747	123	170	...	2	4	...	...	...	1090	9'2	202
1894...	2	267	25	117	1	...	16	...	...	...	428	3'6	136
1895...	10	495	34	237	1	...	7	...	...	...	784	6'5	168
1896...	1	816	29	186	...	...	10	...	...	...	1042	8'6	293
1897...	...	645	17	125	...	...	8	...	...	...	795	6'5	261
1898...	...	487	27	208	...	...	2	...	...	...	724	5'9	316
1899...	...	1226	52	321	...	...	12	...	...	...	1611	9'9	567
1900...	1	644	56	208	...	...	9	...	13	1	932	5'6	482
1901...	...	1066	91	219	...	...	8	...	28	...	1412	8'3	639
1902...	63	2910	202	192	4	...	14	...	71	...	3456	20'2	1266
1903...	55	971	142	178	2	...	15	...	85	...	1448	8'3	619
1894 to 1903	13'2	952'7	67'5	199'1	'8	'2	10'1	...	19'7	'1	1263'2	8'3	474'7
1904...	19	477	150	158	2	...	9	...	69	...	884	5'0	347

† Isolation Hospital Established.

TABLE. VII.

Distribution of Notified Diseases in Wards.

Wards.	Smallpox.	Scarlet Fever	Enteric Fever	Diphtheria and Membr. Croup	Puerperal Fever	Erysipelas	Continued Fever	Total	Rates per 1000	Admitted to Hospital		
										Smallpox	Scarlet Fever	Enteric Fever
West	3	48	28	14	1	9	1	104	3'4	3	27	11
Bradford	2	48	27	16	...	11	...	104	5'1	2	28	9
Halliwell.....	...	29	7	7	3	3	...	49	2'3	...	18	2
Derby	1	53	15	11	1	7	...	91	4'6	1	35	6
East.....	1	26	5	24	...	4	...	60	5'8	1	17	2
Church .....	...	26	14	17	1	3	...	61	7'0	...	19	4
North .....	...	32	9	8	...	1	...	50	6'6	...	20	4
Rumworth .....	...	38	9	3	...	6	...	56	6'8	...	24	1
Exchange	2	9	2	4	...	5	1	23	4'3	2	6	1
Old Borough ...	9	312	116	104	6	49	2	598	4'5	9	194	40
Great Lever ...	3	37	8	5	1	5	...	59	5'7	3	13	1
Tonge	2	40	17	15	1	4	...	79	8'1	2	23	7
Astley Bridge...	2	3	10	1	1	4	...	21	2'5	2	...	2
Hulton	3	12	4	2	...	1	...	22	4'4	3	7	2
Smithills .....	...	11	1	3	...	4	...	19	3'7	...	4	...
D'cy Lever-c'm-Brightmet ...	...	12	1	16	...	1	...	30	8'5	...	4	...
Deane-c.-Lost'k ...	...	45	1	3	...	1	...	50	15'4	...	27	1
Heaton .....	...	5	...	1	...	...	...	6	3'0	...	3	...
Added Area ...	10	165	42	46	3	20	...	286	6'1	10	81	13
Extended Boro'	19	477	158	150	9	69	2	884	5'0	19	275	53

Enteric Fever.

158 cases were notified with **37** deaths, the case rate being $\cdot 89$ per 1000 inhabitants, the lowest since 1892, and the death-rate $\cdot 21$. The case rate in the wards varied from $1\cdot 7$ in Tonge to $\cdot 1$ in Smithills, the Old Borough being $\cdot 9$ and the Added Area $\cdot 8$ per 1000. The disease was most prevalent in the fourth quarter, and after that in the third quarter.

The incidence on the different forms of closet for 1904 was :—

1 case in every	225	privy ashpits,
1 „ „ „	223	pails,
1 „ „ „	252	waste-water closets,
1 „ „ „	400	fresh-water closets,

and for the years 1899-1904 :—

1 case in every	164	privy ashpits,
1 „ „ „	178	pails,
1 „ „ „	264	waste-water closets,
1 „ „ „	418	fresh-water closets.

There can be no doubt that this disease is much more likely to develop in houses provided with privy-ashpits and pails than in those provided with water closets. This is also confirmed by the fact that in towns where the closet accommodation is chiefly privy-middens the death-rate from enteric and diarrhoea is twice that of those where the closets are on the water-carriage system.

TABLE VIII.

**Cases of Enteric Fever reported in each Month during
the last Five Years compared with 1904.**

Month.	1899	1900	1901	1902	1903	Average	1904
January ...	39	20	14	15	13	20·2	9
February ...	30	16	14	21	12	18·6	10
March ...	18	21	6	15	7	13·4	5
April ...	15	12	7	14	8	11·2	11
May ...	8	7	3	10	4	6·4	6
June ...	9	7	5	7	10	7·6	6
July ...	16	4	8	12	7	9·4	7
August...	16	15	27	8	27	18·6	18
September ...	60	21	52	25	30	37·6	14
October ...	47	35	33	30	23	33·6	29
November ...	40	27	24	19	21	26·2	21
December ...	23	23	26	16	16	20·8	22
Total ...	321	208	219	192	178	223·6	158

TABLE IX.
Enteric Fever in Bolton, 1882-1904.

Year.	Cases	Case-rate per 1000 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	19'5
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	1'12	36	'21	18'8
1903	178	1'02	36	'20	20'2
1904	158	.89	37	'21	23'4

TABLE X.

Enteric Fever in Wards, 1904.

Wards.	Populations	No. of Cases.	Case-rate per 1000 Population.	Privy Middens	Pails.	Waste-water Closets.	Fresh-water Closets.
West ...	27572	28	1·0	12	8	6	2
Bradford ...	20110	27	1·3	13	4	10	...
Halliwell ...	21635	7	·3	1	1	5	...
Derby ...	19685	15	·7	5	4	4	2
East ...	10275	5	·4	1	3	1	...
Church ...	8545	14	1·6	3	4	5	2
North ...	7560	9	1·1	3	1	4	1
Rumworth ...	8165	9	1·1	3	3	2	1
Exchange ...	5335	2	·3	...	2	...	...
Old Borough ...	128882	116	·9	41	30	37	8
Great Lever ...	10290	8	·7	7	...	1	...
Tonge ...	9725	17	1·7	13	...	4	...
Astley Bridge...	8155	10	1·2	9	...	...	1
Hulton ...	4950	4	·8	4	...	...	...
Smithills ...	5010	1	·1	1	...	...	...
Darcy Lever-cum-Breightmet	3508	1	·2	1	...	...	...
Deane-c.-Lost'k	3230	1	·2	1	...	...	...
Heaton ...	1974	...	...	...	...	...	...
Added Area ...	46862	42	·8	36	...	5	1
Extended Boro.	175744	158	·89	77	30	42	9

TABLE XI.

Monthly Cases of Enteric Fever in 1904 in respect to Closet Accommodation.

FORM.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Privy Midden	3	3	1	5	3	3	1	9	8	16	8	17	77
Pail	1	1	1	2	2	2	2	4	4	5	5	1	30
Waste Water Closet	5	5	2	4	1	1	2	4	2	6	7	3	42
Fresh Water Closet ... ..	...	1	1	...	...	...	2	1	...	2	1	1	9
TOTAL	9	10	5	11	6	6	7	18	14	29	21	22	158

Diphtheria and Membranous Croup.

150 cases were notified in 132 houses with 29 deaths, equal to a death-rate of 19 per cent. of the cases, or **16** per 1000 of the population. This is the lowest death-rate for the last few years, is about half the ten years' average for the 33 great towns, and Bolton's ten years' average, '12, is among the three lowest in the 20 largest towns.

Of these notified 91 were children attending schools.

The numbers and deaths in age periods were :—

Age	Number.	Deaths.
0—1	1	1
1—2	6	4
2—3	9	3
3—4	21	7
4—5	17	4
5—6	16	3
6—7	11	4
7—10	34	2
10—15	15	1
15 and Upwards	20	0

The death-rates in previous years and the comparison with the 20 largest towns are given below.

The closet accommodation in the infected houses was :

81 privy middens, i.e.	...	1 in every	200
27 pails	... ..	1	„ 250
39 waste-water closets	...	1	„ 260
3 fresh-water closets	...	1	„ 1200

82 bulbs of antitoxin (2000 units each) were supplied on application for 40 cases to 17 medical practitioners.

Year	Death-rate per 1000	Year	Death-rate per 1000
1879	·028	1892	·11
1880	·009	1893	·06
1881	·019	1894	·04
1882	·08	1895	·12
1883	·03	1896	·09
1884	·01	1897	·03
1885	·04	1898	·06
1886	·06	1899	·08
1887	·06	1900	·12
1888	·06	1901	·15
1889	·25	1902	·27
1890	·12	1903	·21
1891	·09	1904	·16

No.	Town.	Rate.	No.	Town.	Rate
1 ...	Sunderland	... 10	9 ...	Liverpool	... ·25
2 ...	Nottingham	... ·11	10 ...	Birmingham	... ·26
3 ...	BOLTON	... ·12	11 ...	Portsmouth	... ·31
	{ Bradford	... ·12	12 ...	Salford	... ·32
4 ...	Newcastle	... ·15	13 ...	Leeds	... ·33
5 ...	{ Hull	... ·17	14 ...	{ Leicester	... ·41
	{ Croydon	... ·17		{ London	... ·41
6 ...	Manchester	... ·18	15 ...	Cardiff	... ·43
7 ..	Oldham	... ·19	16 ...	Sheffield	... ·44
8 ...	Bristol	... ·24	17 ...	West Ham	... ·57

Measles and Whooping Cough.

There were only **16** deaths from measles during the year, the lowest since 1896. Moreover, the epidemic which usually occurs every two years has only just shown signs of recurring after three three years.

There were 135 whooping-cough deaths, this disease being especially prevalent in February, March, April, and May.

With a view of preventing the spread of the disease one school (mixed and infants') and nine infants' departments of schools were closed for periods of three weeks. In five of these the closure was due to the prevalence of whooping cough, two to measles, one to scarlet fever, one to scarlet fever and whooping cough, and one to mumps.

The schools were :—

Deane Infants' ...	...	...	Scarlet Fever
St. Augustine's Infants'	...	...	Whooping Cough & Measles
St. John's, Lostock, Infants'	...	...	Whooping Cough & Measles
St. Bartholomew's Infants'	...	...	Whooping Cough
Clarendon Street Infants'	...	...	Whooping Cough
St. Mark's Infants'	...	...	Whooping Cough
Markland Hill Infants' & Mixed	...	...	Mumps
St. Patrick's Infants'	...	...	Measles
St. Thomas's, Lostock, Infants'...	...	...	Scarlet Fever & Whooping Cough
St. George's Infants'	...	...	Measles

TABLE XII.

Monthly Deaths from Measles 1894-1904.

Month.	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1894 to 1903	1904
January .....	...	8	1	3	...	12	4	9	1	6	4.4	...
February.....	...	12	...	23	...	17	2	11	2	2	6.9	1
March	1	22	...	55	...	12	...	13	2	10	11.5	1
April .....	...	27	...	66	1	22	2	17	1	4	14.0	2
May.. .....	...	30	1	31	1	11	6	14	1	10	10.5	...
June.....	...	14	2	30	2	11	8	33	2	7	10.9	...
July .....	...	2	...	8	...	2	2	6	...	3	2.3	2
August.....	...	3	1	...	1	...	5	4	1	2	1.7	...
September .....	...	2	...	...	...	1	2	...	2	1	.8	...
October	2	...	...	...	2	...	...	1	3	1	.9	3
November	7	...	1	...	1	3	1	...	5	2	2.0	1
December	10	...	...	...	23	3	5	...	9	1	5.1	6
Year..	20	120	6	216	31	94	37	108	29	49	71.0	16

Diarrhœa.

156 deaths were recorded, equal to a death-rate of $\cdot 88$ per 1000 inhabitants, considerably below the ten years' average, but not so low as that for 1902, which was $\cdot 40$.

Owing to the alterations in the nomenclature of diseases, and in order to bring the reports of medical officers of health and others into uniformity, there are included English cholera, dysentery, epidemic or zymotic diarrhœa, and gastro-intestinal catarrh. Under a separate heading are placed enteritis and gastro-enteritis. It is possible that this alteration, and the more careful diagnosis of medical practitioners in recent years, have increased the deaths under this heading.

About 85 per cent. of the deaths occurred in the third quarter.

The weekly number and the earth temperature at 4 feet are as follows: -

Week Ending.				Deaths.	4-ft. Temperature.
30th July	...	...		1	57 F
6th August	...	...		5	58 F
13th „	...	...		5	58 F
20th „	...	...		15	57 F
27th „	...	...		10	56 F
3rd September	...			7	56 F
10th „	...	...		17	56 F
17th „	...	...		12	55 F
24th „	...	...		26	55 F
1st October	...	...		18	54 F
8th „	...	...		11	53 F
15th „	...	...		4	51 F

The different wards may be compared in the following table :—

West...	...	...	30	Great Lever...	...	6
Halliwell	...	...	11	Tonge	...	3
Bradford	...	...	16	Astley Bridge	...	2
Derby	...	...	27	Smithills	...	—
East ...	...	...	14	Hulton	...	6
Church	...	...	6	Deane-cum-Lostock...	...	2
Rumworth	...	...	19	Darcy Lever-cum-	...	
North	...	...	4	Breightmet	...	5
Exchange	...	...	4	Heaton	...	1

Tables are added showing the death-rates in previous years in Bolton, and also in other Lancashire manufacturing towns.

A high temperature and low rainfall are important factors in the spread of this disease, but lack of personal and domestic cleanliness, insanitary closets, unpaved backyards, want of proper scavenging, especially in connection with the contamination of milk are just as important; and of no less importance is the sanitary condition of cow-sheds and the cleanly handling of milk. It is especially necessary that hygiene should be a more common subject of study both during and after school age, for at present, owing to the widespread ignorance instructions, whether verbal or written, are little understood and less appreciated.

TABLE XIII.

Diarrhoea Deaths, 1885-1904. Bolton.

Year.	Births.	Infantile Mortality per 1000 Births.	Diarrhoea Deaths.		Diarrhoea Deaths under 1 year per 1000 Births	Total Diarrhoea Deaths per 1000 Births.
			Total.	Under One Year		
1885	3788	161	83	53	13'9	21'9
1886	3786	184	156	106	27'9	41'2
1887	3627	172	146	92	25'3	40'2
1888	3729	170	113	78	20'9	33'3
1889	3759	166	105	66	17'5	27'9
1890	3726	176	110	73	19'5	29'5
1891	3914	165	94	52	13'2	24'0
1892	3769	185	129	91	24'1	34'2
1893	3874	200	197	135	34'8	50'8
1894	3719	162	68	50	13'4	18'2
1895	3960	213	208	155	39'1	52'5
1896	3792	165	103	79	20'8	27'1
1897	3985	184	199	153	38'3	49'9
1898	3800	167	221	181	47'6	58'1
1899	4878	180	259	206	42'2	53'0
1900	4775	170	186	148	30'9	38'9
1901	4648	172	241	175	37'6	51'8
1902	4779	132	70	51	10'6	14'6
1903	4700	151	151	120	25'5	32'1
1904	4736	167	156	126	26'6	32'9

TABLE XIV.

**Diarrhœa Death-rates under One Year per 1000 Births,
1894-1903.**

Town	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	Average
Liverpool ...	19'2	32'6	27'9	47'2	29'4	36'0	29'3	40'5	17'1	19'2	29'8
Manchester ...	13'8	35'7	24'7	39'1	46'3	47'8	35'7	47'5	12'9	22'1	32'5
Salford ...	14'3	40'1	29'4	44'2	49'2	46'7	34'6	46'3	14'4	21'9	34'1
Oldham ...	5'3	22'2	12'3	26'1	20'2	27'0	12'4	29'6	7'6	7'8	17'0
Blackburn ...	16'0	54'1	22'2	30'8	41'5	21'6	41'5	44'0	16'0	23'0	31'0
Preston ...	33'2	61'0	30'7	63'4	67'7	70'1	47'8	51'4	38'4	23'1	48'6
Wigan ...	?	?	14'4	21'3	14'3	20'4	26'6	54'3	19'0	24'2	24'3
Burnley ...	17'2	53'7	16'4	32'6	37'9	55'9	34'4	43'2	10'3	34'6	33'6
St. Helens ...	10'4	20'2	15'1	26'6	27'5	19'9	21'5	21'4	9'3	10'2	18'2
Bury ...	?	?	?	48'6	46'5	58'3	38'8	34'5	5'7	28'5	37'3
Rochdale...	5'2	9'8	7'5	10'6	15'3	13'6	8'3	18'3	4'8	8'6	10'2
Warrington ...	9'4	46'7	17'7	28'2	36'8	49'8	30'1	41'7	17'2	22'1	29'9
Bolton ...	13'4	39'1	20'8	38'3	47'6	42'2	30'9	37'6	10'6	25'5	30'6

Smallpox.

For the third year in succession cases of this disease occurred in Bolton. **19** were notified with 1 death; the last one being on 27th December:

17 of these 19 occurred in private houses, 1 was in the tramp ward and one was admitted from the streets, having tramped from a neighbouring town. There were no cases in common lodging houses during the year. There were 4 secondary cases in consequence of an unrecognised case not being reported, and 2 others owing to unsuccessful revaccination with old lymph. There was no spread of the disease in any of the other houses, all the contacts readily submitting to revaccination as soon as the disease was fully recognised.

WEEKLY NOTIFICATIONS DURING 1904 :

January 16th	1	July 9th	1
" 23rd	1	August 13th	1
February 27th	2	" 20th	2
March 12th	2	September 3rd	1
April 2nd	3	December 24th	1
June 11th	3	" 31st	1

During this epidemic which began on 12th August, 1902 and lasted till 27th December, 1904, in Bolton there have been 137 cases with 10 deaths, equal to a case rate of 79 per 1000 of the population, and a death-rate of 7.3 per cent. of cases. There were

63 cases with 6 deaths during	1902
55 " " 3 " "	1903
19 " " 1 " "	1904

Careful notes were made of the state of vaccination of all the patients with this result:—

Revaccinated	...	...	...	2
Vaccinated in Infancy	...	...	...	126
Unvaccinated	...	...	...	9

Of those revaccinated 1 had been done seven years before the disease was contracted, and 1 ten years before.

The age and sex distribution is shewn in the following table:—

Sex.	Cases at all ages.	Deaths at all ages.	Under 5		5 - 10		10 - 15		15 - 25		25 - 35		35 - 45		45 and upwards	
			Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Male ...	89	7	3	...	1	...	3	...	12	...	30	1	19	1	22	4
Female..	48	3	...	...	2	...	2	1	13	...	13	...	11	2	6	...
Totals ..	137	10	3	...	3	...	5	1	25	...	43	1	30	3	28	4

The total number of houses infected during the epidemic was 96. 81 private houses contributing 94 cases, 14 common lodging-houses 40 cases, and the tramp ward 1 case. There were also 2 cases admitted from the streets.

All the patients were removed to Hospital as soon as the diagnosis was confirmed, and were isolated in a separate pavilion at the Borough Hospital, Deane, until 1st April, 1904, and after that date at the Bury and Joint Hospital Board's Smallpox Hospital Ainsworth. This arrangement was in accordance with a recommendation made to the Sanitary Committee in 1903, showing the advisability of providing accommodation for Smallpox on a site separate from that for the ordinary infectious diseases. The Bury Board had recently acquired a site, after considerable difficulties, where there was ample accommodation for both towns, and Bolton availed itself of the offer of becoming a partner with them in the cost and management of this Hospital. It will add considerably to the expenses but was unavoidable in the present state of the vaccination laws and the apathy of the general public as regards revaccination. In Berlin with two million inhabitants the accommodation for Smallpox is provided by 12 beds in a General Hospital at a nominal cost; in Bolton with $\frac{1}{12}$ th of the inhabitants the cost will not be less than £300 per annum.

SMALLPOX NOTIFIED IN PREVIOUS YEARS.

Year.	No. of Cases.	Year.	No. of Cases
1875	45	1890	...
1876	118	1891	...
1877	6	1892	1
1878	2	1893	44
1879	5	1894	2
1880	18	1895	10
1881	9	1896	1
1882	267	1897	...
1883	3	1898	...
1884	13	1899	...
1885	6	1900	1
1886	...	1901	...
1887	...	1902	63
1888	11	1903	55
1889	4	1904	19

TABLE XV.

Smallpox in 33 Great Towns, 1902-1904.

Towns.	1902		1903		1904		Total for Three years		Case- rate per 1000 of Popula- tion	Death- rate per cent of Cases
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
London	7796	1314	416	13	493	62	8705	1389	1'87	15'8
Liverpool	560	22	1661	137	19	1	2240	160	3'09	7'1
Manchester.....	28	...	419	25	135	10	582	35	1'04	6'0
Birmingham	69	4	254	12	25	1	348	17	'64	4'8
Léeds	61	6	442	22	63	2	566	30	1'25	5'3
Sheffield	38	...	58	3	43	1	139	4	'32	2'8
Bristol.....	5	1	44	3	34	1	83	5	'24	6'0
Bradford	90	...	361	12	100	3	551	15	1'93	2'7
West Ham	828	150	13	...	15	1	856	151	2'96	17'6
Hull.....	7	...	106	6	78	6	191	12	'75	6'2
Nottingham .....	...	...	136	2	292	12	428	14	1'72	3'2
Salford	23	...	181	7	56	3	260	10	1'13	3'8
Newcastle-on-Tyne..	13	1	156	9	346	18	515	28	2'28	5'4
Leicester.....	17	4	368	21	297	5	682	30	3'04	4'3
Portsmouth.....	8	...	4	...	...	...	12	...	'06	...
BOLTON	63	7	55	3	19	1	137	11	'77	8'0
Cardiff.....	2	...	65	3	11	...	78	3	'44	3'8
Sunderland.....	10	1	35	3	35	2	80	6	'52	7'5
Oldham	180	7	255	23	240	16	675	46	4'83	6'8
Croydon	52	11	14	2	4	...	70	13	'48	18'5
Blackburn	53	2	88	2	2	...	143	4	1'08	2'7
Brighton	3	...	2	...	1	...	6	...	'04	...
Derby	8	...	45	2	212	3	265	5	2'20	1'8
Preston	18	...	30	2	96	7	144	9	1'25	6'2
Norwich	1	...	...	...	...	...	1	...	'008	...
Birkenhead.....	28	1	88	5	41	1	157	7	1'36	4'4
Gateshead	23	4	154	19	504	35	681	58	5'76	8'5
Plymouth	3	1	...	...	...	...	3	1	'02	33'3
Halifax	1	...	128	4	77	9	206	13	1'91	6'3
Burnley	46	4	222	10	26	...	294	14	2'92	4'7
Huddersfield	13	1	53	2	39	1	105	4	1'10	3'8
Swansea	188	33	...	...	1	...	189	33	1'97	17'4
Wolverhampton.....	2	...	7	...	12	...	21	...	'21	...

Phthisis (Pulmonary Tuberculosis).

94 cases were notified during 1904, under the system of voluntary notification in force. Disinfection was carried out in almost all the cases, and leaflets issued when the medical practitioner in attendance offered no objection.

SANATORIUM.—On 22nd February, 1903, a resolution was passed by the Sanatorium Sub-Committee recommending the Council to build a Sanatorium of 20 beds at a probable cost of £5000, and inviting the Board of Guardians, the neighbouring Urban District Councils, and the various Societies to confer with the Committee as to the maintenance of the Institution. The Council approved this resolution.

On 29th April, 1903, a conference of the above Authorities was held under the presidency of the Mayor, and a resolution was passed *nem. con.*, that the provision of a Sanatorium for Bolton and its neighbourhood was highly desirable and pressingly needful, and recommended the Bolton Corporation to take steps for carrying out such provision and invite contributions towards that object from public bodies.

The Sanatorium Sub-Committee have visited several localities, but have not yet decided on a site.

Hospital Isolation.

347 patients were admitted to the two Isolation Hospitals (Deane and Ainsworth). Of these **275** were scarlet fever, **53** enteric, and **19** smallpox.

All the smallpox cases were isolated, 60% of the scarlet fever and 35% of the enteric.

This is the smallest number admitted during the last six years, i.e., since the extension of the Borough, and is due to the fact that the notifications were fewer in number.

Increased accommodation was provided during the year by an agreement with the Bury and District Joint Hospital Board that we should become partners with them in their Smallpox Hospital at Ainsworth. This came into operation in June, since which time all smallpox cases occurring in the County Borough of Bolton have been isolated there instead of at Deane Hospital. There will be 15 beds available for Bolton patients out of a total of 30, and in view of the experience gained in the recent epidemic this will be ample.

There has been a slight reduction in the staff at the Deane Hospital, which now consists of:—

- 1 Matron.
- 3 Sisters.
- 4 Staff Nurses.
- 1 Ambulance Nurse.
- 7 Probationers.
- 3 Wardmaids.
- 4 Laundresses.
- 5 Servants.
- 4 Gardeners and Porters.

32

There has been no case of serious illness among the staff. Miss Amos, the Matron, resigned on securing another appointment, and Miss Marian Stevenson, Assistant Matron at Belvidere Hospital, Glasgow, was selected for the vacant position, and took up her duties on 28th September, 1904.

I have much pleasure in recording my appreciation of the excellent work done by both Matrons and the whole of the Nursing Staff; nothing can exceed the care and devotion to the patients, mostly of tender years, who are separated for a time from their own homes, and must give some cause for anxiety to the parents.

TABLE XVI.
Admissions and Deaths of Scarlet and Enteric Fever Patients in 1904,
divided according to Age and Sex.

AGES.	SCARLET FEVER.						ENTERIC FEVER.						TOTAL.	
	Males.		Females.		Total.		Males.		Females.		Total.			
	Admitted	Died	Admitted	Died	Admitted	Died	Admitted	Died	Admitted	Died	Admitted	Died	Admitted	Died
Under 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1 to 2	2	...	...	1	6	1	...	...	...	...	...	...	6	1
2 to 3	6	...	7	2	13	2	...	...	...	...	...	...	13	2
3 to 4	13	...	12	...	25	...	...	...	...	...	...	...	25	...
4 to 5	20	1	21	1	41	2	...	...	1	...	1	...	42	2
5 to 10	46	1	69	1	115	2	5	...	...	...	5	...	120	2
10 to 15	21	...	26	1	47	1	4	1	6	1	10	2	57	3
15 to 20	5	...	4	...	9	...	5	...	2	...	7	...	16	...
20 to 25	3	...	5	...	8	...	5	...	1	1	6	1	14	1
25 to 30	2	...	2	...	4	...	8	3	2	1	10	4	14	4
30 to 35	3	...	2	...	5	...	2	1	3	1	5	2	10	2
35 to 40	1	...	...	...	1	...	...	...	1	...	1	...	2	...
40 to 45	...	...	...	...	...	...	5	1	...	...	5	1	5	1
45 and Upwards...	...	...	1	...	1	...	2	1	1	...	3	1	4	1
TOTAL	122	2	153	6	275	8	36	7	17	4	53	11	328	19

TABLE XVII.

Comparison of Cases of Scarlet Fever Treated at Home and in the Borough Hospital.

Year.	Cases Notified.	Admitted to Hospital.	Per Centage Admitted to Hospital.	Cases Treated at Home	Died at Home	Died at Hospital.	Death-rate per cent. of Home Cases.	Death-rate per cent. of Hospital Cases
1884-1886 (inclusive)	811	317	39.0	494	40	5	8.0	1.5
1887	721	292	40.4	429	37	6	8.6	2.0
1888	924	279	30.1	645	52	4	8.0	1.4
1889	1256	292	23.2	964	65	4	6.7	1.3
1890	1071	267	24.9	804	56	7	6.9	2.6
1891	411	111	27.0	300	21	...	7.0	0.0
1892	683	156	22.8	527	30	3	5.6	1.9
1893	747	160	21.4	587	34	1	5.7	0.6
1894	267	132	49.4	135	10	4	7.4	3.0
1895	495	154	31.1	341	20	2	5.8	1.3
1896	816	292	35.7	524	32	7	6.1	2.3
1897	645	261	40.4	384	20	3	5.2	1.1
1898	487	261	53.5	226	16	5	7.0	1.9
1899	1226	503	41.0	723	23	13	3.1	2.5
1900	644	416	64.6	228	8	12	3.5	2.9
1901	1066	581	54.5	485	38	13	7.8	2.2
1902	2910	1176	40.4	1734	92	25	5.2	2.2
1903	971	522	53.7	449	34	25	7.5	4.7
1904	477	275	57.4	202	14	8	6.9	2.9
Total	16628	6447	38.7	10181	642	147	6.3	2.2

Midwives' Act, 1902.

This Act, which was passed on 31st July, 1902, comes into force on 1st April, 1905.

It is an Act to secure the better training of Midwives, and to regulate their practice.

After 1st April, 1905, no woman will be allowed to practice as a Midwife unless she is certified by the Central Midwives' Board.

The Bolton Town Council is the local supervising authority, and it has delegated its powers to the Sanitary Committee, which has ordered all notices of intention to practice to be sent to the Medical Officer of Health.

Section 8 of the Act defines the duties of the Local Supervising Authority thus :—

“It shall be the duty of the Local Supervising Authority—

- (1) To exercise general supervision over all midwives practising within their area in accordance with the rules to be laid down under this Act.
- (2) To investigate charges of malpractice, negligence, or misconduct, on the part of any midwife practising within their area, and should a *prima facie* case be established to report the same to the Central Midwives' Board.
- (3) To suspend any midwife from practice, in accordance with the rules under this Act, if such suspension appears necessary in order to prevent the spread of infection.
- (4) To report at once to the Board the name of any midwife practising in their area convicted of an offence.
- (5) During the month of January of each year to supply the Secretary of the Central Midwives' Board with the names and addresses of all midwives who, during the preceding year, have notified their intention to practice within their area, and to keep a current copy of the roll of midwives, accessible at all reasonable times for public inspection.

(6) To report at once to the Central Midwives' Board the death of any midwife or any change in the name or address of any midwife in their area, so that the necessary alteration may be made in the roll.

(7) To give due notice of the effect of the Act, so far as practicable, to persons at present using the title of midwife.

The local supervising authority may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to a Committee appointed by them, and consisting either wholly or partly of members of the Council, and the provisions of subsections one and two of section eighty-two of the Local Government Act, 1888, shall apply to every committee appointed under this section and to every Council appointing the same, and women shall be eligible to serve on any such committees."

I have had 58 notices of intention to practice, of these 37 have the certificates of the Central Midwives' Board, and all are already on the First Midwives' Roll (published Dec., 1904). 21 have not yet obtained certificates.

SANITARY WORK.

SANITARY WORK.

Abstract of Sanitary Work.

PLACES UNDER INSPECTION :—

Common Lodging-houses	...	...	...	...	...	61
Houses Let-in-Lodgings	...	...	...	...	...	58
Factories	...	...	...	...	...	260
Factory Chimneys	...	...	...	...	...	235
Workshops and Workplaces	...	...	...	...	...	710
Bakehouses	...	...	...	...	...	204
Offensive Trades	...	...	...	...	...	36
Slaughterhouses	...	...	...	...	...	54
Cowsheds	...	...	...	...	...	391
Milkshops	...	...	...	...	...	515
Public Sanitary Conveniences	...	...	...	...	...	17
Canal Boats	...	...	...	...	...	13
Vans, Travelling	...	...	...	...	...	104

ABSTRACT OF WORK DONE DURING 1904 :—

Complaints from Public	...	...	...	...	...	78
Nuisances Reported	...	...	...	...	...	2910
Letters Written or Verbal Notices	...	...	...	...	...	2346
Informal Notices Issued	...	...	...	...	...	981
Legal Notices Issued	...	...	...	...	...	878
Smoke Observations	...	...	...	...	...	604
Smoke Nuisances Reported	...	...	...	...	...	31
Notices Served ..	...	...	...	...	...	25
Smoke Prosecutions	...	...	...	...	...	6
Houses Fumigated	...	...	...	...	...	1379
Articles Disinfected	...	...	...	...	...	3749
Articles Destroyed	...	...	...	...	...	171
Houses, etc., Limewashed	...	...	...	...	...	457
Houses Demolished	...	...	...	...	...	55
Houses Closed	...	...	...	...	...	1
Houses Made Fit	...	...	...	...	...	41
Privy Ashpits Converted into Water Closets	...	...	...	...	...	802
Privy Ashpits Demolished	...	...	...	...	...	30
Drains Reconstructed	...	...	...	...	...	132
Houses in which Rubble Drains have been Abolished	...	...	...	...	...	77
Yards Completely Flagged	...	...	...	...	...	13
Samples of Food, etc., purchased	...	...	...	...	...	217
Samples Adulterated	...	...	...	...	...	19
Adulteration Prosecutions	...	...	...	...	...	12

General Sanitary Work.

Reporting on infectious diseases again formed a considerable portion of the work of the Inspectors owing to the continued prevalence, although in diminished numbers, of smallpox. Special reports have been made on the closet accommodation in public-houses, schools, and workshops. The extension of workshops by the Factories and Workshops' Act, 1901, to stables, hotels, and restaurants has considerably increased the work. There is a large number of cowsheds, dairies, and milkshops in the borough which require regular and frequent inspection. Fewer prosecutions have taken place for smoke nuisances, but an increased amount of work has been effected in closet conversion as well as ordinary nuisances.

Sanitary Staff.

There has been a reduction of two in the Sanitary Staff, which is now constituted as follows:—

- 1 Medical Officer of Health.
- 1 Food Inspector.
- 6 Sanitary Inspectors.
- 4 Clerks.
- 3 Ambulance Drivers and Disinfectors.
- 2 River and Urinal Cleaners.
- 11 Bath Officials.
- 6 Lavatory Attendants
- 32 Hospital Staff (not including Ainsworth Hospital).

Housing of the Working Classes.

During 1904 there were demolished **55** houses of the unfit class, closed **1**, made fit **41**, i.e., a total of **97**. In addition, **31** back-to-back and single houses were made into through houses, independent of notices from this department, and generally in connection with other sanitary improvements.

UNHEALTHY AREA.—An area, bounded by Bold Street, Great Moor Street, Back Cheapside, and Back Mawdsley Street, was represented as an unhealthy area by your Medical Officer of Health on the 18th April, 1902. It was declared by the Council on 7th May, 1902, and a Local Government Board Inquiry was held on 16th December, 1902. The Provisional Order authorising the scheme for the improvement of the area passed Parliament 30th June, 1903. Negotiations are still taking place with the Trustees of the property.

From 1896 to 1904 inclusive there were:—

- 327 houses demolished.
- 226 houses closed.
- 169 houses made fit.
- 31 back-to-back or single houses made into through houses.

753 Total.

The following insanitary areas have also been brought to the notice of the Sanitary Committee and are still under consideration :

No.	Area.	No. of houses.	No. to be demolished.	No. to be improved.
1.—	Turton Street	79	37	42
2.	Flash Street	58	17	41
3.—	Barlow Street	49	24	25
4.—	Garden Street	22	5	17
5.—	Central Street	9	9	—
6.—	Bolling Street	9	9	—
7.—	Back Smith Street	6	6	—
8.—	Bradshaw Court	4	4	—
9.—	Cream Street	9	9	—
		—	—	—
	Total	245	120	125

The ratio of two-roomed tenements to the total is shewn below :—

	1891	1901	1904
Total Tenements	23663	36177	43150
Tenements with two or less rooms	2114	1796	1612
Per cent. of latter to former..	9%	5%	3·7%

There are still 1411 back-to-back houses and 581 single houses but only 1171 of these have land available to make yard space, so that the remaining 821 would have to be either demolished or the area reconstructed; as no house is thoroughly fit for habitation without a yard of sufficient size for sanitary purposes. In most cases demolition is the best, as by that means more air space is given for the houses that are left; and there is no doubt that in the old parts of the Borough there are too many houses to an acre of building land; it is a question even in the new parts whether we are not building to the detriment of the health of the people. In Garden Cities the maximum number of houses allowed to an acre of building land is 10, in the new parts of the town as many as 45 are allowed, and in the older parts of course there are many more. While therefore we are endeavouring to improve the individual houses we should also try to reduce the number per acre. This cannot be done except at considerable cost, but this policy even if carried out gradually is better than allowing this class of house to be patched up and inhabited. The Council now seem disposed to allow a certain amount annually for this purpose, and in the last estimate £1100 was the sum. From 1877 to 1904 £14782 has been spent in the demolition and improvement of insanitary property. Of this sum £6311 has been spent since 1896.

DURING THE YEAR 1904 THERE WERE :—

Notices served	36	
Houses demolished after notice	13	} 55
Houses demolished voluntarily	42	
Houses closed after notice	—	} 1
Houses closed voluntarily	1	
Houses made fit after notice	37	} 41
(Includes 24 houses which were closed in 1903, but have since been made fit)		
Houses made fit voluntarily	4	
Houses for which notices have been served, most of which are closed but have not yet been made fit. This includes 20 houses in Bold Street Unhealthy Area, and 19 houses left over from 1903		} 49

TABLE XVIII.

**Enumeration of Back-to-Back and Single Houses
in Wards, 1904.**

Ward.	Without Available Yard Space.		With Available Yard Space.	
	Back-to-Back	Single	Back-to-Back	Single
Total, 1903	539	318	977	264
East	236	46	74	30
Derby	62	25	266	2
Bradford	91	47	198	26
Exchange	70	126	96	41
West	31	51	68	36
Church	2	9	97	4
Halliwell	—	6	20	46
North	6	1	—	3
Rumworth	6	—	—	4
Astley Bridge	—	3	14	34
Smithills	—	3	17	27
Darcy Lever-cum- Breightmet	—	—	14	4
Tonge	—	—	43	4
Total 1904	504	317	907	264

Closet Accommodation.

During the year 1904 there were **802** conversions of old-fashioned closets belonging to dwelling-houses into water closets, and **30** demolitions in connection with insanitary property. The numbers and cost to the Corporation for the last six years were :—

Year.		Conversions.		Cost.
1899	...	192	...	£383
1900	...	237	...	£460
1901	...	479	...	£947
1902	...	605	...	£1205
1903	...	718	...	£1434
1904	...	802	...	£1601
TOTAL ...		<u>3033</u>	...	<u>£6030</u>

These conversions were really commenced in 1899, although a few had been demolished as nuisances during preceding years, from the time when water-closets were made compulsory for new houses. The numbers were in 1898 approximately :—

	Old Borough.		Added Area.		Borough.
Privy Ashpits...	12740	...	7581	...	20321
Pails ...	6782	...	22	...	6804

At the end of 1904 the numbers were :—

	Old Borough.		Added Area.		Borough.
Privy Ashpits...	10185	...	6160	...	17345
Pails ...	6683	...	25	...	6708

A complete list of the various kinds of sanitary conveniences in the different wards is given in Table XIX.

The alterations made in the Old Borough are shown here :—

Year.		Number of Privy Ashpits.		Per cent. of Dry System.		Per cent. of Water System.
1898 ...	...	12740	...	75	...	25
1899 ...	...	12576	...	72	...	28
1900 ...	...	12308	...	70	...	30
1901 ...	...	11911	...	68	...	32
1902 ...	...	11401	...	65	...	35
1903 ...	...	10857	...	63	...	37
1904 ...	...	10185	...	60	...	40

Closets in Public Houses.

For some years now the Sanitary Committee has insisted that new closets for customers and the house should be of the fresh-water type, and as the old and insanitary closets in the ordinary houses are gradually being converted into water-closets it was thought advisable that the attention of the Sanitary Inspectors should be directed to them. They have therefore made an inspection of all the public-houses in the Borough, with the following result :—

Of the 418 public-houses, 68 have one closet and 350 more than one. Of those with the single closets 11 are considered satisfactory and sufficient, 44 unsatisfactory and insufficient, and 13 insufficient. The 44 unsatisfactory and insufficient consist of :—

22 on the privy-midden system.

22 on the pail system.

The 13 insufficient consist of :—

2 on the waste-water system.

11 on the fresh-water system.

All these will be dealt with in the usual way, and if necessary reports will also be made to the Licensing Magistrates. A further report will be made on those with two or more closets, and steps will be taken to bring them up-to-date. During the last six years (1899-1904) 130 fresh water closets and 9 waste water closets have been provided generally in place of insanitary privy middens and pails.

Closets in Schools.

I reported in 1903 that out of the 59 primary schools 12 were provided with pails or privy ashpits, *i.e.*, with an insanitary type of closet. During the year 5 of these have provided fresh water closets; 3, where no sewer is available, have made improvements which are satisfactory; 1 school has been closed, and the remaining 3 have the matter in hand. At present therefore the sanitary accommodation in these schools is as follows :—

Fresh water closets in 53 schools.

Privy ashpits „ 5 „

Pails „ 1 „

The 3 schools where the accommodation is unsatisfactory are:—

- 1.—St. George the Martyr's, Daubhill.
- 2.—Roscoe Fold, Breightmet.
- 3.—Sharples British, Astley Bridge.

Closets in Factories and Workshops.

In factories 80 per cent. are on the fresh water system and 20 per cent. on the so called dry system, *i.e.*, either privies or pails, most of these latter are in the added area where a sewer is not always available. The details are given in the factories and workshops report.

TABLE XIX.
Closet Accommodation, 1904.

	No. of Closets Converted or Demolished 1904.		Conversions in Old Houses and Additions in New Houses, 1904.						Present Closet Accommodation, 1904				Per Cent. on	
	P.M.	Pail.	P.M.	Pail.	WWC	F	W	C	P.M.	Pail.	WWC	FWC	Dry System.	Water System.
Old Borough	672	44	...	...	757	133			10185	6683	8481	2802	60	40
Great Lever	23	...	...	...	87	2			1573	...	481	118	73	27
Tonge	22	...	1	...	58	5			1677	...	304	32	84	16
Astley Bridge.....	30	...	...	...	41	12			1287	7	333	180	72	28
Smithills	20	...	...	3	59	...			600	3	447	127	51	49
Hulton	13	...	2	...	62	...			691	...	314	22	67	33
Darcy Lever-cum- Brightmet	8	...	...	...	43	...			669	...	89	52	83	17
Deane-cum-Lostock.	2	...	...	...	14	5			424	3	77	62	75	25
Heaton .....	...	...	...	...	25	4			239	12	70	211	47	53
Extended Borough..	790	44	3	3	1146	161			17345	6708	10596	3606	63	37

Common Lodging Houses.

There are now 61 registered houses in Bolton, a decrease of three. Seven houses were closed and four others placed on the register during 1904. They are distributed in the wards thus :—

Ward.	Houses.	Rooms.	Beds.
Exchange ...	33	147	542
East ...	25	129	701
Church ...	2	14	58
Derby ...	1	11	45

The accommodation consists of 53 beds for single women, 68 beds for couples, *i.e.*, for 136 persons, and 1225 beds for single men. This accommodation is distributed as follows :—

Description.	Houses.	Males.	Females.	Couples.
Males Only...	40	989	—	—
Females Only ...	1	—	5	—
Couples Only ...	2	—	—	9
Females & Couples ...	1	—	9	1
Males & Females ...	1	9	3	—
Males & Couples ...	9	136	—	24
Males, Females, & Couples	7	91	36	34
TOTAL ...	61	1225	53	68

24 of these houses are provided with fresh-water closets, 9 with waste-water closets, 19 with pails, and 9 with privy middens.

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

Houses Let in Lodgings

There are at present in Bolton 58 houses let-in lodgings. Of these 46 are in Exchange Ward, 10 in East, and 2 in Church Ward. The rooms are distributed thus :—

2 houses let	6 rooms.
4 " "	5 "
1 " "	4 "
11 " "	3 "
23 " "	2 "
17 " "	1 "

Bye-laws were adopted by the Council in 1898, and regular inspection is now carried out by the Sanitary Inspectors.

Canal Boats.

13 came within the district of this Authority during 1904, and were examined by the Inspector, Mr. G. Southern. 11 paid 1 visit, and 2 paid 42 visits.

There were no offensive cargoes, no infectious diseases, and no infringement of the Acts and Regulations.

The cargoes consisted of china clay and mineral waters.

Travelling Vans.

38 vans situated on the Wholesale Market were inspected at Whitsuntide, 15 vans situated in Bridgman Street in November, and 51 vans situated in Wholesale Market, Victoria Square, Bridge Street, Atherton Yard, and the Drill Hall during Christmas and New Year. No case of infectious disease occurred, and we had no occasion to serve notices for any nuisance. The refuse from the different vans was removed daily by the Scavenging Department.

Factories.

There was only one complaint received during the year from the Factory Inspector in connection with factories, and it referred to badly ventilated fresh-water closets, and this is receiving attention.

A considerable amount of attention has been paid by the Sanitary Inspectors to the closet accommodation in factories during the last few years, and many improvements have been made. From 1899 to 1904 there have been provided in place of old and insanitary privies or to make up insufficiency

378 fresh-water closets,
67 pails,
21 urinals, and
32 cesspools were abolished.

The present sanitary accommodation is shown in Table XX.

There is still a considerable number of the privy type of closet, but these are mostly in the country districts where a sewer is not available.

The Home Office, Sanitary Accommodation Order, 4th February, 1903, was adopted by the Bolton Sanitary Authority on the 3rd June, 1903, and we are now working in accordance with its rules.

There are only three factories that have not provided proper means of escape in case of fire, and these have the work well in hand. From 1899-1904 fire escapes were provided in 37 factories.

TABLE XX.
Closet Accommodation in Factories, 1904.

	Old Borough.	Added Area.	Total
Factories.....	208	52	260
Male Operatives	19101	5128	24229
Female Operatives	13391	4246	17637
Sanitary Conveniences for Males :—			
F. W. C.....	864	163	1027
W. W. C. ....	...	1	1
Pails ..	84	41	125
P. M.	8	17	25
Privies.....	34	101	135
Urinals	189	39	228
Sanitary Conveniences for Females :—			
F. W. C.	503	100	60
Pails	45	44	89
P. M.	1	11	12
Privies.....	21	56	77

Smoke Abatement.

604 observations were taken, 31 being reported as nuisances, that is, not being less than $2\frac{1}{2}$ minutes of black smoke in a half hour's observation.

25 notices were served, and there were 6 prosecutions; convictions were obtained in all. The total fines were £1 10s., the smallest amount for several years.

The chimneys are arranged in classes as in former years. Those in class IV. have emitted $2\frac{1}{2}$ or more minutes of black smoke on one or more occasions. This is satisfactory as far as our standard is concerned, but considering how many chimneys have for years now been in the smokeless class, it points to the advisability of raising the standard and making say $1\frac{1}{2}$ minutes in half-an-hour the limit.

TABLE XXI.

Summary of Smoke Observations, 1904.

Month.	Observations.	Nuisances Reported.	Notices Served	Prosecuted.	Convicted.	Amount of Fines.
January	35	...	...	...	...	...
February	50	4	3	1	1	Costs
March	58	1	1	...	...	...
April	52	3	3	...	...	...
May	59	9	8	1	1	Costs
June	64	2	1	1	1	Costs
July	49	3	2	1	1	20/- and Costs
August	51	1	...	1	1	5/- and Costs
September	54	1	1	...	..	.
October	47	6	6	...	...	...
November	47	1	...	1	1	5/- and Costs
December	38	...	...	...	...	...
Total	604	31	25	6	6	£1 10s. & Costs

TABLE XXII.

Chimneys under Observation, arranged in Classes, 1904.

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	13	4	9	8	13	2	49
2	No. of Chimneys that have emitted under 1 minute of black smoke in $\frac{1}{2}$ hour's observation	4	11	13	10	21	7	66
3	No. of Chimneys that have emitted more than 1 minute but less than $2\frac{1}{2}$ minutes of black smoke in $\frac{1}{2}$ hour's observation... ..	13	14	8	14	13	20	82
4	No. of Chimneys that have emitted $2\frac{1}{2}$ or more minutes of black smoke in $\frac{1}{2}$ hour's observation	1	9	12	...	8	8	38
	TOTAL	31	38	42	32	55	37	235

TABLE XXIII.

Practically Smokeless Chimneys.

No.	Firm.	Situation.	Boilers	Apparatus.
1	R. H.	Nelson Square ...	1	Booty's Patent
2	M. S.	Deansgate... ..	1	No Apparatus
3	C. O.	Knowsley Street ...	1	Patent Bridge
4	E. S.	Central Street ...	1	No Apparatus
5	E. B.	Deansgate... ..	1	Bennis's Stoker
6	E. W.	Oxford Street ...	1	No Apparatus
7	R. Bros.	Bark Street ...	1	No Apparatus
8	C. & W., Ltd., No. 4 ...	Gilnow	4	Cass's Cokers
9	W. H. H. & Co., Ltd. ...	Lostock	1	No Apparatus
10	M. S. Co., Ltd.	Gilnow	2	Bennis's Stoker on One
11	J. W. M.	Gilnow	1	No Apparatus
12	R. P.	Newport Street ...	1	No Apparatus
13	R. W.	Bolling's Yard ...	1	No Apparatus
14	M. S. Co., Ltd.	Halliwell Road ...	2	Automatic Synd. Co.'s Stokers
15	B. & J., Ltd. & J. K. & S., Ltd.	Egyptian Street ...	5	Triumph and Cass's Stokers
16	J. H. & Co., Ltd., Nos. 1 & 2...	Chorley Old Road..	6	Bennis's Stokers
17	B. & J., Ltd., No. 1 ...	Higher Bridge St...	3	Cass's Cokers
18	B. & J., Ltd., No. 1 ...	Prospect Street ..	1	Cass's Cokers
19	B. & J., Ltd., No. 2 ...	Prospect Street ...	3	Cass's Cokers
20	B. & J., Ltd., No. 3 ...	Prospect Street ...	3	Cass's Cokers
21	W. M. & Co., Ltd. (Spinning)...	Regan Street ...	2	Proctor's Stokers
22	W. M. & Co., Ltd. (Weaving)...	Regan Street ...	2	Proctor's Stokers
23	E. & T., Ltd.	Waters Meeting ...	10	Hodgkinson's Stokers
24	G. & S., Ltd.	Sharples	2	Bennis's Stokers
25	A. H. & Sons	Blackburn Road ...	1	No Apparatus
26	J. C. & Bro., Ltd.	Eagley Mills ...	3	British Syndicate's Patent
27	C. S. Works	Burnden	1	No Apparatus

TABLE XXIII. (*Continued*)**Practically Smokeless Chimneys.**

No.	Firm.	Situation.	Boilers	Apparatus.
28	M. H. S. & Co., Ltd., No. 1 ...	Mill Hill ...	3	Hodgkinson's Stokers
29	M. H. S. & Co., Ltd., No. 2 ...	Mill Hill ...	3	Hodgkinson's Stokers
30	H. Bros. ...	China Lane ...	3	Bennis's Stokers
31	M. P. Co., Ltd. ...	Smithy Street ...	1	Hodgkinson's Stokers
32	J. H. & Co. ...	Brightmet Street..	1	Own make of Stoker
33	L. & D. ...	Mill Hill ...	1	No Apparatus
34	W. G. & S., Ltd. ...	Lever Bridge ...	2	Triumph Stoker
35	C. & W., Ltd., No. 1 ...	Lever Street ...	3	Vickers' Cokers
36	C. & W., Ltd., No. 2 ...	Lever Street ...	3	Vickers' Cokers
37	C. & W., Ltd., No. 3 ...	Lever Street ...	4	Cass's Cokers
38	C. & W., Ltd., No. 5 ...	Roxalina Street ...	4	Cass's Cokers
39	J. H. & Son, No. 2 ..	Rishton Lane ...	2	Cass's Cokers
40	E. & C. ...	Slaterfield ...	1	No Apparatus
41	P. C. Ltd., Nos. 1 & 2 ...	Lever Street ...	4	Bennis's Stokers
42	J. J. & Sons ...	Weston Street ...	2	Cass's Cokers
43	T. T. & Co., Ltd., No. 2 ...	Lever Street ...	1	Bennis's Stokers
44	H. H. & Son ...	Back Derby Street.	1	Specially Constructed Boiler
45	G. S. M. Co., Ltd. ...	German Street ...	2	British Smoke Syndicate Co.'s
46	H. & G. L. S. Co., Ltd. ...	Settle Street ...	4	Bennis's Stokers
47	W. & McK. ...	Weston Street ...	2	Triumph Stokers
48	D. S. S. Co. ...	Thomas Street ...	2	Cass's Cokers
49	H. P. & Co. ...	Wigan Road ...	2	Bennis's Stokers

Workshops and Workplaces.

The workshops now number 710.

The nuisances found and dealt with under the Public Health Acts were —

- 72 want of cleanliness
- 7 want of proper ventilation
- 8 want of proper drainage of floors
- 15 other nuisances
- 24 insufficient or unsuitable closet accommodation.

Of these all were abated except 8, which are now in hand.

There were only two complaints from the Factory Inspector with regard to workshops, and these were both attended to.

The trades carried on in the different workshops will be seen in the following table :—

Employees :—

Males	...	...	...	...	1629
Females	...	...	...	...	1014

Number of Workshops on the register . 710

Trade.	No. in Trade.	Trade.	No. in Trade.
Bakers	207	Athletic Goods	4
Boot & Clog Makers	90	Ironmongers	4
Dressmakers	57	Counterpane Makers	3
Millinery, &c.	47	Watch & Clock Makers	3
Tailors, &c.	46	Mineral Water Manufacturers	3
Joiners, &c.	23	Picture Framers	3
Tinplate Workers	20	Umbrella Makers	3
Cabinet Makers	16	Fellmonger, Tanner, & Leather Dresser	3
Plumbers	15	Tarpaulin	3
Tripe Works	12	Horse-shoeing	2
General Smith	11	Mason	2
Saddlers	11	Painter	2
Chemists	8	Spindle Maker	2
Brass Founders & Machinists	8	Sign Writer	2
Printer	7	Photographers	2
Wheelwright	7	Rag Sorters	2
Stocking Knitters	6	Paper Dealer	2
Chemical Works	6	Pickle Makers	2
Cycle Makers	6	Bookbinders	2
Coopers, &c.	6	Window Blinds	2
Coach Builders	5	Clog Iron Makers	2
Cotton-waste Warehouses	5	Indiarubber Manufacturers	2
Skip Makers	5	Leather Dealers	2
Brush Makers	4	Sugar Boilers	2
Laundries	4	Miscellaneous	15
Shirt Makers, &c.	4		

Bakehouses.

There are at present on the register 204 bakehouses. 12 new ones having been registered during the year 1904. 10 have given up business and 4 underground bakehouses were refused registration by the Sanitary Committee.

In the year 1897 there were 52 underground bakehouses in the Old Borough, one was included with the Added Area in 1899, making a total of 53. 23 of these were closed from 1897-1903, so that in January, 1904 only 30 remained on the register. In accordance with Section 99 of the Factory and Workshop Act, 1901, all these had to obtain a certificate of fitness from the Sanitary Committee or be closed. The Unhealthy Dwellings Sub-Committee visited these premises with this result :—

- 1 was closed.
- 3 were refused certificates.
- 20 were ordered to make improvements.
- 6 were declared satisfactory.

17 of the 20 have already complied with the notice and been given certificates, 3 have the work in hand. We have therefore on the register 23 certificated underground bakehouses and 3 are to be made satisfactory.

It is part of the duty of the Sanitary Inspectors to regularly visit all the bakehouses and to see that they are limewashed every six months or as often as it is required. All these requirements have been carried out, and all other suggestions made by them. No legal proceedings have been taken.

TABLE XXIV.

Bakehouses in Wards.

Ward.	Total.	Ground Level	Underground.
West	32	32	...
Halliwell	30	28	2
Bradford	25	20	5
Derby	24	21	3
East	16	12	4
Church	13	9	4
Rumworth	7	7	...
North	6	5	1
Exchange	18	12	6
Old Borough	171	146	25
Great Lever	14	14	...
Tonge	5	5	...
Astley Bridge	2	2	...
Hulton	7	7	...
Smithills	3	2	1
Darcy Lever-cum-Brightmet ... ..	...	..	...
Deane-cum-Lostock	2	2	...
Heaton ... ..	...	...	...
Added Area	33	32	1
Extended Borough	204	178	26

TABLE XXV.

1.—Inspection.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (including Factory Laundries)	342	11	...
Workshops (including Workshop Laundries)	1511	38	...
Workplaces... ..	61	5	...
Homeworkers' Premises	25	...	...
TOTAL	1939	54	...

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	72	71	}	nil	
Want of Ventilation	7	7			
Overcrowding	nil	nil			
Want of drainage of floors	8	8			
Other nuisances	15	15			
Sanitary accommodations {	insufficient	11			8
	unsuitable or defective	13			9
	not separate for sexes	1			1
<i>Offences under the Factory and Workshop Act :—</i>					
Illegal occupation of underground bakehouse (S. 101)	1	1	}	nil	
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	18	18			
Failure as regard lists of outworkers (S. 107)	1	1			
Giving out work to be done {	unwholesome (S. 108)	nil			nil
in premises which are {		infected (S. 110)			nil	nil
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)	nil	nil			
Other offences	nil	nil			
TOTAL	147	139			

TABLE XXV.—Continued.

3.—Other Matters.

Class.										Number.	
<i>Matters notified to H.M. Inspectors of Factories :—</i>											
Failure to affix Abstract of the Factory and Workshop Act (S. 133)										nil	
Action taken in matters referred by H. M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5)										2	
Notified by H.M. Inspector Reports (of action taken) sent to H.M. Inspectors										2	
Other										2	
<i>Underground Bakehouses (S 101) :—</i>											
In use during 1903										30	
Certificates granted { in 1903										—	
{ in 1904										23	
In use at the end of 1904... ..										26	
<i>Homework :—</i>										Number of	
<i>Lists of Outworkers (S. 107) :—</i>										Lists. Outworkers.	
Lists received										3 4	
Addresses of outworkers ... { forwarded to other Authorities										nil	
{ received from other Authorities										2	
<i>Homework in unwholesome or infected premises :—</i>										Wearing Apparel ; Other.	
Notices prohibiting homework in unwholesome premises (S. 108)										{ nil nil	
Cases of infectious disease notified in homeworkers' premise											
Orders prohibiting homework in infected premises (S. 110)											
<i>Workshops on the Register (S. 131) at the end of 1904.</i>											
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Bakehouses (including underground)										207
	Other Workshops										503
	Total number of workshops on Register										710

Cowsheds, Dairies, and Milkshops.

There are **180** occupiers of **391** cowsheds, a decrease of 6 cowsheds for the year 1904, as 2 new ones were built and 8 demolished.

There were **515** registered milksellers, an increase of 23 during the year.

The following improvements have been made in cowsheds :—

Made sanitary and satisfied all requirements	...	6
Improved the ventilation and lighting	... ..	6
Improved the air space	... ..	5
Improved the drainage arrangements	... ..	4
Improved the water supply...	... ..	2

TABLE XXVI.

Registered Cowkeepers and Dairymen, and Milksellers.

Wards.	Cowkeepers and Dairymen.	Milksellers.
West	1	96
Bradford ... ..	...	101
Derby	1	74
Halliwell... ..	4	59
East ... ..	...	51
Church	1	22
Rumworth	4	28
North ... ..	...	23
Exchange ... ..	...	37
Great Lever	8	8
Tonge	7	4
Astley Bridge	24	...
Smithills	21	6
Hulton	29	3
Darcy Lever-cum-Brightmet	19	2
Deane-cum-Lostock	38	...
Heaton	23	1
TOTAL	180	515

TABLE XXVII.

Present Condition of Cowsheds, 1904.

	Districts.						Total.
	1	2	3	4	5	6	
No. of Cowsheds in Borough	94	57	92	20	78	50	391
No. of Occupiers	46	24	42	11	35	22	180
No. of Sanitary Cowsheds	59	19	29	12	51	19	189
No. of Insanitary Cowsheds	35	38	63	8	27	31	202
No. of Cowsheds with Three Defects .....	...	3	1	...	3	...	7
No. of Cowsheds with Two Defects	4	11	16	5	9	9	54
No. of Cowsheds with One Defect.....	31	24	46	3	15	22	141

Offensive Trades and Slaughterhouses.

One tripe boiling place was closed during the year, thus reducing the total number of offensive trades to **36**.

One slaughterhouse was closed during 1904, there are now **54** slaughterhouses in the Borough, including the 16 at the abattoirs belonging to the Markets Committee.

TABLE XXVIII.

Offensive Trades and Slaughterhouses.

Trade.	Added Area	West	Halliwell	Bradford	Derby	East	Church	North	Rumworth	Exchange	Total
Fellmonger, Tanner, and Leather Dresser .....	...	1	...	1	...	...	...	...	...	...	...
Fellmonger and Tanner .....	...	...	...	...	...	1	...	...	...	...	1
Leather Dresser and Roller.....	...	...	...	...	...	...	1	...	...	1	2
Hide and Skin Dépôt .....	...	...	...	...	...	1	...	...	...	1	2
Knackers' Yard .....	...	...	...	...	...	...	1	...	...	...	1
Blood Boiler .....	...	...	...	1	...	...	1	...	...	...	2
Tallow Melter .....	...	...	...	...	...	...	...	...	...	1	1
Chemical Works	1	...	...	...	1	1	3	...	...	...	6
Tripe Boiler	1	...	...	3	1	3	2	...	...	1	11
Brick Works	5	...	1	...	...	...	...	...	1	...	7
Soap Works ..	1	...	...	...	...	...	...	...	...	...	1
Slaughterhouses	9	4	3	22	2	3	4	1	1	5	54
Total	17	5	4	27	4	9	12	1	2	9	90

Unsound Meat and Food.

There has been no seizure of unsound meat or food during the year 1904, but 39 carcasses weighing 15,115 lbs. were surrendered and destroyed, 30 carcasses of which were from slaughterhouses, and 9 from farms and cowsheds. Of these 26 were beasts, 7 pigs, 4 calves and 2 sheep. Of the 39 carcasses destroyed, 12 were those of tuberculous cows. In addition to the above 350 rabbits and 41 tons 18 cwt. of fish were destroyed.

On 15th December, 1904, a cow was reported to your Inspector by a farmer to have died suddenly, the disease having appeared only the day before. On examination of the carcass, anthrax was suspected, and it was at once reported to the Medical Officer of Health and the Veterinary Surgeon; they examined the blood and pronounced it to be anthrax. One of the ears was sent to Prof. McFadyean, Veterinary College, London, who confirmed the diagnosis, and the case notified to the Board of Agriculture. The carcass was burned in the Corporation Destructor, the cowshed was disinfected and cleansed, the manure was buried 5 feet deep with quick-lime, the cows in the same shed were isolated for 7 days and no milk from them was allowed to be sold for that period; all other orders of the Board of Agriculture were strictly carried out. This is the first case that has occurred to our knowledge in the Borough of Bolton for 15 years, and there was no spread of the infection.

INSPECTIONS :—

Beasts	...	...	...	...	8651
Sheep and Lambs...	...	...	...	...	26118
Pigs	...	...	...	...	16285
Calves	...	...	...	...	1791
Store Cattle	...	...	...	...	2875
Slaughterhouses and Butchers' Shops	...	...	...	...	4495

MEAT DESTROYED IN EACH MONTH :—

Month.		Carcases.		Weight in lbs.
January	...	3	...	1350
February	...	1	...	500
March	...	5	...	1480
April	...	5	...	2020
May	...	2	...	825
June	...	2	...	1150
July	...	4	...	1930
August	...	5	...	1370
September	...	2	...	550
October	...	2	...	970
November	...	3	...	1170
December	...	5	...	1800
		39		15115

Public Analyst's Report.

DEAR SIRS,

I have the honour to present to you my report for another year, the year ending December 31st, 1904. As Public Analyst for the County Borough of Bolton I have had submitted to me, by your Inspector, under the Sale of Foods and Drugs Act, the sum of 217 samples. In the following tables you will find the results of my analyses.

I should like to draw your attention to a few points which I hold to be of interest and importance. You will see that the total number of samples submitted was 217. During the year 1903 the number submitted was 200 only; in 1902, 400 samples were analysed; in 1901 the samples reached a total of 403; whilst as far back as 1900 the figure was 307. As you will be aware the collection of samples forms no part of my duties, still I have thought it advisable to point out how the matter stands, as in my opinion it is a matter of very great importance. I have referred to it informally from time to time. In this connection I may point out also, that in the opinion of the Local Government Board the number to be taken per annum should be from 2 to 3 per thousand of the population. In the case of Bolton this would mean 340 to 510 samples, a figure to which we approximated during 1902 and 1901. Personally I hold the view that 3 per thousand (say 500 samples) is not at all excessive in a place like Bolton.

Another interesting point which stands out prominently is the smallness of the fines inflicted in most cases of food adulteration. In the case of milk, 12 samples were found adulterated during 1904. Of this number 4 were not taken to Court; the fines inflicted in the remaining 8 cases totalled 5/ and costs. With butter adulteration the fines inflicted are very much greater, thus, out of seven cases of adulteration, 4 were taken into Court, and the fines reached the total of £22 and costs. Milk as usual was submitted in greater number than any other article, whilst butter, pepper and coffee were submitted in nearly equal amounts.

A subject to which I should like to devote more attention is that of drugs, no samples of which were taken during 1904. I propose to treat this subject exhaustively during the present year, 1905. In accordance with the usual plan I present the results of all my analyses in tabular form.

I shall continue to merit the confidence you have reposed in me for several years as Public Analyst.

Believe me to be,

Very truly yours,

WALTER RATCLIFFE,

Public Analyst.

The Chairman and Members Sanitary Committee.

ARTICLES ANALYSED DURING 1904.

	Total		Genuine		Adulterated
Milk	107	...	95	...	12
Butter.....	33	...	26	...	7
Margarine	3	...	3	...	—
Spirits.....	10	...	10	...	—
Coffee	30	...	30	...	—
Pepper	33	...	33	...	—
Cream.....	1	...	1	...	—
	<hr/>	...	<hr/>	...	<hr/>
	217	...	198	...	19

DETAILS OF ADULTERATION AND ACTION TAKEN.

Article.	No. of Sample.	Form of Adulteration.	Fines.
Butter.....	2	Foreign Fats	£2 10s. and costs
Butter.....	12	" "	Case withdrawn
Butter.....	16	" "	£7 and costs
Butter.....	20	" "	£2 10s. and costs
Milk	37	Abstraction of Fat...	Costs
Milk	50	Added Water	No action
Milk	52	" "	Dismissed on warranty
Milk	55	" "	Case dismissed
Milk	58	Abstraction of Fat...	2/6 and costs
Milk	59	" "	2/6 and costs
Milk	60	" "	No action
Milk	75	Added Water	Dismissed on warranty
Butter.....	187	Foreign Fats.....	£10 and costs
Butter.....	191	" "	No action
Butter.....	192	" "	No action
Milk	195	Added Water	No action
Milk	206	" "	Costs
Milk	207	" "	Costs
Milk	210	" "	No action
<hr/>			<hr/>
Total			£22 5s. and costs

Baths and Lavatories.

During the year 1904 a new urinal was built in connection with the Cabmen's Shelter in Trinity Street towards which the Sanitary Committee contributed £130 out of current account.

The income and expenditure for the year ending March 31st, 1905 was as follows :—

	Income. £	Current Expenditure. £	Interest and Sink- ing Fund. £	Nett Loss. £
High Street Baths.....	417	995	380	958
Turkish Baths	309	548	140	379
Victoria Square Lavatory	116	158	130	376
Nelson Square Lavatory..	95	185		
Knowsley Street Lavatory	33	147		

Tables are added showing the number of bathers during the year 1904. Connected with the Turkish Baths are 2 slipper baths and with High Street Baths 18.

TABLE XXIX.

High Street Baths — Number and Class of Bathers, 1904.

Month.	No. of Weeks	Swimming Bath.		Slipper Baths.		Needle Baths.	Vapour Baths.	Season Ticket Holders.	School Children	Total.
		at 4d.	at 2d.	at 6d.	at 4d.					
January ...	4	78	336	37	36	9	5	16	...	517
February ...	4	122	815	44	42	10	13	16	...	1062
March ...	5	164	1091	62	66	15	20	21	...	1439
April ..	4	384	1638	54	84	17	16	2	...	2195
May ...	4	472	2362	87	125	22	10	6	748	3832
June ..	5	984	5386	197	225	20	24	30	3145	10011
July ...	4	1214	5436	183	244	29	21	16	3034	10177
August ..	5	1226	6283	221	226	27	24	17	701	8725
September ...	4	460	2942	62	81	18	21	7	4918	8509
October ...	3	168	1225	37	36	15	12	21	1931	3445
November ...	6	300	1695	62	62	17	18	40	...	2194
December ...	4	130	549	24	46	5	8	22	...	784
Total ...	52	5702	29758	1070	1273	204	192	214	14477	52890

TABLE XXX.

Turkish Baths.—Number and Class of Bathers, 1904.

Month.	No. of Weeks	Massage.	Annual Tickets.	Books of Tickets.		Cash Tickets.		Slipper Baths.		Medicated Baths.	Total.
				1st Class.	2nd Class.	1st Class.	2nd Class.	1st Class.	2nd Class.		
January ...	4	26	21	29	16	110	85	11	15	6	319
February ...	4	9	23	34	15	114	119	12	13	2	341
March ...	5	24	29	34	26	118	121	17	14	4	387
April ..	4	11	21	21	14	94	89	19	21	4	294
May ...	4	6	24	30	15	81	98	20	22	10	306
June ..	5	42	24	28	25	95	116	19	26	13	388
July ...	4	19	20	33	20	122	103	20	32	11	380
August ...	5	56	12	48	19	97	86	21	28	13	380
September ...	4	2	...	35	18	88	78	17	19	8	265
October ...	3	12	...	27	19	91	68	12	11	6	246
November ..	6	16	...	43	27	139	115	10	24	13	387
December ...	4	27	...	28	25	109	89	11	21	9	319
Total ...	52	250	174	390	239	1258	1167	189	246	99	4012

On the application of the Education Committee permission was granted for the use of the High Street Swimming Bath for school children free of cost, subject to the following regulations :

- 1.—The hours of admission and maximum number of children shall be as follows :—

Morning.	No. of Pupils.	Afternoon	No. of Pupils.
9-40 to 10-20 ...	50	2-30 to 3-10 ...	50
10-30 to 11-10 ...	50	3-20 to 4-0 ...	50
11-20 to 12-0 ...	50	4-10 to 4-50 ...	50

- 2.—The Days :—

Mondays, Tuesdays, Wednesdays, and Thursdays during the months of April to October inclusive. Each class of pupils to be in charge of a teacher who shall be responsible for their good conduct.

- 3.—Swimming Instructors to be provided by the Education Authority.
- 4.—Towels and bathing costumes to be provided by the scholars.
- 5.—All bathers and instructors to be subject to the supervision and under the control of the Baths' Superintendent.
6. — All the above arrangements subject to revision by the Sanitary Committee.

Scavenging Work, 1904.

I am much indebted to Mr. Smith, the Scavenging Superintendent, and to the courtesy of the Scavenging Committee for the following details concerning the scavenging operations, which are in my opinion carried out in a most efficient manner. Mr. Smith is always willing and ready to give his assistance to this department whenever it is necessary.

OLD BOROUGH.

Collection of Refuse :—

52207 $\frac{1}{2}$	Tons from the	ashpits and closets.
11992 $\frac{1}{2}$	" "	streets and markets.
1182 $\frac{1}{4}$	" "	abattoirs.
990	" "	lock-up shops.
627	" "	Falcon & Wellington Yard stables
<hr/>		
66999 $\frac{1}{4}$	Tons.	

Disposal of Refuse :—

19203	Tons sold as manure to farmers.
7272 $\frac{1}{2}$	" tipped away.
37854 $\frac{3}{4}$	" incinerated in destructors.
2669	" surplus moisture drained into sewers.
<hr/>	
66999 $\frac{1}{4}$	Tons.

Expenditure :—

	£	s.	d.
Cost of Collection and Cartage	11884	13	10
" Incineration	1858	6	3
" Mortar Making	2354	12	4
" Manure Grinding... ..	555	6	5
" Wagon Loading	658	8	0
<hr/>			
	£17311	6	10

Income :—

Manure sales after paying £1914 11 10	£	s.	d.
for Railway Carriage	982	7	:
Net value of Mortar Sales	3394	3	:
<hr/>			
	£4376	11	2
<hr/>			
Nett Cost... ..	£12934	15	8

To this must be added £198 8s. 4d. paid to extra men and carts employed on the snow removal and disposal operations of the year, making in all a total of £13133 4s. 0d. in Scavenging in the Old Borough.

Mortar Making and Incineration :—

	Wellington Yard.		Back-o'-th'- Bank.
Common Mortar ...	8206½ Tons	...	4644 Tons
Special Mortar ..	339¾ „	...	175 „
	<hr/> 8546¼ Tons <hr/>	..	<hr/> 4819 Tons <hr/>
Refuse burned ...	21202½ Tons	...	16652¼ Tons
Common Mortar sold	£ s. d.		£ s. d.
at 5/- per ton ...	2051 12 6	...	1161 0 0
Special Mortar sold			
at 6/8 per ton...	113 5 0	...	58 6 8
	<hr/> £2164 17 6 <hr/>	...	<hr/> £1219 6 8 <hr/>
	£ s. d.		£ s. d.
Cost of Incineration	1173 19 9	...	684 6 6
	1372 15 2	...	981 17 2
	<hr/> £2546 14 11 <hr/>	...	<hr/> £1666 3 8 <hr/>

Carts and Horses : -

During the year the Scavenging Department employed 50 horses upon the foregoing operations, and had in use more or less the under tabulated vehicles :—

For the collection :	In the disposal :
38 Carts.	76 Railway Wagons.
6 Street Watering Vans.	9 Dépôt Manure Wagons.
4 Pail Closet Vans.	26 Destructor Clinker Wagons
6 Pail Closet Tanks.	6 Mortar Carts.
1 Iron Tank.	6 Jobbing Carts.
6 Street Sweeping Machines.	1 Lurry.
16 Hand Carts.	8 Iron Clinker Barrows.
34 Barrows.	
<hr/> 111 <hr/>	<hr/> 132 <hr/>

The costs given in the foregoing summary include all wages paid, provender used, 12 per cent. per annum depreciation on horses and plant, current repairs and tools, in fact all charges except those paid on the sites of the dépôts, and the initial outlay on the buildings and machinery.

ADDED AREA.

Emptying Ashpits—The ashpits and closets of Great Lever were attended to for £551 13s 11d.; Tonge £338 11s. 7d.; Middle Hulton £160 16s. 11d.; Over Hulton £56 8s. 6d.; Deane £104 0s. 3d.; Smithills £280 18s. 3d. Total £1492 9s. 5d.

			£	s.	d.
All the main roads were scavenged for	...	...	1192	2	6
All the highways of Great Lever	...	...	252	14	11
do. do. Tonge	...	...	129	16	2
do. do. Breightmet	...	...	28	13	7
do. do. Darcy Lever	...	...	32	8	5
do. do. Middle Hulton	...	...	84	9	11
do. do. Over Hulton	...	...	35	19	4
do. do. Heaton	...	...	72	10	11
do. do. Smithills	...	...	98	10	5
			£1927	6	2

The Committee of Darcy Lever-cum-Breightmet and Heaton arrange for and supervise the emptying of the ashpits and closets, and the Committee of Deane-cum-Lostock the scavenging of the highways, within their respective districts.

The subjoined table shows the number of the "Added Area" cart loads of road and ashpit refuse removed and disposed of by the Scavenging Department during the year :—

	Main Roads.	Highways.	Ashpits and Closets
Great Lever	513	489	2583
Tonge	441	388	2609
Breightmet	306	183	—
Darcy Lever	—	194	—
Middle Hulton	302	232	1234
Over Hulton	160	58	393
Deane	220	—	624
Heaton	432	224	—
Lostock	69	—	—
Smithills	420	347	1508
Total Loads.....	2863	2115	8951

Exclusive of the vehicles already tabulated on this return as being in use of Central Bolton, the Scavenging Department have 9 snow-ploughs for the general service of Greater Bolton. Great Lever, Breightmet and Heaton have each a sweeping machine, and Great Lever has also a water van.

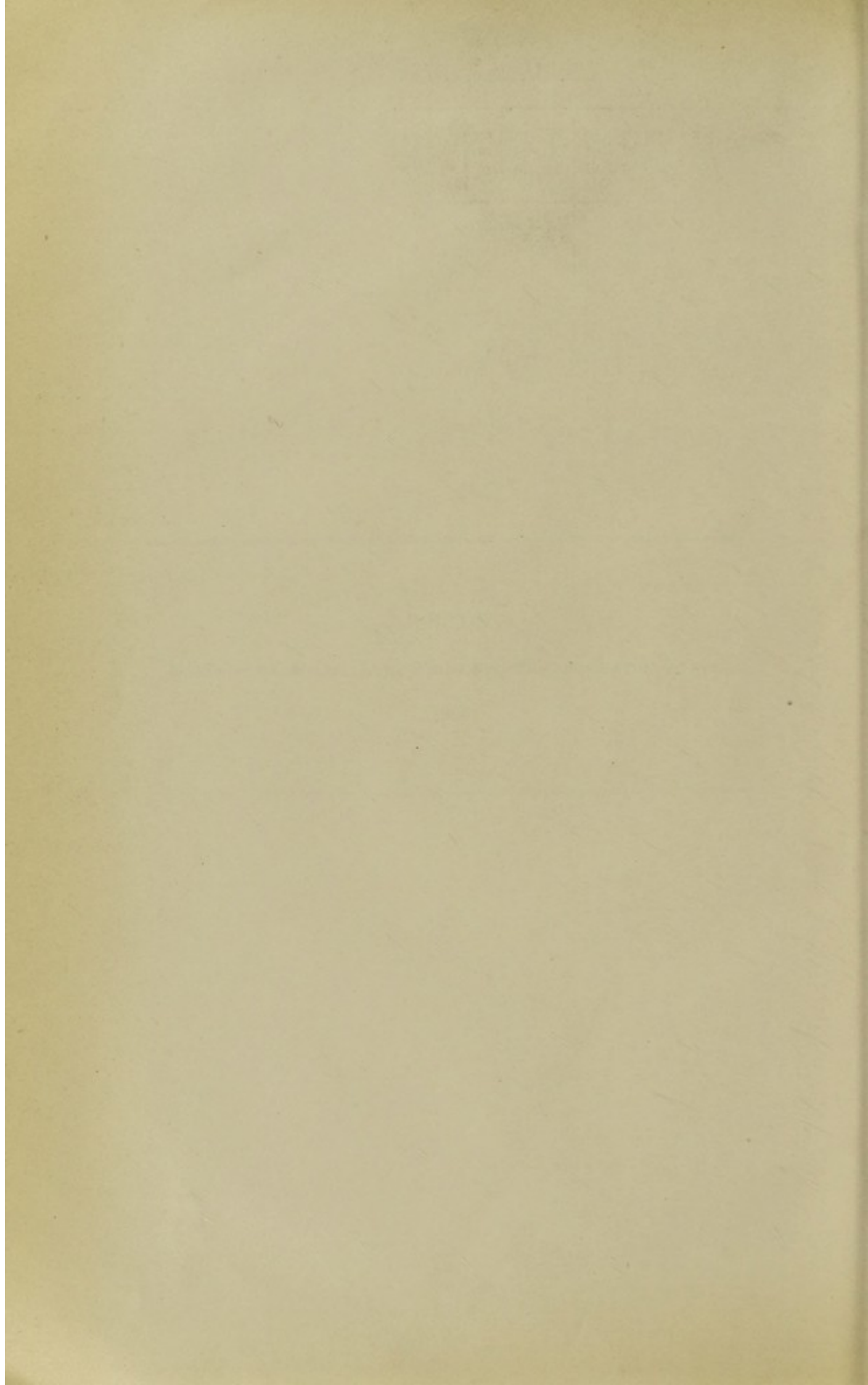
The costs given in the "Added Area" summary include all wages paid, carts hired, refuse tip payments, together with current repairs and use of tools.

BOLTON :

ROBERT LEE & Co., LTD., PRINTERS, 23 CORPORATION STREET.

1905.

APPENDIX.



APPENDIX.

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	
A.—General Diseases																			
1.—Zymotic.																			
Smallpox { Vaccinated ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Smallpox { Not Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox { No statement	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cow-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox ...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	16	8	8	5	6	2	3	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Rose-rash, German	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	22	8	14	3	3	4	...	4	6	2	...	...	...	...	...	...	...	...	...
Typhus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza...	20	7	13	1	...	...	...	...	1	...	...	2	1	1	2	1	...	4	...
Whooping Cough ...	135	64	71	73	32	15	9	4	2	...	...	...	...	...	...	...	...	...	...
Mumps ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Membranous	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup ...	29	7	22	1	4	3	7	4	10	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Simple Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	37	18	19	...	...	...	...	1	2	4	...	4	7	6	3	1	2	4	...
Asiatic Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhoea—Epidemic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
or Zymotic Enteritis ...	116	62	54	96	12	5	1	...	...	...	...	...	...	1	...	...	1	...	...
Diarrhoea, Choleraic Diarrhoea	39	20	19	30	1	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malarial Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrophobia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders, Farcy...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax, Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis ...	8	4	4	7	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Gonorrhoea, Stricture of Urethra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Septicæmia, Sapræmia ...	4	...	4	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...
Pyæmia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phlegmasia Dolens	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(Thrombosis) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever ...	3	...	3	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...
Infective Endocarditis ...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Epidemic Pneumonia,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonic Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ...	5	3	2	3	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Septicæmia (not Puerperal)	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia (not Puerperal)	2	1	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Phlegmon, Carbuncle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(not Anthrax)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phagedœna ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Zymotic ...	441	206	235	220	59	31	22	13	22	6	1	10	10	10	6	2	4	...	...
2.—Parasitic.																			
3.—Dietetic.																			
Starvation ...	4	4	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scurvy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism, Delirium Tremens..	6	2	4	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...
Opium, Morphia Habit	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ptomaine Poisoning ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial { Lead ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poisoning { Phosphorus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poisoning { Arsenic and	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poisoning { other Metals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Dietetic ...	10	6	4	4	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...

[illegible]

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	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
				1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60
4.—Constitutional.																			
Tubercular Phthisis (Pulmonary Tuberculosis) ...	149	81	68	...	...	...	1	...	1	2	11	16	16	20	17	23	15	16	...
Phthisis ...	72	44	28	...	...	...	...	...	2	2	6	6	8	10	7	5	4	5	...
Tubercular Meningitis ...	34	24	10	11	8	3	1	2	4	2	...	1	1	...	1	...	...	...	...
Tubercular Peritonitis ...	11	6	5	3	2	1	...	2	1	...	...	1	...	...	...	...	...	...	...
Tabes Mesenterica ...	11	9	2	8	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Lupus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tubercle of other Organs ...	19	12	7	5	2	...	...	...	...	...	1	3	3	3	...	1	...	1	...
General Tuberculosis ...	13	9	4	6	1	...	...	...	...	...	2	1	...	...	2	...	...	...	...
Scrofula ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Rheumatism ...	12	7	5	...	...	...	...	...	2	1	...	...	3	1	1	2	1	11	...
Rheumatism of Heart ...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Chronic Rheumatism ...	7	4	3	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	...
Rheumatic Arthritis, Rheumatic Gout ...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gout ...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	11
Carcinoma ...	56	19	37	...	...	...	...	...	...	...	...	...	1	1	5	5	8	8	...
Sarcoma ...	10	7	3	...	...	...	...	...	...	...	...	...	1	...	...	...	2	3	...
Cancer, Malignant Disease ...	67	19	48	...	...	...	...	...	...	...	...	...	...	1	...	4	9	10	...
Rickets ...	4	3	1	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Purpura ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmophilia, Hæmorrhagic Diathesis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anæmia, Leucocythæmia ...	10	3	7	1	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...
Diabetes Mellitus ...	10	5	5	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...
Total Constitutional ...	491	254	237	36	16	5	3	4	10	9	21	30	33	37	34	41	42	46	...
5.—Developmental																			
Premature Birth ...	101	51	50	101	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Defects ...	18	11	7	16	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Injury at Birth ...	2	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis ...	8	3	5	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast Milk ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teething ...	39	18	21	19	18	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Old Age, Senile Decay ...	228	99	129	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Developmental ...	396	184	212	146	19	3	...	...	...	...	...	...	...	...	...	...	...	...	...
B.—Local Diseases.																			
1.—Nervous System																			
Meningitis, Inflammation of	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brain ...	60	26	34	19	11	6	3	5	5	2	3	1	1	...	...	1	...	2	...
Softening of Brain ...	10	8	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
General Paralysis of Insane ...	17	10	7	...	...	...	...	...	...	...	...	...	1	2	2	...	2	6	...
Insanity (not Puerperal) ...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chorea ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy ...	10	8	2	...	...	...	...	...	1	1	...	1	1	1	1	1	2	1	...
Convulsions ...	70	48	22	57	5	2	...	1	3	...	...	1	...	...	...	...	...	...	...
Laryngismus Stridulus ...	2	...	2	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Locomotor Ataxy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paraplegia and Diseases of Spinal Cord ...	5	3	2	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Neuritis, Peripheral, Poly- neuritis ...	7	1	6	...	...	...	...	...	...	...	...	...	...	2	...	2	1	...	...
Brain Tumour (not Specific) ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Other Diseases of Nervous System ...	23	10	13	4	...	...	...	1	1	...	2	...	1	...	...	1	1	2	...
Total Nervous ...	208	117	91	81	16	9	3	8	9	3	6	2	4	5	3	5	8	12	...

									WARDS.																
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'm. Lostock	Runworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c.-Br'met
6	5	...	...	...	...	...	1	148	9	8	28	7	20	5	3	20	4	3	7	14	4	4	5	8	...
7	6	3	1	...	...	...	72	2	2	3	8	3	8	1	5	16	4	...	4	10	1	1	1	3	2
...	...	...	...	...	...	...	25	9	4	3	7	...	4	2	...	4	1	1	...	4	...	...	2	1	1
...	...	1	...	...	...	...	8	3	...	1	4	1	...	1	...	1	...	1	...	1	...	...	1	...	...
...	...	...	...	...	...	...	11	...	1	2	1	1	1	...	3	...	...	...	1	1	...	...	...	...	...
...	...	...	...	...	...	...	7	12	2	1	4	...	3	...	...	2	1	1	...	2	...	...	...	2	1
...	1	...	...	...	...	...	7	6	...	1	2	1	2	1	...	2	...	1	...	2	...	...	...	...	1
...
...	...	...	...	...	...	...	12	...	...	...	3	...	2	1	1	...	2	...	...	1	...	...	1	1	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
...	1	2	1	...	...	...	7	...	...	1	1	...	1	...	...	...	...	...	...	...	1	...	...	3	...
1	...	...	...	1	...	...	3	...	...	1	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...
6	6	7	6	3	...	...	2	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
1	1	...	2	...	...	...	56	1	3	8	1	6	...	9	6	...	2	4	10	1	1	2	1	1	1
5	11	17	8	2	...	...	10	1	...	2	...	1	...	...	1	2	...	1	1	...	...	...	...	...	...
...	...	...	...	...	...	...	67	1	6	11	1	9	...	2	10	2	1	2	9	...	1	4	5	3	3
...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...
1	3	1	1	...	...	...	1	9	1	...	5	...	2	...	...	...	...	...	...	2	...	...	...	...	...
2	3	1	1	...	...	...	10	...	...	1	3	...	...	...	1	1	...	1	1	1	...	...	...	...	1
9	37	32	20	6	...	...	64	427	22	31	89	15	60	12	25	64	16	11	21	60	7	7	16	25	10
...	...	...	...	...	...	...	101	...	3	5	20	4	21	2	7	15	2	1	9	4	1	...	4	2	1
...	...	...	...	...	...	...	18	...	...	...	3	1	3	1	1	3	...	...	1	4	1	...	...	...	...
...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	...	8	...	...	...	2	...	...	...	2	...	...	...	1	2	...	...	...	...	...
...
6	25	37	65	45	36	14	39	...	...	5	6	2	5	3	2	1	2	...	1	2	...	1	1	7	1
...	...	...	...	...	...	...	228	12	13	27	11	21	14	9	22	9	7	10	22	7	10	10	10	10	14
6	25	37	65	45	36	14	168	228	15	23	58	18	50	21	22	41	13	8	23	34	9	11	15	19	16
...	...	...	1	...	...	...	44	16	4	4	11	1	6	3	...	8	...	1	6	4	...	1	4	6	1
1	2	4	1	1	...	...	10	...	...	...	3	...	...	1	1	...	1	...	...	...	1	...	2	...	1
1	...	3	...	...	...	...	17	...	2	1	1	1	1	3	1	2	...	...	1	2	...	1	1	1	...
...	1	1	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	1	...	...	...	...	...	10	1	1	2	...	2	1	...	1	...	1	...	...	1	...	...	1	...	...
...	...	...	...	1	...	...	65	5	...	15	8	4	7	3	2	7	4	2	2	7	1	4	1	3	...
...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	2	1	...	...	...	1	4	...	1	1	...	...	...	...	1	...	...	...	...	...	1	1	...	...
...	1	1	...	...	...	...	7	1	...	1	...	...	2	...	...	1	...	1	...	...	...	...	...	1	...
1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...
2	3	3	1	1	...	...	5	18	1	3	3	...	3	1	3	2	...	1	2	2	...	...	...	1	1
5	8	14	4	2	1	...	117	91	7	26	31	6	22	12	7	23	5	5	11	18	2	7	10	13	3

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		
2.—Organs of Special Sense.																				
Otitis, Mastoid Disease ...	11	6	5	...	3	1	1	...	1	1	2	1	...	...	...	...	1	...
Epistaxis, Nose Disease ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia, Eye Disease ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Organs of Special Sense ...	11	6	5	...	3	1	1	...	1	1	2	1	...	...	...	...	1	...
3.—Heart.																				
Valvular Disease, Endocarditis (not Infective) ...	79	40	39	...	...	...	...	...	3	3	3	2	2	7	1	10	3	7
Pericarditis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hypertrophy of Heart ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dilatation of Heart ...	15	5	10	...	...	...	...	...	...	...	...	1	...	...	...	...	3	...
Fatty Degeneration of Heart ...	9	3	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syncope, Heart Disease (not Specified) ...	124	55	69	4	2	1	1	1	3	4	3	...	6	2	5	7	6	100		
Total Diseases of Heart ...	230	105	125	4	2	1	1	1	6	7	6	2	9	9	6	17	12	222		
4. Blood Vessels.																				
Cerebral Hemorrhage, Embolism, Thrombosis ...	47	22	25	2	...	...	...	...	2	...	...	...	1	...	2	3	...	...
Apoplexy, Hemiplegia ...	54	22	32	...	...	...	...	...	...	...	...	...	...	...	1	4	2	...
Aneurism ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Senile Gangrene ...	6	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Embolism, Thrombosis (not Cerebral) ...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Phlebitis ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Varicose Veins ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blood Vessels (other Diseases of) ...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Blood Vessels ...	113	53	60	2	...	...	...	...	2	...	1	...	1	...	3	7	2	141
5.—Respiratory System.																				
Laryngitis ...	9	3	6	2	...	1	2	2	2	...	...	...	...	...	...	...	...	...
Membranous Laryngitis (not Diphtheritic) ...	2	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not Spasmodic or Membranous) ...	5	1	4	1	1	...	1	1	1	...	...	...	...	...	...	...	...	...
Other Diseases of Larynx (not Specified) ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Bronchitis ...	330	143	187	67	20	8	...	...	...	1	1	2	1	5	2	6	20	235
Lobar and Croupous Pneumonia ...	22	15	7	2	2	1	...	...	...	...	2	1	1	2	1	2	1	...
Broncho, Catarrhal and Lobular Pneumonia ...	84	43	41	33	20	3	6	3	3	1	...	1	3	...	1	1	...	...
Pneumonia ...	108	65	43	12	9	...	2	4	3	...	1	3	6	6	9	11	3	...		
Emphysema, Asthma ...	6	4	2	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...
Pleurisy ...	8	4	4	1	2	1	...	...	...	...	1	...	...	1	...	...	1	...
Fibroid Disease of Lung ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Other Diseases of Respiratory System ...	11	9	2	2	2	...	...	...	...	...	2	1	...	1	...	...	1	...
Total Diseases of Respiratory System ...	588	290	298	120	57	15	11	10	9	2	7	8	12	15	13	1	29	48		

									WARDS.																
50 to 55	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'm. Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c.-Br hmet
...	...	...	...	...	...	...	5	6	1	2	2	...	1	1	1	2	...	...	...	...	...	...	...	1	...
...
...	...	...	...	...	...	...	5	6	1	2	2	...	1	1	1	2	...	...	...	...	...	...	...	1	...
8	10	11	7	1	1	...	...	79	3	2	13	3	7	1	5	11	4	2	2	11	...	1	7	4	3
...
1	1	...	1	...	...	...	...	3	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
3	1	4	1	...	...	...	...	15	1	1	3	1	1	1	1	3	...	...	...	2	...	...	...	1	...
1	1	3	1	...	...	...	...	9	...	1	1	...	2	1	2	1	...	...	...	...	...	...	...	1	...
9	24	11	11	2	1	1	9	115	2	4	24	7	18	9	6	13	3	1	5	17	...	4	7	1	3
2	37	29	21	3	2	1	9	221	7	8	42	12	28	12	14	28	7	3	7	30	...	5	14	7	6
7	3	7	7	5	3	...	2	45	4	4	11	...	4	1	2	4	...	...	5	7	...	...	4	1	...
1	10	3	10	4	...	...	...	54	...	4	5	3	6	5	4	4	1	1	1	7	...	1	3	8	1
1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
1	2	...	...	1	1	1	...	6	...	1	1	...	1	...	...	...	...	1	...	2	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	3	...	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...
1	15	10	17	10	4	1	2	111	4	10	17	3	13	6	6	9	1	2	7	17	...	1	7	9	1
...	...	...	...	...	...	...	...	7	2	...	2	2	...	...	...	...	1	...	...	1	1	...	1	...	...
...	...	...	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	4	1	...	...	1	...	1	...	1	...	...	...	2	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
5	50	37	25	15	8	1	95	235	15	33	42	10	48	14	7	37	9	6	22	35	5	7	16	13	11
1	2	2	1	...	...	...	5	17	3	1	6	2	1	2	...	1	1	1	2	2	...	...	...	...	...
2	2	...	1	1	1	...	65	19	3	6	20	3	12	2	4	10	3	4	3	5	1	1	4	3	...
7	8	6	3	5	2	1	27	81	3	8	17	4	16	7	6	17	2	1	6	5	3	...	5	8	...
1	1	1	...	...	...	...	...	6	...	...	1	...	1	...	...	...	1	1	1	...	...	...	1	...	...
...	...	1	...	...	...	...	4	4	...	...	1	...	1	...	3	1	...	...	...	2	...	...	...	...	...
...	1	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	4	7	1	...	2	1	1	...	1	1	...	...	...	2	...	1	...	1	...
8	64	47	30	21	11	2	213	375	26	50	95	20	81	25	22	69	16	13	35	54	9	10	27	25	11

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	55 to 60	60 to 65
6.—Digestive System																				
Tonsillitis, Quinsy ...	3	1	2	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
Mouth, Pharynx (Disease not Specified)...	2	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gastric Ulcer ...	12	4	8	...	...	...	...	...	1	...	...	3	3	1	1	...	2	...	...	...
Gastric Catarrh ...	12	4	8	5	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Other Diseases of Stomach (not Malignant)...	8	4	4	5	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...
Enteritis (not Epidemic) ...	38	23	15	28	1	...	1	1	...	...	2	...	...	...	...	...	...	...	...	...
Gastro-Enteritis ...	23	12	11	19	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Appendicitis, Perityphlitis ...	11	7	4	...	...	...	...	...	2	4	...	2	3	...	...	...	...	...	...	...
Hernia ...	7	3	4	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Intestinal Obstruction ...	19	8	11	...	...	...	...	...	...	...	...	1	...	1	1	...	2	2	2	2
Other Disease of Intestines ...	10	4	6	6	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...
Peritonitis (not Puerperal) ...	3	3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...
Cirrhosis of Liver ...	36	22	14	...	...	...	...	...	...	...	...	...	...	1	1	8	9	6	5	5
Other Diseases of Liver and Gall Bladder ...	11	4	7	3	...	...	...	...	...	...	...	...	...	...	2	...	1	2	2	2
Other Diseases of Digestive System ...	2	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
Total Diseases of Digestive System ...	197	101	96	68	5	2	2	2	6	5	2	9	6	3	6	9	16	111	8	7
7—Lymphatic System and Ductless Glands.																				
Spleen Disease ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Other Diseases of Lymphatic System ...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Thyroid Body Disease (Exophthalmic Goitre) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suprarenal Capsules Disease ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Total Diseases of Lymphatic System and Ductless Glands ...	3	1	2	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1
8.—Urinary System																				
Acute Nephritis... ..	22	13	9	1	...	...	...	1	1	...	1	...	...	1	3	...	3	5	4	4
Chronic Bright's Disease, Albuminuria... ..	44	25	19	...	...	...	...	...	1	...	...	...	3	4	...	4	7	11	5	5
Calculus (not Biliary) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bladder and Prostate Disease ...	4	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
Other Diseases of Urinary System... ..	7	2	5	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	11
Total Diseases of Urinary System... ..	77	42	35	1	...	...	...	1	2	...	1	...	3	5	4	4	10	18	9	9
9—Generative System																				
Ovarian Tumour (not Malignant)...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Diseases of Ovary ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine Tumour (not Malignant)...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Uterus and Vagina... ..	3	...	3	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	11
Disorders of Menstruation ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Generative and Mammary Organs ...	2	...	2	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Total Diseases of Generative System ..	6	...	6	...	...	...	...	...	...	...	...	1	...	2	1	...	...	...	...	11
10.—Pregnancy and Childbirth																				
Abortion, Miscarriage ...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Puerperal Mania ...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Puerperal Convulsions ...	2	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...
Placenta Prævia, Flooding, Accidental Hæmorrhage ..	2	...	2	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Other Accidents of Pregnancy and Childbirth ...	7	...	7	...	...	...	...	...	...	...	...	1	2	1	1	2	...	...	...	...
Total Accidents of Pregnancy and Childbirth ...	13	...	13	...	...	...	...	...	...	...	...	5	3	1	2	2	...	...	...	...

									WARDS.																	
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'm. Lostock	Runworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c.-Br hmet	
...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...
...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	12	...	...	1	4	...	1	1	...	1	...	...	...	1	2	...	...	1	...
...	1	1	2	...	...	...	7	5	...	...	3	...	...	1	2	2	1	...	1	2	...	...	...	...	...
...	...	...	...	...	...	...	6	2	1	...	1	...	3	...	1	...	...	...	...	2	...	...	...	...	...
...	3	1	...	...	1	...	31	7	4	2	6	...	10	...	1	8	...	...	2	3	...	...	...	1	1
...	1	...	...	...	...	...	21	2	1	2	1	...	3	2	1	4	...	1	3	4	...	1	...	...	...
...	...	...	...	...	...	...	11	...	1	1	1	1	2	...	...	...	1	1	3	3	...	...	2	...	...
...	1	1	...	2	1	...	1	6	...	...	1	...	1	...	...	1	1	...	1	1	...	...	2	...	...
...	2	4	2	1	2	1	...	19	...	1	4	...	3	...	...	2	1	1	...	4	...	1	1	...	1
...	1	1	...	...	...	...	6	4	...	1	3	...	...	1	2	...	...	...	1	1	...	...	1	...	...
...	...	...	1	...	...	...	3	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...
...	5	3	2	...	1	...	36	3	2	4	...	5	3	3	6	1	1	2	4	...	...	...	1	1	...
...	2	...	1	...	...	...	3	8	...	...	3	1	2	1	1	...	1	...	2	...	...	...	...	...	...
...	...	...	...	...	...	...	1	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...	8	17	7	7	4	2	...	79	118	10	11	32	2	32	9	12	25	6	3	9	27	3	3	7	4	2
...	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	1	...	...	...	...	...	...	3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	2	...	3	1	...	...	2	20	...	1	5	2	1	1	...	5	1	...	1	3	1	...	...	1	...
...	5	5	...	2	1	1	...	44	2	4	8	1	5	2	1	5	2	...	3	7	...	...	1	3	...
...	1	1	...	...	1	...	...	4	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...
...	1	1	...	...	3	...	...	7	...	...	2	...	1	...	...	...	...	...	...	3	...	...	...	1	...
...	9	7	3	3	5	1	...	2	75	2	5	15	3	10	4	1	10	3	...	4	13	1	...	1	5	...
...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
...	
...	...	...	1	...	...	...	...	3	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	2	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	1	...	...	...	...	6	...	1	1	1	2	...	1	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
...	...	...	...	...	...	...	...	2	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	7	...	1	1	1	1	...	...	1	...	...	...	1	...	...	...	1	...
...	...	...	...	...	...	...	...	13	...	2	1	1	3	...	...	2	...	...	...	1	...	1	1	1	...

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	55 to 60
11.—Locomotor System.																			
Caries, Necrosis...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Arthritis, Periostitis ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Locomotor System ...	3	1	2	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
Total Diseases of Locomotor System ...	5	1	4	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...
12.—Skin.																			
Ulcer, Bedsore ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eczema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pemphigus ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Other Skin Diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Diseases of Skin ...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
C.—Other Specified Diseases.																			
D.—Ill-defined & not Specified Diseases																			
Atrophy, Debility, Marasmus ..	169	56	53	103	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Dropsy, Ascites, Anasarca ...	2	1	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Tumour ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abscess ...	4	1	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Hæmorrhage ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sudden Causes (Causes unascertained) ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Other Ill-defined Diseases ...	6	5	1	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total Ill-defined and not Specified Causes ...	123	64	59	108	4	2	...	...	1	...	...	...	1	...	...	1	1	...	...
E.—Violent Causes.																			
1.—Accident.																			
In Mines and Quarries ...	6	6	...	...	...	...	...	...	...	...	...	3	1	...	1	1	...	...	...
Vehicles and Horses ...	12	11	1	...	...	...	...	...	1	1	3	...	2	1	...	...	1	...	...
Ships' Boats, Docks (not Drowning) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Building Operations ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Machinery ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Weapons and Implements ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burns and Scalds ...	14	8	6	...	1	6	3	1	...	...	...	...	...	...	...	1	...	...	...
Poison, Poisonous Vapours ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Drowning ...	4	3	1	...	...	...	...	1	...	...	...	...	...	1	...	1	1	...	...
Suffocation ...	2	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Falls ...	16	12	4	...	...	...	...	...	1	...	1	1	1	1	...	2	2	...	...
Weather Agencies ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise or not Stated ...	7	4	3	...	...	...	...	...	...	...	...	1	1	...	...	1	1	...	...
2.—Homicide.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.—Suicide.	16	11	5	...	...	...	...	...	...	...	...	...	1	1	...	3	1	...	...
4.—Execution.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Violent Deaths ...	80	60	20	2	1	6	3	2	2	1	4	5	6	4	1	11	7	...	...
Total from All Causes ...	2994	1499	1504	792	182	76	46	41	71	36	51	73	88	91	80	124	134	118	...

Death, 1904.

[illegible]

TABLE

Population, Births, and Deaths in Previous Years.

Year	Population estimated to Middle of each Year	Births		Total Deaths registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents Registered in Public Institutions in District	Deaths of Residents Registered in Public In- stitutions beyond District	Nett Deaths at all Ages belonging to the District	
		Number	Rate	Under 1 year of age		At all ages					Number	Rate.
				Number	Rate per 1000 Births Registered	Number	Rate					
1894	118309	3719	31'4	585	157	2076	17'5	69	17	139	2198	18'5
1895	119337	3960	33'1	832	210	2665	22'3	80	25	197	2837	23'7
1896	120380	3792	31'7	625	164	2310	19'1	54	27	213	2496	20'7
1897	121433	3985	32'8	728	182	2485	20'4	71	18	204	2671	21'9
1898	122495	3800	31'0	632	166	2196	17'9	81	31	185	2350	19'1
1899	162222	4878	30'0	864	177	2971	18'3	116	17	284	3238	19'9
1900	164240	4775	29'0	806	168	2952	17'9	119	16	285	3222	19'6
1901	168748	4648	27'5	794	170	2864	16'9	128	24	245	3085	18'2
1902	171082	4779	27'9	626	130	2741	16'0	160	31	240	2959	17'2
1903	173401	4700	27'1	704	149	2768	15'9	136	18	312	3062	17'6
Averages for years 1894-1903	144164	4303	30'1	719	167	2602	18'2	101	22	230	2811	19'6
1904	175744	4736	26'9	775	163	2743	15'6	129	28	279	2994	17'0

Census, 1901.

Total Population at all ages	...	...	...	...	168,215
Number of Inhabited Houses	...	...	...	...	35,995
Average Number of Persons per House...	...	...	...	...	4'6

TABLE III.

Ward Populations, Births, and Deaths.

Names of Wards.	Borough.				North.				East.				West.				Exchange.				Bradford.			
	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 Year.
Year.																								
1894.....	118309	3719	2198	593	6799	196	121	22	11636	352	261	82	26799	806	440	121	7319	247	190	53	19024	686	376	113
1895.....	119337	3960	2837	840	6866	185	137	37	11632	413	318	99	27047	909	576	184	7198	247	219	54	19133	648	492	150
1896.....	120380	3792	2496	629	6890	198	121	31	11313	369	240	67	26085	818	515	128	7250	246	209	45	18890	641	433	134
1897.....	121433	3985	2671	732	6943	223	155	40	11313	353	315	86	27225	802	549	156	7252	230	193	56	18952	682	442	127
1898.....	122495	3800	2350	638	6993	220	124	33	11313	349	237	69	27438	765	448	120	7250	216	178	47	19018	643	382	109
1899.....	162222	4878	3238	880	7036	213	127	41	11313	354	267	75	27627	784	556	142	7250	188	149	45	19068	600	391	104
1900.....	164240	4775	3222	814	7200	217	137	41	11000	338	276	60	28370	714	544	127	6750	167	147	39	19440	599	383	104
1901.....	168748	4648	3085	800	7386	179	118	22	10654	320	257	74	27290	695	451	106	5874	132	156	38	19852	636	441	118
1902.....	171082	4779	2959	633	7452	209	142	24	10556	312	245	57	27343	708	430	87	5724	173	150	28	19915	627	430	110
1903.....	173401	4700	3062	713	7520	203	141	33	10400	324	249	50	27410	684	469	121	5535	115	119	20	19980	651	401	111
Averages of Years 1894 to 1903.	144164	4303	2811	727	7108	204	132	32	11113	348	266	71	27353	774	497	129	6740	156	171	42	19327	641	417	118
1904.....	175744	4736	2994	792	7560	198	122	30	10275	312	231	70	27572	670	496	130	5335	151	101	34	20110	600	379	99

TABLE III (Continued).

Ward Populations, Births, and Deaths.

Names of Wards.	Church.				Great Lever.				Derby.				Hulton.				Deane-cum-Lostock.				Rumworth.			
	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births Register- ed.	Deaths at all Ages.	Deaths under 1 Year.
1894.....	9129	183	136	17					17877	613	319	92						4960	177	111	30			
1895....	9263	183	164	26					18067	646	466	162						5087	196	132	33			
1896.....	9520	164	120	22	Statistics not available				18130	680	493	117	Statistics not available					5630	168	100	16			
1897.....	9665	204	167	31					18302	655	383	101						5759	173	114	27			
1898.....	9820	169	149	20					18483	640	370	118						5891	230	145	42			
1899.....	9936	175	153	31					18629	645	402	119						5995	217	135	36			
1900.....	8760	161	143	25					19190	607	424	119						6400	235	144	46			
1901.....	8607	155	134	31					19171	591	370	114						7263	220	164	44			
1902.....	8604	172	158	24					19315	616	367	104						7590	233	124	31			
1903.....	8550	171	139	26					19470	561	349	95						7925	249	129	29			
Averages of Years 1894 to 1903.	9185	173	146	25					18663	625	394	114						6250	209	129	33			
1904.....	8545	168	138	38					15685	601	369	103						8165	246	163	59			

TABLE III. *Continued.*

Ward Populations, Births, and Deaths.

Names of Wards.	Halliwell				Heaton				Smithills				Astley Bridge				Tonge				Darcy Lever-cum Broughton			
	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to Middle of each year.	Births Regis- tered.	Deaths at all Ages.	Deaths under 1 year.
1894.....	14760	459	244	59																				
1895.....	15044	533	333	95																				
1896.....	15770	508	265	69	Statistics not available																			
1897.....	16022	603	353	108																				
1898.....	16289	568	317	80																				
1899.....	16487	564	355	110	1516	35	22	1	3471	112	64	17	7496	183	122	24	7994	277	149	34	3849	83	54	15
1900.....	17540	566	361	88	1530	29	25	1	3600	102	61	14	7510	188	109	21	8400	284	126	43	3850	94	76	15
1901.....	19746	591	349	87	1902	38	24	4	4412	121	54	13	7707	160	110	29	8562	260	147	37	3566	89	55	11
1902.....	20390	577	283	51	1930	38	31	5	4614	90	68	11	7849	194	137	25	8920	236	99	17	3554	87	57	7
1903.....	21070	572	339	75	1960	37	33	4	4830	138	87	25	7995	176	122	24	9301	256	141	29	3520	97	65	15
Averages of Years 1894 to 1903	17311	554	319	82																				
1904.....	21635	619	397	76	1994	37	41	10	5010	133	59	17	8155	180	111	22	9725	256	139	31	3508	108	67	15

TABLE IV.

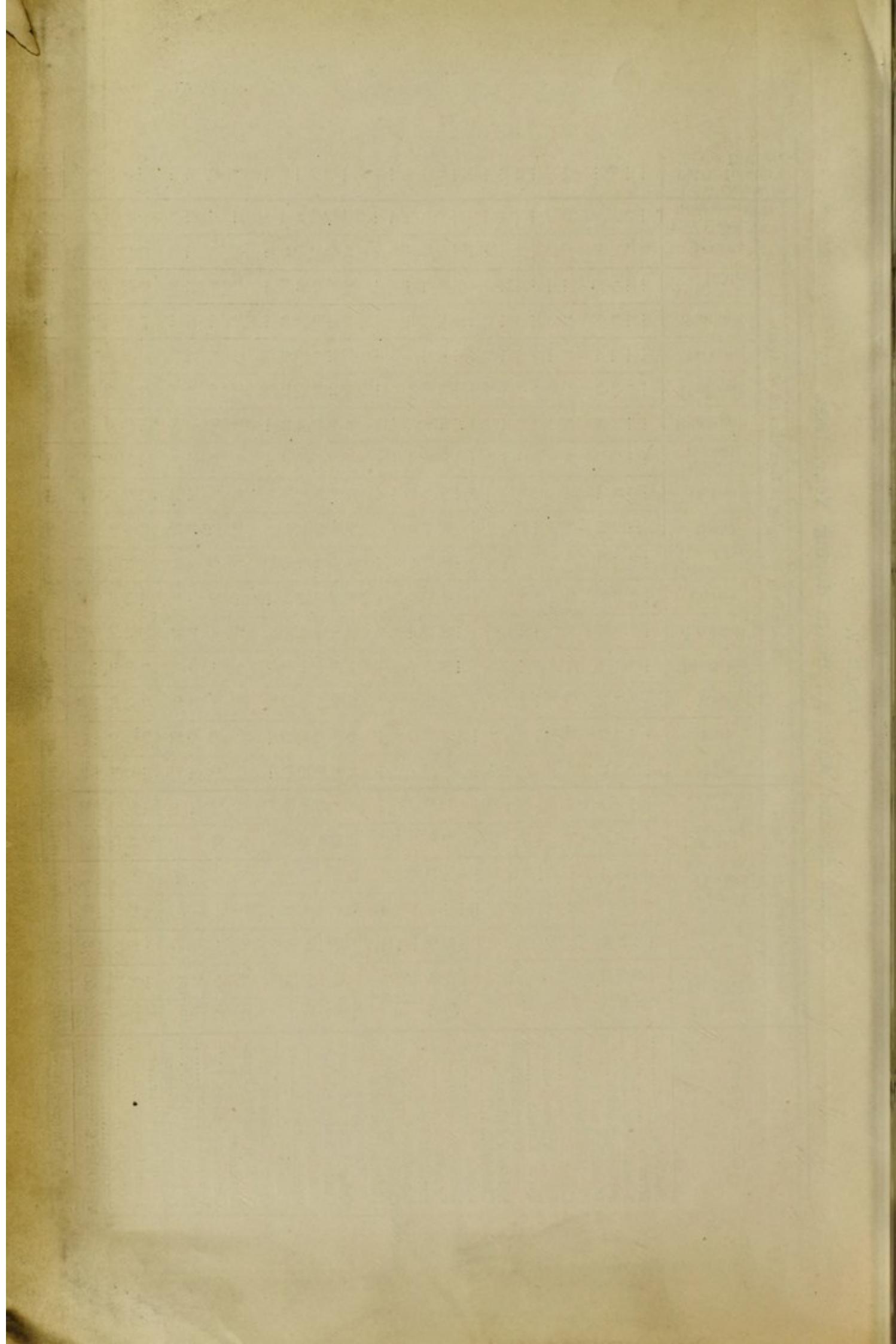
Cases of Infectious Disease notified during the Year, 1904.

Notifiable Disease.	Cases Notified in Whole District							Total Cases Notified in each Locality.														Number of Cases Removed to Hospital from each Locality.																				
	At Ages—Years																																									
	At all Ages	Under 1	1 to 5	5 to 15	15 to 20	25 to 65	65 and upw'ds	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c.-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Darcy L.-c-Brithmet	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c.-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Darcy L.-c-Brithmet	
Smallpox.....	19	...	1	1	4	13	1	3	2	2	...	3	1	3	2	2	...	1	3	2	2	...	3	1	3	2	2	
Cholera	
Diphtheria	146	1	49	76	11	9	..	724	14	4	16	17	5	9	2	2	3	7	1	3	1	15	16
Membranous Croup..	4	...	4	1	2	...	1	
Erysipelas	69	3	2	6	14	40	4	1	4	9	5	11	3	5	7	1	1	6	3	...	4	4	1
Scarlet Fever	477	5	164	260	28	20	...	32	26	48	9	48	26	37	56	12	45	38	29	5	11	3	40	12	20	17	27	6	28	19	13	35	7	27	24	18	3	4	...	23	4	
Typhus Fever.....
Enteric Fever.....	158	..	5	41	36	72	4	9	5	28	2	27	14	8	15	4	1	9	7	...	1	10	17	1	4	2	11	1	9	4	1	6	2	1	1	2	2	7	...	
Relapsing Fever.....
Continued Fever ..	2	..	1	1	1	1	1	
Puerperal Fever.....	9	5	4	1	1	1	1	3	...	1	1	
Plague	
Totals	884	9	226	384	98	159	8	50	60	104	23	104	61	59	91	22	50	56	49	6	19	21	79	30	24	20	41	9	39	23	17	42	12	28	25	20	3	4	4	32	4	

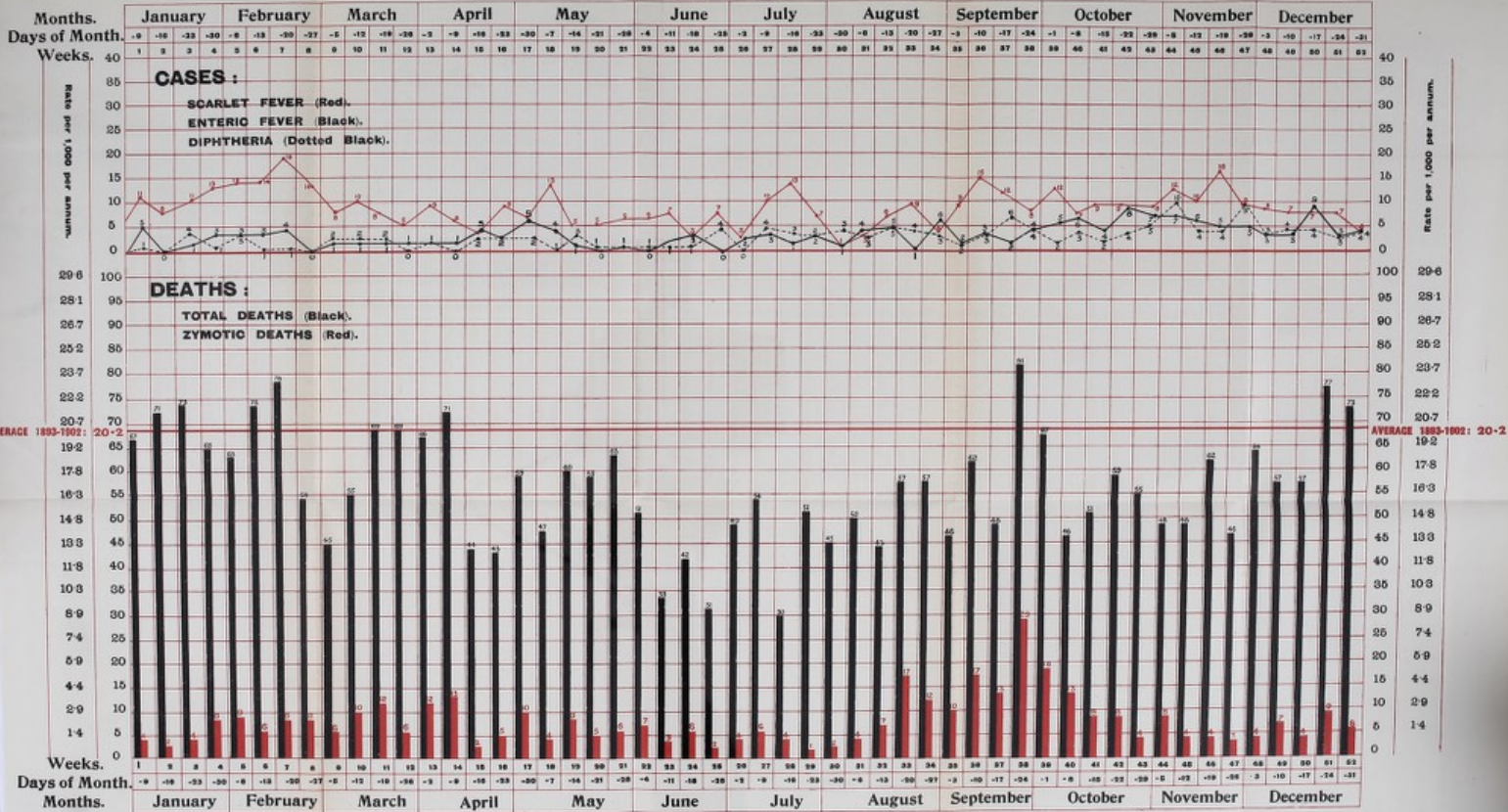
TABLE V.

Causes of, and Ages at, Death during Year, 1904.

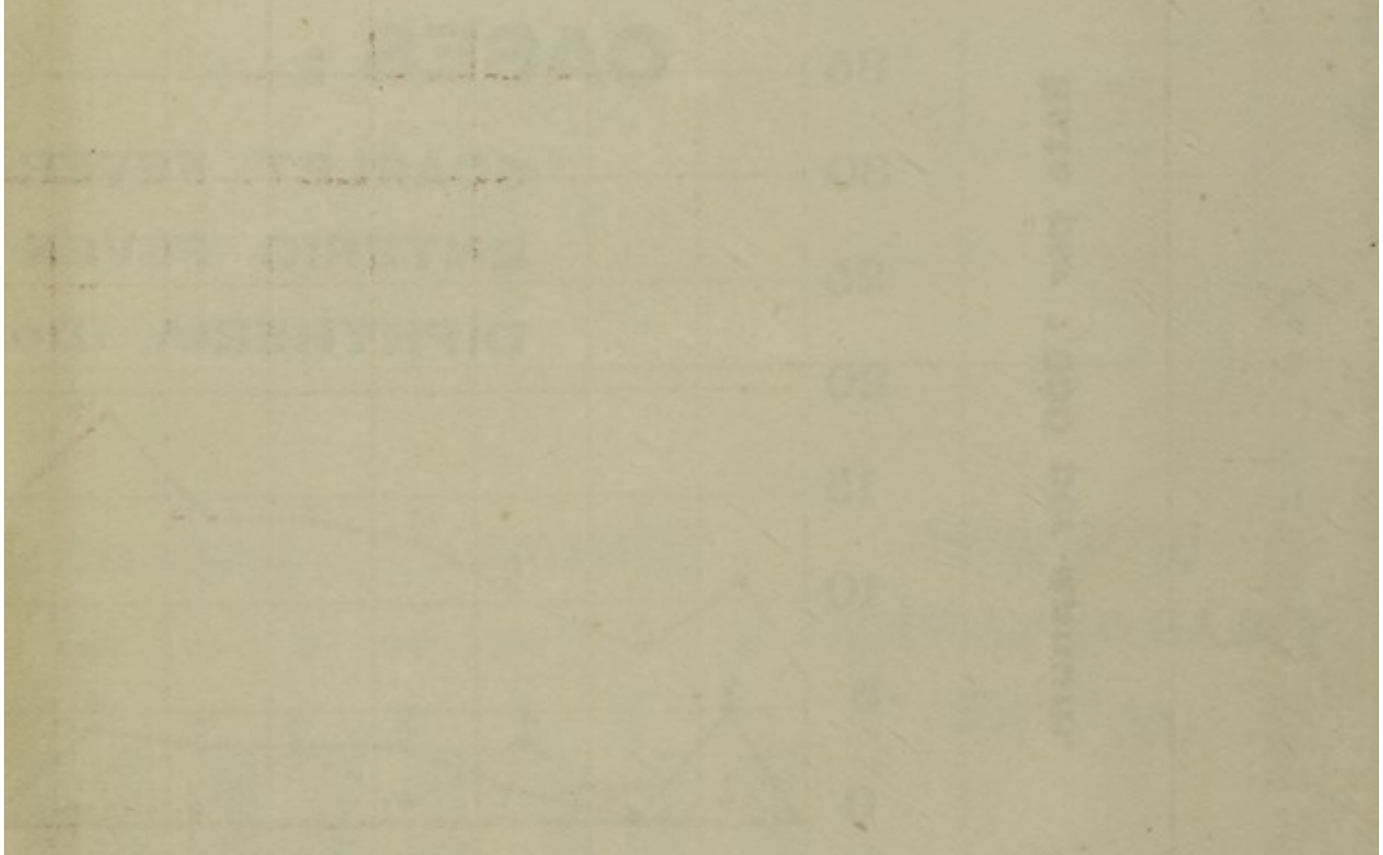
Causes of Death	Deaths in or belonging to whole Districts at Subjoined Ages.							Deaths in or belonging to Localities (at all Ages).													Total Deaths in Public Institutions in the District.				
	All Ages	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c.	Rumworth	Halliwel	Heaton		Smithills	Astley Bridge	Tonge	Dar. L.-cm. Breighmet
Small-pox	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Measles	16	5	11	...	...	...	...	3	...	2	...	...	2	2	...	...	...	...	1	...	...	...	2	1	...
Scarlet Fever	22	3	11	8	...	...	...	1	1	1	...	2	2	...	5	1	3	1	2	...	1	1	...	...
Whooping Cough	135	73	60	2	...	...	...	11	17	24	5	8	4	2	18	...	2	11	12	...	4	5	9	3	...
Diphtheria and Membranous Croup..	29	1	18	10	...	...	...	1	4	3	...	2	2	1	4	...	1	1	3	1	1	...	3	2	...
Croup	5	1	3	1	...	...	...	...	...	1	...	1	...	1	...	...	...	...	2	...	...	...	...	...	...
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever Enteric	37	...	1	6	4	24	...	2	10	...	...	10	4	1	5	1	...	1	...	...	...	...	1	...	...
Other continued..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza	20	1	...	1	2	13	3	...	1	6	1	5	1	...	2	...	1	...	1	1	1	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea	156	126	23	...	...	...	...	4	14	30	4	16	6	6	27	6	2	19	11	1	...	2	3	5	1
Enteritis	73	52	7	...	3	6	5	5	4	10	...	13	3	4	14	1	1	6	9	...	1	...	1	1	...
Puerperal Fever..	7	...	...	...	3	4	...	...	1	...	...	1	1	1	1	1	...	...	2	...	...	...	...	...	...
Erysipelas	5	3	...	1	...	...	1	...	1	1	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...
Other Septic Diseases	3	1	...	...	1	1	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis (Pulmonary Tuberculosis)	221	...	1	7	39	170	4	11	11	36	10	28	6	8	36	8	3	11	24	5	...	6	11	2	...
Other Tuber. Diseases	88	33	25	7	9	13	1	7	8	18	3	10	4	3	9	2	4	1	10	...	...	3	3	3	...
Cancer, Malign. Disease	133	...	...	...	...	88	45	3	9	21	2	16	...	11	17	4	3	7	20	1	2	6	7	4	...
Bronchitis	330	67	28	1	3	145	86	15	33	42	10	48	14	7	37	9	6	22	35	5	7	16	13	11	...
Pneumonia	214	47	50	7	8	79	23	9	15	43	9	29	11	10	28	6	6	11	12	4	1	9	11	...	...
Pleurisy	8	1	3	...	1	2	1	...	...	1	...	1	...	3	1	...	...	...	2	...	...	...	...	...	...
Other Diseases of Respiratory Organs..	31	4	9	2	3	12	1	2	2	8	1	2	...	1	3	1	1	2	3	...	2	2	1	...	...
Alcoholism	42	...	...	...	...	39	3	3	5	4	...	6	3	3	7	1	1	2	4	1	...	1	1	...	...
Cirrhosis of Liver } Venereal Diseases	8	7	...	...	...	1	...	...	3	2	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...
Premature Birth	101	101	...	...	...	...	...	3	5	20	4	21	2	7	15	2	1	9	4	1	...	4	2	1	...
Diseases and Accidents of Parturition.....	13	...	...	...	5	8	...	...	2	1	1	3	...	...	2	...	...	...	1	...	1	1	1	...	...
Heart Diseases.....	230	4	5	13	8	144	56	7	8	42	12	28	12	14	28	7	3	7	30	...	5	14	7	6	...
Accidents	64	2	12	3	9	33	5	4	7	10	2	9	9	...	6	1	2	3	5	1	2	...	1	2	...
Suicides	16	...	...	...	12	12	4	...	...	...	...	3	2	1	3	1	1	1	...	1	1	2	1	1	...
All Other Causes	986	260	78	38	26	286	298	32	79	157	35	113	50	44	100	29	19	49	111	19	24	40	59	26	...
All Causes	2994	792	345	107	124	1085	541	122	231	496	101	379	138	130	369	81	60	163	307	41	59	111	139	67	129



1904.



Monday
 Days of Month
 Weeks



100	280
80	281
60	282
40	283
20	284
0	285
100	286
80	287
60	288
40	289
20	290
0	291
100	292
80	293
60	294
40	295
20	296
0	297