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County

Borough of Bolton.

ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

1923.

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County

Borough of Bolton.

ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

1923.

PUBLIC HEALTH DEPARTMENT,
BOLTON.
23rd July, 1924.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have the honour to submit, in accordance with the instructions of the Ministry of Health, the Annual Report on the health of the County Borough of Bolton for the year 1923. The Report will be found to contain, in a condensed form, a very great amount of information regarding the health of Bolton during the period in question, and also its condition, from the health point of view, in 1923, as compared with that in previous years.

The death-rate in 1923, 12·8 per 1,000 inhabitants, is as low a death-rate as we have ever had in Bolton. It has only once, and that in 1921, been so low.

The infantile mortality, 85 per 1,000 births, is the lowest infantile mortality rate that Bolton has ever had. To those engaged in Maternity and Child Welfare work in the Borough this is an extremely gratifying fact.

No serious epidemic has occurred in Bolton during 1923. There was a moderate amount of scarlet fever, but in the great majority of cases it was of a very mild type.

No case of small-pox occurred in the Borough. Complete preparation was made to deal with any case that might arise.

I am very much indebted to the medical practitioners in Bolton for reporting to me cases in which a suspicion of small-pox was justifiable. All such cases were very carefully dealt with, and all of them proved not to be small-pox.

Tuberculosis shows a slight increase during 1923 as compared with 1922. I am satisfied however, that this increase is not real, but is only apparent, and is due to increased care and skill in the diagnosis of tuberculosis.

I desire once more to record my sincere appreciation of the loyal and able assistance I have received from the Deputy Medical Officer of Health, Dr. McKeague ; the Assistant Medical Officers, Dr. Brown and Dr. Byrne ; Mr. H. Hurst, the Public Analyst and Bacteriologist, from my Chief Clerk, Mr. Herbert Daniels, and from the whole of the staff of the Public Health Department.

I am, ladies and gentlemen,

Your obedient servant,

C. W. PAGET MOFFATT,
Medical Officer of Health
and School Medical Officer.

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COUNTY BOROUGH OF BOLTON.

Public Health Committee.

Chairman—THE MAYOR, Ald. E. ASPINALL, J.P.
Vice-Chairman—Counc. P. KNOTT.

Ald. SIR KNOWLES EDGE, J.P.
,, Dr. E. MONKS.
,, F. STEEL.
Counc. Mrs. B. L. AGNEW, J.P.
,, H. BOMMER.
,, H. DE BELL.
,, Sir T. E. FLITCROFT, J.P.
,, A. HAMER.
,, D. HEAP.
Counc. A. E. HOLT, J.P.
,, J. W. MAKANT.
,, Dr. J. W. McDOUGALL.
,, Dr. F. ROBINSON.
,, W. RUSSELL, J.P.
,, L. SHAW.
,, Mrs. E. TAYLOR.
,, J. A. A. TAYLOR.
,, Mrs. J. TAYLOR.

Public Health and Medical Inspection Staff.

School Nurses—
1. Miss R. BODDINGTON, 3 years' Cert.
2. Miss J. ROBBINS, 3 years' Cert.
3. Miss D. WALMSLEY, Cert. Midwife and 3 years' Cert.

Health Visitors—
1. Miss S. A. Ramsden, Cert. Midwife, Cert.R.San.I.
2. Mrs. C. RAINBIRD, 3 years' Cert.
3. Miss A. MARSH, 3 years' Cert.
4. Miss E. TANNER, 3 years' Cert.
5. Miss A. STEEPLES, Cert. Midwife, 3 years' Cert. (Mat. Hosp.)
6. Miss S. ANDERTON, Cert. Midwife and 3 years' Cert.

Matron : Haslam Maternity Home—Miss C. J. BARON.
Matron : Borough Fever Hospital—Miss E. BATEMAN.

Sanitary Inspectors—
1. E. OAKES, Cert. R. San. I.
2. E. SUMNER, Cert. R. San. I. and Cert. for Food.
3. T. ORMROD, Cert. R. San. I.
4. F. S. ROSCOE, Cert. R. San. I.
5. F. MARKLAND, Cert. R. San. I. and Cert. for Food.
6. C. J. DAWSON, Cert. R. San. I. and Cert. for Food.
7. T. ISHERWOOD, Cert. R. San. I.
8. F. J. Saunders, Cert. R. San. I. and Cert. for Food.

Chief Clerk and Sanitary Inspector—
HERBERT DANIELS, Cert. R. San. I.

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

Public Analyst and Bacteriologist—
HARRY HURST, B.Sc. Lond. and Sheff., F.I.C.

Assistant Medical Officers of Health and Assistant School Medical Officers—
EVELYN D. BROWN, M.B., CH.B.
AUSTIN W. BYRNE, M.B., Ch.B., Liverpool, D.P.H., Manc.

Tuberculosis Officer and Deputy Medical Officer of Health—
JOHN McKEAGUE, L.R.C.P., L.R.C.S. Edin., D.P.H. Dublin.

Medical Officer of Health and School Medical Officer—
C. W. PAGET MOFFATT, M.A.Lond., M.B., B.C., D.P.H., Cantab.
M.R.C.S. Eng., L.R.C.P. Lond.

SECTION I.

Vital and Mortal Statistics.

SUMMARY OF

VITAL AND MORTAL STATISTICS

1923.

Position	Lat. 53° 35' N., Lon. 2° 27' W
Elevation above sea level	230-ft. to 1450-ft.
Geological Formation: Boulder Clay and Sand over Coal Measures.	
Area in Acres (Land and Inland Water)	15,280
Population (Census 1921)	178,683
Population (Mid-yearly estimated population, 1923)	182,200
Density	11·9
New Houses Certified, 1923	141
Estimated No. of houses in the Borough	43,168
Rateable Value at 31st March, 1924	£1,117,327
Sum represented by a penny rate (1923-1924)	£4,230 : 17 : 2
Births	3,189
Birth-rate	17·5
Deaths	2,343
Death-rate (corrected for institutions)	12·8
Average Death-rate (1914-1923)	14·4
Infantile Mortality	85
Epidemic Death-rate (seven chief diseases)	·40
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	13·1
Phthisis Death-rate	·86
Other Forms of Tuberculosis, Death-rate	·25
Respiratory Death-rate	2·5
Rainfall (Av. 1887-1923—43·250")	57·031"
105 County Boroughs and Great Towns—	
Birth-rate	20·4
Death-rate	11·6
Infantile Mortality	72
Diarrhœa and Enteritis (under 2 years) Death-rate per 1,000 Births	9·9
England and Wales—	
Birth-rate	19·7
Death-rate	11·6
Infantile Mortality	69
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	7·7

STATISTICAL SUMMARY.

Population.

The mid-year population, as estimated by the Registrar-General, was 182 200. This is 500 less than the corresponding figure for the year 1922, and is exactly the same as the mid-year population for 1921. During 1923, births were 846 in excess of deaths. If the estimated population for 1923 is correct, Bolton must have lost during 1923 a total of 846 *plus* 500, or 1,346 inhabitants. This represents the adverse balance on immigration and emigration.

Marriages.

Information regarding marriages in the County Borough of Bolton is not obtainable.

Births.

Total births..	3,189
Males	1,615
Females	1,574

Birth-Rate.

The birth-rate during 1923 was 17·5 per thousand inhabitants. In 1902 the birth-rate for Bolton was 28·1. For the ten years up to and including 1914 the average birth-rate was 24·3.

128 still-births were notified during the year.

Death-rate and Deaths.

The death-rate for 1923 was 12·8. No lower death-rate has ever been recorded for Bolton. The same death-rate was recorded in 1921.

Total deaths	2,343
Males	1,148
Females	1,195
Excess of births over deaths ..	846

The total number of deaths includes 423 Bolton residents who died outside Bolton, and excludes 76 non-residents of Bolton who died in the town* 68 of these non-residents died in the Bolton Infirmary.

333	Bolton residents	died in		Townleys Hospital.
48	,,	,,	,,	Lunatic Asylums.
136	,,	,,	,,	Bolton Infirmary.

Bolton Census Populations, etc.

Year.	Census Population.	Birth-rate. (Calculated on estimated population)	Death-rate.	Infantile Mortality
1891*	115,002 (Old Borough) 146,487 (Extended Borough)	33·9	21·6	165
1901	168,215	27·5	18·3	172
1911	180,851	22·9	16·3	160
1921	178,678	21·0	12·8	96

* Borough extended in 1899.

The following table has been given every year, and for this reason I have decided to continue to give it. It must be noted, however, that no conclusions can be drawn from the figures for one year in the case of such small populations as those of most of the Wards. Thus the pulmonary tuberculosis death-rate for Heaton Ward is 1·2, whereas that of Hulton Ward is ·2. In this year's table I give, in addition to the figures for 1923, the average figures for the years 1914-1923. These years include, of course, the abnormal years of the Great War.

Populations, Birth-rates, Death-rates, &c., in Wards, 1923.

Ward.	Est. Population, 1923	Birth-rate.		Death-rate		Pul. Tub. Death rate.		Infantile Mortality	
		1923	Avge. 1914–1923	1923	Avge. 1914–1923	1923	Avge. 1914–1923	1923	Avge. 1914–1923
West	26048	18·4	19·9	14·2	15·4	·8	·9	106	101
Halliwell	21859	17·6	18·2	12·6	13·3	·8	·7	93	101
Derby	18585	20·9	21·3	12·8	15·9	·6	1·0	79	117
Bradford	18387	20·1	19·9	14·4	16·3	·8	1·1	100	117
Rumworth	10013	17·6	22·0	11·0	14·1	·8	·9	67	98
East	8975	20·6	21·1	20·9	20·6	2·4	1·6	135	138
Church	8092	13·5	13·3	12·4	14·3	1·2	1·0	90	86
North	7112	18·4	18·0	10·9	12·9	·9	·7	38	92
Exchange	3481	19·8	17·0	22·4	19·9	1·1	1·9	217	151
Old Borough ..	122552	18·7	19·4	13·9	15·5	·9	1·0	96	109
Great Lever	13079	14·9	14·6	11·4	11·5	·4	·4	51	89
Tonge	11052	15·8	17·9	9·9	12·6	·5	·6	74	79
Astley Bridge	8660	15·7	16·2	12·0	13·9	·9	1·0	73	83
Smithills	7640	14·0	15·0	11·9	11·9	·6	·6	46	68
Hulton	6684	12·7	18·7	8–3	11·9	·2	·5	70	91
Deane-cum-Lostock ..	5240	16·6	16·1	7·0	10·5	·3	·4	11	72
Darcy Lever-cum-Breightmet	4105	19·4	18·0	12·9	13·8	·7	·6	75	79
Heaton	3188	7·8	12·4	11·2	12·4	1·2	·8	—	56
Added Area	59648	14·9	16·2	10·6	13·1	·6	·6	57	80
Extended Borough	182200	17·5	18·4	12·8	15·4	·86	·96	85	101

Birth-rate, Death-rate and Infantile Mortality in chief Lancashire manufacturing towns.

(Figures taken from the Summary of the Registrar General).

1923.

	Birth-rate.	Death-rate.	Infantile Mortality.
England and Wales..	19·7	11·6	69
105 County Boroughs and Great Towns, including London ..	20·4	11·6	72
Warrington	22·5	10·6	72
St. Helens	24·0	11·6	92
Bootle	27·0	12·2	73
Bolton	**17·3**	**12·7**	**86**
Salford	20·8	12·9	95
Burnley	17·4	13·0	101
Manchester	21·2	13·1	85
Wigan	22·3	13·1	104
Blackburn	16·3	13·2	99
Liverpool	24·9	13·5	98
Preston	20·5	13·6	98
Rochdale	15·8	13·6	82
Bury	15·3	15·2	99
Oldham	17·7	15·8	112

Of the above towns Bolton has the ~~third~~ fourth lowest Death-rate and the fifth lowest Infantile Mortality Rate.

Population, Densities, Birth-rates, Death-rates and Infantile Mortality in Previous Years.

Year.	Estimated Mid-year Population.	Density	Births	Birth-rate.	Deaths	Death-rate.	Infantile Mortality.
1901	168531	11·0	4648	27·5	3085	18·3	172
1902	169798	11·1	4779	28·1	2959	17·4	132
1903	171065	11·1	4700	27·4	3062	17·8	151
1904	172332	11·2	4736	27·4	2994	17·3	167
1905	173599	11·3	4481	25·8	2754	15·8	166
1906	174866	11·4	4599	26·3	2794	15·9	138
1907	176133	11·5	4476	25·4	3073	17·4	145
1908	177400	11·6	4573	25·7	2874	16·2	148
1909	178667	11·6	4750	26·5	2892	16·1	126
1910	179934	11·7	4380	24·3	2568	14·2	116
1911	181202	11·8	4163	22·9	2962	16·3	160
1912	182534	11·9	4128	22·6	2505	13·7	96
1913	183879	12·0	3999	21·7	2895	15·7	142
1914	185247	12·1	4104	22·1	2721	14·6	118
1915	172514	11·2	3620	19·5	2713	15·7	123
1916	169081	11·0	3067	16·6	2419	14·3	104
1917	163411	10·6	2710	14·8	2477	15·1	107
1918	160619	10·5	2749	15·2	2804	17·4	105
1919	177462	11·6	3052	16·5	2652	14·9	86
1920	184533	12·0	4209	22·8	2528	13·6	98
1921	182200	11·9	3831	21·0	2349	12·8	96
1922	182700	11·9	3414	18·6	2498	13·6	93
1923	**182200**	**11·9**	**3189**	**17·5**	**2343**	**12·8**	**85**
1923.							
England and Wales				19·7		11·6	69
105 Great Towns				20·4		11·6	72
157 Smaller Towns				19·8		10·6	69
London				20·2		11·2	60

Summary of the Principal Causes of Death, 1923.

	No. of Deaths.	Per cent. of Total Deaths.
General Diseases.		
Measles	4	·17
Whooping Cough	11	·46
Diphtheria	10	·42
Influenza	94	4·01
Pulmonary Tuberculosis	157	6·70
Other Forms of Tuberculosis	47	2·00
Cancer	214	9·13
Rheumatic Fever	13	·55
Chronic Rheumatism, Osteo-arthritis, Gout	17	·72
Diabetes	28	1·19
Anæmia, Chlorosis	19	·81
Other General Diseases	43	1·83
Nervous System.		
Cerebral Hæmorrhage, Apoplexy, etc.	148	6·31
Paralysis of Unstated Origin	16	·68
General Paralysis of the Insane	10	·42
Infantile Convulsions	27	1·15
Other Nervous	47	2·00
Circulatory System.		
Heart Diseases	319	13·61
Diseases of the Arteries	94	4·01
Other Circulatory	6	·25
Respiratory System.		
Bronchitis	221	9·50
Pneumonia (all forms)	209	8·92
Other Respiratory	35	1·49
Digestive System.		
Ulcer of the Stomach or Duodenum	18	·76
Diarrhœa and Enteritis	63	2·68
Appendicitis and Typhlitis	20	·85
Hernia, Intestinal Obstruction	21	·89
Other Digestive	33	1·40
Genito-urinary System.		
Chronic Bright's Disease	65	2·77
Other Genito-urinary	27	1·15
Diseases of Early Infancy.		
Atrophy, Debility, etc.	31	1·32
Premature Birth	44	1·87
Other Diseases of Early Infancy	12	·51
Old Age	97	4·13
External Causes	70	2·98
Miscellaneous Causes	53	2·26

Infantile Mortality.

273, or 11·6 per cent. of the total deaths were those of children under one year of age, an infantile mortality of 85 per 1,000 births. This is the lowest recorded in Bolton.

There were no deaths of children under one year of age in Heaton Ward. The highest mortality rate was 135, in East Ward.

Chief Causes of Death under One Year of Age.

	1918	1919	1920	1921	1922	Av. 1918 to 1922	1923
Total Deaths	291	263	416	370	319	331	273
Diarrhœa and Enteritis	29	23	40	49	20	32	36
Respiratory	57	57	99	68	63	68	73
Premature Births and Congenital Defects	63	71	82	89	85	78	60
Atrophy and Debility	41	45	61	53	43	48	31
Convulsions and Meningitis	22	32	35	26	31	29	22
Tuberculous Diseases	6	2	7	7	6	5	4
Epidemic Diseases (excluding Diarr.) ..	34	7	34	19	26	24	15
All other Causes	39	26	58	59	45	45	32

The following figures shew the average quinquennial infant mortality in Bolton from 1876 to 1915, and the yearly rate from 1916 to 1923 :—

Quinquennium.		Average rate.	Year.		Rate.
1876-1880	..	171	1916	..	104
1881-1885	..	169	1917	..	107
1886-1890	..	173	1918	..	105
1891-1895	..	185	1919	..	86
1896-1900	..	173	1920	..	98
1901-1905	..	157	1921	..	96
1906-1910	..	134	1922	..	93
1911-1915	..	128	1923	..	85

The following Table shows the deaths and causes of death during the first four weeks of life.

Deaths under Four Weeks.

Causes of Death.	Under 7 days	Under 14 days	Under 21 days	Under 28 days	Total under 28 days
Meningitis (not tuberculous)	–	1	–	–	1
Convulsions	7	1	3	–	11
Bronchitis	–	–	2	3	5
Pneumonia (all forms)	–	1	–	–	1
Diarrhœa	–	–	3	1	4
Enteritis	1	4	2	–	7
Injury at Birth	2	1	–	–	3
Atelectasis..	6	1	–	–	7
Congenital Malformations	8	–	2	–	10
Premature Birth	26	8	3	2	39
Atrophy, Debility and Marasmus ..	12	3	2	3	20
Other Causes	6	5	1	–	12
Totals	68	25	18	9	120

The number of deaths of infants per thousand births during the first four weeks of life is called the neo-natal death-rate. The neo-natal death rate for Bolton during 1923 is therefore, 37·6.

Below is given the neo-natal mortality rate for Bolton for the 19 years up to and including 1923. It will be noticed that it does not vary very much. The neo-natal death-rate is mainly due to ante-natal conditions, and shows the need for ante-natal welfare work.

NEO-NATAL MORTALITY-RATE PER 1,000 BIRTHS.

Year.	Rate.	Year.	Rate.
1905	46·8	1915	37·8
1906	36·7	1916	40·1
1907	44·6	1917	49·8
1908	37·3	1918	38·9
1909	45·4	1919	40·3
1910	36·7	1920	38·9
1911	43·2	1921	41·2
1912	38·7	1922	43·0
1913	41·7	1923	37·6
1914	45·8		

Maternal deaths in, or in consequence of childbirth.

There were 13 such deaths, the particulars of which are as follows :—

Maternal Deaths, 1923.

No.	Age.	Cause of Death.	Occupation	Domestic Environment	Previous Pregnancies.	Delivery.	Nursing.	Remarks.
1	28	Placenta prævia.	Housewife	Good.	one—living.	1st, Midwife ; 2nd, Doctor.	At her mother's home.	Twins : 1st living and 2nd stillborn.
2	30	Puerperal septicæmia.	Housewife	Good	Nil.	Doctor.	Own home.	Baby healthy.
3	35	Labour. 6 days. Cæsarean Section General peritonitis)	Housewife	Good.	one—child died at birth.	Doctor.	Hospital.	Premature. Lived eight weeks.
4	44	Puerperal septicæmia	Housewife.	Good.	Twelve—nine living.	Doctor	Hospital.	Stillborn.
5	39	Puerperal eclampsia.	Housewife.	Good.	Four—living.	Born before arrival of midwife.	Own home.	Premature. Lived two days.
6	43	Miscarriage. Septic endometritis.	Housewife.	Good.	Five—living.	Nil.	Hospital.	
7	31	Post-partum hæmorrhage.	Housewife.	Good.	One—died.	Doctor.	Hospital.	Baby healthy.
8	42	Post-partum hæmorrhage.	Housework	Good.	Four—living.	Doctor.	Hospital.	Stillborn.
9	34	Ruptured ectopic gestation.	Housewife	Good.	One—living.	Nil.	Hospital.	
10	28	Vomiting of pregnancy.	Housewife.	Fair.	Three—living.	Doctor.	Hospital.	Premature—stillborn.
11	27	Puerperal fever	Housewife.	Good.	Nil.	Doctor.	Hospital.	Twins—feeble.
12	32	Placenta prævia	Housewife	Good.	Nil.	Not delivered.	Hospital	
13	32	Confinement. Pulmonary embolus.	Housewife.	Good.	Nil.	Doctor.	Own home.	Healthy child.

The maternal mortality per thousand births was 4·07 for Bolton during 1923. The corresponding figure for England and Wales for the same period is 3·78. The Bolton figure compares very favourably with other industrial towns.

Mortality from Epidemic Diseases.

73 deaths were registered from the seven chief epidemic diseases. This is equal to a death-rate of ·40.

CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1917	1918	1919	1920	1921	1922	1923
Small-pox	—	—	—	1	—	—	—
Scarlet Fever	8	2	4	2	7	4	6
Diphtheria and Memb. Croup	22	26	61	35	21	13	10
Enteric and Continued Fever	7	5	5	6	3	2	—
Measles	134	1	18	27	5	63	4
Whooping Cough	8	85	—	34	25	13	11
Diarrhœa and Enteritis under 2 years of age	25	33	27	41	52	24	42
Erysipelas	2	1	3	7	2	6	4
Puerperal Fever	1	2	1	5	6	3	3
Cerebro-spinal Fever	—	2	2	—	—	—	—
Encephalitis Lethargica	—	—	—	—	4	1	—
Influenza	19	367	301	70	45	122	94
Pulmonary Tuberculosis	189	198	173	154	161	138	157

Death-rates from the Seven Epidemic Diseases, and Pulmonary Tuberculosis, 1866-1923.

Year.	Small-pox.	Scarlet Fever.	Diph-theria and Memb Croup	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa & Enteritis (under 2 yrs.)	Seven Chief Epidemic	Pulmonary Tuber-culosis
Av. 1866-1870	·06	1·40	·03	·68	·86	·55	1·88	5·7	—
Av. 1871-1880	·11	1·10	·02	·50	·68	·71	1·74	4·7	—
Av. 1881-1890	·019	·27	·07	·21	·73	—	1·19	—	1·67
Av. 1891-1900	·005	·19	·07	·28	·62	·53	1·28	3·02	1·52
Av. 1901-1910	·005	·21	·14	·18	·32	·28	·77	1·96	1·26
Av. 1911-1915	—	·04	·20	·08	·32	·20	·71	1·60	·95
1916	—	·05	·11	·05	·05	·15	·22	·66	1·07
1917	—	·04	·13	·04	·82	·04	·15	1·24	1·15
1918	—	·01	·16	·03	—	·53	·20	·94	1·23
1919	—	·02	·34	·02	·10	—	·15	·64	·97
1920	·005	·01	·18	·03	·14	·18	·22	·79	·83
1921	—	·03	·11	·01	·02	·13	·28	·62	·88
1922	—	·02	·07	·01	·34	·07	·13	·65	·75
1923	—	·03	·05	—	·02	·06	·23	·40	·86

Deaths from Cancer in Bolton in the years 1901-1923.

Year.	No. of deaths. Males.	Females.	Total.
1901	26	71	97
1902	51	73	124
1903	32	72	104
1904	45	88	133
1905	57	76	133
1906	40	74	114
1907	45	75	120
1908	53	69	122
1909	60	84	144
1910	58	92	150
1911	67	84	151
1912	80	88	168
1913	72	110	182
1914	77	96	173
1915	78	103	181
1916	60	100	160
1917	73	93	166
1918	85	102	187
1919	72	104	176
1920	96	107	203
1921	86	128	214
1922	88	104	192
1923	101	113	214

The cancer death-rate in Bolton in 1923 was 1·17 per 1,000 inhabitants. The death-rate from tuberculosis of all forms was 1·11.

The ravages of cancer are so terrible that from the practical point of view we may disregard the question of its increase, although I am of opinion that all the evidence available leads inevitably to the conclusion that cancer is increasing.

It is of extreme importance that the public should be aware of the following facts :—

(1) Cancer causes at first no pain.

(2) Cancer usually occurs after the age of 35. Any unusual lump or swelling occurring in a person over 35 should cause medical aid to be sought at once. This applies also to any unusual bleeding or discharge.

(3) Cancer taken at an early stage can usually be cured by operation which involve no risk to life. In a minority of cases radium and X-rays are useful. The bait " Cancer cured without operation " is practically always a bait held out by fraudulent persons.

During 1923 the Ministry of Health's Circular 426, dealing with cancer, was sent by this department to every medical practitioner in Bolton.

950 leaflets on cancer in women published by the Central Midwives Board were distributed at the Bolton infant clinics and short addresses were given impressing on the mothers the importance of getting early medical advice.

For the comfort of certain people who suffer great anxiety by reason of erroneous popular beliefs regarding cancer I take this opportunity of saying as definitely and as emphatically as possible

(1) That there is no evidence that there are such things as "cancer houses."

(2) That there is no evidence that cancer is infectious.

(3) That there is no evidence that cancer is hereditary.

Deaths from Cancer, 1923.

Age and Sex Distribution, and Localisation of Disease.

Lesion.	Sex.		Age.																	
	M	F.	5 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	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwds.
Buccal Cavity.																				
Cheek	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jaw	3	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lip	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tongue	12	..	..	..	..	..	..	..	..	..	..	3	4	1	1	2	..	1	..	..
	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Tonsil	3	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Total Buccal Cavity..	21	..	..	..	..	..	..	..	..	..	..	3	5	2	4	5	..	2	..	..
	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..
Stomach Liver, etc.	34	..	..	..	..	..	..	..	..	..	..	..	2	9	9	8	3	3	..	..
	..	35	..	..	..	..	..	..	..	..	2	4	3	2	7	3	6	4	4	..
Peritoneum, Intestines, etc.	14	..	..	..	..	..	..	1	..	..	..	..	3	2	4	3	1	..	..	..
	..	13	..	..	..	..	..	..	..	..	1	2	2	..	2	5	1	..	..	..
Female Genital Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	26	..	..	..	..	..	..	1	1	2	4	6	5	5	2	..	..	..	..
Breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	20	..	..	..	..	..	..	..	..	3	2	6	5	2	1	1	..	..	..
Skin:																				
Face..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	—	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Scrotum	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Unstated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1
Total Skin	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..
	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1
Other Organs:																				
Abdominal	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bladder	3	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cervical Glands	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Deaths from Cancer, 1923—*contd.*

Lesion.	Sex.		Age.																	
	M	F.	5 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	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwd
Eye	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hand	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hip	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Kidney	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Larynx	5	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	2	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..
Leg	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..
	..	3	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..
Lung	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..
Mediastinal Glands	2	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Neck	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pancreas	4	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Parotid Gland	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelvis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Prostate	5	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	1	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Throat	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Toe	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Unstated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Total other Organs	30	..	..	..	1	..	..	..	..	..	1	2	3	5	6	7	2	3	..	..
	..	13	..	..	..	..	..	..	..	..	..	3	1	2	2	1	..	3	1	..
Total Males	101	..	..	..	1	..	..	1	..	..	2	5	13	19	23	23	6	8	..	..
Total Females	..	113	..	..	..	..	..	..	1	1	8	16	18	14	18	12	9	10	5	1
Total both Sexes	214		..	..	1	..	..	1	1	1	10	21	31	33	41	35	15	18	5	1

SECTION II.

Infectious Diseases, Venereal Diseases, AND Hospital Isolation.

Notifiable Infectious Diseases.

The infectious diseases notifiable in Bolton are : Small-pox, cholera, plague, diphtheria, membranous croup, erysipelas, scarlet fever, ophthalmia neonatorum, acute poliomyelitis, cerebro-spinal fever, tuberculosis, acute polio-encephalitis, encephalitis lethargica, acute primary pneumonia and acute influenzal pneumonia, malaria, dysentery, and the fevers known by any of the following names : typhus, typhoid, enteric, relapsing, and puerperal.

There were 978 cases of infectious disease in Bolton in 1923. This does not include tuberculosis, which is dealt with separately. The corresponding figure for 1922 was 864. The increase is due to a larger number of cases of scarlet fever.

Small-pox.

No case of small-pox occurred in Bolton in 1923. There were several cases which aroused a suspicion of small-pox, but fortunately in every case the suspicion proved unfounded. During 1923 a copy of Wanklyn's pamphlet on the "Diagnosis of Small-pox" was sent by me to every medical practitioner in Bolton. All the inspectors were supplied with typewritten instructions showing in detail what to do should a case of small-pox occur. On four occasions notices were inserted by me in the local papers advising vaccination and giving the addresses of the Public Vaccinators.

Scarlet Fever.

There were 642 cases of scarlet fever notified during 1923, the incidence rate of the disease constituting a mild epidemic. Of the cases notified 373, or 58·1%, were admitted to hospital. There were six deaths from scarlet fever, of which two took place in hospital. The great majority of the cases were of a mild type. The attack rate was 3·52 per thousand persons living. The rate for England and Wales was 2·23.

Mortality rate per 1,000 inhabitants in 1923 and previous years :—

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Bolton	0·01	0·02	0·05	0·04	0·01	0·02	0·01	0·03	0·02	0·03
England and Wales ..	0·08	0·06	0·04	0·02	0·03	0·03	0·04	0·03	0·04	0·03

The mortality rate per 100 cases was ·93

Diphtheria.

84 cases were notified of which 10 died. This gives a death-rate per hundred cases of 11·9. 45 cases, or 53% of the whole number were removed to hospital. Of the cases removed to hospital four died.

Mortality rate per 1,000 in previous years :—

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Bolton	0·25	0·26	0·11	0·13	0·16	0·34	0·18	0·11	0·07	0·05
England and Wales ..	0·15	0·15	0·14	0·13	0·14	0·13	0·15	0·12	0·11	0·07

Enteric Fever.

Four cases of enteric fever were notified, of which two were admitted to hospital. There were no deaths. Four cases of suspected enteric were admitted to hospital. One was found to be suffering from influenza and one from simple enteritis. Two did not from the time of admission to hospital, show sign of any disease. All were discharged in good health. 1923 is the only year of all the years of which we have any records, in which there were no deaths from typhoid in Bolton.

Mortality rate per 1,000 in previous years :—

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Bolton	0·06	0·10	0·05	0·04	0·03	0·02	0·03	0·01	0·01	0·00
England and Wales ..	0·05	0·04	0·03	0·03	0·03	0·01	0·01	0·02	0·01	0·01

Erysipelas.

There were 56 cases notified, of which cases four died, a fatality of 7·1%.

Record of previous years :—

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Cases	90	148	87	54	46	87	78	87	50	56
Deaths	3	6	4	2	1	3	7	2	6	4
Fatality per cent.	3·3	4·0	4·5	3·7	2·1	3·4	8·9	2·2	12·0	7·1

It is extremely doubtful whether anything is gained by retaining erysipelas on the list of notifiable diseases.

Ophthalmia neonatorum.

32 cases were notified. Of these, 11 were treated at home and 21 attended the Bolton Infirmary as out-patients. Two cases died, one aged one month, the other aged four months. The cause of death in the first case was general debility ; in the second case, gastro-enteritis. In one case there was loss of

vision in one eye. In this case the child was treated at the Infirmary as an out-patient and was discharged as cured. After being discharged it relapsed, and was then admitted as an in-patient.

Notification of Ophthalmia Neonatorum during the past seven years were as follows :—

	1917	1918	1919	1920	1921	1922	1923
Number of cases	23	16	41	51	35	21	32
Rate per 1,000 births	8·4	5·8	13·4	12·1	9·1	6·1	10·0

Of the cases notified, 28 were delivered by midwives, and 4 by doctors.

In 1922 twenty-one cases were notified and there was no impairment of vision in any case. Two cases died ; one of marasmus, and the other of broncho-pneumonia. The increase in notifications this year is, I think, explained by the fact that I have impressed on the midwives that where there is any suspicion of slight inflammation, the case must be notified.

Pueperal Fever.

3 cases were notified. They all died. Further particulars concerning them are given under Maternal Deaths.

Malaria. .

One case was notified ; there were no deaths.

Encephalitis Lethargica.

Three cases were notified, and there were no deaths. There may well have been more cases as, the disease being unfamiliar, many cases were undoubtedly missed. This is probably especially true of those mild cases in which the symptoms are almost entirely ocular.

Cerebro-spinal Fever.

One case was notified. It recovered.

Acute Polio-myelitis.

One case was notified. There were no deaths.

Infectious Diseases not Notifiable.

Measles.

There were only 4 deaths from measles. The number in 1922 was 63.

Influenza.

There were 94 deaths from influenza as compared with 122 in 1922. The following table shows how these deaths were distributed throughout the year :—

January	1	August	—
February	2	September	2
March	4	October	4
April	25	November	5
May	32	December	6
June	10		
July	3		94

Record of previous years :—

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Deaths	17	27	18	19	367	301	70	45	122	94

Whooping Cough.

11 deaths were certified as due to Whooping Cough.

Notification Rates per 1,000 Population in 1923 in Chief Lancashire Manufacturing Towns.

FIGURES COMPILED FROM THE REGISTRAR GENERAL'S QUARTERLY RETURNS).

	Total Rate	Scarlet Fever	Diph-theria	Enteric Fever	Pneu-monia	Puerperal Fever	Ophthal-mia Neona-torum
Oldham	3·51	1·59	·42	·00	1·36	·06	·06
Preston	3·65	1·82	1·15	·07	·41	·06	·11
Wigan	4·49	1·00	·45	·27	2·68	·01	·06
Blackburn	4·83	1·66	·27	·03	2·65	·09	·12
Bolton	**5·00**	**3·51**	**·45**	**·02**	**·82**	**·01**	**·17**
Bootle	5·36	2·88	1·07	·02	·92	·06	·38
St. Helens	5·50	2·42	·97	·01	1·78	·03	·26
Rochdale	6·06	4·64	·83	·09	·32	·02	·15
Salford	6·87	3·58	1·29	·11	1·57	·07	·23
Warrington	6·94	2·18	·73	·05	3·68	·17	·11
Bury	7·12	2·40	·95	·06	3·55	·05	·08
Liverpool	7·27	2·79	1·20	·02	2·35	·05	·85
Manchester	7·44	2·47	·74	·06	3·51	·17	·47
Burnley	7·83	5·66	·99	·13	·90	·01	·12

NOTE.—The Total Rate is the total of the above six notifiable diseases. The rates have been calculated on the adjusted population at the middle of 1922.

The notification rate for England and Wales per 1,000 living was as follows, in 1923 :—

Scarlet Fever	2·23
Diphtheria	1·04
Enteric Fever	0·08
Puerperal Fever	0·06

The notification rates for England and Wales of pneumonia and ophthalmia neonatorum are not available.

NOTIFIABLE DISEASES DURING THE YEAR 1923.

Disease.	Cases Notified.													Cases admitted to Borough Hospitals or Sanatoria	Deaths.												
	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all ages		Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all ages
Diphtheria	1	2	4	13	10	29	10	6	8	..	1	..	84	45	2	..	1	2	..	4	..	..	..	..	1	..	10
Scarlet Fever	3	11	28	53	29	251	178	52	32	4	1	..	642	373	..	..	1	1	1	1	1	1	..	..	..	..	6
Enteric Fever	..	..	..	..	..	..	1	2	1	..	..	..	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	..	..	..	..	..	..	..	2	1	..	..	3	..	..	..	..	..	..	..	..	..	2	1	..	..	3
*Pneumonia	9	10	10	6	6	9	9	11	34	14	23	9	150	..	55	33	10	6	2	7	2	4	8	9	43	30	209
Erysipelas	4	..	1	..	..	2	1	2	7	13	20	6	56	..	..	..	..	..	..	..	..	..	1	..	2	1	4
Ophthalmia Neonatorum	32	..	..	..	..	..	..	..	..	..	..	..	32	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	2
Encephalitis Lethargica	..	..	..	..	1	..	1	..	..	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute Poliomyelitis ..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebro-Spinal Fever ..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis :—																											
a. Pulmonary M. ..	..	..	..	..	..	..	2	6	15	17	24	..	64	129	..	..	..	..	..	..	..	9	16	16	39	2	82
a. Pulmonary F. ..	..	..	..	..	..	1	5	11	27	6	16	3	69	78	..	..	..	..	..	1	3	5	30	12	22	2	75
a. Pulmonary Total ..	..	..	..	..	..	1	7	17	42	23	40	3	133	207	..	..	..	..	..	1	3	14	46	28	61	4	157
b. Non-pulmonary M. ..	2	..	1	1	2	7	7	1	3	3	1	..	28	27	3	..	1	1	1	3	4	4	4	1	1	..	23
b. Non-pulmonary F. ..	1	3	..	3	1	4	6	3	9	2	..	..	32	21	1	6	1	1	..	2	1	3	4	2	3	..	24
b. Non-pulmonary Total ..	3	3	1	4	3	11	13	4	12	5	1	..	60	48	4	6	2	2	1	5	5	7	8	3	4	..	47

* The cases notified are Acute Primary and Acute Influenzal but the deaths include all forms of Pneumonia.

NOTIFIABLE DISEASES DURING THE YEAR.—*continued.*

	Cases			Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
	Notified	Treated					
		At Home	In Hospital				
Ophthalmia Neonatorum	32	11	21 (Out-patients).	30	1 (Blind in one eye).	..	2

Distribution of Notified Diseases in Wards, 1923.

Wards.	Scarlet Fever.	Diphtheria and Memb. Croup.	Enteric.	Puerperal Fever.	Erysipelas.	Total.	Pulmonary Tuberculosis.	Non-pul. Tuberculosis.	Ophthalmia Neonatorum.	Pneumonia.	Malaria.	Acute Poliomyelitis.	Encephalitis Lethargica.	Cerebro-spinal Fever.	Dysentery.
West	93	6	..	..	12	111	20	1	4	24	1	..	1	1	1
Halliwell	104	6	..	..	7	117	13	6	2	18	..	..	..	..	..
Bradford	48	7	..	..	..	55	15	8	..	11	..	..	..	..	..
Derby	42	9	..	1	3	55	10	4	9	13	..	..	..	..	..
East	47	5	1	..	2	55	14	11	5	12	..	..	..	..	..
Rumworth	57	3	3	..	6	69	7	3	3	12	..	..	1	..	..
Church	32	2	..	..	4	38	7	2	1	2	..	..	..	..	..
North	41	4	..	1	8	54	4	5	1	9	..	..	..	..	..
Exchange	6	..	..	..	2	8	3	..	..	7	..	..	..	..	..
Old Borough	470	42	4	2	44	562	93	40	25	108	1	..	2	1	1
Great Lever	32	11	..	..	2	45	11	5	5	5	..	..	1	..	..
Tonge	25	7	..	..	1	33	7	4	1	1	..	1	..	..	..
Astley Bridge	30	2	..	..	3	35	5	3	..	18	..	..	..	..	..
Smithills	27	6	..	..	..	33	4	2	..	1	..	..	..	..	..
Hulton	27	6	..	1	2	36	5	3	1	9	..	..	..	..	..
Deane-cum-Lostock ..	5	3	..	..	1	9	2	3	..	..	..	..	..	..	..
Darcy Lever-c-Breightmet	20	5	..	..	2	27	4	..	..	7	..	..	..	..	..
Heaton	6	2	..	..	1	9	2	..	..	1	..	..	..	..	..
Added Area	172	42	..	1	12	227	40	20	7	42	..	1	1	..	..
Extended Borough ..	642	84	4	3	56	789	133	60	32	150	1	1	3	1	1

Infectious Diseases Notified from 1882 to 1923.

Year Average.	Small-pox.	Scarlet Fever.	Diph. and Mem. Croup	Enteric Fever.	Typhus.	Puerperal Fever.	Cholera.	Erysipelas	Total	Rate per 1000 Pop'n.	Pulmonary Tuberculosis	Non-pul. Tuberculosis	Ophthalmia Neonatorum	Measles.	Pneumonia Ac. Prim. & In	Malaria	Dysentery	Cerebro-spin. Fever	Acute Pol-iomyelitis	Encephalitis Lethargica
1882–1890..	34	582	34	105	9	3	·5	—	767	6·7	—	—	—	—	—	—	—	—	—	—
1891–1900..	6	642	57	182	2	8	·1	1	898	6·9	—	—	—	—	—	—	—	—	—	—
1901–1910..	14	951	113	165	—	10	—	82	1335	7·4	170	—	—	—	—	—	—	—	—	—
1911	—	649	172	88	—	10	—	124	1043	5·7	245	—	26	—	—	—	—	—	—	—
1912	—	313	92	48	—	3	—	109	565	3·1	321	—	23	—	—	—	—	—	4	—
1913	—	208	118	53	—	4	—	70	453	2·4	349	158	26	—	—	—	—	—	—	—
1914	—	291	190	51	—	9	—	90	631	3·4	303	69	35	—	—	—	—	—	—	—
1915	—	579	177	47	—	3	—	148	954	5·5	268	61	24	—	—	—	—	4	1	—
1916	—	312	114	39	—	5	—	87	557	3·2	233	69	28	—	—	—	—	—	—	—
1917	—	374	92	24	—	1	—	54	545	3·3	234	45	23	3416	—	—	—	1	—	—
1918	—	224	105	24	—	2	—	46	401	2·4	198	86	16	343	—	—	—	2	—	—
1919	3	289	259	9	—	7	—	87	654	3·6	185	95	41	1780	240	102	1	3	—	—
1920	2	541	175	12	—	9	—	78	817	4·4	151	64	51	—	140	74	—	—	—	—
1921	—	591	152	8	—	7	—	87	845	4·6	160	79	35	—	103	3	—	—	1	7
1922	—	453	97	4	—	3	—	50	607	3·3	135	80	21	—	232	3	—	—	—	1
1923	—	642	84	4	—	3	—	56	789	4·3	133	60	32	—	150	1	1	1	1	3

First Year Notification 1878. Isolation Hospital Established 1884. Borough Extended 1899.

Enteric Fever in Bolton, 1881-1923.

Year.	Cases.	Case-rate per 1,000 of Population.	Deaths.	Death-rate per 1,000 of Population.	Death-rate per cent. of Cases.
Av. 1881–1890	103	·92	22	·19	22·3
Av. 1891–1895	153	1·29	31	·26	20·4
Av. 1896–1900	209	1·51	42	·25	20·1
Av. 1901–1905	182	1·06	36	·21	20·1
Av. 1906–1910	146	·82	29	·16	19·9
Av. 1911–1915	57	·38	16	·08	28·1
Av. 1916–1920	21	·12	6	·03	35·6
1921	8	·04	3	·01	37·5
1922	4	·02	2	·01	50·0
1923	4	·02	—	—	—

DEATHS OF CHILDREN UNDER 5 YEARS, 1901-1923, FROM SMALL-POX, SCARLET FEVER, DIPHTHERIA, TYPHOID FEVER, MEASLES, AND WHOOPING COUGH.

Year.	Small-pox.	Scarlet Fever.	Diphtheria	Typhoid Fever.	Measles	Whooping Cough.
1901	—	30	19	2	104	49
1902	—	53	29	5	28	49
1903	—	33	23	1	47	8
1904	—	14	19	1	16	133
1905	—	2	10	4	86	7
1906	—	8	16	1	2	20
1907	—	17	11	—	221	62
1908	—	11	10	1	2	80
1909	—	14	15	1	38	32
1910	—	25	16	1	2	50
1911	—	8	17	—	57	13
1912	—	10	9	—	32	39
1913	—	2	18	2	82	47
1914	—	3	19	—	57	49
1915	—	4	14	—	54	42
1916	—	4	9	—	9	26
1917	—	4	13	—	124	5
1918	—	2	12	—	1	81
1919	—	1	24	—	13	—
1920	—	—	17	—	27	34
1921	—	1	11	—	3	23
1922	—	1	7	—	59	13
1923	—	3	5	—	4	11
Total	—	250	343	19	1068	873

DEATHS IN EACH WARD FROM DIARRHŒAL DISEASES IN 1923.

	Certified as Infective.			Not certified as Infective.			Total deaths from Diarrhœal diseases.		
	Under 2 yrs.	Others	Total.	Under 2 yrs.	Others	Total.	Under 2 yrs.	Others	Total.
West	2	—	2	7	2	9	9	2	11
Halliwell	—	—	—	4	1	5	4	1	5
Bradford	3	—	3	2	4	6	5	4	9
Derby	3	1	4	3	1	4	6	2	8
East	2	—	·2	2	4	6	4	4	8
Rumworth	—	1	1	2	—	2	2	1	3
Church	1	—	1	—	1	1	1	1	2
North	—	—	—	1	1	2	1	1	2
Exchange	1	—	1	4	—	4	5	—	5
Old Borough	12	2	14	25	14	39	37	16	53
Great Lever..	1	1	2	1	1	2	2	2	4
Tonge	—	—	—	1	2	3	1	2	3
Astley Bridge	—	—	—	1	—	1	1	—	1
Smithills	—	—	—	—	—	—	—	—	—
Hulton	—	—	—	—	—	—	—	—	—
Deane-cum-Lostock	—	—	—	—	—	—	—	—	—
DarcyLever-cum-Breightmet	—	—	—	—	1	1	—	1	1
Heaton	—	—	—	—	1	1	—	1	1
Added Area	1	1	2	3	5	8	4	6	10
Extended Borough ..	13	3	16	23	25	53	41	22	63

NOTE.—Duodenal Ulcer is not now included in Diarrhœal Diseases.

Tuberculosis in Bolton in 1923.

The number of Bolton residents who died in 1923 of tuberculosis of all forms was 204. Of these 157 died of pulmonary tuberculosis and 47 of non-pulmonary tuberculosis. This gives a tuberculosis death-rate of 1·11 per thousand inhabitants, a slight increase on the death-rate for 1922, which was 0·96.

Of the tuberculosis deaths the following took place in institutions :—

PULMONARY TUBERCULOSIS.

14 residents died in Institutions in Bolton :—

9 in the Borough Hospital ;
4 in Wilkinson Sanatorium ; and
1 in Bolton Infirmary.

45 residents died outside the Borough :—

37 in Townleys Hospital ;
6 in Lunatic Asylums (5 in Prestwich and 1 in Lancaster.) ;
1 in the Infirmary, Evington ;
1 in Ludlow.

NON-PULMONARY TUBERCULOSIS.

7 residents died in the Bolton Infirmary.

Localization of tuberculosis :—

1 Neck ;
1 Hip ;
1 Ribs ;
2 Peritoneum ;
1 Spine and Meninges ;
1 Mesenteric glands.

11 residents died outside the Borough :—

9 in Townleys Hospital ;
1 in Lancaster Asylum ;
1 in Salford Royal Hospital.

Phthisis (Pulmonary Tuberculosis).

There were 157 deaths, a death-rate of ·86 per 1000 inhabitants.

Age and sex of persons who died of pulmonary tuberculosis :—

Sex.	Total.	Ages.							
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and upwards
Males	82	—	—	—	9	16	16	39	2
Females..	75	—	1	3	5	30	12	22	2
Total	157	—	1	3	14	46	28	61	4

The occupations of those who died were as follows :—

Weaving	4
Spinning	2
Other Cotton Operatives	17
Bleaching and Printing	3
Metals, Machines and Implements	9
Coal Mining	5
Building	5
Conveyance of Men and Goods	5
General Labourers	23
Food, Drink and Tobacco	8
Dress, etc.	4
Clerks	5
Household Work	42
School Children	3
Miscellaneous occupations	18
No occupation or occupation unknown	4
	157

Deaths from Pulmonary Tuberculosis in Bolton in Previous Years.

Year.	Residents in Public Institutions out of Borough.			Public Institutions in Borough.		Private Houses.	Total	Death-rate.
	Townleys Hospital and Fishpool W'khouse	Lunatic Asylums	Others	Residents	Non-Residents			
Av. 1901–05 ..	31	10·8	·4	1·2	·2	194	237	1·38
Av. 1906-10	42	8·4	·2	1·2	..	151	203	1·13
1911	39	6	2	..	..	140	187	1·03
1912	37	9	3	..	..	133	182	·99
1913	37	6	2	..	..	109	154	·83
1914	32	5	3	12	..	115	167	·90
1915	47	5	4	9	3	114	179	1·03
1916	31	15	2	8	1	125	181	1·07
1917	27	25	4	4	1	129	189	1·15
1918	29	30	3	6	1	130	198	1·23
1919	19	24	7	8	..	115	173	·97
1920	41	11	3	7	1	92	154	·83
1921	32	8	3	11	..	107	161	·88
1922	44	2	2	6	2	84	138	·75
1923	37	6	2	14	2	98	157	·86

Non-pulmonary Tuberculosis.

47 deaths were registered from non-pulmonary tuberculosis. The death-rate is ·25 per 1,000 inhabitants.

The age and sex distribution are shewn below :

Sex.	Total.	Ages.							
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and upwards
Males	23	6	3	4	4	4	1	1	—
Females..	24	9	2	1	3	4	2	3	—
Total	47	15	5	5	7	8	3	4	—

OCCUPATIONS :—

Weaving	1
Spinning	2
Other Cotton Operatives	2
Metals, Machines and Implements	2
Coal Mining	1
Transport Workers	1
General Labourers	1
Food, Drink, and Tobacco	1
Clerks	2
Household Work	5
School Children	9
Miscellaneous occupations	1
No occupation or occupation unknown	19
	47

Non-pulmonary Tuberculosis Deaths, 1923.

Cause of Death.	Age.	Sex.	Occupation.
Tuberculosis of :—			
Glands of neck	12 months	F	Nil.
Generalized surgical	62 years	F	Housework.
Meninges	19 months	F	Nil.
Hip	15 months	F	Nil.
Intestines	3 ,,	M	Nil.
Generalized surgical	2 years	F	Nil.
Lumbar vertebræ	34 ,,	F	Housewife
Kidneys	17 ,,	M	Clerk.
Rib	2 ,,	M	Nil.
Peritoneum	6 ,,	M	School.
Meninges	21 months	F	Nil.
Meninges	3 years	M	Nil.
Peritoneum	17 months	F	Nil.
Kidneys and Bladder	44 years	M	Carter.
Mediastinal Glands	48 ,	M	General labourer.
Generalized surgical	22 ,,	F	Cotton weaver.
Peritoneum	7 ,,	M	School.
Bowels	18 ,,	F	Box tenter.
Meninges	9 months.	M	Nil.
Spine	56 years	F	Nil.
Knee	19 ,,	M	Iron Turner's Apprentice.
Bowels	41 ,,	F	Housewife.
Vertebræ	14 ,,	M	School.
Meninges	10 ,,	M	School.
Peritoneum	11 months	M	Nil.
Peritoneum	26 years	M	Iron Fitter's Labourer.
Generalized surgical	22 ,,	M	Nil.
Meninges	3 ,,	F	Nil.
Mesenteric glands	19 ,,	F	Bottle washer.
Meninges	12 ,,	M	School.
Generalized surgical	6 ,,	F	School.
Spine	31 ,,	F	Housework.
Meninges	19 ,,	M	Cotton Piecer.
Acute Miliary	19 ,,	F	Cardroom operative.
Meninges	11 ,,	F	School.
Peritoneum	33 ,,	F	Restaurateur.
Peritoneum	6 ,,	M	School.
Skin	59 ,,	F	Nil.
Meninges	8 months.	F	Nil.
Spine and Meninges	14 years.	M	Nil.
Meninges	20 months.	F	Nil.
Spine	22 years	M	Drawer in coal mine.
Meninges	4 ,,	M	Nil.
Peritoneum	37 ,,	F	Housewife
Generalized surgical	8 ,,	F	School.
Meninges	19 ,,	M	Railway Goods Clerk.
Mesenteric glands	21 ,,	M	Side Piecer.

Deaths from Non-pulmonary Tuberculosis in Bolton in Previous Years.

Year.	Residents in Public Institutions out of Borough.			Public Institutions in Borough.		Private Houses.	Total	Death-rate.
	Townleys Hospital and Fishpool W'khouse	Lunatic Asylums	Others	Residents	Non-Residents.			
1911	5	..	..	3	2	59	67	·36
1912	7	..	1	3	1	43	54	·29
1913	7	1	..	3	2	47	58	·31
1914	7	2	2	4	1	39	54	·29
1915	4	1	..	4	..	41	50	·28
1916	4	3	2	6	..	47	62	·36
1917	5	4	2	5	4	46	62	·37
1918	2	2	1	4	..	46	55	·34
1919	1	..	1	6	..	29	37	·20
1920	5	1	1	3	..	22	32	·17
1921	12	2	1	2	3	20	37	·20
1922	8	..	..	6	1	26	40	·21
1923	9	1	1	7	2	29	47	·25

Notification of Tuberculosis.

Of the 204 Bolton residents who died of tuberculosis of all forms, 28, or 13·7% were not notified before death.

The reasons for the higher percentage in previous years of deaths from tuberculosis of persons not previously notified were as follows :—

Where cases were referred to the tuberculosis dispensary by private practitioners and were found to be tuberculous, they were entered on the dispensary records as tuberculosis patients, but no steps were taken to secure a formal notification from the doctor.

Information obtained from "C" and "D" form notifications were not regarded as notifications in our records.

Of the 28 deaths from tuberculosis of persons previously unnotified five took place in Townleys Hospital and no trace of them could be found at the addresses where they were said to have resided before admission ; four took place at the Bolton Infirmary ; and one at Prestwich Asylum. In several of the remaining cases the diagnosis of tuberculosis was only made very shortly before death.

Notifications.

PULMONARY TUBERCULOSIS.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	TOTAL
Males	..	..	..	2	6	5	10	17	15	9	..	64
Females	..	..	1	5	11	5	22	6	8	8	3	69

NON-PULMONARY TUBERCULOSIS.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	TOTAL
Males	2	4	7	7	1	1	2	3	..	1	..	28
Females	1	7	4	6	3	2	7	2	..	..	..	32

The number of notifications as also of deaths of tuberculosis from 1912 to 1923 was as follows :—

	Pulmonary.		Non-pulmonary.	
	Notifications.	Deaths.	Notifications.	Deaths.
1912	321	182	—	54
1913	349	154	158	58
1914	303	167	69	54
1915	268	179	61	50
1916	233	181	69	62
1917	234	189	45	62
1918	198	198	86	55
1919	185	173	95	37
1920	151	154	64	32
1921	160	161	79	37
1922	135	138	80	40
1923	133	157	60	47

Non-pulmonary Tuberculosis was not compulsorily notifiable until 1913.

Tuberculosis Dispensary.

The tuberculosis dispensary, of which Dr. John McKeague is the Medical Officer, works in cordial co-operation with the medical profession of Bolton. Cases are freely referred to it for consultation. For such special treatment as are given at the dispensary there is no difficulty whatever in securing the regular attendance of the patients.

All tuberculosis patients who have been in touch with the dispensary and who are not in residence at institutions attend regularly at the dispensary for supervision. Cases too ill to attend the dispensary are visited by the Tuberculosis Nurse.

The number of attendances at the dispensary made by patients in 1923 was as follows :—

Insured persons	1654 attendances.
Uninsured persons	1921 ,,
Total attendances	3575

Consultations.

Total number sent for consultations—Insured		222
Uninsured		125
		347

Findings at Consultations.

Number found to have pulmonary tuberculosis	113
Number found to have non-pulmonary tuberculosis	44
Number in whom pulmonary tuberculosis was suspected but not definitely diagnosed	19
Number in whom no evidence of tuberculosis was found	171

Tuberculin Dispensary.

Number of cases treated	87
Number of attendances	2022

Tuberculin is, with very few exceptions, given only in cases of surgical tuberculosis. Any other special treatment likely to improve the condition is given, as colloid calcium, sodium morrhuates, etc.

Ex-servicemen.

Number of ex-servicemen who have attended the Tuberculosis Dispensary	123
Total attendances for ex-servicemen	818
Number of ex-servicemen referred by Pensions Board for opinion as to tuberculosis	63
Number found to be suffering from Phthisis	14
Number of those in whom no evidence of Phthisis was found	47
Number of doubtful cases kept under observation	2

Treatment of Tuberculosis.

The institutional treatment provided for Bolton patients is adequate, except for surgical tuberculosis. The provision for the treatment of surgical tuberculosis should not be in Bolton. The climate of Bolton is not suitable for a treatment which depends largely upon sunshine. I purpose during 1924, making proposals regarding the treatment of surgical tuberculosis.

Applications.	
Insured	149
Uninsured	41
Total	190
Pul. Tuberculosis	167
Non-pul. tuberculosis	23
No evidence	—

Treatment Provided.	
Residential	130
Domiciliary	44
Cancelled	6
Declined treatment	3
Died before admission	5
Waiting List	2

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1923.

INSTITUTION.	Beds.	Treated.			Under Treatment 31st Dec. 1923
		Total.	Insured.	Unins.	
Meathop Sanatorium	8	18	14	4	2
Wilkinson Sanatorium	15	49	43	6	12
Borough Hospital	24	56	44	12	23
*Townleys Hospital	3	1	1	..	..
*Heswall	3	2	..	2	2
*Infirmary	12	19	8	11	2
Dispensary	..	87	25	62	64
Domiciliary	..	44	44	..	61

* Paid for per user.

ADMISSIONS TO AND DISCHARGES FROM INSTITUTIONS :—

	Admissions.	Discharges.
Meathop Sanatorium	18	22
Wilkinson Sanatorium	49	50
Borough Hospital	56	57
Townleys Hospital..	1	3
Infirmary	19	20
Heswall (Children's Hospital) ..	2	2

Early in the year we ceased to send any cases of tuberculosis to Townleys Hospital. At the Wilkinson Sanatorium we pay for a minimum of 15 patients, but we have had the privilege of sending up to 20 patients without any further charge. In 1924 we shall pay, at a reduced fee, for 20 beds, but we shall have the privilege of sending up to 30 patients, paying as per user for all beds occupied over 20.

The results obtained at the sanatoria to which Bolton patients are sent are as good as those obtained elsewhere. Sanatoria are the best treatment available for pulmonary tuberculosis. They are indispensable, and it is foolish to decry them because the results obtained are not all that could be desired. We have up to the present no treatment comparable in efficacy with sanatorium treatment.

ASSISTANCE GIVEN TO NECESSITOUS TUBERCULOUS PATIENTS.

1. Total number of patients assisted	64
2. Average time receiving assistance	3 months
3. Amount of milk given	5879 pints
4. Malt and oil given	150-lbs.

Venereal Diseases.

It is impossible to estimate the amount of venereal disease in Bolton and throughout the country generally. That it is considerable is proved by the following facts :—

(1) A large number of cases of disease of the heart, blood vessels, and nervous system occurring during middle age are definitely known to be due to an earlier infection with venereal disease.

(2) A very great deal of the mental disease affecting the inmates of asylums is known to be due to the same cause. These cases cost the rate-payer large sums of money.

The public generally has no idea of the good work done by the Venereal Disease Clinics established throughout the country during the last few years. I am convinced that no agency at work in this country has done so much in the same time to stamp out disease as these clinics. Any case of syphilis can in a few days be made non-infectious, so that he ceases to be a danger to those who come in contact with him. Much more prolonged treatment is needed to secure him against the consequences to himself and to his offspring of the disease. But the fact that he is made incapable of spreading the disease to others must in a few years show very satisfactory results—for hitherto, a very large number of those suffering from venereal disease were innocent victims.

Very misleading statements are often made as to the number of patients who cease attendance at venereal disease clinics before treatment is complete. It is very rare for any patient suffering from syphilis to cease attendance before becoming at least non-infectious to others. The tests of cure are now much more searching and more definite than they were some years ago. The great majority of those who are said to discontinue treatment before the cure was complete have, as a matter of fact, put in a large number of attendances, and would formerly have been regarded as being completely cured.

It should be generally known that treatment at the venereal disease clinics in Bolton and elsewhere is free to all, without limitations as to nationality place of residence, age, sex, or income. It is necessary to emphasise this, as there appears to be some misapprehension on the subject.

Clinics are held at the Treatment Centre established in the Public Health Offices at the following times :—

Monday	7-0 p.m.	Males.
Tuesday	7-0 p.m.	Males.
Wednesday	7-0 p.m.	Males.
Thursday	7-0 p.m.	Females.
Saturday	11-0 a.m.	Females.

Patients who are unable to attend the evening clinics can receive treatment during the day by arrangement. Every case which calls for the first time at the Public Health Office receives whatever treatment may be necessary the same day.

Irrigation of cases of gonorrhœa is carried out at the following times :—

FOR MALES.

Monday	10 a.m. and 7 p.m.
Wednesday	10 a.m.
Thursday	10 a.m.
Friday	10 a.m. and 7 p.m.

FOR FEMALES.

Tuesday	10 a.m.
Thursday	2-30 p.m.

All specimens for the Wassermann test and some other specimens are sent to Professor Topley at the Public Health Laboratory, York Place, Manchester.

The supply of Salvarsan and its substitutes to medical practitioners, and the examination of specimens sent by them is carried on in accordance with the instructions of the Ministry of Health.

149 doses of Salvarsan substitutes were supplied to 10 medical men. 134 samples of blood and 7 smears sent by private practitioners were sent to Manchester for examination.

The following table shows the number of Bolton patients who were dealt with at Treatment Centres in other towns.

	Manchester & Salford Hosp. for Skin Diseases.	St. Lukes Hospital Manchester.	Royal Infirmary Manchester	Ancoats Hospital	Salford Royal Hospital.	Dispensary Bury.
No. of Persons ..	7	1	4	2	11	3
Attendances	47	9	27	18	138	22
In-patient days ..	..	..	..	..	13	..
Doses of Salvarsan substitutes given..	7	..	14	..	..	..
Tests—Wassermann	8	..	5	1	..	..
Gonorrhœa..	..	..	4	6	3	..
Spirochetes	..	..	1	..	..	..

The tables on pages 44 and 45 show the work carried out at the Bolton Treatment Centre.

Return relating to all persons who were treated at the Treatment Centre at Bolton Public Health Offices during the year ended the 31st December, 1923.

	Syphilis.		Soft Chancre		Gonorrhœa.		Conditions other than Venereal.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. §Number of persons who, on the 1st January, 1923, were under treatment or observation for :—	227	133	1	..	294	44	11	..	533	177
2. Number dealt with during the year in the out-patient Clinic *for the first time* and found to be suffering from :—										
Syphilis only	88	58	..	..	..	..	..	..	88	58
Soft chancre only	..	..	..	..	..	..	..	..	..	..
Gonorrhœa only	..	..	..	..	144	13	..	..	144	13
§Syphilis and soft chancre	..	..	..	..	..	..	..	..	..	..
§Syphilis and gonorrhœa	6	5	..	..	6	5	..	..	12	10
§Gonorrhœa and soft chancre ..	..	..	..	..	..	..	..	..	..	..
§Syphilis, soft chancre & gonorrhœa	..	..	..	..	..	..	..	..	..	..
Conditions other than venereal ..	..	..	..	..	..	..	102	68	102	68
Total—Item 2	94	63	..	..	150	18	102	68	346	149
Total—Items 1 and 2	321	196	1	..	444	62	113	68	879	326
3. §Number of persons who ceased to attend the out-patient Clinic										
(*a*) before completing the first course of treatment for	43	28	..	..	112	9	..	..	155	37
(*b*) after one or more courses but before completion of treatment for	21	29	..	..	..	..	..	..	21	29
(*c*) after completion of treatment, but before final tests as to cure of..	34	8	..	..	59	7	..	..	93	15
4. Number of persons transferred to other Treatment Centres after treatment for	4	..	..	..	2	1	..	..	6	1
5. §Number of persons discharged from the out-patient Clinic after completion of treatment and observation for	38	19	..	..	30	11	105	61	173	91
6. §Number of persons who, on the 1st January, 1924, were under treatment or observation for	181	112	1	..	241	34	8	7	431	153
Total—Items 3, 4, 5, and 6 ..	321	196	1	..	444	62	113	68	879	326
7. Out-patient attendances :—										
(*a*) For individual attention by the Medical Officer	2002	1105	18	..	1862	291	216	155	4098	1551
(*b*) For intermediate treatment *e.g.* irrigation, dressings, etc.	28	..	..	..	1877	495	..	..	1905	495
Total attendances	2030	1105	18	..	3739	786	216	155	6003	2046

	For Detection of			For Wassermann Reaction
	Spirochetes.	Gonococci.	Other Organisms.	
8. Examinations of Pathological material :—				
(*a*) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre.. ..	..	171	..	..
(*b*) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory	..	3	..	482

§ The number of persons suffering from two or more venereal diseases is entered under the heading of *each* disease in the vertical column, and accounted for under each disease throughout the Return.

	Males	Females	Total
(*a*) Attendances at out-patient Clinics	4098	1551	5649
(*b*) Intermediate attendances for Irrigation, etc.	1905	495	2400

STATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE, BOLTON PUBLIC HEALTH OFFICES, DURING THE YEAR, CLASSIFIED ACCORDING TO THE AREAS IN WHICH THE PATIENTS RESIDED.

Name of County or County Borough.	Bolton C.B.	Lancs. C.C.	Manchester	Bury C.B.	Stockport C.B.	Wigan C.B.	Total
A. Number of persons from each area dealt with during the year at or in connection with the out-patient Clinic *for the first time* and found to be suffering from :—							
Syphilis	199	48	..	..	..	..	157
Soft chancre	..	..	..	..	..	..	..
Gonorrhœa	104	61	1	1	1	..	168
Conditions other than venereal ..	134	34	1	..	..	1	170
TOTAL	347	143	2	1	1	1	495
B. Total number of attendances at the out-patient Clinic of all patients residing in each area	5096	2816	4	115	14	4	8049
C. Aggregate number of "In-patient days" of all patients residing in each area	..	..	..	..	..	..	..
D. Number of doses of Salvarsan substitutes given in the :— to patients residing in each area. 1. Out-patient Clinic	900	708	..	..	..	..	1608
2. In-patient Dept.	..	..	..	..	..	..	..
E. Give the names of Arsenobenzol compounds used in the treatment of syphilis and the usual initial and final doses.	For Males—·45 N.A.B. (initial dose) ·6 N.A.B. (final dose). For females—·30 N.A.B. (initial dose) ·45 N.A.B. (final dose).						
F. State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre.	For all sores, primary, etc., local treatment is given Lotio. Nigra, Pulv. Cal., and ZnO, etc. For the constitutional invasion we use N.A.B., etc., (for specially resistant cases) Neo-Salvarsan of Meister Lucius Bruning, Frankfort. 10 doses usually given : Men, ·45, ·45, ·45, ·6, ·6, ·6, ·6, ·6, ·6, ·6 ; Women, ·3, ·3, ·3, ·45, ·45, ·45, ·45, ·45, ·45, ·45, individual idiosyncracies considered in every case. Mercury is given throughout the course as grey powder given by mouth. All N.A.B., etc., is given intravenously.						
G. State the nature of tests applied in deciding as to discharge of patients referred to in item 5 on previous page.	In the case of Syphilis, patients have not been discharged until at least 3 blood tests at 3 to 6 monthly intervals without treatment have proved negative. In the case of Gonorrhœa, patients are not discharged until they have been free for at least 6 months from all clinical evidence of gonorrhœal infection. If considered desirable, prostatic massage is done and smear examined.						

Borough Isolation Hospitals.

No. of Patients.	No. of Patients suffering from the following Diseases :						Total.
	Scarlet Fever.	Enteric Fever.	Diph-theria.	Pul monary Tuber-culosis.	Other Tuber-culous Diseases	Other Diseases	
Remaining, Dec. 31st, 1922	49	..	4	20	2	..	75
Admitted in 1923	373	2	45	67	3	8	498
Total No. treated, 1923 ..	422	2	49	87	5	8	573
Discharged in 1923	401	2	45	55	5	7	515
Died in 1923	2	..	4	9	..	1	16
Remaining, Dec. 31st, 1923	19	..	..	23	..	..	42

The total number of patients treated in the scarlet fever wards during 1923 was 373 admissions, together with 49 patients in hospital at the beginning of the year, a total of 422. Of these patients 2 died. All of the 19 patients in hospital at the close of the year made a good recovery. The case mortality was therefore 0·47 per cent. Of the patients who died, one died six hours after admission. The other was very ill on admission, and died on the third day from admission.

Of the patients admitted as scarlet fever, 2 were found to be suffering from diphtheria only, and 4 from scarlet fever and diphtheria. These all made a good recovery. 4 were found to be suffering from German measles, and in the case of 4 there was no evidence from the time of their admission of any disease whatever.

The prevailing type of scarlet fever was so mild that in the case of several patients it was impossible to say definitely whether they had scarlet fever or not.

There were several cases of a severe type. In these cases anti-streptococcic serum was given with apparently great benefit.

Two probationer nurses contracted scarlet fever. They made a good recovery. They are included in the admissions.

The complications which developed in scarlet fever patients were as follows :—

Nephritis	2
Albuminuria	15
Rheumatism and arthritis	19
Glandular abscesses	6
Otitis media	6
Secondary adenitis	42
Septic sores	17
Rhinorrhœa	9
Endocarditis	3
Thrombosis of femoral vein	1

As far as could be judged on examination for discharge a complete recovery had been made from the above complications.

8 return cases of scarlet fever were admitted during 1923. Cases occurring within four weeks after the date of discharge of a patient are reckoned as return cases. It is of course, by no means certain that these cases were infected by patients discharged from the hospital.

The average period in hospital of patients suffering from scarlet fever was 37 days.

Of the patients admitted as diphtheria 2 were found to be suffering from follicular tonsillitis, 1 from septic perichondritis, 1 from influenza, 1 from simple laryngitis, 1 from scarlet fever, and 1 from Vincent's angina.

Four patients suffering from diphtheria died in hospital. One of these died after tracheotomy. On one other patient tracheotomy was done and the patient recovered.

The average stay in hospital of diphtheria patients was 41 days.

Six patients were admitted as enteric. Of these one had simple enteritis, one had influenza, two showed no signs of enteric from the time of admission, and two had enteric fever. All were discharged in good condition.

During 1923 electric lighting was installed in the large scarlet-fever wards, in the typhoid and diphtheria wards, and in the Eastern Hospital Administrative Block. During 1924 the installation of electric lighting in all remaining parts of the hospital will be completed.

The health of the staff, nursing and domestic, was good throughout the year. Two of the probationers contracted mild scarlet fever. There were several cases of mild influenza. There was no other serious illness.

I desire to place on record my high appreciation of the ability and care which the Matron, Miss E. Bateman, has now for many years given to the welfare of the patients and staff at the Bolton Borough Hospital. Thanks are also due to the nursing and domestic staff for their loyal co-operation.

SECTION III.

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1. Maternity and Child Welfare.

2. Haslam Maternity Home.

3. Control of Midwives.

Maternity and Child Welfare.

1. BIRTHS :—

Registered	(1) Legitimate	3037,	(2) Illegitimate	152,	Total	3189
Notified	(1) Live Births	3178,	(2) Stillbirths	128,	Total	3306
	(1) By Midwives	2785,	(2) By Parents and Doctors			445
	(3) By Registrars	76.				

2. DEATHS OF INFANTS UNDER 1 YEAR OF AGE :—

Number	(1) Legitimate	252,	(2) Illegitimate	21,	Total	273
Infant Mortality	(1) Legitimate	82,	(2) Illegitimate	138,	Total	85

3. VISITS BY HEALTH VISITORS.

Primary birth enquiries	3184
Visits to Children, 1–5 years	3220
Primary visits to expectant mothers	895
Revisits to infants under 1 year	10371
Revisits to children, 1–5 years	2883
Revisits to expectant mothers	1869
Visits to Puerperal Fever Cases	5
Visits to Ophthalmia Cases	140
Death enquiries made	259
Visits to midwives' houses	255
Total visits	23081

4. ASSISTANCE GIVEN TO NECESSITOUS, EXPECTANT AND NURSING MOTHERS, AND TO CHILDREN UNDER 5 YEARS OF AGE.

No. of Persons.	Assistance given.
566	New Milk.
110	Dried Milk.
2	Nestles Milk.
142	Malt and Oil and Virol.
1	Home Helps on 24 days.

5. AMOUNT OF FOOD DISTRIBUTED.

	Amount.
New Milk	21314 qts.
Dried Milk	1297 lbs.
Nestles Milk	22 tins.
Malt and Oil	188 lbs.
Virol	238 lbs.

6. METHOD OF FEEDING.

	Living infants visited.	Infants who died under 1 year
1. Breast fed only	2189 ..	83
2. Breast fed partly	383 ..	26
3. Artificially fed	521 ..	150

7. OTHER CONDITIONS.

The following conditions were found amongst newly-born children visited by the Health Visitors.

1. Healthy	2736
2. Delicate	245
3. Premature	112

8. OTHER INFORMATION.

Nuisances found and referred to M.O.H.	58
Cases referred to N.S.P.C.C.	13
Leaflets distributed	3056
Houses found to be clean	3023
Houses found to be dirty	175
No. of mothers returning to work within three months of birth of child..	116

School for Mothers and Infant Clinics.

The work done by the above organisation is most encouraging. The co-operation between the Bolton Public Health Authority and the School for Mothers, a voluntary organisation, is thorough and cordial. I feel greatly indebted to the voluntary workers who perform their duties with an enthusiasm, a punctuality, and an efficiency deserving the highest praise.

They are instrumental in getting a great amount of work done at very little cost. The infant clinics at which the consultations take place are staffed and controlled by the Medical Officer of Health. The Medical Officers are now whole-time Medical Officers of the Public Health Department.

There are eight centres, each of which is open once a week. The attendances at these centres have been well maintained. Mothers are encouraged to bring their children at the earliest age possible, and the object aimed at is the prevention of ailments by proper feeding, etc., rather than the cure.

Of the 1,371 babies enrolled during 1923, the ages at the time of enrolment were as follows :—

The figures given below are from April 1st, 1923, to April 1st, 1924. In future the figures will be for the calendar year.

Under one month	244
,, two months	264
,, three months	245
,, six months	236
,, twelve months	195
Twelve months and over	187

Children are admitted up to five years of age. There were 10 sets of twins, and 571 were first babies.

Each Centre is open one half-day per week. The number of babies' attendances at the different Clinics and Centres from April, 1923, to April, 1924, has been as follows :—

	New Members	No. on Roll	Total Attendances	Meetings	Average
1. Tipping Street	185	225	1962	46	42·6
2. Daubhill	231	260	2454	45	54·5
3. Halliwell	258	301	2414	43	56·1
4. Grecian Street	150	188	2094	46	45·5
5. Kensington	186	255	1993	46	43·3
6. Pikes Lane	167	208	1704	46	37·0
7. James Terrace	132	141	1422	46	30·9
8. St. Chad's	62	99	800	46	17·3
	1371	1677	14843	364	327·2

Pre-natal Work.

Expectant mothers are encouraged to attend all the clinics where they are advised by the doctor. A special class for expectant mothers is held once a week. 180 expectant mothers attended this class during the year, and the attendances numbered 730.

Massage.

Arrangements have been made and are now working for suitable cases attending the infant clinics to receive massage. This treatment is given at Flash Street School twice a week by one of the voluntary helpers who is a fully-qualified masseuse.

Visits Paid by Nurses.

The School for Mothers pays two trained nurses who give their whole time to the work. This work is most useful in following up and supervising cases attending the clinics. These nurses paid 3,075 visits during the year. Their work is so co-ordinated with that of the health visitors that no overlapping takes place.

The Catholic Women's League conducts two infant clinics which are attended by private medical practitioners.

Bolton Day Nursery.

The Bolton Day Nursery is managed by a voluntary committee co-operating with the Public Health Authority from which it receives a grant of £300 a year. It is under the general supervision of the Medical Officer of Health. It has a medical officer who attends weekly and at any time when required.

This institution has now an honourable and recognised position in the social work of the town. It is undoubtedly a very great boon to a large number of mothers who are compelled by sheer necessity to go out to work. Children are cared for from 7-0 a.m. to 5-30 p.m. from Monday to Friday, and on Saturdays from 7-0 a.m. to 1 p.m. A charge of 1/- per day is made. On Saturdays the charge is 6d.

The institution is undoubtedly greatly appreciated, a fact vouched for by the attendances. The attendances during 1923 numbered 9,104, an increase of 3,368 attendances on those made in 1922.

The institution has been singularly free from sickness, infectious and non-infectious, during the year.

Haslam Maternity Home.

This institution has done good work during the year. The total number of admissions was 254. It is greatly appreciated by the patients and at the time of writing (14.6.24) the applications for admission are rapidly increasing. Very few cases indeed have been refused admission. Inability to pay the fee asked has never been made a reason for refusal ; but cases whose only claim is destitution are referred to the Poor Law Authority.

Patients can choose any doctor they please to attend them. When no choice has been made the Matron sends for one of the medical men who have agreed to attend at the fees prescribed by the Ministry of Health. The Home is visited daily by the Maternity and Child Welfare Medical Officer, and all cases on the admission list are seen at intervals unless their own doctors desire to do this themselves.

No maternal deaths took place during the year.

The increase in patients, which I confidently anticipate, will render necessary before long the provision of a more suitable laundry than that now in existence.

Full particulars of all cases admitted to the home during 1923 are given below :—

STATISTICS, 1923.

1. Total number of cases admitted			254
2 Average duration of stay in days			15·5
3. No. of cases delivered by :—			
(*a*) Midwives			180
(*b*) Doctors			69
4. No. of cases in which medical assistance was sought by the midwife with reason for requiring assistance			73
(*a*) Antenatal		—	
(*b*) During labour		58	
Ruptured perineum	25		
Delayed vertex	5		
Tedious labour	19		
Uterine inertia	2		
Albuminuria	1		
Retained placenta	2		
Malpresentation	4		
(*c*) After labour		8	
Rise of temperature	4		
Rash on body	1		
Fainting attack	2		
Purulent discharge	1		
(*d*) For infant		7	
Collapse	2		
Premature	1		
Circumcision	1		
Loss of weight	1		
Cyanosis at birth	1		
Jaundice	1		

5. No of cases notified as puerperal sepsis with result of treatment in each case .. .. Nil

6. No. of cases in which temperature rose above 100·4 for 24 hours with rise of pulse rate 10

Doctors' cases	6
Midwives' cases	4

7. No. of cases notified as ophthalmia neonatorum, with result of treatment in each case .. .. Nil

8. No. of " Inflammation of eyes " however slight .. .. Nil

9. No. of infants not entirely breast fed whilst in the institution, with reasons why not breast fed 21

Milk insufficient	5
Mother's condition not suitable for breast feeding	4
Infant losing weight	4
Mother suffering from albuminuria	3
,, ,, ,, anæmia	3
Premature infant	1
Baby going into a Home, and mother going abroad	1

10. No. of maternal deaths, with causes .. .. Nil

11. No. of fœtal deaths (Stillborn or within 10 days of birth) and their causes and the results of the post-mortem examinations, if obtainable 12

(*a*) Stillbirths	7
(*b*) Deaths within 10 days of birth	5

No post-mortem examinations were made.

Control of Midwives.

84 notifications of their intention to practise within the Borough were received from midwives during the year, of these, 11 were from midwives engaged at the Haslam Maternity Home.

	Trained	Untrained.	Total.
No. of midwives	70	14	84
No. of cases delivered	2541	294	2835
Av. No. of cases per midwife ..	36	21	33
No. of calls for medical aid	372	18	390
Per cent. of cases in which medical aid was sought	14%	6%	13%

No. on the Register at the beginning of the year	69
No. who ceased to practise in Bolton	7
No. who notified their intention to practise in Bolton for the first time	15
No. on the Register at the end of the year	77
Names voluntarily removed from Roll	2

The following 484 notifications were received from the midwives in accordance with the regulations of the Central Midwives' Board :—

Medical assistance	390

Conditions for which Doctors were Summoned in an Emergency by Midwives.

Pregnancy.		34
Abortion or threatened abortion	18	
Ill-health	8	
Ante-partum hæmorrhage	2	
Deformity or stunted growth	2	
Alarming prostration	2	
Excessive sickness	2	

LABOUR		252
Delayed, complicated or obstructed labour	108	
Ruptured perineum	76	
Malpresentation	21	
Retained placenta	18	
Placenta prævia	9	
Excessive bleeding	6	
Albuminuria	7	
Threatened heart failure	7	
PUERPERIUM		18
Rise of temperature	13	
Post-partum hæmorrhage	4	
Prolapse of bladder	1	
INFANTS		86
Feebleness, etc.	34	
Inflammation of eyes	22	
Prematurity	13	
Malformation	10	
Convulsions	7	
		390
Stillbirths		46
Artificial feeding		33
Death of mother or child		9
Laying out of dead body		3
Liability to be a source of infection		3

2835 cases out of a total of 3306 births were attended by midwives.

The Local Authority neither employs nor subsidises any practising midwives.

COST OF MEDICAL AID SENT FOR BY MIDWIVES IN 1923.

No. of calls for Medical Aid			390
No. of Doctors' fees payable by Local Supervising Authority ..			88
Gross amount paid by Local Supervising Authority	£153	1	6
No. of such fees or part thereof recoverable from patients.. ..			14
Amount recoverable from patients	£18	12	6
Net amount to be paid by Local Supervising Authority for Medical Aid to Mothers and Infants at time of confinement	£134	9	0

The midwives show themselves, with very few exceptions, most ready to carry out loyally the instructions of the Public Health Department. The inspection of the midwives is now mainly carried out by Dr. Evelyn Brown, the medical officer engaged in maternity and child welfare work. In all cases, however, when there appears to be any failure to comply with the regulations of the Central Midwives' Board the midwife in question is asked to attend at the Public Health Office and is interviewed by me.

The recovery from patients whose income justifies such recovery of fees paid for medical aid summoned by midwives is a matter of extreme difficulty in Bolton, as apparently everywhere else.

It is my intention to organise in 1924 a course of lectures for midwives. I know that such a course would be very much appreciated by the midwives, and would prove most useful.

SECTION IV.

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1. Animals and Food Inspection.
2. Sale of Food and Drugs Acts.
3. Public Analyst's Report.

Report of Chief Food Inspector and Inspectors under the Sale of Food and Drugs Acts.

General Inspections.

Beasts	10435
Calves	446
Sheep	49330
Swine	9024
Store Cattle	889
Slaughter-houses	1243
Railway Sidings	72
Markets and Fairs	854
Farms	20
Shops	860

Carcases found to be Affected with Disease.

Diseases or Defects.	Examined.							Action taken.		Total.
	Cows.	Bulls.	Heifers.	Bullocks.	Calves	Sheep.	Swine.	Whole Carcases Destroyed.	Parts and Organs Destroyed.	
Tuberculosis	646	1	21	8	..	..	7	222	461	683
Pleurisy	56	3	5	4	..	..	..	..	68	68
Moribund	10	2	1	..	1	4	10	28	..	28
Hepatitis	19	..	..	1	..	..	..	2	18	20
Diarrhœa	1	..	..	..	..	..	..	..	1	1
Nephritis	4	..	..	..	..	..	1	2	3	5
Parturition	4	..	1	..	..	..	..	1	4	5
Mastitis	20	..	..	..	..	..	..	..	20	20
Echinococcus	4	..	1	..	..	..	..	..	5	5
Decomposition	..	..	..	1	1	16	..	17	1	18
Septicæmia	3	..	..	..	..	..	..	3	..	3
Emphysema	3	..	..	..	..	..	..	..	3	3
Emaciation	16	..	..	..	..	1	..	17	..	17
Fractures	9	..	..	..	..	..	..	1	8	9
Traumatism	13	..	1	1	1	2	2	3	17	20
Epilepsy	5	..	..	..	..	..	..	..	5	5
Rheumatism	2	..	..	..	..	..	..	..	2	2
Hyperæmia	2	..	..	..	..	..	1	2	1	3
Stomachic Impaction	7	..	..	..	..	..	..	..	7	7
Pericarditis	4	..	..	..	..	1	..	1	4	5
Black Quarter	1	..	..	..	..	..	..	1	..	1
Abscess	3	..	..	1	..	..	..	..	4	4
Gangrene	1	..	..	..	..	..	..	1	..	1
Actinomycosis	2	..	..	..	..	..	..	..	2	2
Septic Metritis	1	..	..	..	..	..	..	1	..	1
Immaturity	..	..	..	..	5	..	..	5	..	5
Jaundice	..	..	..	..	1	..	..	1	..	1
Peritonitis	2	..	..	..	..	..	1	1	2	3
Diamonds	..	..	..	..	..	..	1	..	1	1
Pneumonia	..	..	..	..	1	..	..	..	1	1
Total	838	6	30	16	10	24	23	309	638	947

Food Destroyed.

	No.	Tons.	Cwts.	Qrs.	lbs.
Beef	—	3	16	1	10
Mutton	—	—	2	2	9
Pork and Bacon ..	—	—	—	3	16
Fish	—	1	8	1	25
Fruit	—	1	19	1	6
Vegetables	—	—	11	1	—
Corned Beef ..	—	—	4	1	23
Tinned Food ..	—	—	4	—	1
Offal	—	1	4	3	18
Veal	—	—	—	—	10
Rabbits	154	—	—	—	—
Eggs	1155	—	—	—	—

Farm Visitation.

No. of farms visited	20
,, cows examined	521

Owing to the prevalence of foot and mouth disease in close proximity to our district, farm visitation has been partially suspended.

Contagious Diseases of Animals.

Foot and Mouth Disease.

No outbreak of this disease occurred within the borough. In respect to outbreaks in districts adjoining Bolton, a number of regulations were made by the Ministry of Agriculture and Fisheries requiring the issue of licenses by this department for the movement of animals.

Parasitic Mange.

Two suspected cases of this disease were reported, but on investigation both cases were found not to have parasitic mange.

Rats and Mice Destruction Act, 1919.

Close attention has been paid to the requirements of this Act. Visits have been made to infested premises and advice given to the occupiers. During Rat Week literature was forwarded to all persons interested, viz., farmers, corn merchants, butchers, etc., advising them as to the best methods for exterminating them.

The American Gooseberry Mildew Order of 1912.

Careful inspection has been maintained for any evidence of this disease, but during the year no cases have been detected within the Borough.

Sale of Food and Drugs Acts.

ADMINISTRATIVE RETURN OF ACTION TAKEN WITH REGARD TO SAMPLES NOT REPORTED TO BE GENUINE.

Article.	Nature of Adulteration.	Result.
Milk	1·8% added water	No action taken.
Milk	2·35% " "	No action taken.
Milk	8·0% " "	Withdrawn on payment of costs—4/-.
Milk	9·4% " "	No action taken.
Milk	8·0% deficient in fat	No action. Successive samples satisfactory.
Milk	11·0% " "	No action. Successive samples satisfactory.
Milk	11·3% " "	No action. Successive samples satisfactory.
Milk	17·7% " "	Fined £5. Costs 10/6.
Milk	1·2% added water, and 41·7% deficient in fat	Informal sample.
Milk	16·8% added water, and 3·0% deficient in fat	Fined £5. Costs 10/6.
Milk	17·4% added water, and 5·0% deficient in fat	Withdrawn on payment of costs—4/-.
Milk	3·15% milk fat .. .. 8·05% non-fatty solids .. .. 88·80% water .. .. (5·3% added water).	No action taken. Appeal to cow sample.
Milk	2·85% milk fat .. .. 7·85% non-fatty solids .. .. 89·30% water .. .. (7·6% added water). (5·0% deficient in fat).	No action taken. Appeal to cow sample.
Skimmed Milk	2·30% added water	No action taken.
Margarine ..	0·4% excess water	No action taken.
Black Beer and Raisin Wine	0·052% salicylic acid equal to 4·55 grains per pint	No action taken.
Vinegar	23·5% deficient in acetic acid	Fined £2. Costs 10/6.
Calcined Magnesia ..	64·4% excess of magnesium carbonate	Informal sample.
Calcined Magnesia ..	64·4% excess of magnesium carbonate	Fined £1. Costs 10/6.
Peppermint Cordial. ..	Contains 1·8 grains per pint of salicylic acid and 0·26 grains per pint of sulphites	No action taken.
Raspberry Cordial ..	Contains 1·26 grains per pint of salicylic acid and 0·12 grains per pint of sulphites.. ..	No action taken.
Lime Juice Cordial ..	Contains 1·44 grains per pint of salicylic acid and 2·3 grains per pint of sulphites	No action taken.
Lime Juice Cordial ..	Contains 1·40 grains per pint of salicylic acid and 0·72 grains per pint of sulphites.. ..	No action taken.
Lemon Squash	Contains 6·1 grains per pint of salicylic acid and 0·72 grains per pint of sulphites..	No action taken. Informal sample.

OFFENCES OTHER THAN ADULTERATION.

Nil.

Total Fines £13 : 0 : 0 Total Costs £2 : 10 : 0

Public Health (Milk and Cream) Regulations, 1912 and 1917.

(1) MILK AND CREAM—NOT SOLD AS PRESERVED CREAM.

	No. of Samples examined for preservative.	Number in which a preservative was reported present.
Milk	214	0
Cream	1	0

(2) CREAM SOLD AS PRESERVED CREAM.

Correct statements made	0
Incorrect statements made	0

Annual Report of the Public Analyst and Bacteriologist for the year ended December 31st., 1923.

SUMMARY.

Food and Drugs	455
Bacteriological Examinations for the M.O.H.	1191
Miscellaneous Analyses	99
Water Analyses	603
Gas Examinations	288
Total	2636

DETAILS OF FOOD AND DRUGS.

	Total.	Genuine.	Adulterated.	Per cent. Adulterated.
Milk	214	200	14	6·54
Butter	52	52	..	..
Cheese	1	1	..	..
Margarine	27	26	1	3·70
Tea	6	6	..	..
Coffee	20	20	..	..
Cocoa	16	16	..	..
Miscellaneous	119	110	9	7·56
Total	455	431	24	5·28

BACTERIOLOGICAL EXAMINATIONS.

(For the M.O.H.)

	Total	Positive.	Negative.	Doubtful.
Tuberculosis	1040	237	802	1
Diphtheria	132	24	106	2
Enteric Fever	19	3	16	..

Milk.

Total examined.	Genuine.	Adulterated.
214	200	14

The samples were all examined for the presence of preservatives and colouring matter, in all cases the result was negative.

The average composition of the milk supply (exclusive of skimmed) for the borough was :—

Milk Fat.	Non-fatty solids.	Water.
3·70	8·92	87·38 per cent.

Considering the majority of the milk is produced locally, this is quite satisfactory for a manufacturing district.

The quality of the milk supply throughout the year is shown in the accompanying table.

Month.	No. of samples.	Milk Fat.		Non-fatty-solids.	
January..	29	3·36		8·98	
February	9	3·68	3·41	8·89	8·87
March	10	3·31		8·38	
April	21	3·55		8·98	
May	1	3·55	3·80	9·15	9·03
June	50	3·91		9·05	
July	—	—		—	
August	8	3·42	3·69	8·84	8·85
September	20	3·78		8·85	
October	21	3·84		8·80	
November	9	4·36	3·83	9·13	8·87
December	24	3·69		8·86	

Butter.

Of the 52 samples examined, all proved to be genuine and of good quality. In no case was foreign fat incorporated, nor was the maximum limit for water or Boric Acid exceeded.

Margarine.

27 samples were examined, of these 1 was adulterated, this, however, contained only 0·4 per cent. of water in excess of the maximum. Beyond noting the fact, no other comment was deemed necessary.

Tea.

Rather more samples of tea have been taken this year than usual. As retailed, tea is rarely found to be adulterated, the examination being conducted by the Customs. However, occasional samples are desirable as adulteration with baked cereals has been detected in this Borough (*vide* earlier reports).

Coffee and Coffee Mixtures.

Twenty samples were submitted for examination. These, allowing the trade convention of French Coffee as a mixture of Coffee and Chicory, were all genuine.

Samples of French Coffee submitted contained 41·9 per cent. Chicory.

Cocoa.

In view of the scare of arsenic in cocoa, the principal brands were examined for the presence of this adulterant. In no case did the amount of arsenic exceed 1/200 grain per lb.

I think it may safely be assumed that the presence of arsenic found in the samples of cocoa by the County Analyst for Surrey was purely accidental and unlikely to recur.

Drugs.

11 Samples were submitted during the year, 9 of these were of good quality, satisfying, where such existed, the B.P. standard of purity.

2 samples of Calcined Magnesia were unsatisfactory, legal proceedings being instituted in the case of the official sample (see Adulterated Samples for offence).

All samples, where necessary, were examined for the presence of preservatives.

Meat Products.

No. examined.	Containing Preservative.	Per cent. of Preserved Samples.
12	11	91·7

These figures indicate the practice is very general, although in no case was the suggested limit (17·5 grs./lb. Boric Acid) exceeded.

The following table shows the amount of preservative found :—

Chicken and Ham	3·5 grs./lb.	Boric Acid.
Sausages	14·02	,, ,,
Brawn	12·4	,, ,,
Chicken Roll	4·2	,, ,,
Corned Beef	8·05	,, ,,
Sausage	2·8	
Sausage	16·4	,, ,,
Sausage	6·1	,, ,,
Luncheon Roll	6·5	,, ,,
Brawn	3·5	,, ,,
Ham and Tongue	7·98	,, ,,

OTHER FOODS.

Lemon Cake	5·4 grs./lb.	Boric Acid.
Lemon Cheese	8·82	,, ,,
Mincemeat	0·7 grs./lb.	Salicylic Acid.

CORDIALS.

No. examined.	Containing Preservative.	Per cent. of Preserved Samples.
21	13	61·9

The accompanying table shows that the limit of 1 gr./pint Salicylic Acid was exceeded in many cases, and that the addition of sulphites is very prevalent.

No. examined.	Sulphites as SO_2	Salicylic Acid.
5	0·26 gr./pint.	—
	0·80 ,,	—
	0·84 ,,	—
	0·60 ,,	—
	0·35 ,,	—
5	0·12 ,,	1·26 grs./pint.
	0·72 ,,	1·4 ,,
	2·30 ,,	1·44 ,,
	0·26 ,,	1·8 ,,
	0·72 ,,	6·1 ,,
3	—	0·9 ,,
	—	0·9 ,,
	—	1·0 ,,

Adulterated Samples.

	Fat.	Non-fatty Solids.	Water.	
14 Milks	1·75	8·40	89·85	41·7% deficient in fat, and 1·2% added water.
	2·66	8·94	88·40	11·3% deficient in fat.
	2·67	8·94	88·39	11·0% ,, ,,
	2·76	8·72	88·52	8 ·0% ,, ,,
	2·85	7·02	90·13	5·0% ,, ,, and 17·4% added water.
	3·35	7·82	88·83	8·0% added water.
	2·91	7·07	90·02	3·0% deficient in fat, and 16·8% added water.
	2·47	9·09	88·44	17·7% deficient in fat.
	3·50	8·35	88·15	1·8% added water.
	3·85	8·30	87·85	2·35% ,, ,,
	3·67	7·70	88·63	9·4% ,, ,,
	3·15	8·05	88·80	5·3% ,, ,,
	2·85	7·85	89·30	7·6% ,, ,, and 5·0% deficient in fat.
Skimmed ..	3·90	8·50	87·60	2·3% added water.

1 Margarine .. .. 0·4 per cent. excess water.

1 Black Beer and Raisin Wine .. 4·5 grs./pint Salicylic Acid.

5 Cordials	Sulphites as SO_2	Salicylic Acid.
	0·12 gr./pint.	1·26 grs./pint.
	0·72 ,,	1·40 ,,
	2·30 ,,	1·44 ,,
	0·26 ,,	1·80 ,,
	0·72 ,,	6·10 ,,

1 Vinegar.. .. .. 23·5% deficient in Acetic Acid.

*1 Calcined Magnesia .. 64·4% excess of Magnesium Carbonate.

*1 Calcined Magnesia .. 64·4% ,, ,, ,, ,,

*(These are the same consignment, being Informal and Official samples).

PRESCRIPTIONS EXAMINED UNDER THE NATIONAL INSURANCE SCHEME.

28 prescriptions were examined to determine the accuracy of the dispenser, the results are formulated in the following table.

I am of opinion that the error should not exceed 10% in the case of ordinary non-poisonous drugs, but in the case of powerful specifics the error should be much less than this, and each should be considered on its merits.

	Determination required.	Amount prescribed per 8 fl. ozs.	Found.	Per cent. error.
1	Caffeine Citrate ..	..80 drs. = 5·18 gms.	5·19 gms.	+ 0·2
2	,, ...	,, ,,	5·05 ,,	— 2·7
3	,, ...	,, ,,	5·18 ,,	0
4	,, ...	,, ,,	5·57 ,,	+ 7·7
5	Phenazone ..	.. ½ oz. = 15·55 gms.	5·60 ,,	—64·0
6	,, ...	,, ,,	15·49 ,,	— 0·4
7	,, ...	,, ,,	4·32 ,,	—72·3
8	,, ...	,, ,,	13·11 ,,	—15·7
9	Potassium Iodide	.. ½ oz. = 15·55 gms.	14·73 ,,	— 4·67
10	,,	.. ,, ,,	15·90 ,,	+ 2·60
11	,,	.. ,, ,,	15·88 ,,	+ 2·4
12	,,	.. ,, ,,	15·81 ,,	+ 2·0
13	Bismuth Carbonate	..2½ drs. = 9·75 gms.	7·82 ,,	—19·8
14	,,	.. ,, ,,	9·43 ,,	— 3·3
15	,,	.. ,, ,,	9·60 ,,	— 1·6
16	,,	.. ,, ,,	9·75 ,,	0
		Amount prescribed per ½ fl. ozs.		
17	Bismuth Carbonate	..10 grs. = ·648 gms.	0·618 ,,	— 4·6
18	,,	.. ,, ,,	0·591 ,,	— 8·8
19	,,	.. ,, ,,	0·428 ,,	—34·0
20	,,	.. ,, ,,	0·637 ,,	— 1·7
21	,,	.. ,, ,,	0·483 ,,	—25·5
22	,,	.. ,, ,,	0·603 ,,	— 6·9
23	Sodium Salicylate	.. ,, ,,	0·630 ,,	— 2·8
24	,,	.. ,, ,,	0·655 ,,	+ 1·1
25	,,	.. ,, ,,	0·638 ,,	— 1·6
26	,,	.. ,, ,,	0·664 ,,	+ 2·4
27	,,	.. ,, ,,	0·599 ,,	— 7·6
28	,,	.. ,, ,,	0·552 ,,	—14·8

MISCELLANEOUS EXAMINATIONS (99) of varied character have been undertaken for various Departments of the Corporation.

For the M.O.H.	16 Milks for Bacteriological Examination.
	6 Waters for purity.
	7 Effluents to determine whether or not such effluent constitutes a nuisance, or if such effluent is suitable for turning into a stream.
	5 Mussels for cleanliness.
	4 Urines.
	5 Drugs for purity.
	11 Shaving Brushes for Anthrax.
For the Police	6 Samples of Beer.
	1 ,, ,, Chocolates.
For the Scavenging Dept.	1 Sample of Fish Meal.
For the Water Engineer ..	Investigations on Precipitants and on problems arising from water matters such as stains on materials, etc.
For the Coroner	Examination of Medicine to determine accuracy of the dispensing.

SECTION V.

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1. Sanitary Work.

2. Baths.

Abstract of Work Done during 1923.

General Inspections.

Houses	16906
Newly-infected houses	721
Schools	90
Common lodging-houses	866
Houses-let-in-lodgings	1031
Factories	530
Workshops	563
Workplaces	419
Bakehouses	535
Offensive trades	156
Dairies, cowsheds, and milk-shops	630
Conversion of Closets	5210
Drains	1923
Miscellaneous	1497

Smoke.

Observations taken	601
Nuisances reported	13
Prosecutions	—

Nuisances Found.

Houses, workshops, cowsheds, etc. needing limewashing	1241
Houses overcrowded	22
House roofs, walls, floors, etc., in bad repair	852
Insan. or insufficient closet accommodation	2500
Ashpits or pails in bad repair	349
Defective or choked drains	614
Yards in bad repair	205
Animals kept as a nuisance	102
Miscellaneous	780

Action Taken.

Letters written	753
Informal notices served	1499
Verbal notices	789
Legal notices served	1628

NUISANCES ABATED.

Houses, etc., limewashed	1149
Overcrowding abated	22
House roofs, etc., repaired	559
Eaves gutters and downspouts repaired	395
Closets converted	1633
Ashpits or pails repaired	403
Drains reconstructed (excluding closet conversion)	126
Drains opened, trapped or repaired	496
Yards repaired or flagged	185
Miscellaneous repairs	321
Miscellaneous nuisances abated	516

DISINFECTIONS.

Houses disinfected	892
Articles disinfected	4752
Articles destroyed	223

FOOD AND DRUGS.

Samples taken	455
Samples adulterated	24
Prosecutions	6

COMPLAINTS.

From Public	292
From Factory Inspector	30
Reports on complaints to Factory Inspector	22

PLACES UNDER INSPECTION.

Common lodging-houses	38
Houses-let-in-lodgings	43
Factories	319
Factory Chimneys	250
Workshops and Workplaces	755
Bakehouses	277
Outworkers' Premises	34
Offensive Trades	25
Slaughterhouses	44
Cowsheds	314
Milkshops	220
Public Sanitary Conveniences	18
Travelling Vans	45

Housing.

The housing question attracts, and quite justly, so much attention that the following figures will be found instructive and interesting.

	1901	1911	1921	1923
Population	168215	180851	178683	182200
Inhabited houses	35995	40550	41828	43605
Uninhabited houses	1624	1325	647	299
Population per house	4·6	4·3	4·27	4·19
Persons per room	—?	—?	·98	
Rooms per person	—?	—?	1·01	
Persons per family	4·65	4·39	4·13	
Married male population	28553	32446	35951	
Married female population	29241	33558	36544	
Percentage of population consisting of married males	16%	17%	20%	
Percentage of male population married..	36%	38%	43%	
Percentage of female population married	32%	35%	38%	
Widowed male population	2505	2897	3045	
Widowed female population	6544	7106	7895	

The following facts are made evident by the above figures :—

(1) The population per house was, in 1923, less than at any previous time in Bolton of which we have records.

(2) The shortage of houses is due to the fact that since the conclusion of the Great War the population of Bolton contains a much larger percentage of married people than at any previous period. The short-lived boon at the close of the war was probably its cause of the unusual number of marriages. It was a temporary factor, and its force is diminishing every year.

Attention is drawn every now and then to cases of over-crowding in Bolton, and many people infer that such cases are specially striking instances of an overcrowding which is general throughout the town. Such an inference is entirely wrong. The population as a whole has more house room than it ever had before ; but family groups find it much harder to get houses than they did before the war. This is the sense in which there is a house shortage in Bolton. Cases of overcrowding will occur here and there no matter how many houses are provided.

Nothing in these remarks must be taken to mean that more houses are not required. They are required, and very badly. It is very bad for married couples to have to live in someone else's house.

How many houses are needed? I do not know. No one knows. When another thousand houses have been provided it will perhaps be worth while endeavouring to make a fresh estimate.

The houses provided in 1923 were as follows :—

NEW HOUSES CERTIFIED, 1923.

In Old Borough	14
Great Lever	5
Tonge (Assisted Housing Scheme—30)	36
Astley Bridge	8
Smithills	19
Hulton	6
Darcy Lever-cum-Breightmet	21
Deane-cum-Lostock	9
Heaton	23
Total	141

Of the above houses, 111 were provided by private enterprise and of these 4 were subsidy houses. 30 houses were erected by the Corporation on the Firwood Estate.

The houses in course of construction on December 31st, 1923, were as follows :—

Subsidy houses	148
Others	84

On the 31st December, 1923, plans had been approved for the following houses, but their construction had not been begun :—

Subsidy houses	110
Others	84

Unhealthy Areas.

The following areas were represented to the Local Authority some years ago with a view to Improvement Schemes under Part II of the Housing of the Working Classes Act, 1890. These schemes involve the demolition of 314 houses. It is not possible to carry out these schemes at present, but it is extremely desirable that the work should be got in hand as soon as possible.

Name of Area.	Approx. Acreage.	No. of working-class houses in area.
Top o'th'Lane	$\frac{1}{8}$	9
Pleasant View	$\frac{5}{16}$	11
Maze Street	$1\frac{1}{4}$	12
Egyptian Street	$2\frac{7}{8}$	63
Aspden Street	$\frac{3}{8}$	12
Gerrards Square	$\frac{1}{2}$	11
Rothwell Street	$\frac{7}{8}$	28
Sidney Street	$\frac{7}{8}$	25
Green Street	$\frac{1}{4}$	10
Barlow Row	$\frac{1}{2}$	16
Garden Street	$\frac{9}{16}$	19
Kestor Street	$\frac{3}{4}$	22
Edges Court	$\frac{1}{4}$	7
Bolling Street	1	16
Ormrod Street	$\frac{5}{8}$	39
Stable Row	$\frac{7}{16}$	14

1.—Unfit Dwelling-houses.

Inspection.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).. ..	5578
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	480
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	—
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation..	1818

2.—Remedy of Defects without Service of formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	848

3.—Action under Statutory Powers.

A. *Proceedings under section 28 of the Housing, Town Planning, &c., Act*, 1919.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	57
(2) Number of dwelling-houses which were rendered fit—	
(*a*) by owners	58
(*b*) by Local Authority in default of owners	—
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	—

B. *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	947
(2) Number of dwelling-houses in which defects were remedied—	
(*a*) by owners	943
(*b*) by Local Authority in default of owners	—
C. *Proceedings under section* 17 *and* 18 *of the Housing, Town Planning, &c., Act,* 1909	—

Closet Accommodation.

The replacement of privy middens by fresh-water closets has proceeded most satisfactorily during 1923. The number of these conversions during 1923 has been nearly double that of any previous year. The grant in aid made by the Corporation has proved most useful, and the work has been carried out with very little friction. It would be difficult to over-estimate the gain in comfort to the inhabitants from these conversions.

During the year 1923 there were 1,011 conversions of privy-middens or pails into fresh-water closets in the Old Borough and 560 in the Added Area, a total of 1,571 fresh-water closets provided in 1923.

From 1899-1923 inclusive, 12,482 closets have been converted at a cost to the Corporation of £27,306, and replaced by water-closets, and 330 privy middens and pails have been demolished. In new houses during the same period, 9,313 water-closets have been provided.

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

	Privy-middens.		Pails.	
District.	1898	1923	1898	1923
Old Borough	12740	4197	6782	6196
Added Area	7581	3982	22	38
Extended Borough	20321	8179	6804	6234

In the Old Borough in 1898 the numbers were :

Privy-middens and Pails	19522
Water-closets	7587

At present the numbers are :

Privy-middens and Pails	10393
Water-closets	19330

Privy Middens and Pails converted or demolished in previous years.

Year	Old Borough		Added Area		Total	
	P.M.	Pail	P.M.	Pail	P.M.	Pail
1908	534	36	178	..	712	36
1909	617	102	268	..	885	102
1910	330	37	188	1	518	38
1911	303	19	221	7	524	26
1912	566	22	286	..	852	22
1913	460	16	270	..	730	16
1914	346	35	224	..	570	35
1915	141	13	75	..	216	13
Little was done in this direction during the years of the War.						
1920	65	6	15	..	80	6
1921	103	19	132	..	235	19
1922	240	15	199	..	439	15
1923	972	45	561	5	1533	50

Closet Accommodation, 1923.

	No. of Closets Converted or Demolished, 1923.				F.W.Cs. provided in lieu of any other type and additions in new and old houses, 1923.	Present Closet Accommodation, 1923.				Per Cent. on	
	P.M.	Pail.	W.W.C	F.W.C.	F.W.C.	P.M.	Pail.	W.W.C	F.W.C.	Dry System	Water System
Old Borough	972	45	33	..	1078	4197	6196	10904	8426	34·9	65·1
Great Lever	60	..	2	..	66	1092	..	1109	949	34·6	65·4
Tonge	217	..	3	..	261	900	..	782	1151	31·7	68·3
Astley Bridge	135	4	1	..	152	300	18	504	1243	15·3	84·7
Smithills	56	..	7	..	80	210	4	719	732	12·8	87·2
Hulton	10	1	4	..	23	407	..	592	472	27·6	72·4
Darcy Lever-cum-Breightmet ..	19	..	..	..	39	580	..	183	244	57·5	42·5
Deane-cum-Lostock	30	..	1	..	40	334	4	212	522	31·5	68·5
Heaton	34	..	1	..	58	159	12	151	553	19·5	80·5
Extended Borough	1533	50	52	..	1797	8179	6234	15156	14292	32·8	67·2

Common Lodging Houses.

The number of registered houses in the Borough is 38, providing accommodation for 1,231 persons, as compared with 57 houses, providing accommodation for 1,571 persons, in 1914.

Routine inspections are made weekly and periodical visits are paid at midnight when the lodgers have retired for the night.

The distribution of the houses is as follows :—

Ward.	Houses.	Rooms.	Beds.
Exchange	13	75	265
East	19	113	589
Church	4	41	270
Derby	2	16	75

ACCOMMODATION FOR THE SEXES.

Description.	Houses.	Males.	Females.	Couples.
Males only	28	976	..	..
Females only	1	..	18	..
Couples only	..	..	..	..
Females and Couples	1	..	8	4
Males and Couples	1	5	..	5
Males, Females and Couples	7	102	58	23
	38	1083	84	32

Houses Let-in-lodgings.

At the end of the year there were 43 houses on the Register as compared with 60 at the end of 1914.

The Ward distribution is as follows :—

	Houses.	Rooms.	Accommodation.
Exchange	19	90	232
East	12	42	125
Derby	12	47	122

The rooms let in these houses are as follows :—

1 house lets	.. ..	1 room.
2 houses let	.. ..	8 rooms.
5 „ „	.. ..	6 „
3 „ „	.. ..	5 „
23 „ „	.. ..	4 „
7 „ „	.. ..	3 „
2 „ „	.. ..	2 „

Vans, Tents, etc.

Vans inspected housed 40 males, 48 females, 37 children. During the Christmas and New Year's Fair, 42 vans were inspected on the Wholesale Market and Victoria Square. 3 vans were inspected in Gate Street.

All the vans were found to be in a clean state, and the occupants in good health.

Factories.

SANITARY ACCOMMODATION.

Number.	F.W.Cs.	Pails.	Privy Middens.
319	2348	119	66

Smoke Abatement.

There are 250 factory chimneys in use in the Borough.

During the year, 601 half-hour observations were taken, and on 14 occasions the period of permissibility was exceeded. The local standard period of permissibility (fixed by the Council in 1906) is two minutes' black smoke in the half-hour or four minutes in the hour. 13 notices of abatement were served.

Last year (1922), 512 half-hour observations were taken, resulting in 13 nuisances being reported, one firm being summoned before the Justices, who imposed a fine of £10.

The following are the details of the smoke observations during 1923 :—

In 218 half-hour observations	..	no emission.	
,, 91 ,, ,,	..	½ minute of black smoke.	
,, 203 ,, ,,	..	½ to 1 minute of black smoke.	
,, 60 ,, ,,	..	1 to 1½ ,, ,, ,,	
,, 15 ,, ,,	..	1½ to 2 ,, ,, ,,	
,, 14 ,, ,,	..	over 2 ,, ,, ,,	

Offensive Trades and Slaughterhouses.

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

OFFENSIVE TRADES AND SLAUGHTERHOUSES.

Trade.	Added Area.	West.	Halliwell.	Bradford.	Derby.	East.	Church.	North.	Rumworth.	Exchange.	TOTAL.
Tripe Boilers	1	..	..	3	..	..	1	..	..	..	5
Fellmongers and Tanners	..	1	..	1	..	..	..	..	..	..	2
Hide and Skin Depots	..	..	..	..	..	1	..	..	..	1	2
Gut Scraping	..	..	..	1	..	..	..	..	..	..	1
Blood Boiler	..	..	..	..	..	..	1	..	..	..	1
Tallow Melter	..	..	..	..	..	..	..	..	..	..	..
Soap Works	1	..	..	..	..	..	..	..	..	..	1
Chemical Works	..	..	..	..	..	1	1	..	..	..	2
Muriatic Acid Works	1	..	..	..	..	..	..	..	..	..	1
Tar and Ammoniated Sulphate Works	1	..	..	..	..	..	..	..	..	..	1
Brick Works	6	..	1	..	..	..	..	..	1	..	8
Knackers' Yard	..	..	..	..	..	..	1	..	..	..	1
Total Offensive Trades..	10	1	1	5	..	2	4	..	1	1	25
Slaughterhouses	7	4	3	20	1	1	2	1	1	4	44
Total	17	5	4	25	1	3	6	1	2	5	69

There are 44 slaughterhouses in the Borough. Of this number, 28 are private slaughterhouses and 16 at the Public Abattoirs.

Of the 28 private slaughterhouses, 8 are not used at all or are only used, occasionally, and at the Public Abattoirs 1 is let as a stable and store, 1 has been fitted up by the tenant as a pig slaughterhouse, but is not used ; 1 is let to the Public Health Department for the purpose of dealing with cases of emergency slaughter, etc., and 2 are used as cooling and sales rooms.

20	of the private slaughterhouses are	registered.
6	,, ,, ,, ,, ,	licensed.
2	,, ,, ,, ,, ,,	not known.

Animals slaughtered are divided as follows :—

Oxen, sheep and pigs	2	slaughterhouses.
Oxen and sheep	12	,,
Oxen only	9	,,
Pigs only	9	,,
	32	
Slaughterhouses not in use	9	
,, used as stable	1	
,, used as cooling and sales rooms	2	
	44	

The plans for the new extended slaughterhouses with the most modern equipment are now in active preparation and the Markets Committee hope to get the work in hand very soon.

High Street Baths. Number and Class of Bathers, 1923.

Months	No. of Weeks	Swimming Baths			Slipper Baths		Needle Baths	Vapour Baths	Contracts	Total Bathers	Corresponding period last year.
		4d.	3d.	2d.	8d.	6d.	9d.	9d.			
January	4	276	131	579	261	205	14	12	642	2120	1427
February	4	366	112	734	264	275	8	20	596	2375	2231
March	5	580	137	1276	344	323	15	23	1115	3813	4729
April	4	561	143	1103	265	325	10	29	743	3179	2984
May	5	861	230	1665	414	387	8	24	1051	4640	7275
June	4	1029	245	2091	443	482	18	29	881	5218	6670
July	4	1336	265	2993	405	432	10	17	634	6592	5053
August	5	1841	449	3981	371	365	11	20	1160	8198	8430
September	4	796	280	2371	258	249	5	16	720	4695	5853
October	5	723	367	1490	296	253	12	18	957	4116	5394
November..	4	342	192	485	185	190	7	14	695	2110	2326
December	4	205	130	352	204	190	5	10	576	1672	2057
	52	9416	2681	19120	3710	3676	123	232	9770	48728	54429

Bridgman Street Baths. Number and Class of Bathers, 1923.

Month.	No. of weeks.	Swimming Baths			Slipper Baths		Vapour Baths	Contracts	Total Bathers	Corresponding period last year.
		4d.	3d.	2d.	8d.	6d.	9d.			
January	4	405	91	585	554	331	38	144	2148	1717
February	4	579	97	871	658	320	39	285	2849	2935
March	5	768	68	1648	833	441	53	310	4121	5721
April	4	942	41	1700	603	339	36	454	4115	5602
May	5	1769	91	2773	799	524	41	1192	7189	13137
June	4	2342	153	3576	914	559	54	952	8550	12711
July	4	3929	117	7113	776	564	27	846	13372	10324
August	5	4374	259	8908	927	488	44	1552	16552	14572
September	4	2023	235	4422	632	333	25	1058	8728	9190
October	5	1558	228	2433	660	420	35	562	5896	6322
November	4	549	107	545	434	267	34	303	2239	2531
December	4	392	81	389	491	277	30	209	1869	2469
	52	19630	1568	34963	8281	4863	456	7867	77628	87231

Turkish Baths. Number and Class of Bathers, 1923.

Month	No. of weeks	Cash Tickets. Turkish Baths 1st Class	Cash Tickets. Turkish Baths 2nd Class	Cash Tickets. Slipper Baths 1st Class	Cash Tickets. Slipper Baths 2nd Class	Cash Tickets. Massage	Cash Tickets. Medicated Baths	Books of Tickets. Turkish Baths 1st Class	Books of Tickets. Turkish Baths 2nd Class	Books of Tickets. Massage	Total Bathers	Corresponding period last year.
January	4	96	79	47	58	10	1	60	32	15	398	303
February	4	119	105	47	55	14	5	70	24	8	447	359
March	5	139	137	61	88	6	3	64	27	2	527	547
April	4	109	96	47	60	12	..	52	25	8	409	418
May	5	109	128	70	72	6	1	62	16	8	472	545
June	4	105	122	47	53	8	4	69	14	22	444	461
July	4	86	64	47	43	13	2	35	8	7	305	382
August	5	96	112	62	72	8	13	67	16	18	464	512
September	4	96	107	45	46	22	4	52	8	7	387	409
October	5	166	154	59	58	30	3	69	11	2	552	555
November..	4	98	96	53	52	19	5	55	14	..	392	426
December	4	86	81	45	49	10	..	40	13	9	334	369
	52	1305	1281	631	706	158	41	695	208	106	5131	5286

SECTION VI.

Miscellaneous.

Corporation Meteorological Observatory, Queens Park, Bolton.

THOS. MIDGLEY, F.R.Met.S.

The outstanding feature of the year 1923 was the excessive rainfall, only March and June having had falls below the month's average. The year's total, 57·031″, was 13·781″ above normal, and the highest since 1877. There were 247 rainy days, or 34 more than usual. Sunshine was registered on 260 days, 7 days more than the average. The total amount, 1025·1 hours, was 11 hours above the 37 year average. The average Barometer reading, 29·876″ was one of the lowest on record, whilst the amount of cloud (0-10), 7·9, was the greatest recorded since 1887. Temperatures when averaged for the whole year differed very slightly from the normal.

Meteorological Summary for 1923.

1923	Mean Pressure of Barometer.		Mean Relative Humidity	Mean of Maximum and Minimum Temperature.	Absolute extremes of Temperature.				Sunshine			Total Rainfall
	Station Level	Sea Level			Highest	Date	Lowest	Date	Total Amount	Maximum in one day	Date	
January	29·795	30·126	93·4	42·56	51·4	2	28·9	23	26·2	5·3	20	5·067
February	29·196	29·511	88·9	40·57	53·9	1	28·4	21	29·5	7·2	4	6·269
March	29·726	30·041	83·3	43·09	63·7	27	34·3	5	65·3	7·1	17	2·063
April	29·457	29·766	78·4	43·84	59·1	4	30·3	24	104·4	11·6	22	3·714
May	29·595	29·911	80·0	45·56	72·2	3	31·1	24	153·9	11·9	17	4·312
June	29·838	30·137	77·2	50·02	67·6	9	38·2	17	125·3	13·0	2	1·453
July	29·684	29·953	81·2	60·77	86·0	13	49·6	2	151·1	11·9	6	4·867
August	29·569	29·856	80·9	56·80	76·1	5	42·4	31	127·8	10·8	4	6·033
September	29·607	29·910	82·6	52·64	71·8	30	40·4	3	110·5	7·9	10	5·056
October	29·327	29·596	84·6	47·60	62·2	1	36·5	15	62·9	7·3	4	5·872
November	29·427	29·750	84·7	41·34	55·6	3	24·5	25	43·2	5·7	7	6·249
December	29·632	29·957	92·8	38·67	48·6	17	23·4	25	25·0	4·7	23	6·076
Total	354·853	358·514	1008·0	565·46					1025·1			57·031
Averages	29·571	29·876	84·0	47·12					85·4			

The arrangements under the following headings were in 1923 exactly as stated in the report for 1922 :—

Ambulance Facilities ;

Hospitals provided by the Local Authority.

Institutional Provision for Unmarried Mothers, Illegitimate Infants, and Homeless Children ;

Professional Nursing in the home.

Examinations made at the Public Health Laboratory, Manchester, 1923.

1 .. Smear from throat swab for diphtheria.
2 .. Agglutination tests for typhoid.
14 .. Milk for tuberculosis (Inoculation).
1 .. Calf's foot jelly for food poisoning organisms.
1 .. Dog for hydrophobia.
1 .. Gland of carcase for tuberculosis.

The result of the examinations was " negative " in each case.

Antitoxins and Vaccines Supplied to Medical Practitioners, 1923.

Diphtheria Antitoxin	84 bulbs of 8,000 units.
	4 ,, ,, 4,000 ,,
	10 ,, ,, 2,000 ,,
Tetanus Antitoxin	Nil.
Influenza Vaccine	Nil.

Local Acts, General Adoptive Acts, Bye-Laws and Regulations in Force in Bolton.

LOCAL ACTS.

Bolton Improvement Act, 1854.

Bolton Improvement Act, 1865.

Bolton Corporation Act, 1872.

Bolton Improvement Act, 1877.

Local Government Board's Provisional Orders Confirmation (Abergavenny Union, &c.) Act, 1879.

Bolton Improvement Act, 1882.

Local Government Board's Provisional Orders Confirmation (No. 15) Act, 1893.

Bolton Tramways and Improvement Act, 1897.

Bolton Corporation Act, 1901.

Bolton Corporation Act, 1905.

Bolton Corporation Act, 1922.

GENERAL ADOPTIVE ACTS.

Part III.—Public Health Acts Amendment Act, 1890. (Adopted—6th May, 1891).

Part IV.—Public Health Acts Amendment Act, 1890. (Adopted—6th July, 1910).

BYE-LAWS AND REGULATIONS.

	Date made.
Slaughterhouses	13th Feb., 1867.
Common Lodging Houses	2nd Feb., 1898.
Houses Let in Lodgings	2nd Feb., 1898.
Dairies, Cowsheds and Milkshops ..	5th July, 1899.
Management, etc., of High Street Baths..	4th Feb., 1903.
Means of Escape in Cases of Fire ..	10th Sept., 1908.

Circular Letters, etc. sent out during 1923.

9/2/23. Circular letter to local hardware dealers and ironmongers giving a specification for ashbins which will satisfy the Corporation.

1/9/23. Ministry of Health Circular No. 426, dated 14th August, 1923, (Memorandum on Cancer), sent to all local medical practitioners.

24/10/23. Circular letter to local farmers, corn millers, etc., re National Rat Week.

SECTION VII.

Appendix.

List No.	Causes of Death.	Total	Sex. M.	Sex. F.	Age 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
	General Diseases.																
1	Enteric fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Relapsing fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	Mediterranean fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	Malaria	2	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..
6	Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	Measles	4	3	1	3	..	1	..	..	..	..	..	..	..	..	..	..
8	Scarlet fever	6	3	3	..	..	1	1	1	1	1	1	..	..	..	..	..
9	Whooping cough	11	7	4	6	4	..	1	..	..	..	..	..	..	..	..	..
10	Diphtheria	10	4	6	2	..	1	2	..	4	..	..	..	..	..	..	..
11	Influenza	94	40	54	3	..	..	1	..	3	..	5	6	5	9	6	5
	(a) 1. With pneumonic complications	45	23	22	..	..	..	1	..	..	..	1	5	4	8	3	3
	(a) 2. With other pulmonary complications	15	5	10	..	..	..	..	..	..	..	2	..	..	..	..	..
	(b) 1. With non-pulmonary complications	17	8	9	..	..	..	..	..	1	..	2	1	1	1	1	1
	(b) 2. Without stated complication	17	4	13	3	..	..	..	..	2	..	..	..	..	..	2	1
12	Miliary fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	Mumps	2	1	1	1	..	..	..	..	1	..	..	..	..	..	..	..
14	Asiatic cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	Cholera nostras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	Yellow fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	Spirochætosis ictero-hæmorrhagica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	Erysipelas	4	2	2	..	..	..	..	..	..	..	..	1	..	..	..	..
22	Acute poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	Encephalitis lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	Meningococcal meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	Other epidemic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	Glanders	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	Rabies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	Mycoses	2	2	..	1	..	..	..	..	..	..	..	..	..	1	..	..
	(1) Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other mycosis	2	2	..	1	..	..	..	..	..	..	..	..	..	1	..	..
31–37	Tuberculosis (all forms)	204	105	99	4	6	2	2	1	6	8	21	19	23	12	15	16
31	Respiratory system	157	82	75	..	..	..	..	..	1	3	14	15	22	9	14	14
32	Nervous system	13	7	6	2	3	..	2	1	..	3	2	..	..	..	..	..
33	Intestines and peritoneum	12	7	5	2	..	..	..	..	3	..	2	1	1	1	1	1
34	Vertebral column	5	2	3	..	..	..	..	..	..	1	..	1	..	2	..	..
35	Joints	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
36	Other organs	5	3	2	..	1	1	..	..	..	..	2	..	..	..	..	..
	(a) Skin and subcutaneous tissue	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	(b) Bones (vertebral column excepted)	2	2	..	..	..	1	..	..	..	..	1	..	..	..	..	..
	(c) Lymphatic system (abdominal glands excepted)	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
	(d) Genito-urinary system	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..
	(e) Others in 36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37	Disseminated tuberculosis	11	4	7	..	1	1	..	..	2	1	1	2	..	..	..	1
	(a) Acute	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..
	(b) Chronic or unstated	10	4	6	..	1	1	..	..	2	1	1	1	..	..	..	1
38	Syphilis	5	4	1	4	..	..	..	..	..	..	..	..	..	..	..	..
39	Soft chancre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	Gonococcal infection	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
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3	4	..	4	4	..	..	1	44	3	2	10	..	..	6	3	5	1	7	1	1	..	3	..	..	3
4	1	2	1	2	..	..	..	15	4	..	1	1	..	2	..	1	..	1	1	..	..	4	..	..	..
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17	7	3	1	..	..	..	15	189	9	30	27	10	5	21	11	10	3	18	4	2	12	19	5	6	12
15	6	3	1	..	..	..	..	157	7	22	22	6	4	16	10	6	3	13	2	2	9	18	4	5	8
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TABLE

CAUSES OF

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
41	Purulent infection, septicæmia	3	2	1	..	..	..	..	..	..	..	..	1	1	..	1	..	
	1. Vaccinia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	2. Other forms	3	2	1	..	..	..	..	..	..	..	..	1	1	..	1	..	
42	Other infectious diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
1–42	Epidemic, Endemic and Infectious diseases	347	175	172	24	10	5	7	2	15	9	27	27	30	22	23	21	3
43–49	Cancer, Malignant disease	214	101	113	..	..	..	..	..	..	1	..	..	1	1	1	10	2
43	Buccal cavity	23	21	2	..	..	..	..	..	..	..	..	..	..	..	..	..	
44	Pharynx, œsophagus, stomach, liver, and annexa	69	34	35	..	..	..	..	..	..	..	..	..	..	..	..	2	
45	Peritoneum, intestines, and rectum	27	14	13	..	..	..	..	..	..	..	..	..	1	..	..	1	
46	Female genital organs	26	..	26	..	..	..	..	..	..	..	..	..	..	1	1	2	
47	Breast	20	..	20	..	..	..	..	..	..	..	..	..	..	..	..	3	
48	Skin	6	2	4	..	..	..	..	..	..	..	..	..	..	..	..	1	
49	Other or unspecified organs	43	30	13	..	..	..	..	..	..	1	..	..	..	..	..	1	
50	Tumours, not returned as malignant (brain and female genital organs excepted)	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	
51	Rheumatic fever	13	8	5	..	..	..	..	..	..	3	..	..	1	1	2	1	
52	Chronic rheumatism, osteo-arthritis, gout	17	4	13	..	..	..	..	..	..	..	..	..	..	..	..	1	
	1. Chronic rheumatism, chronic arthritis	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
	2. Rheumatoid and osteo-arthritis	14	2	12	..	..	..	..	..	..	..	..	..	..	..	..	1	
	3. Gout..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
53	Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
54	Pellagra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
55	Beri-beri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
56	Rickets	8	4	4	1	4	2	..	..	1	..	..	..	..	..	..	..	
57	Diabetes	28	11	17	..	..	..	..	..	..	1	2	1	1	1	1	1	
58	Anæmia, chlorosis	19	5	14	..	..	..	..	..	..	..	..	..	..	1	1	1	
	(a) Pernicious anæmia	16	5	11	..	..	..	..	..	..	..	..	..	..	..	1	1	
	(b) Other anæmias and chlorosis ..	3	..	3	..	..	..	..	..	..	..	..	..	..	1	..	..	
59	Diseases of the pituitary gland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
60	Diseases of the thyroid gland	5	1	4	..	..	..	..	..	..	..	1	2	1	..	..	..	
	(a) Exophthalmic goitre..	3	..	3	..	..	..	..	..	..	..	..	1	1	..	..	..	
	1. Myxœdema	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	
	(b) 2. Cretinism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	3. Other diseases of the thyroid gland	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	
61	Diseases of the parathyroid glands ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
62	Diseases of the thymus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
63	Diseases of the adrenals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
64	Diseases of the spleen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
65	Leukæmia, lymphadenoma	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
66	Alcoholism (acute or chronic)	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
67	Chronic poisoning by mineral substances	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
68	Chronic poisoning by organic substances	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
69	Other general diseases	3	1	2	..	..	..	..	..	..	..	..	..	..	..	3	..	
	1. Purpura	3	1	2	..	..	..	..	..	..	..	..	..	..	..	3	..	
	2. Hæmophilia..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	3. Other diseases included under 69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Total General Diseases	657	311	346	25	14	7	7	2	16	14	30	30	34	26	31	3[illegible]	

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	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	..	..	..	..	..	..	..	3	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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28	15	7	9	8	3	1	48	299	20	41	53	12	6	38	16	25	4	34	7	4	16	34	6	13	18
33	41	35	15	18	5	1	..	214	6	17	27	12	11	28	6	13	7	28	2	1	12	19	3	8	14
2	4	5	..	3	..	..	..	23	..	5	3	2	4	1	..	..	1	2	..	..	1	1	1	1	1
11	16	11	9	7	4	..	..	69	1	3	6	6	5	10	4	3	3	9	1	..	7	4	..	2	5
2	6	8	2	..	..	..	..	27	1	3	2	..	1	5	2	3	..	3	..	1	..	1	1	2	2
5	5	2	..	..	..	..	..	26	..	2	7	2	..	4	..	1	..	1	..	..	1	5	1	..	2
5	2	1	1	..	..	..	..	20	..	2	3	1	..	1	..	1	1	3	1	..	1	4	..	1	1
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7	8	8	2	6	1	..	..	43	4	2	3	1	1	6	..	4	2	9	..	..	2	4	..	2	3
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1	4	3	2	2	..	1	..	17	2	1	3	1	..	3	1	1	..	..	..	..	1	1	..	..	3
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1	4	3	1	1	..	1	..	14	1	1	2	1	..	3	1	..	..	..	..	..	1	1	..	..	3
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1	5	3	6	1	..	..	..	28	1	1	1	1	1	6	1	2	1	2	..	..	3	6	1	1	..
2	2	1	3	..	2	..	..	19	..	1	..	..	..	2	..	1	..	3	..	1	1	8	..	1	1
2	2	1	2	..	1	..	..	16	..	1	..	..	..	2	..	1	..	1	..	1	1	7	..	1	1
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68	67	51	36	29	10	3	55	602	31	62	92	26	20	82	24	44	12	72	9	7	33	71	10	26	36

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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 5
	Diseases of the Nervous System and Sense Organs.																	
70	Encephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
71	Meningitis	8	2	6	1	..	3	2	1	1	..	..	..	..	..	..	..	
72	Tabes dorsalis (locomotor ataxy) ..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
73	Other diseases of the spinal cord ..	5	2	3	..	..	..	..	..	..	1	..	1	..	..	..	..	
74	Cerebral hæmorrhage, apoplexy, etc.	148	60	88	1	..	..	..	..	..	..	..	..	..	..	1	3	
	(a) 1. Cerebral hæmorrhage, so returned	119	43	76	1	..	..	..	..	..	..	..	..	..	..	..	3	
	(a) 2. Apoplexy, lesion unstated	10	7	3	..	..	..	..	..	..	..	..	..	..	..	1	..	
	(b) 1. Cerebral embolism	7	2	5	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(b) 2. Cerebral thrombosis.. ..	12	8	4	..	..	..	..	..	..	..	..	..	..	..	..	..	
75	Paralysis of unstated origin	16	10	6	..	..	..	..	..	..	..	..	..	..	..	..	1	
	(a) Hemiplegia	14	10	4	..	..	..	..	..	..	..	..	..	..	..	..	1	
	(b) Other forms of paralysis	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
76	General paralysis of the insane	10	9	1	..	..	..	..	..	..	..	..	..	..	1	..	..	
77	Other forms of insanity	5	3	2	..	..	..	..	..	..	..	..	..	..	..	..	1	
78	Epilepsy	9	4	5	..	..	..	..	..	..	..	1	1	..	2	..	1	
79, 80	Convulsions (non-puerperal)	27	19	8	21	3	2	..	1	..	..	..	..	..	..	..	..	
81	Chorea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
82	Hysteria and neuritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
83	Cerebral softening	4	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
84	Other diseases of the nervous system	12	7	5	..	..	..	..	..	..	1	..	..	1	..	1	1	
	(1) Idiocy, imbecility	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(2) Cerebral tumour	6	1	5	..	..	..	..	..	..	1	..	..	..	..	1	..	
	(3) Disseminated sclerosis	2	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
	(4) Paralysis agitans	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(5) Other diseases included under 84	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
85	Diseases of the eye and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
86	Diseases of the ear and of the mastoid sinus	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	
	(1) Diseases of the mastoid sinus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(2) Diseases of the ear	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	
	Total Diseases of the Nervous System and Sense Organs ..	248	123	125	25	3	5	2	2	1	2	1	2	1	3	2	7	
	Diseases of the Circulatory System.																	
87–90	Heart diseases	319	141	178	2	..	..	..	..	2	4	4	4	8	6	18	13	
87	Pericarditis	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
88	Acute endocarditis and myocarditis ..	5	4	1	..	..	..	..	..	..	1	..	..	1	..	1	..	
	(1) Infective endocarditis	3	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..	
	(2) Other acute endocarditis	2	2	..	..	..	..	..	..	..	1	..	..	1	..	..	..	
	(3) Acute myocarditis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
89	Angina pectoris	9	9	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
90	Other diseases of the heart..	303	126	177	2	..	..	..	..	2	3	4	4	7	6	17	12	
	(1) Aortic valve disease	7	4	3	..	..	..	..	..	..	..	..	..	..	..	..	1	
	(2) Mitral valve disease	75	27	48	..	..	..	..	..	1	2	..	1	2	1	6	4	
	(3) Aortic and mitral valve disease..	6	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(4) Other or unspecified valve disease	95	39	56	1	..	..	..	..	1	1	4	3	5	4	6	5	
	(5) Fatty heart	11	4	7	..	..	..	..	..	..	..	..	..	..	..	1	..	
	(6) Cardiac dilatation, cause unspecified	15	6	9	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(7) Other or unspecified myocardial disease	85	39	46	1	..	..	..	..	..	..	..	..	..	..	3	2	
	(8) Disordered action of the heart ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(9) Heart disease (undefined) ..	8	3	5	..	..	..	..	..	..	..	..	..	..	1	1	..	

									WARD.																
55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
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..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..
..	..	..	..	..	..	..	..	5	..	..	2	..	..	..	..	1	..	..	..	1	1	..	..	..	..
14	21	31	29	20	7	2	1	147	5	12	25	7	5	17	8	8	6	13	4	2	8	18	2	2	6
12	16	26	24	15	6	1	1	118	3	10	15	6	5	12	8	8	5	11	2	2	6	16	2	2	6
..	2	4	1	1	..	..	..	10	1	..	4	1	..	..	..	..	..	..	2	..	1	1	..	..	..
1	..	1	1	2	1	..	..	7	1	1	3	..	..	1	..	..	1	..	..	..	..	..	..	..	..
1	3	..	3	2	..	1	..	12	..	1	3	..	..	4	..	..	..	2	..	..	1	1	..	..	..
..	1	3	6	2	2	..	..	16	..	1	1	..	1	2	1	5	..	..	..	1	..	4	..	..	..
..	1	3	5	2	1	..	..	14	..	1	1	..	1	2	1	4	..	..	..	..	..	4	..	..	..
..	..	..	1	..	1	..	..	2	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..
..	2	..	..	..	..	..	..	10	1	3	1	1	1	2	1	..	..	..	..	..	..	..	..	..	..
2	..	1	..	..	..	..	..	5	..	1	1	..	..	1	..	1	..	..	..	..	..	..	..	..	1
..	..	1	1	..	..	..	..	9	..	..	2	2	..	..	..	2	..	1	..	..	1	..	..	1	..
..	..	..	..	..	..	..	27	..	1	3	4	3	1	1	1	..	..	1	..	1	1	8	1	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	2	..	2	..	..	..	4	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..
3	1	..	1	..	..	1	..	12	..	1	..	2	..	2	..	..	..	4	2	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	1	..	..	..	..	..	..	6	..	..	..	2	..	2	..	..	..	1	1	..	..	..	..	..	..
1	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
..	..	..	1	..	..	1	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	25	38	38	24	9	3	37	211	7	22	44	16	8	25	11	17	6	19	6	5	11	35	3	4	9
35	38	54	34	30	21	2	2	317	9	21	52	16	6	36	15	26	7	28	7	4	11	38	7	21	15
1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
..	..	..	1	..	..	..	..	5	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	2	1
..	..	..	1	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1
..	..	..	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	2	3	..	1	..	..	..	9	..	3	2	..	..	..	1	..	..	1	..	..	..	..	..	..	2
32	36	50	33	29	21	2	2	301	9	18	49	16	6	36	13	26	7	27	6	4	11	38	7	18	12
1	..	1	1	..	..	..	..	7	..	..	..	1	..	5	..	..	..	..	..	..	..	1	..	..	..
9	10	11	9	3	6	..	..	75	2	2	10	4	1	11	4	4	4	6	4	2	2	6	2	7	4
..	2	3	..	1	..	..	..	6	..	..	..	1	..	..	3	..	1	..	..	..	..	..	..	..	1
8	6	13	8	8	4	..	1	94	3	10	22	3	4	5	3	5	1	9	..	1	3	18	2	4	2
3	!	2	1	1	..	..	..	11	..	1	1	2	..	..	1	1	..	1	1	..	..	1	..	2	..
4	1	3	3	3	..	..	..	15	1	1	2	..	1	4	..	..	..	1	..	..	2	3	..	..	..
5	16	15	9	12	11	2	1	84	3	3	9	5	..	10	2	15	1	10	1	1	4	8	3	5	5
..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	1	2	1	..	..	..	8	..	1	4	..	..	1	..	1	..	..	..	..	..	1	..	..	..

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
91	Diseases of the arteries	94	52	42	..	..	..	..	..	..	..	..	..	..	..	..	1	
	(a) Aneurism	5	3	2	..	..	..	..	..	..	..	..	..	..	..	..	1	
	(b) Arterio-sclerosis	88	48	40	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(1) With record of cerebral vascular lesion	23	12	11	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(2) Without record of cerebral vascular lesion	65	36	29	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(c) Other diseases of the arteries ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
92	Embolism and thrombosis (not cerebral)	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
93	Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	4	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..	
94	Diseases of the lymphatic system (lymphangitis, etc.)	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	
95	Hæmorrhage without stated cause ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
96	Other diseases of the circulatory system	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Total Diseases of the Circulatory System	419	196	223	3	..	..	..	..	2	4	4	4	8	7	18	14	
	Diseases of the Respiratory System.																	
97	Diseases of the nasal fossæ and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
98	Diseases of the larynx..	5	3	2	1	1	1	..	..	..	1	..	..	..	..	..	..	
	(1) Laryngismus stridulus	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	
	(2) Laryngitis	3	1	2	1	1	..	..	..	..	..	..	..	..	..	..	..	
	(3) Other diseases	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	
99	Bronchitis	221	106	115	15	4	4	..	..	1	1	1	..	..	1	2	4	
	(a) Acute	57	25	32	7	2	1	..	..	1	..	1	..	..	..	..	1	
	(b) Chronic	59	31	28	..	..	1	..	..	..	..	..	..	..	..	1	1	
	(c) Not stated whether acute or chronic	105	50	55	8	2	2	..	..	..	1	..	..	..	1	1	2	
100, 101	Pneumonia (all forms)	209	114	95	55	33	10	6	2	7	2	4	3	2	3	4	5	
100	Broncho-pneumonia	122	67	55	49	28	8	5	1	1	2	..	..	..	..	1	3	
101	Pneumonia (lobar and not otherwise defined)..	87	47	40	6	5	2	1	1	6	..	4	3	2	3	3	2	
	(a) Lobar	50	26	24	..	1	1	..	..	4	..	2	2	2	2	2	1	
	(b) Not otherwise defined	37	21	16	6	4	1	1	1	2	..	2	1	..	1	1	1	
102	Pleurisy	8	4	4	..	1	..	..	..	1	..	..	..	..	1	2	..	
	(1) Empyema	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	
	(2) Other pleurisy	7	3	4	..	1	..	..	..	..	..	..	..	..	1	2	..	
103	Congestion and hæmorrhagic infarct of lung	7	3	4	2	..	..	..	..	..	..	..	..	..	..	..	..	
104	Gangrene of the lung	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
105	Asthma	10	7	3	..	..	..	..	..	..	..	..	..	..	..	2	..	
106	Pulmonary emphysema	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
107	Other diseases of the respiratory system	3	1	2	..	..	1	..	..	..	..	..	..	..	..	..	.	
	(a) Chronic interstitial pneumonia	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	.	
	(b) Diseases of the mediastinum ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	
	(c) Other diseases included under 107..	2	..	2	..	..	1	..	..	..	..	..	..	..	..	..	.	
	Total Diseases of the Respiratory System	465	240	225	73	39	16	6	2	9	4	5	3	2	5	10		

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	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
2	13	10	19	24	17	5	..	94	4	6	15	6	6	9	5	2	2	5	3	3	1	17	..	4	6
..	1	..	..	1	..	..	..	5	..	..	1	..	..	1	1	..	..	1	..	..	..	1	..	..	..
1	12	10	19	23	17	5	..	88	4	6	13	6	6	8	4	2	2	4	3	3	1	16	..	4	6
..	5	1	6	7	3	1	..	23	..	1	4	3	1	3	..	..	..	1	1	..	..	5	..	1	3
1	7	9	13	16	14	4	..	65	4	5	9	3	5	5	4	2	2	3	2	3	1	11	..	3	3
1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	1	1	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	2	..
..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
38	51	65	54	55	38	7	3	416	13	27	68	22	13	45	20	28	9	33	10	7	13	56	7	27	21
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	3	2	1	..	2	..	..	1	..	..	..	1	..	..	..	..	..	..	..
..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	2	1	..	..	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	30	39	41	33	14	7	23	198	7	18	32	8	8	25	14	19	9	31	1	2	9	19	2	9	8
2	8	12	10	6	2	1	10	47	2	3	8	1	3	9	6	1	3	7	1	1	2	2	..	3	5
6	7	12	12	9	5	2	1	58	1	9	5	2	1	7	3	5	2	6	..	1	4	7	1	4	1
6	15	15	19	18	7	4	12	93	4	6	19	5	4	9	5	13	4	18	..	..	3	10	1	2	2
15	16	14	8	7	1	..	106	103	4	25	47	11	6	21	6	6	4	27	4	2	8	28	1	6	3
4	5	7	5	3	..	..	91	31	2	16	27	5	6	13	3	3	..	15	3	..	7	16	1	3	2
11	11	7	3	4	1	..	15	72	2	9	20	6	..	8	3	3	4	12	1	2	1	12	..	3	1
7	9	4	1	2	..	..	2	48	1	5	11	1	..	6	2	2	..	10	..	1	1	7	..	2	1
4	2	3	2	2	1	..	13	24	1	4	9	5	..	2	1	1	4	2	1	1	..	5	..	1	..
..	1	..	..	..	..	..	1	7	1	..	1	..	..	..	..	1	..	1	..	..	2	1	..	1	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
..	1	..	..	..	..	..	1	6	1	..	1	..	..	..	..	1	..	1	..	..	2	..	..	1	..
1	..	..	..	3	1	..	2	5	..	..	..	..	..	4	..	..	..	..	1	..	..	2	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	2	1	..	..	..	..	..	10	..	2	1	..	..	1	..	..	..	1	..	1	..	3	..	..	1
..	1	..	..	..	1	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	1	..	..	..	1	2	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	1	..	..	..	1	1	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
32	50	54	50	43	17	7	136	329	14	46	83	19	14	53	21	26	13	61	6	5	19	53	3	16	13

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
	Diseases of the Digestive System.																
108	Diseases of the buccal cavity and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
109	Diseases of the pharynx and tonsils ..	6	3	3	..	..	..	1	..	2	..	..	..	..	..	..	..
	(1) Tonsillitis, etc., adenoid vegetations	3	2	1	..	..	..	1	..	..	..	..	..	..	..	..	..
	(2) Other diseases included under 109	3	1	2	..	..	..	..	..	2	..	..	..	..	..	..	..
110	Diseases of the œsophagus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
111	Ulcer of the stomach or duodenum ..	18	12	6	..	..	..	..	..	..	..	..	1	1	1	1	1
	(*a*) Ulcer of the stomach	12	7	5	..	..	..	..	..	..	..	..	..	1	1	..	1
	(*b*) Ulcer of the duodenum	6	5	1	..	..	..	..	..	..	..	..	1	..	..	1	..
112	Other diseases of the stomach	8	3	5	3	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Inflammation of the stomach ..	6	3	3	1	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other diseases included under 112	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..
113, 114	Diarrhœa and enteritis	63	30	33	36	6	3	1	1	1	..	..	2	..	1	..	1
	(1) Ulceration of the intestines ..	2	1	1	..	..	..	..	..	..	..	..	1	..	1	..	..
	(2) Colitis	3	2	1	1	..	1	..	..	1	..	..	..	..	..	..	..
	(3) Other diseases included under 113,114	58	27	31	35	6	2	1	1	..	..	..	1	..	..	..	1
115	Ankylostomiasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
116	Diseases due to other intestinal parasites	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
117	Appendicitis and typhlitis	20	9	11	..	..	..	1	..	2	..	1	1	1	3	..	..
118	Hernia, intestinal obstruction	21	12	9	3	2	..	..	..	..	..	..	..	..	1	..	..
	(*a*) Hernia	6	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..
	(*b*) Intestinal obstruction	15	8	7	3	2	..	..	..	..	..	..	..	..	1	..	..
119	Other diseases of the intestines ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
120	Acute yellow atrophy of the liver ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
121	Hydatid tumour of the liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
122	Cirrhosis of the liver	7	5	2	..	..	..	..	..	1	..	..	..	..	..	1	..
	(*a*) Returned as alcoholic	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(*b*) Not returned as alcoholic ..	6	4	2	..	..	..	..	..	1	..	..	..	..	..	1	..
123	Biliary calculi	3	1	2	..	..	..	..	..	..	..	..	..	..	..	..	1
124	Other diseases of the liver	5	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..
125	Diseases of the pancreas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
126	Peritonitis of unstated origin	3	1	2	..	..	1	..	..	1	..	..	1	..	..	..	..
127	Other diseases of the digestive system	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of the Digestive System	155	77	78	42	8	4	3	1	7	..	1	5	2	6	2	3
	Non-puerperal Diseases of the Genito-urinary System.																
128	Acute nephritis (including unspecified under 10 years of age)	10	5	5	..	1	..	..	..	2	..	..	..	..	1	2	
129	Chronic nephritis (including unspecified over 10 years of age) ..	65	24	41	..	..	..	..	..	..	..	3	..	..	1	3	.
130	Chyluria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
131	Other diseases of the kidneys and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
132	Calculi of the urinary passages	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.
133	Diseases of the bladder	5	5	..	..	..	..	..	..	..	..	..	..	..	..	..	.
	(1) Cystitis	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	.
	(2) Other diseases	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	.

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	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	1	..	1	..	..	..	1	5	..	..	1	1	..	..	..	..	..	..	1	..	1	1	..	1	..
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2	1	3	1	..	1	..	..	18	2	1	3	1	..	1	4	..	..	..	..	..	1	3	..	1	1
1	1	3	1	..	1	..	..	12	2	1	2	1	..	..	..	..	..	..	..	..	1	3	..	1	1
1	..	..	..	..	..	..	..	6	..	..	1	..	..	1	4	..	..	..	..	..	..	..	..	..	..
2	..	2	..	1	..	..	3	5	..	..	1	1	..	1	..	..	..	..	2	..	..	1	1	..	1
2	..	2	..	1	..	..	1	5	..	..	1	1	..	1	..	..	..	..	2	..	..	..	1	..	..
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1	2	1	2	2	..	..	47	16	2	8	11	3	5	9	2	4	1	8	..	..	3	5	1	..	1
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1	2	1	2	2	..	..	45	13	1	8	11	2	5	8	2	3	1	8	..	..	3	4	1	..	1
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1	2	3	..	..	..	..	1	19	1	2	1	1	1	2	..	3	..	1	2	1	2	1	1	..	1
1	5	2	4	1	1	..	5	16	..	1	5	1	1	2	1	1	1	2	..	2	1	3	..	..	..
..	2	2	1	..	..	..	..	6	..	1	..	..	..	1	..	..	..	1	..	1	..	2	..	..	..
1	3	..	3	1	1	..	5	10	..	..	5	1	1	1	1	1	1	1	..	1	1	1	..	..	..
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..	2	1	1	1	..	..	..	5	..	..	1	1	..	..	..	1	..	2	..	..	..	..	..	..	..
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8	15	12	12	5	2	..	58	97	5	12	28	9	7	17	8	10	2	14	5	4	8	16	4	2	4
..	1	..	1	..	..	..	1	9	..	1	..	..	..	4	..	2	..	1	..	1	1	..	..	..	..
5	12	13	11	6	2	1	..	65	2	4	15	1	3	2	2	1	2	4	2	1	3	6	4	4	9
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..	1	2	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	..
..	..	1	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
134	Diseases of the urethra, urinary abscess, etc.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
135	Diseases of the prostate	6	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
136	Non-venereal diseases of the male genital organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
137	Cysts and other tumours of the ovary not returned as malignant	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
138	Salpingitis and pelvis abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
139	Tumours of the uterus not returned as malignant	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	1
140	Uterine hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
141	Other diseases of the female genital organs	2	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..
	(1) Other diseases of the uterus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Diseases of other female genital organs not included above	2	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..
142	Non-puerperal diseases of the breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Non-puerperal Diseases of the Genito-urinary System	92	40	52	..	1	..	..	..	2	..	3	..	..	3	5	2
	The Puerperal State.																
143	Accidents of pregnancy	3	..	3	..	..	..	..	..	..	..	..	..	1	1	..	1
	(*a*) Abortion	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
	(*b*) Ectopic gestation	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..
	(*c*) Other accidents	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..
144	Puerperal hæmorrhage	4	..	4	..	..	..	..	..	..	..	..	..	1	2	..	1
145	Other accidents of childbirth	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
146	Puerperal sepsis	3	..	3	..	..	..	..	..	..	..	..	..	1	1	..	1
147	Phlegmasia alba dolens, puerperal embolism, etc.	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..
	(1) Phlegmasia alba dolens not returned as septic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Embolism and sudden death	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..
148	Puerperal albuminuria and convulsions	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
149	Childbirth not assignable to other headings (puerperal insanity)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
150	Puerperal diseases of the breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of the Puerperal State	13	..	13	..	..	..	..	..	..	..	..	..	3	5	2	3
	Diseases of the Skin and Cellular Tissue.																
151	Gangrene	6	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Senile gangrene	6	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other gangrene	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
152	Furuncle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
153	Phlegmon, acute abscess	3	1	2	..	..	..	..	..	..	..	1	..	..	..	..	..
	(1) Phlegmon	3	1	2	..	..	..	..	..	..	..	1	..	..	..	..	..
	(2) Acute abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
154	Other diseases of the skin and its annexa	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Ulcer, bedsore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Eczema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(3) Pemphigus	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	(4) Other diseases included under 154	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of the Skin and Cellular Tissue	11	5	6	2	..	..	..	..	..	..	1	..	..	..	..	..

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	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
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6	14	20	14	8	2	1	1	91	2	5	17	2	3	6	2	4	2	7	3	3	6	9	5	6	10
..	..	..	..	..	..	..	..	3	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
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..	..	2	2	1	3	..	2	9	..	..	1	1	..	2	..	1	..	1	2	..	1	1	..	1	..

TABLE
CAUSES OF

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
	Diseases of the Bones and Organs of Locomotion.																
155	Diseases of the bones	5	1	4	..	..	..	..	..	..	..	1	..	..	..	..	..
	(1) Infective osteomyelitis and periostitis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other diseases of the bones ..	4	1	3	..	..	..	..	..	..	..	1	..	..	..	..	..
156	Diseases of the joints	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..
157	Amputations..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
158	Other diseases of the organs of locomotion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of the Bones and Organs of Locomotion.. ..	6	2	4	..	..	..	..	..	..	..	1	1	..	..	..	..
159	**Malformations.**																
	(1) Congenital hydrocephalus ..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Congenital malformation of the heart	5	2	3	4	..	..	..	..	..	..	1	..	..	..	..	..
	(3) Other congenital malformations	11	8	3	11	..	..	..	..	..	..	..	..	..	..	..	..
	Total Malformations	17	11	6	16	..	..	..	..	..	..	1	..	..	..	..	..
	Diseases of Early Infancy.																
160	Congenital debility, sclerema and icterus	31	21	10	31	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Congenital debility and sclerema	30	20	10	30	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Icterus	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
161	Premature birth, injury at birth	47	26	21	47	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Premature birth	44	25	19	44	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Injury at birth	3	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..
162	Other diseases peculiar to early infancy	9	5	4	9	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Diseases of the umbilicus.. ..	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Atelectasis	7	3	4	7	..	..	..	..	..	..	..	..	..	..	..	..
	(3) Other diseases included under 162	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
163	Lack of care	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of Early Infancy ..	87	52	35	87	..	..	..	..	..	..	..	..	..	..	..	..
164	**Old Age.**																
	(1) Senile dementia	9	5	4	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other forms of senile decay ..	88	32	56	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Deaths from Old Age ..	97	37	60	..	..	..	..	..	..	..	..	..	..	..	..	..

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	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
1	..	1	1	..	..	..	..	5	..	..	1	..	1	1	..	..	..	..	1	..	..	1	..	..	..
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1	..	1	1	..	..	..	..	6	..	..	1	..	1	2	..	..	..	..	1	..	..	1	..	..	..
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..	..	..	..	..	..	..	4	1	2	..	..	..	..	1	..	..	..	1	..	..	1	..	..	..	..
..	..	..	..	..	..	..	11	..	..	..	4	2	1	..	..	1	..	2	1	..	..	..	..	..	..
..	..	..	..	..	..	..	16	1	2	..	4	2	1	1	..	1	..	3	1	..	2	..	..	..	..
..	..	..	..	..	..	..	31	..	..	5	4	1	1	2	3	..	1	3	..	1	..	6	..	2	2
..	..	..	..	..	..	..	30	..	..	5	3	1	1	2	3	..	1	3	..	1	..	6	..	2	2
..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	47	..	1	..	5	2	3	8	2	4	2	6	1	..	3	5	..	2	3
..	..	..	..	..	..	..	44	..	1	..	5	2	3	7	2	3	2	6	1	..	3	5	..	2	2
..	..	..	..	..	..	..	3	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	9	..	..	..	2	..	..	2	1	..	1	..	..	..	2	..	..	1	..
..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	7	..	..	..	2	..	..	1	..	..	1	..	..	..	2	..	..	1	..
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..	..	..	..	..	..	..	87	..	1	5	11	3	4	12	6	4	4	9	1	1	5	11	..	5	5
..	..	..	..	5	2	2	..	9	..	..	1	..	1	..	1	..	..	2	1	..	3	..	..	..	..
..	2	6	13	28	21	18	..	88	1	6	12	6	..	9	4	7	4	2	6	1	6	14	2	3	5
..	2	6	13	33	23	20	..	97	1	6	13	6	1	9	5	7	4	4	7	1	9	14	2	3	5

TABLE
CAUSES OF

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
	External Causes.																
165–174	Suicide	19	14	5	..	..	..	..	..	..	..	..	..	1	1	3	3
165, 166	By solid or liquid poisons and corrosive substances	3	1	2	..	..	..	..	..	..	..	..	..	..	1	1	..
167	By poisonous gas	7	5	2	..	..	..	..	..	..	..	..	..	1	..	1	1
168	By hanging or strangulation	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
169	By drowning	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1
170	By firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
171	By cutting or piercing instruments	5	4	1	..	..	..	..	..	..	..	..	..	..	..	1	1
172	By jumping from high places.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
173	By crushing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
174	By other means	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
175–196, 201–203	Violent deaths excluding suicide and homicide	51	35	16	..	3	2	1	1	..	3	3	1	4	3	1	2
175	Food poisoning	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
176	Poisoning by venomous animals ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
177	Other acute accidental poisonings ..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
178	Conflagration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
179	Burns (conflagration excepted)	9	2	7	..	3	1	..	..	..	1	..	..	1	..	..	..
180	Accidental mechanical suffocation ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
181	Accidental absorption of irrespirable or poisonous gas	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
182	Accidental drowning	4	4	..	..	..	..	1	..	..	..	..	..	1	..	..	..
	Accidental injury :—																
183	By firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
184	By cutting or piercing instruments	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
185	By fall	7	4	3	..	..	..	..	..	..	1	..	..	..	1	1	..
186	In mines and quarries	5	5	..	..	..	..	..	..	..	..	2	..	1	1	..	..
187	By machinery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
188	By other forms of crushing (vehicles railways, etc.)	20	14	6	..	..	..	..	1	..	1	1	1	1	1	..	2
189	Injury by animals (poisoning excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
190	Wounds of war	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
191	Execution of civilians by belligerent armies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
192	Hunger or thirst	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
193	Excessive cold	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
194	Excessive heat	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
195	Lightning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
196	Electricity (lightning excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
197–199	Homicide	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
197	By firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
198	By cutting or piercing instruments ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
199	By other means	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
201	Fractures (cause not specified)	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
202	Other external violence	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
203	Violent deaths of unknown causation..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Deaths from External Causes	70	49	21	..	3	2	1	1	..	3	3	1	5	4	4	[illegible]
	Ill-defined Diseases.																
204	Sudden death	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
205	Cause of death unstated or ill-defined	5	4	1	..	1	1	..	..	..	..	..	..	..	..	..	..
	(1) Heart failure (1—70 years) ..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other ill-defined causes	3	2	..	..	1	1	..	..	..	..	..	..	..	..	..	..
	(3) Cause not specified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Deaths from Ill-defined Diseases	6	5	1	..	1	1	..	..	..	..	..	..	..	..	..	..

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	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
									WARD.																
..	4	3	..	..	..	..	..	19	..	1	..	..	1	2	..	2	1	5	..	1	2	1	2	..	1
..	..	..	..	..	..	..	..	3	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..
..	1	1	..	..	..	..	..	7	..	1	..	..	..	1	..	1	1	1	..	..	1	1	..	..	..
..	1	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..
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..	1	1	..	..	..	..	..	5	..	..	..	..	..	1	..	1	..	1	..	..	..	..	2	..	..
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1	6	3	2	3	..	1	7	44	..	1	4	4	3	9	3	2	..	8	4	3	2	7	..	1	..
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..	..	..	1	1	..	..	4	5	..	..	..	..	2	3	..	..	..	..	..	1	1	2	..	..	..
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..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	1	1	..	..	..	..	1	3	..	..	..	..	..	2	..	..	..	1	1	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
..	1	..	..	..	..	1	..	7	..	..	1	..	..	1	..	..	..	3	..	1	..	1	..	..	..
..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	1	..	2	1	1	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	4	1	1	2	..	..	1	19	..	1	1	4	1	1	3	1	..	2	1	..	1	3	..	1	..
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..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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1	10	6	2	3	..	1	7	63	..	2	4	4	4	11	3	4	1	13	4	4	4	8	2	1	1
..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
..	1	..	..	1	..	..	2	3	..	..	1	..	..	..	1	1	..	..	..	..	..	2	..	..	..
..	1	..	..	..	..	..	..	2	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
..	..	..	..	1	..	..	2	1	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	1	1	..	1	..	..	2	4	..	..	1	..	..	..	1	1	..	1	..	..	..	2	..	..	..

TAB
CAUSES

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE 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
1–69	**General Diseases**	657	311	346	25	14	7	7	2	16	14	30	30	34	26	31	30
70–86	**Nervous System, etc.**	248	123	125	25	3	5	2	2	1	2	1	2	1	3	2	7
87–96	**Circulatory System**	419	196	223	3	..	..	..	..	2	4	4	4	8	7	18	14
97–107	**Respiratory System**	465	240	225	73	39	16	6	2	9	4	5	3	2	5	10	9
108–127	**Digestive System**	155	77	78	42	8	4	3	1	7	..	1	5	2	6	2	3
128–142	**Genito-urinary System, etc. (Non-puerperal)**	92	40	52	..	1	..	..	..	2	..	3	..	..	3	5	2
143–150	**The Puerperal State**	13	..	13	..	..	..	..	..	..	..	..	..	3	5	2	3
151–154	**Skin and Cellular Tissue**	11	5	6	2	..	..	..	..	..	..	1	..	..	..	..	..
155–158	**Locomotor System, etc.**	6	2	4	..	..	..	..	..	..	..	1	1	..	..	..	..
159	**Malformations**	17	11	6	16	..	..	..	..	..	..	1	..	..	..	..	..
160–163	**Diseases of Early Infancy**	87	52	35	87	..	..	..	..	..	..	..	..	..	..	..	..
164	**Old Age**	97	37	60	..	..	..	..	..	..	..	..	..	..	..	..	..
165–203	**External Causes**	70	49	21	..	3	2	1	1	..	3	3	1	5	4	4	5
204, 205	**Ill-defined Diseases**	6	5	1	..	1	1	..	..	..	..	..	..	..	..	..	..
	GRAND TOTAL	2343	1148	1195	273	69	35	19	8	37	27	50	46	55	59	74	7[illegible]

-Continued.

ATH, 1923. ..19..

									WARD.																	
5 to 0	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	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
8	67	51	36	29	10	3	55	602	31	62	92	26	20	82	24	44	12	72	9	7	33	71	10	26	36
9	25	38	38	24	9	3	37	211	7	22	44	16	8	25	11	17	6	19	6	5	11	35	3	4	9
8	51	65	54	55	38	7	3	416	13	27	68	22	13	45	20	28	9	33	10	7	13	56	7	27	21
2	50	54	50	43	17	7	136	329	14	46	83	19	14	53	21	26	13	61	6	5	19	53	3	16	3
8	15	12	12	5	2	..	58	97	5	12	28	9	7	17	8	10	2	14	5	4	8	16	4	2	4
6	14	20	14	8	2	1	1	91	2	5	17	2	3	6	2	4	2	7	3	3	6	9	5	6	10
..	..	..	..	..	..	..	..	13	2	1	3	..	2	..	..	3	..	1	1	..	..	..	..	..	..
..	..	2	2	1	3	..	2	9	..	..	1	1	..	2	..	1	..	1	2	..	1	1	..	1	..
1	..	1	1	..	..	..	..	6	..	..	1	..	1	2	..	..	..	..	1	..	..	1	..	..	..
..	..	..	..	..	..	..	16	1	2	..	4	2	1	1	..	1	..	3	1	..	2	..	..	..	..
..	..	..	..	..	..	..	87	..	1	5	11	3	4	12	6	4	4	9	1	1	5	11	..	5	5
..	2	6	13	33	23	20	..	97	1	6	13	6	1	9	5	7	4	4	7	1	9	14	2	3	5
1	10	6	2	3	..	1	7	63	..	2	4	4	4	11	3	4	1	13	4	4	4	8	2	1	1
..	1	1	..	1	..	..	2	4	..	..	1	..	..	..	1	1	..	1	..	..	..	2	..	..	..
73	235	256	222	202	104	42	404	1939	78	188	370	110	78	265	101	150	53	238	56	37	111	277	36	91	104

TABLE II.

Population, Births and Deaths, 1913-1923.

Year.	Population estimated to middle of each year.	Births.			Total Deaths registered in the District.		Transferable Deaths		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 year of Age.		At all ages.	
			Number.	Rate.	Number.	Rate.	of Non-residents Registered in the District.	of Residents not Registered in the Borough.	Number.	Rate per 1000 nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1913	183879	3976	3999	21·7	2564	13·9	39	370	569	142	2895	15·7
1914	185247	4076	4104	22·1	2416	13·0	60	365	485	118	2721	14·6
1915	172514	3597	3620	19·5	2390	13·8	44	367	446	123	2713	15·7
1916	169081	3053	3067	16·6	2101	12·4	64	380	320	104	2419	14·3
1917	163411	2692	2710	14·8	2149	13·1	51	379	291	107	2477	15·1
1918	160619	2736	2749	15·2	2468	15·3	51	387	291	105	2815	17·5
1919	177462	3032	3052	16·5	2380	13·4	64	336	263	86	2652	14·9
1920	184533	4182	4209	22·8	2277	12·3	74	325	416	98	2528	13·6
1921	182200	3815	3831	21·0	2038	11·1	81	392	370	96	2349	12·8
1922	182700	3384	3414	18·6	2140	11·7	81	439	319	93	2498	13·6
1923	182200	3154	3189	17·5	1996	10·9	76	423	273	85	2343	12·8

Census, 1921.

Total Population at all ages	178683
Total Families or Separate Occupiers	42635
Area of District in acres (land and water)	15280

Causes of, and Ages at—Death, 1923.

Cause of Death	Nett Deaths at the subjoined Ages of "Residents" whether occurring within or without the District.									Deaths of "Residents" and "Non-residents" in Institutions in Bolton.
	All Ages	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	
All causes — Certified	2336	271	69	62	64	96	265	684	825	240
All causes — Uncertified	7	2	..	..	..	..	2	2	1	..
Enteric Fever	..	..	..	..	..	..	..	..	..	..
Small-pox	..	..	..	..	..	..	..	..	..	..
Measles	4	3	..	1	..	..	..	..	..	..
Scarlet Fever	6	..	..	3	2	1	..	..	..	2
Whooping Cough	11	6	4	1	..	..	..	..	..	..
Diphtheria and Croup	10	2	..	3	4	..	..	1	..	5
Influenza	94	3	..	1	3	11	25	28	23	2
Erysipelas	4	..	..	..	..	1	..	2	1	2
Phthisis (Pulmonary Tuberculosis)	157	..	..	..	4	29	59	61	4	15
Tuberculous Meningitis	13	2	3	3	3	2	..	..	..	1
Other Tuberculous Diseases	34	2	3	2	7	9	7	4	..	8
Cancer, Malignant Disease	214	..	..	..	1	..	13	126	74	23
Rheumatic Fever	13	..	..	..	3	..	5	2	3	..
Meningitis	8	1	..	6	1	..	..	..	..	2
Organic Heart Disease	303	2	..	..	5	8	42	111	135	7
Bronchitis	221	15	4	4	2	1	7	54	134	2
Pneumonia (all forms)	209	55	33	18	9	7	14	43	30	8
Other Diseases of Respiratory Organs	35	3	2	2	2	..	5	14	7	3
Diarrhœa and Enteritis	63	36	6	5	1	2	2	6	5	2
Appendicitis and Typhlitis	20	..	..	1	2	2	4	8	3	24
Cirrhosis of Liver	7	..	..	..	1	..	1	3	2	2
Alcoholism	1	..	..	..	..	..	..	1	..	..
Nephritis and Bright's Disease	75	..	1	..	2	3	8	27	34	1
Puerperal Fever	3	..	..	..	..	..	3	..	..	..
Other accidents and diseases of Pregnancy and Parturition	10	..	..	..	..	..	10	..	..	7
Congenital Debility and Malformation including Premature Birth	95	94	..	..	..	1	..	..	..	5
Violent Deaths, excluding Suicide	51	..	3	4	3	4	10	18	9	35
Suicides	19	..	..	..	..	..	8	8	3	6
Other defined Diseases	657	49	9	7	9	15	44	167	357	78
Diseases ill-defined or unknown	6	..	1	1	..	..	..	2	2	..
Totals	2343	273	69	62	64	96	267	686	826	240
Sub-entries included in above figure. — Cerebro pinal Meningitis	..	..	..	..	..	..	..	..	..	1
Poliomyelitis	..	..	..	..	..	..	..	..	..	..
Lobar Pneumonia	50	..	1	1	4	4	7	26	7	6
Pneumonia	37	6	4	3	2	3	3	8	8	..

TABLE IV.

Infant Mortality During the Year 1923.

Nett Deaths from Stated Causes at Various Ages Under One Year of Age.

Causes of Death.	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 4 Weeks	1-3 Months	3-6 Months	6-9 Months	9-12 Months	Total under 1 Year
All Causes — Certified	66	25	18	9	118	45	26	45	37	271
All Causes — Uncertified	2	..	..	..	2	..	..	..	..	2
Small-pox	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	1	..	2	..	3
Scarlet Fever	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	..	..	2	1	1	2	6
Diphtheria and Croup	..	..	..	..	..	..	1	..	1	2
Erysipelas	..	..	..	..	..	..	..	..	..	..
Tuberculous Meningitis	..	..	..	..	..	..	..	1	1	2
Abdominal Tuberculosis	..	..	..	..	..	..	1	..	1	2
Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	..
Meningitis (*not tuberculous*)	..	1	..	..	1	..	..	..	..	1
Convulsions	7	1	3	..	11	2	3	2	3	21
Laryngitis	..	..	..	..	..	..	..	1	..	1
Bronchitis	..	..	2	3	5	..	3	3	4	15
Pneumonia (all forms)	..	1	..	..	1	8	7	23	16	55
Diarrhœa	..	..	3	1	4	6	2	3	2	17
Enteritis	1	4	2	..	7	7	2	3	..	19
Gastritis	..	..	..	..	..	..	..	..	..	..
Syphilis	..	..	..	..	..	2	1	..	1	4
Rickets	..	..	..	..	..	..	..	..	1	1
Suffocation	..	..	..	..	..	..	..	..	..	..
Injury at Birth	2	1	..	..	3	..	..	..	..	3
Atelectasis	6	1	..	..	7	..	..	..	..	7
Congenital Malformations	8	..	2	..	10	3	..	1	2	16
Premature Birth	26	8	3	2	39	4	..	1	..	44
Atrophy, Debility and Marasmus	12	3	2	3	20	7	3	..	..	30
Other Causes	6	5	1	..	12	3	2	4	3	24
Totals	68	25	18	9	120	45	26	45	37	273

Nett Births Registered during the year—Legitimate, 3,037 ; Illegitimate, 152.
Nett Deaths Registered during the year—Legitimate Infants, 252 ; Illegitimate Infants, 21.