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**Contributors**

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1924

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County

Borough



of Bolton.

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# ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

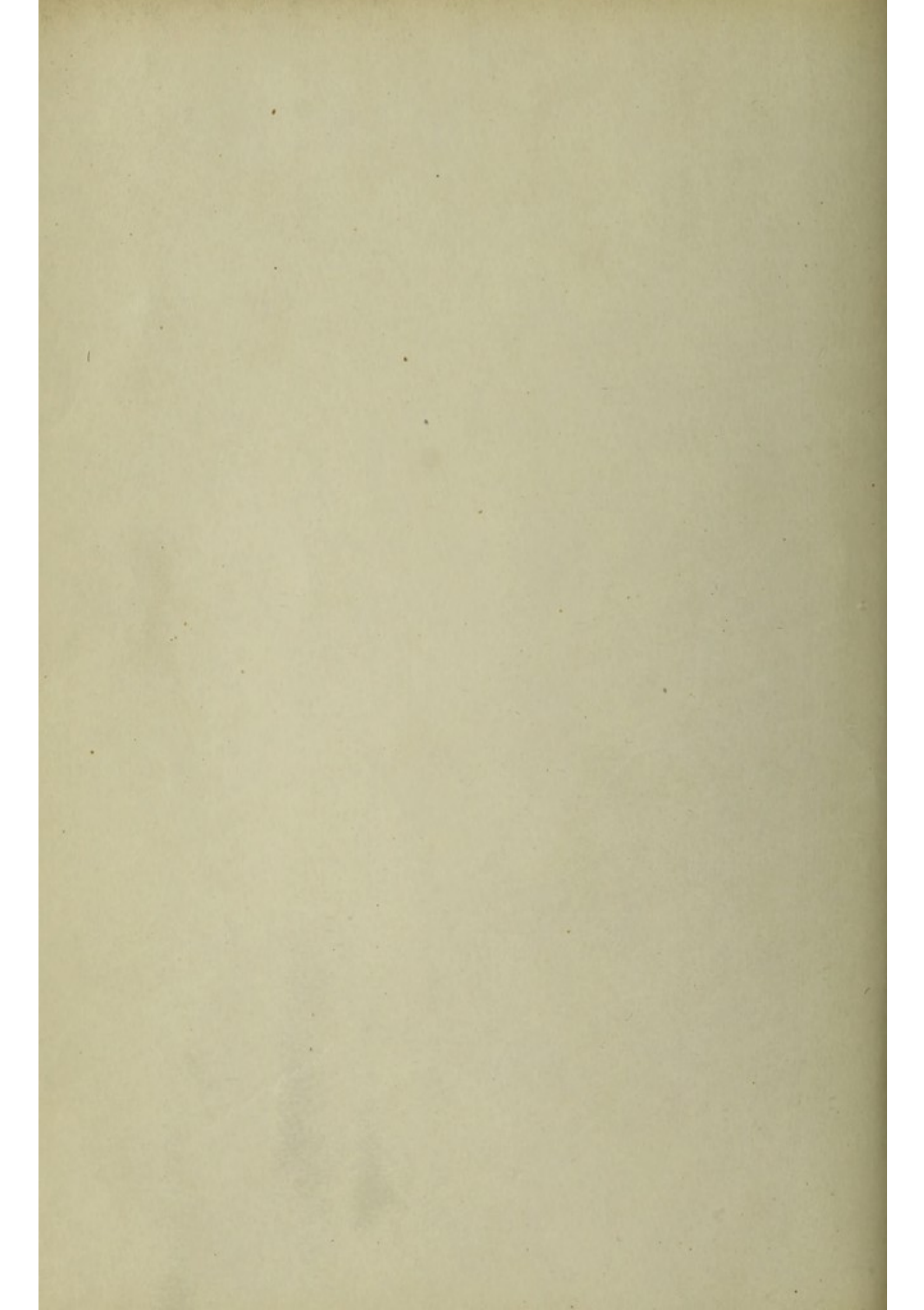
**1924.**

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BOLTON.

BLACKSHAW, SYKES & MORRIS, LTD., SCHOOL HILL MILLS.

1925.



County

Borough



of Bolton.

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# ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

**1924.**

County

City of Boston

Borough



# ANNUAL REPORT

Medical Officer of Health

1884

PUBLIC HEALTH DEPARTMENT,  
BOLTON.

10th August, 1925.

**To the Chairman and Members of the Public Health Committee.**

LADIES AND GENTLEMEN,

I have the honour, as Medical Officer of Health, to submit my Annual Report on the health of the County Borough of Bolton during 1924.

1924 was on the whole a healthy one. 1923 was an unusually healthy one, the mortality figures and the incidence of sickness generally being exceptionally low. In 1924 there was a slight increase as compared with 1923 in mortality and sickness generally throughout England and Wales. This increase took effect in Bolton, but the increase in Bolton is proportionate to that throughout the country generally.

I am pleased to be able to say that Bolton remained free from small-pox during 1924. I have again to thank the local medical practitioners for bringing to my notice all suspicious cases. It is essential to do this if an outbreak is to be prevented.

The opening of the fine Moss Street Baths and Wash-houses has conferred a great boon on the inhabitants. I have no hesitation in saying that, from the point of view of the health and comfort of the inhabitants of Bolton, the wash-houses are the more important part of the institution. It is earnestly to be desired that wash-houses should be established in other parts of the town.

I take this opportunity of emphasizing the extreme importance, both for the moral and physical welfare of the inhabitants of the town, of providing reasonably accessible playing fields for the younger members of the community. From the point of view of public health, I am of opinion that there is nothing more important than this.


Once more it gives me great pleasure to note here the loyal and able assistance I receive from all members of the public health staff. I would mention especially Dr. J. McKeague, the Deputy Medical Officer of Health; the Assistant Medical Officers of Health, Dr. Brown and Dr. Byrne; Mr. H. Hurst, the Borough Analyst; and the Chief Clerk, Mr. Herbert Daniels.

Mr. Bridge, our Veterinary Surgeon, retired owing to ill-health, in August, 1924. He had served the department for fourteen years, and carried with him the good wishes of all the staff. He was succeeded towards the close of 1924 by Mr. R. P. Holmes, F.R.C.V.S.

Dr. Evelyn Brown, to our great regret, left us at the close of 1924. She was succeeded by Dr. Mary E. Boullen.

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.

THE MAYOR, COUNC. J. F. STEELE, J.P.

Chairman—Ald. E. ASPINALL, J.P.

Vice-Chairman—COUNC. P. KNOTT.

Ald. SIR KNOWLES EDGE, J.P.	COUNC. A. E. HOLT, J.P.
„ Dr. E. MONKS.	„ J. W. MAKANT.
„ F. STEEL.	„ Dr. J. W. McDUGALL.
COUNC. Mrs. B. L. AGNEW, J.P.	„ B. ROBINSON.
„ H. BOMMER.	„ W. RUSSELL, J.P.
„ R. DEMAINE.	„ L. SHAW.
„ Sir T. E. FLITCROFT, J.P.	„ J. SIMMS.
„ D. HEAP.	„ Mrs. E. 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 L. E. EVANS.
- 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*—R. P. HOLMES, F.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.

SUMMARY OF  
VITAL AND MORTAL STATISTICS

1921

SECTION I.



**Vital and Mortal Statistics.**

OFFICE OF THE REGISTER

1880

SECTION I

Vital and Mortal Statistics

## SUMMARY OF VITAL AND MORTAL STATISTICS 1924.

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, 1924) .. .. .	181,100
Density .. .. .	11·8
New Houses Certified, 1924 .. .. .	354
Estimated No. of houses in the Borough at 31st Dec. 1924 .. .. .	43,512
Rateable Value at 31st March, 1925 .. .. .	£1,129,490 : 17 : 6
Sum represented by a penny rate (1924-1925) .. .. .	£4,331 : 3 : 7
Births .. .. .	3,203
Birth-rate .. .. .	17·6
Deaths .. .. .	2,541
Death-rate (corrected for institutions) .. .. .	14·0
Average Death-rate (1915-1924) .. .. .	14·4
Infantile Mortality .. .. .	92
Epidemic Death-rate (seven chief diseases) .. .. .	·47
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births .. .. .	10·3
Phthisis Death-rate .. .. .	·89
Other Forms of Tuberculosis, Death-rate .. .. .	·23
Respiratory Death-rate .. .. .	2·8
Rainfall (Av. 1887-1924—43·422") .. .. .	49·855"
105 County Boroughs and Great Towns—	
Birth-rate .. .. .	19·4
Death-rate .. .. .	12·3
Infantile Mortality .. .. .	80
Diarrhœa and Enteritis (under 2 years) Death-rate per 1,000 Births .. .. .	9·2
England and Wales—	
Birth-rate .. .. .	18·8
Death-rate .. .. .	12·2
Infantile Mortality .. .. .	75
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births .. .. .	7·3

**STATISTICAL SUMMARY.****Population.**

As in 1923 we have again to record a diminution in the population of Bolton in 1924. The Registrar General's estimate of the mid-year population of Bolton in 1924 is 181,100. This is less by 1,100 than the corresponding figure for the year 1923, the mid-year population for which year was set down by the Registrar General at 182,200. In 1924 the births exceeded the deaths by 662. The loss of population can therefore only be explained by more people having left Bolton during 1924 than came to settle in it during the same year.

The school population of Bolton (ages 5—14) was as follows in 1923 and 1924.

Year	School Population (aged 5—14 years).
1923	25,504
1924	24,520

The number of school children was therefore 984 less in 1924 than in 1923.

At the 1921 census the population per inhabited house in Bolton was 4·27. A population of 1,100 represents on this basis the population of 257 houses. A shrinkage of 1,100 in population represents on this basis a net increase of 257 houses for the present population of Bolton.

**Births.**

During 1924 there were born to Bolton parents 3,203 children, of whom 1,647 were males and 1,556 females. This gives a birth-rate of 17·6 per thousand inhabitants. In 1902 Bolton's birth-rate was 28·1. The birth-rate for 1923 was 17·5. As compared with 1923 there is therefore no fall in the birth-rate. The following general birth-rates for 1924 all show a fall as compared with 1923.

	1924	1923
England and Wales .. .. .	18·8	19·7
105 Great Towns .. .. .	19·4	20·4
157 Smaller Towns .. .. .	18·9	19·8
London .. .. .	18·7	20·2

In my opinion the fact that the birth-rate for Bolton for 1924 shows no decrease as compared with 1923 is an indication that the loss in population is not as great as it is estimated to be by the Registrar General.

The number of still-births notified in Bolton in 1924 was 156.

Of the 3203 live children born 119 were illegitimate. Of them 21 were born in Townleys Hospital,

### Death-rate and Deaths.

The Bolton death-rate for 1924, as given by the Registrar General is 13·5. The rate for 1923 was 12·7. The death-rate throughout the country generally was higher in 1924 than in 1923, as shown in the following table:—

	1924	1923
England and Wales .. .. .	12·2	11·6
105 Great Towns .. .. .	12·3	11·6
157 Smaller Towns .. .. .	11·2	10·6
London .. .. .	12·1	11·2

The total deaths in 1924 were 2,541, as compared with 2,343 in 1923. Of the deceased 1,260 were males and 1,281 females. The excess of births over deaths was 662.

Of the deaths 508 were deaths of Bolton residents who died outside Bolton. 74 of the deaths in Bolton were of non-residents, and of these 62 died in the Bolton Infirmary.

Of the Bolton residents who died outside Bolton,  
 422 died in Townleys Hospital, and  
 40 died in Lunatic Asylums.  
 121 Bolton residents died in the Bolton Infirmary.

It will be noticed that the Registrar General's figure for the Bolton death-rate for 1924 is 13·5, whereas the figure given by us is 14·0. The explanation of this difference is as follows:—

(a) The Registrar General's figure is calculated on the 1923 population, whereas ours is calculated on the 1924 population.

(b) For convenience sake the Registrar General has taken 1924 as a 53 week year, but he has not included all the deaths in the fifty-third week. We have included all the deaths for the fifty-three weeks.

### 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 .. .. .			
1911	180,851 .. .. .	22·9	16·3	160
1921	178,678 .. .. .	21·0	12·8	96

\* Borough extended in 1899.

### Populations, Birth-rates, Death-rates, etc., in Wards, 1924.

The following table has been given annually for a long number of years. I repeat what I have stated in previous reports:

(1) That the ward populations are merely approximations. It is impossible to be sure of the correct figure.

(2) That birth-rates, death-rates, etc., for small populations vary very greatly from year to year.

## POPULATIONS, BIRTH-RATES, DEATH-RATES, &amp;C., IN WARDS, 1924.

WARD.	Est. Population, 1924	Birth-rate.		Death-rate.		Pul. Tub. Death-rate.		Infantile Mortality	
		1924	Avgc. 1914-1923	1924	Avgc. 1914-1923	1924	Avgc. 1914-1923	1924	Avgc. 1914-1923
West .. .. .	25891	20·1	19·9	14·2	15·4	·6	·9	114	101
Halliwell .. .. .	21727	16·3	18·2	13·3	13·3	·6	·7	78	101
Derby .. .. .	18473	21·5	21·3	13·1	15·9	·8	1·0	87	117
Bradford .. .. .	18276	18·8	19·9	16·6	16·3	1·4	1·1	130	117
Rumworth .. .. .	9953	18·2	22·0	12·5	14·1	·9	·9	104	98
East .. .. .	8921	24·6	21·1	25·5	20·6	2·9	1·6	131	138
Church .. .. .	8043	9·6	13·3	12·1	14·3	·7	1·0	89	86
North .. .. .	7069	16·9	18·0	13·7	12·9	·8	·7	91	92
Exchange .. .. .	3460	17·0	17·0	19·6	19·9	2·3	1·9	152	151
Old Borough ..	121813	18·7	19·4	14·9	15·5	1·0	1·0	106	109
Great Lever .. .. .	13000	14·4	14·6	13·0	11·5	·9	·4	42	89
Tonge .. .. .	10985	15·8	17·9	11·5	12·6	·1	·6	57	79
Astley Bridge .. ..	8608	14·2	16·2	13·0	13·9	·5	1·0	32	83
Smithills .. .. .	7594	13·6	15·0	12·2	11·9	·6	·6	57	68
Hulton .. .. .	6643	14·4	18·7	9·3	11·9	·4	·5	72	91
Deane-cum-Lostock ..	5208	17·2	16·1	9·6	10·5	·3	·4	44	72
Darcy Lever-cum-Brightmet	4080	27·9	18·0	17·1	13·8	·7	·6	105	79
Heaton .. .. .	3169	11·3	12·4	11·3	12·4	·6	·8	27	56
Added Area .. ..	59287	15·6	16·2	12·1	13·1	·5	·6	56	80
Extended Borough	181100	17·6	18·4	14·0	15·4	·89	·96	92	101

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

(Figures taken from the Summary of the Registrar General).  
1924.

	Birth-rate.	Death-rate.	Infantile Mortality.
England and Wales.. .. .	18·8	12·2	75
105 County Boroughs and Great Towns, including London ..	18·8	12·3	80
Bootle .. .. .	25·4	10·7	82
Barrow-in-Furness .. .. .	16·8	11·4	71
Warrington .. .. .	21·0	11·6	81
St. Helens .. .. .	24·0	12·0	106
Oldham .. .. .	16·3	13·2	105
Liverpool .. .. .	24·4	13·3	102
<b>Bolton</b> .. .. .	17·0	13·5	93
Bury .. .. .	15·4	13·6	67
Manchester .. .. .	19·9	13·7	97
Preston .. .. .	19·5	13·7	90
Blackburn .. .. .	15·6	13·8	84
Salford .. .. .	19·2	14·0	119
Wigan .. .. .	21·8	14·1	108
Rochdale .. .. .	13·7	14·2	87
Burnley .. .. .	16·5	14·4	122

Of the above 15 towns Bolton has the seventh lowest birth-rate, the seventh lowest death-rate and the 8th lowest infantile mortality-rate.

Throughout the Country as a whole the death-rate and infantile mortality rate shewed for 1924 an increase on the figures for 1923. The following are the figures for these two years.

ENGLAND AND WALES.

	1923	1924
Death-rate .. .. .	11·6	12·2
Infantile Mortality .. .. .	69	75

105 COUNTY BOROUGHS AND GREAT TOWNS, INCLUDING LONDON.

	1923	1924
Death-rate .. .. .	11·6	12·3
Infantile Mortality .. .. .	72	80

**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.
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
<b>1924</b>	<b>181190</b>	<b>11·8</b>	<b>3203</b>	<b>17·6</b>	<b>2541</b>	<b>14·0</b>	<b>92</b>
1924.							
England and Wales	.. .. .			18·8		12·2	75
105 Great Towns	.. .. .			19·4		12·3	80
157 Smaller Towns	.. .. .			18·9		11·2	71
London	.. .. .			18·7		12·1	69

## Summary of the Principal Causes of Death, 1924.

	No. of Deaths.	Per cent. of Total Deaths.
GENERAL DISEASES.		
Enteric Fever .. .. .	6	.23
Measles .. .. .	12	.47
Whooping Cough .. .. .	28	1.10
Diphtheria .. .. .	6	.23
Influenza .. .. .	88	3.46
Encephalitis Lethargica .. .. .	17	.66
Pulmonary Tuberculosis .. .. .	162	6.37
Other Forms of Tuberculosis .. .. .	42	1.65
Syphilis .. .. .	7	.27
Cancer .. .. .	244	9.60
Rheumatic Fever .. .. .	13	.51
Chronic Rheumatism, Osteo-arthritis, Gout	8	.31
Diabetes .. .. .	23	.90
Anæmia, Chlorosis .. .. .	15	.59
Other General Diseases .. .. .	35	1.37
NERVOUS SYSTEM.		
Meningitis .. .. .	8	.31
Cerebral Hæmorrhage, Apoplexy, etc. ..	149	5.86
Paralysis of Unstated Origin .. .. .	12	.47
Convulsions (non-puerperal) .. .. .	33	1.29
Other Nervous .. .. .	42	1.64
CIRCULATORY SYSTEM.		
Heart Diseases .. .. .	338	13.30
Diseases of the Arteries .. .. .	133	5.27
Other Circulatory .. .. .	6	.23
RESPIRATORY SYSTEM.		
Bronchitis .. .. .	280	11.01
Pneumonia (all forms) .. .. .	202	7.94
Other Respiratory .. .. .	31	1.21
DIGESTIVE SYSTEM.		
Ulcer of the Stomach or Duodenum .. ..	10	.39
Other Diseases of the Stomach .. .. .	14	.55
Diarrhœa and Enteritis .. .. .	43	1.69
Appendicitis and Typhlitis .. .. .	13	.51
Hernia, Intestinal Obstruction .. .. .	17	.66
Cirrhosis of the Liver .. .. .	9	.35
Other Digestive .. .. .	20	.78
GENITO-URINARY SYSTEM.		
Acute Nephritis .. .. .	11	.43
Chronic Bright's Disease .. .. .	68	2.67
Diseases of the Prostate .. .. .	10	.39
Other Genito-urinary .. .. .	16	.62
DISEASES OF EARLY INFANCY.		
Atrophy, Debility, etc. .. .. .	35	1.37
Premature Birth and Injury at Birth .. ..	59	2.32
Other Diseases of Early Infancy .. .. .	10	.39
OLD AGE .. .. .	128	5.03
EXTERNAL CAUSES .. .. .	74	2.91
MISCELLANEOUS CAUSES .. .. .	64	2.51

### Infantile Mortality.

There died in 1924 in Bolton, 295 infants under the age of one year. This gives an infantile mortality of 92 per 1,000 births.

Of these 295 infants, 26 were illegitimate children, and 269 legitimate. Of the total births 3,084 were legitimate, and 119 illegitimate. This gives an infantile mortality rate of 87 for the legitimate children, and 219 for the illegitimate children.

### Chief Causes of Death under One Year of Age.

	1919	1920	1921	1922	1923	Av. 1919 to 1923	1924
Total Deaths .. .. .	263	416	370	319	273	328	295
Diarrhœa and Enteritis .. .. .	23	40	49	20	36	33	26
Respiratory .. .. .	57	99	68	63	73	72	74
Premature Births and Congenital Defects	71	82	89	85	60	77	74
Atrophy and Debility .. .. .	45	61	53	43	31	46	31
Convulsions and Meningitis .. .. .	32	35	26	31	22	29	31
Tuberculous Diseases .. .. .	2	7	7	6	4	5	4
Epidemic Diseases (excluding Diarr.) ..	7	34	19	26	15	20	15
All other Causes .. .. .	26	58	59	45	32	44	40

The following figures show the average quinquennial infant mortality in Bolton from 1876 to 1915, and the yearly rate from 1916 to 1924 :—

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
		1924	.. 92

### Mortality from Epidemic Diseases.

86 deaths were registered from the seven chief epidemic diseases. This is equal to a death-rate of .47.

#### CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1918	1919	1920	1921	1922	1923	1924
Small-pox .. .. .	—	—	1	—	—	—	—
Scarlet Fever .. .. .	2	4	2	7	4	6	1
Diphtheria and Memb. Croup .. .. .	26	61	35	21	13	10	6
Enteric and Continued Fever .. .. .	5	5	6	3	2	—	6
Measles .. .. .	1	18	27	5	63	4	12
Whooping Cough .. .. .	85	—	34	25	13	11	28
Diarrhœa and Enteritis under 2 years of age ..	33	27	41	52	24	42	33
Erysipelas .. .. .	1	3	7	2	6	4	5
Puerperal Sepsis .. .. .	2	1	5	6	3	3	6
Cerebro-spinal Fever .. .. .	2	2	—	—	—	—	2
Encephalitis Lethargica .. .. .	—	—	—	4	1	—	17
Influenza .. .. .	367	301	70	45	122	94	88
Pulmonary Tuberculosis .. .. .	198	173	154	161	138	157	162

#### Death-rates from the Seven Epidemic Diseases, and Pulmonary Tuberculosis, 1866-1924.

Year.	Small-pox.	Scarlet Fever.	Diphtheria and Memb Croup	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa & Enteritis (under 2 yrs.)	Seven Chief Epidemic	Pulmonary Tuberculosis
Av. 1866-1870 ..	.06	1.40	.03	.68	.86	.55	1.88	5.7	—
Av. 1871-1880 ..	.11	1.10	.02	.50	.68	.71	1.74	4.7	—
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
1924 .. .. .	—	.60	.03	.03	.06	.15	.18	.47	.89

Deaths from Cancer in Bolton in the years 1901-1924.

Year.	No. of deaths.		Total.
	Males.	Females.	
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
1924	123	121	244

The cancer death-rate in Bolton in 1924 was 1·34 per 1,000 inhabitants. The death-rate from tuberculosis of all forms was 1·12.

The following remarks are reprinted from last year's report. I have reason to think they have already borne good fruit.

Cancer causes at first no pain.

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.

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.

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, 1924. Age and Sex Distribution, and Localisation of Disease.

LESION.	SEX.		AGE.																		
	M	F.	0 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.	
<b>Buccal Cavity.</b>	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..
Jaw .. . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mouth .. . . . . .	5	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	1	..	..	..	..
Palate .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Tongue .. . . . . .	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..
Tonsil .. . . . . .	12	..	..	..	..	..	..	..	..	..	..	..	5	1	1	2	1	1	1	1	..
<b>Total Buccal Cavity</b> ..	22	..	..	..	..	..	..	..	..	..	1	..	6	3	3	5	2	1	1	..	..
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
<b>Stomach, Liver, etc.</b>	2	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..
Gall bladder .. . . . . .	..	6	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	2	..	1	..
Liver .. . . . . .	4	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	1	..	..	..
Esophagus .. . . . . .	..	9	..	..	..	..	..	..	..	..	..	..	2	1	1	3	1	1	..	..	..
Pylorus .. . . . . .	8	..	..	..	..	..	..	..	..	..	..	..	4	2	1	..	1	..	..	..	..
Stomach .. . . . . .	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..
<b>Total Stomach, Liver, etc.</b>	2	..	..	..	..	..	..	..	..	..	1	1	1	..	1	1	..	..	..	..	..
..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Total Stomach, Liver, etc.</b>	19	..	..	..	..	..	..	..	..	1	2	1	3	5	3	4	..	..	..	..	..
..	..	22	..	..	..	..	..	..	..	2	..	4	2	3	1	5	4	..	..	..	1
<b>Total Stomach, Liver, etc.</b>	35	..	..	..	..	..	..	..	..	1	4	1	7	8	7	5	1	1	..	..	..
..	..	41	..	..	..	..	..	..	1	..	3	1	7	4	4	5	7	7	..	2	..
<b>Peritoneum, Intestines, and Rectum.</b>	9	..	..	..	..	..	..	..	..	..	..	1	1	2	2	3	..	..	..	..	..
Intestines .. . . . . .	..	9	..	..	..	..	..	..	..	1	1	1	1	..	4	..	1	..	..	..	..
Rectum .. . . . . .	15	..	..	..	..	..	..	2	..	1	1	2	4	1	1	1	1	1	1	..	..
..	..	6	..	..	..	..	..	..	..	..	..	..	1	1	2	1	1	..	..	..	..
<b>Total Peritoneum, Intestines and Rectum.</b>	24	..	..	..	..	..	..	2	..	1	1	3	5	3	3	4	1	1	..	..	..
..	..	15	..	..	..	..	..	..	..	1	1	1	2	1	6	1	2	..	..	..	..
<b>Female Genital Organs.</b>	..	6	..	..	..	..	..	..	..	1	1	2	..	1	1	..	..	..	..	..	..
Ovary .. . . . . .	..	20	..	..	..	..	..	..	1	3	5	1	2	2	3	2	1	..	..	..	..
Uterus .. . . . . .	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Vulva .. . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Total Female Genital Organs</b> ..	..	27	..	..	..	..	..	..	1	4	7	3	2	3	4	2	1	..	..	..	..
..	..	22	..	..	..	..	..	..	..	..	5	3	5	7	..	1	1	..	..	..	..
<b>Other Localities.</b>	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..
Face .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Forearm .. . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Penis .. . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Total Other Localities</b> ..	3	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..

Deaths from Cancer, 1924—contd.

LESION.	SEX.		AGE.																
	M	F.	0 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
Scrotum .. . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Unstated .. . . . . .	..	3	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
<b>Total Skin.</b>	7	..	..	..	..	..	..	..	..	..	..	..	2	1	1	2	..	1	..
<b>Other Organs.</b>	..	4	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	..
Arm .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Axilla .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Bladder .. . . . . .	2	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
Breast .. . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Eye .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Hand .. . . . . .	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Larynx .. . . . . .	6	..	..	..	..	..	..	..	..	1	..	1	..	3	..	1	..	..	..
Leg .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Lung .. . . . . .	5	..	..	..	..	..	..	..	1	..	2	..	..	..	2	..	..	..	..
Mediastinum .. . . . .	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Nasal Bone .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Neck .. . . . . .	4	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	..
Orbit .. . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Pancreas .. . . . . .	3	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..
Prostate .. . . . . .	6	..	..	..	..	..	..	..	..	..	..	..	..	4	2	..	..	..	..
Pubis .. . . . . .	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Testicle .. . . . . .	2	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Throat .. . . . . .	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
<b>Total Other Organs</b>	35	..	1	..	..	..	2	..	..	3	..	2	1	5	9	8	4	2	..
	..	11	..	..	..	..	..	..	..	..	..	1	2	3	2	1	..	..	..
<b>Total Males</b> .. . . . .	123	..	1	..	..	..	..	..	2	3	3	7	11	22	24	24	17	5	4
<b>Total Females</b> .. . . . .	..	121	..	..	..	2	..	..	1	1	8	14	15	15	19	19	12	11	1
<b>TOTAL both sexes</b> .. . . . .	244	..	1	..	..	2	..	..	3	4	11	21	26	37	43	43	29	16	5



## POPULATION, BIRTHS AND DEATHS, 1913-1924.

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.		Number.	Rate.	of Non-residents Registered in the District.	of Residents not Registered in the Borough.	Under 1 year of Age.		At all ages.	
			Number.	Rate.					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	1995	10·9	76	423	273	85	2343	12·8
1924	181103	3157	3203	17·6	2017	11·1	74	508	295	92	2451	14·0

## CENSUS, 1921.

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

INFANT MORTALITY DURING THE YEAR 1924.  
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 .. .. .	60	19	15	12	106	64	38	41	38
} Uncertified .. .. .	7	..	..	..	8	..	..	..	..	8
Small-pox .. .. .	..	..	..	..	..	..	..	..	..	..
Chicken-pox .. .. .	..	..	..	..	..	..	..	..	..	..
Measles .. .. .	..	..	..	..	..	..	..	1	2	3
Scarlet Fever .. .. .	..	..	..	..	..	..	..	..	..	..
Whooping Cough .. .. .	..	..	..	..	..	1	2	5	10	18
Diphtheria and Croup .. .. .	..	..	..	..	..	..	..	..	..	..
Erysipelas .. .. .	..	..	..	..	..	..	..	..	..	..
Tuberculous Meningitis .. .. .	..	..	..	..	..	..	..	..	..	..
Abdominal Tuberculosis .. .. .	..	..	1	..	1	..	..	..	1	2
Other Tuberculous Diseases .. .. .	..	..	..	..	..	..	..	..	1	1
Meningitis (not tuberculous) .. .. .	..	..	3	2	11	6	4	5	4	30
Convulsions .. .. .	2	4	..	..	..	..	..	..	..	..
Laryngitis .. .. .	..	..	..	..	..	..	..	..	..	..
Bronchitis .. .. .	..	..	1	1	2	10	4	5	6	27
Pneumonia (all forms) .. .. .	..	1	..	..	1	10	8	9	18	46
Diarrhœa .. .. .	..	..	..	1	1	7	4	2	1	4
Enteritis .. .. .	..	3	3	2	8	2	4	2	..	22
Gastritis .. .. .	..	..	..	2	3	2	..	..	..	2
Syphilis .. .. .	..	..	1	..	..	1	1	..	..	5
Rickets .. .. .	..	..	..	..	..	..	..	1	..	2
Suffocation .. .. .	..	..	..	..	..	2	..	..	..	2
Injury at Birth .. .. .	3	..	..	..	3	..	..	..	..	3
Atelectasis .. .. .	6	1	1	..	8	..	..	..	..	8
Congenital Malformations .. .. .	5	4	1	..	10	3	3	2	..	18
Premature Birth .. .. .	35	5	1	3	44	11	1	1	..	56
Atrophy, Debility and Marasmus .. .. .	10	1	3	1	15	8	5	1	2	31
Other Causes .. .. .	6	..	1	..	7	3	3	5	1	19
Totals .. .. .	67	19	16	12	114	64	38	41	38	295

Nett Births Registered during the year—Legitimate, 3,084 ; Illegitimate, 119.  
Nett Deaths Registered during the year—Legitimate Infants, 269 ; Illegitimate Infants, 26.

<p>1. [Faint text]</p>	<p>[Faint text]</p>
<p>2. [Faint text]</p>	<p>[Faint text]</p>
<p>3. [Faint text]</p>	<p>[Faint text]</p>
<p>4. [Faint text]</p>	<p>[Faint text]</p>
<p>5. [Faint text]</p>	<p>[Faint text]</p>
<p>6. [Faint text]</p>	<p>[Faint text]</p>
<p>7. [Faint text]</p>	<p>[Faint text]</p>

The Department of the Interior, Bureau of Land Management, Washington, D.C. 20240  
 Form 100-100 (Rev. 1-1-63)

SECTION II.

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**Infectious Diseases,  
Venereal Diseases,  
AND  
Hospital Isolation.**

SECTION II

Infectious Diseases,  
Venereal Diseases,  
AND  
Hospital Isolation.

### Notifiable Infectious Diseases.

The following are the infectious diseases compulsorily notifiable to the Medical Officer of Health in Bolton:—

Small-pox.	Acute Encephalitis Lethargica.
Scarlet Fever.	Typhus Fever.
Diphtheria and Membranous Croup.	Relapsing Fever.
Enteric or Typhoid Fever.	Continued Fever.
Pneumonia (Acute Primary and Acute Influenzal).	Trench Fever.
Cholera.	Dysentery.
Plague.	Ophthalmia Neonatorum.
Puerperal Fever.	Erysipelas.
Cerebro-spinal Fever.	Malaria.
Acute Poliomyelitis.	Tuberculosis (Pulmonary and other forms).
Acute Polio-encephalitis.	

583 cases of infectious disease were notified in Bolton in 1924 as compared with 978 cases in 1923. The decrease is accounted for by the much smaller number of cases of scarlet fever. The above figures do not include tuberculosis which is dealt with separately.

The following table shows how Bolton compares with England and Wales generally as regards the incidence of the chief infectious diseases.

#### NOTIFICATION RATES PER 1,000 OF THE POPULATION, 1924.

	Small-Pox.	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever
Bolton .. .. .	None	1·48	0·17	0·09	0·02
England and Wales .. ..	0·10	2·16	1·07	0·11	0·06

#### SMALL-POX.

No case of small-pox occurred in Bolton in 1924. On 14 occasions I was asked to see cases in which small-pox was suspected. Each of these cases, however, turned out to be some disease other than small-pox. The Public Health staff has all its arrangements made for dealing immediately with any case of small-pox which may arise.

I take this opportunity of expressing my sincere thanks to Dr. Butterworth, Medical Officer of Health for the County of Lancaster, and to Dr. Fisher, Assistant Medical Officer of Health for the County. Their experience of small-pox, and especially of its modern and anomalous forms, is probably greater than that of any other medical men in the north of England. In cases when there was any possibility of doubt in the diagnosis they have most readily given their assistance.

The state of the population of Bolton as regards vaccination is the same as elsewhere throughout the country. A small proportion only of the population is protected. We have for some years now escaped small-pox in Bolton; but eventually it will come. I have on several occasions during the last few years drawn attention by advertisements in the papers and by posters on the walls to the efficacy of vaccination and to the duty of each individual to protect himself and to protect the community by seeing that he is vaccinated. I am aware, of course, that some well-informed persons, whilst recognising the efficacy of vaccination, deny the necessity of universal vaccination. I desire now to impress on the individual that vaccination gives practically complete immunity from small-pox. Vaccination cannot be counted on, however, to confer this immunity for more than five years. Those whose business takes them into districts where there is small-pox should see to it that they are re-vaccinated. That vaccination will, if sufficiently recent, prevent small-pox is a fact denied only by those whose minds are obscured by prejudice or some other mental infirmity.

#### SCARLET FEVER.

269 cases of scarlet fever were notified during 1924. Most of these cases were of a mild type, but the percentage of cases of a moderately severe type was greater than in 1923. 144 of the cases, or 53·5 per cent of all the cases, were admitted to hospital. There was only one death from scarlet fever. Of the cases admitted to hospital none died. The number of cases of scarlet fever per 1,000 inhabitants was in Bolton 1·48. For England and Wales the corresponding figure was 2·16.

#### DIPHTHERIA.

Only 30 cases of diphtheria were notified in 1924 as compared with 84 in 1923.

6 of the cases notified died. 18 of the cases were admitted to hospital, and of these one died.

#### ENTERIC FEVER.

The number of persons notified in 1924 as suffering from enteric fever was 18. Of these cases six were admitted to hospital and three of them were found not to be suffering from enteric, but from some other disease. Particulars will be found in the Isolation Hospital report. Six of the cases notified were paratyphoid B. infections and in three of these cases the evidence was very strongly in favour of the infection having been acquired outside Bolton. Six deaths were certified as due to enteric fever.

#### ERYSIPELAS.

48 cases and five deaths. Statistics regarding erysipelas are useless, as undoubtedly various conditions which are not of the same nature are notified as erysipelas.

## OPHTHALMIA NEONATORUM.

25 cases of ophthalmia neonatorum were notified. The following table shows the results that ensued in these cases.

Cases notified .. .. .	25
Cases treated at home .. .. .	11
Cases treated in hospital as out-patients .. .. .	14
Vision unimpaired .. .. .	25
Total blindness .. .. .	0
Still under treatment .. .. .	0
Deaths .. .. .	4

The Health Visitors paid 357 visits to the above cases.

The particulars of the four cases which died are as follows :

	Cause of death.	Age at death.	Vision at time of death
1.	Pyloric stenosis ..	18 weeks ..	Normal.
2.	Syphilis .. ..	17 days ..	Almost normal.
3.	Measles .. ..	8 months ..	Normal.
4.	Convulsions .. ..	11 months ..	Normal.

All of the twenty-five cases except one were delivered by midwives.

Notifications of Ophthalmia Neonatorum cases during the past eight years were as follows:—

	1917	1918	1919	1920	1921	1922	1923	1924
Number of cases .. ..	23	16	41	51	35	21	32	25
Rate per 1,000 births .. ..	8.4	5.8	13.4	12.1	9.1	6.1	10.0	7.8

## PUERPERAL FEVER.

5 cases were notified. Six deaths were certified as being due to puerperal fever. On inquiry being made concerning the case which had not been notified I was satisfied that it was a case in which there had been reasonable doubt up to the time of death.

## MALARIA.

Neither cases notified, nor deaths.

## ENCEPHALITIS LETHARGICA.

There were 40 cases notified and 17 deaths. Of those notified 21 were males and 19 females. Of the deaths eleven were of males and six of females. The age and sex distribution of the notifications and deaths is shown in the following table.

Age.	Notifications.		Deaths.	
	Males.	Females	Males.	Females.
0—1 years	—	—	—	—
1—2 "	—	1	—	1
2—3 "	—	—	—	—
3—4 "	—	—	—	—
4—5 "	—	—	—	—
5—10 "	2	2	1	—
10—15 "	1	1	—	—
15—20 "	4	3	—	1
20—25 "	2	4	—	1
25—30 "	—	3	—	—
30—35 "	—	1	—	—
35—40 "	1	2	2	1
40—45 "	2	1	1	1
45—50 "	1	1	1	1
50—55 "	1	—	1	—
55—60 "	2	—	2	—
60—65 "	3	—	2	—
65—70 "	1	—	1	—
70—75 "	1	—	—	—

The notifications of encephalitis lethargica were distributed throughout the year 1924 as follows :—

	Notifications.	Deaths.
January	—	—
February	5	3
March	16	7
April	5	3
May	5	1
June	4	1
July	1	—
August	1	—
September	1	—
October	1	1
November	—	1
December	1	—
	40	17

We know very little about encephalitis lethargica so far as its prevention and cure are concerned. We know that it is a very terrible disease, both on account of the number of cases that die and on account of the terrible infirmities from which many of its victims who escape death are destined to suffer for the remainder of their lives. At the present time encephalitis lethargica is much more to be dreaded than small-pox, and we must hope that before long some light will be thrown on its prevention and cure.

In 1923 only three cases of encephalitis lethargica were notified. The increase of notifications in 1924 is very largely due to the fact that in 1924 medical men had become more familiar with the disease. Fewer cases are missed every year; at the same time it is quite certain that many mild cases escape recognition. The commonest symptom is diplopia, or "seeing double". If a person whose vision has been normal begins to see double and feels a bit out of sorts then encephalitis lethargica should be suspected.

All the doctors who notified cases of encephalitis lethargica during 1924 have been asked to supply particulars as to the present condition of such cases as have survived. Their reports are summarized in the following table, which gives the condition in May, 1925.

## CASES OF ENCEPHALITIS LETHARGICA NOTIFIED.

1924.

No.	Date of Notification.	Sex	Age	Present Condition (May, 1925)
	1924			
1	Feb. 11	M	60	Died 9/2/1924.
2	21	F	19	Died 22/2/1924.
3	25	M	21	Not completely recovered, but improving.
4	26	F	45	Died 5/3/1924.
5	29	M	64	Died 11/3/1924.
6	Mar. 4	M	48	Considered incurable.
7	5	F	27	Completely recovered.
8	17	F	21	Died 16/3/1924.
9	17	M	19	Completely recovered.
10	18	F	29	Completely recovered.
11	18	M	40	Mentally deficient and paralysis.
12	18	F	15	Completely recovered.
13	19	M	58	Died 19/3/1924.
14	20	M	60	Died 21/3/1924.
15	21	M	19	Not completely recovered, but improving.
16	24	M	13	Completely recovered.
17	24	F	33	Completely recovered.
18	24	M	7	Died 23/3/1924.
19	24	F	20	Not completely recovered, but improving.
20	27	F	36	Not completely recovered, but improving.
21	28	M	40	Vision impaired.
22	April 1	F	35	Died 1/4/1924.
23	5	F	27	Committed suicide 12/11/1924.
24	5	F	44	Died 4/4/1924.
25	29	M	15	Completely recovered.
26	29	M	19	Not completely recovered, but improving.
27	May 2	F	9	Not completely recovered, but much improved.
28	13	M	72	Died 15/5/1924.
29	14	F	22	Completely recovered.
30	17	M	56	Died 17/5/1924.
31	23	M	22	Completely recovered.
32	June 11	F	14	Completely recovered.
33	11	M	65	Not completely recovered. Paralysis of left arm, and slow of speech.
34	14	M	38	Completely recovered.
35	25	F	18	Not completely recovered. Headaches and diplopia.
36	July 3	F	9	Good recovery except for slight paralysis in one leg.
37	Aug. 26	M	9	Completely recovered.
38	Sept. 26	M	53	Died 11/10/1924.
39	Oct. 13	F	20	Completely recovered.
40	Dec. 1	F	1	Died 30/11/1924.

In addition to the above, five cases not previously notified, were certified as having died of encephalitis lethargica.

CEREBRO-SPINAL FEVER.

Seven cases were notified and two of these died.

ACUTE POLIOMYELITIS.

Only one case was notified. There were no deaths.

**Infectious Diseases not Notifiable.**

MEASLES.

Measles were responsible for 12 deaths. It is not possible to arrive at an accurate estimate of the number of cases that occurred in 1924, but it is certain that the case mortality was very low.

INFLUENZA.

There were 88 deaths from influenza in 1924. In 1923 the number was 94. The deaths were distributed throughout the year as follows:

January .. .. .	8	August .. .. .	1
February .. .. .	6	September .. .. .	2
March .. .. .	14	October .. .. .	1
April .. .. .	21	November .. .. .	5
May .. .. .	6	December .. .. .	23
June .. .. .	1		
July .. .. .	0		88

Record of previous years :—

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Deaths .. .. .	27	18	19	367	301	70	45	122	94	88

WHOOPING COUGH.

28 deaths were certified as due to Whooping Cough.

**Notification Rates per 1,000 Population in 1924 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
Barrow-in-Furness ..	2·28	1·08	·48	·06	·53	—	·12
Oldham .. ..	2·59	·96	·56	·02	·80	·04	·19
<b>Bolton .. ..</b>	<b>2·63</b>	<b>1·47</b>	<b>·17</b>	<b>·09</b>	<b>·76</b>	<b>·02</b>	<b>·13</b>
Burnley .. ..	3·58	·75	1·01	·21	1·36	·03	·20
Preston .. ..	3·93	1·81	1·10	·12	·79	·04	·04
Blackburn .. ..	4·11	·54	·48	·02	2·86	·07	·13
St. Helens .. ..	4·14	1·55	·86	·01	1·23	·15	·31
Rochdale .. ..	4·53	2·73	·86	·12	·62	·03	·14
Wigan .. ..	4·81	·88	·29	·21	3·33	·02	·05
Bury .. ..	5·29	2·32	·87	·01	1·92	·01	·13
Salford .. ..	5·82	1·72	1·20	·10	2·48	·07	·23
Bootle .. ..	6·23	3·92	·71	·07	·99	·11	·42
Manchester .. ..	7·90	2·39	·76	·15	3·97	·14	·46
Liverpool .. ..	9·14	4·57	1·34	·05	2·26	·07	·82
Warrington .. ..	9·59	4·04	·83	·05	4·47	·08	·10

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 1923.

The notification rate for England and Wales per 1,000 living was as follows, in 1924 :—

Scarlet Fever .. ..	2·16
Diphtheria .. ..	1·07
Enteric Fever .. ..	0·11
Puerperal Fever .. ..	0·06

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

**NOTIFIABLE DISEASES DURING THE YEAR 1924.**

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	4	4	3	7	1	3	4	4	3	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	..	5	12	23	27	104	67	13	15	15	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Enteric Fever	..	..	..	..	..	6	2	1	4	4	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	
Puerperal Fever	..	15	10	4	3	16	8	8	21	18	19	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	
*Pneumonia	..	..	..	..	..	3	1	6	6	5	24	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	202	
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
Ophthalmia Neonatorum	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Encephalitis Lethargica	..	1	..	..	..	4	2	7	10	6	8	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17	
Acute Poliomyelitis	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Cerebro-spinal Fever	..	1	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
Tuberculosis :-																												
a. Pulmonary																												
{ M.	..	..	..	..	..	..	6	10	27	25	23	5	101	125	..	..	..	..	..	..	..	..	..	..	..	..	..	95
{ F.	..	..	..	..	..	2	1	10	23	13	14	..	65	80	..	..	..	..	..	..	..	..	..	..	..	..	..	67
{ Total	..	..	..	..	..	2	7	20	52	38	42	5	156	205	..	..	..	..	..	..	..	..	..	..	..	..	162	
b. Non-pulmonary																												
{ M.	3	1	5	1	1	5	6	3	4	1	4	..	28	32	1	..	..	..	..	..	..	..	..	..	..	..	..	24
{ F.	..	..	2	2	2	2	6	5	6	2	4	..	31	14	1	..	..	..	..	..	..	..	..	..	..	..	..	18
{ Total	3	1	7	3	3	7	12	8	10	3	8	..	59	45	2	..	..	..	..	..	..	..	..	..	..	..	42	

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

## DISTRIBUTION OF NOTIFIED DISEASES IN WARDS, 1924.

WARDS.	Scarlet Fever.	Diphtheria and Membr. Group.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Total.	Pulmonary Tuberculosis.	Non-pul. Tuberculosis.	Ophthalmia Neonatorum.	Pneumonia.	Acute Poliomyelitis.	Encephalitis Lethargica.	Cerebro-spinal Fever.
West .. .. .	23	9	4	1	3	40	20	8	3	21	..	3	1
Halliwell .. .. .	35	5	..	1	5	46	15	6	..	11	..	12	..
B. adford .. .. .	32	2	1	..	3	38	17	10	2	9	..	5	..
Derby .. .. .	22	2	..	..	1	25	13	7	6	14	1	..	2
East .. .. .	25	2	..	..	2	29	15	3	1	15	..	..	1
Rumworth .. .. .	15	2	1	1	5	24	7	5	4	14	..	2	2
Church .. .. .	20	1	3	..	2	26	9	2	1	1	..	..	..
North .. .. .	13	..	..	..	2	15	8	3	1	5	..	..	..
Exchange .. .. .	5	..	..	..	..	5	10	..	2	1	..	1	..
Old Borough .. ..	190	23	9	3	23	248	114	44	20	91	1	23	6
Great Lever .. .. .	15	3	2	..	5	25	18	4	1	6	..	2	..
Tonge .. .. .	19	1	..	..	7	27	8	3	3	..	..	1	..
Astley Bridge .. .. .	9	..	4	..	3	16	8	4	..	15	..	3	..
Smithills .. .. .	12	..	3	..	4	19	4	..	..	2	..	2	1
Hulton .. .. .	12	1	..	2	4	19	1	2	1	18	..	2	..
Deane-cum-Lostock ..	8	..	..	..	1	9	4	..	..	..	..	3	..
Darcy Lever-c-Brightmet	3	1	..	..	1	5	8	2	..	5	..	4	..
Heaton .. .. .	1	1	..	..	..	2	1	..	..	1	..	..	..
Added Area .. ..	79	7	9	2	25	122	52	15	5	49	..	17	1
Extended Borough ..	269	30	18	5	48	370	166	59	25	140	1	40	7

## INFECTIOUS DISEASES NOTIFIED FROM 1891 TO 1924.

Year Average.	Small-pox.	Scarlet Fever.	Diph. and Mem. Group	Enteric Fever.	Typhus.	Puerperal Fever.	Cholera.	Erysipelas	Total	Rate per 1000 Pop'n.	Pulmonary Tuberculosis	Non-pul. Tuberculosis	Ophthalmia Neonatorum	Measles.	Pneumonia Ac. Prim. & Inf.	Malaria	Dysentery	Cerebro- spinal Fever	Acute Polio- myelitis	Encephalitis Lethargica
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
1924 .. ..	—	269	30	18	—	5	—	43	370	2.0	165	59	25	—	140	—	—	7	1	40

First Year Notification 1878.

Isolation Hospital Established 1884.

Borough Extended 1899.

## ENTERIC FEVER IN BOLTON, 1881-1924.

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	—	—	—
1924 .. .. .. .	18	.09	6	.03	33.3

DEATHS OF CHILDREN UNDER 5 YEARS, 1901-1924, 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
1924 .. .. .	—	1	5	—	11	25
Total .. .. .	—	251	348	19	1079	898

## DEATHS IN EACH WARD FROM DIARRHOEAL DISEASES IN 1924.

	Certified as Infective.			Not certified as Infective.			Total deaths from Diarrhoeal diseases.		
	Under 2 yrs.	Others	Total.	Under 2 yrs.	Others	Total.	Under 2 yrs.	Others	Total.
West .. .. .	—	—	—	8	1	9	8	1	9
Halliwell .. .. .	—	—	—	1	4	5	1	4	5
Bradford .. .. .	2	—	2	5	—	5	7	—	7
Derby .. .. .	—	—	—	5	1	6	5	1	6
East .. .. .	—	—	—	3	1	4	3	1	4
Rumworth .. .. .	1	—	1	—	—	—	1	—	1
Church .. .. .	—	—	—	1	—	1	1	—	1
North .. .. .	—	—	—	—	—	—	—	—	—
Exchange .. .. .	—	—	—	1	—	1	1	—	1
Old Borough .. .. .	3	—	3	24	7	31	27	7	34
Great Lever.. .. .	—	—	—	—	—	—	—	—	—
Tonge .. .. .	—	—	—	3	—	3	3	—	3
Astley Bridge .. .. .	—	1	1	—	1	1	—	2	2
Smithills .. .. .	—	—	—	—	—	—	—	—	—
Hulton .. .. .	—	—	—	1	—	1	1	—	1
Deane-cum-Lostock .. .. .	1	—	1	—	1	1	1	1	2
DarcyLever-cum-Breightmet	—	—	—	1	—	1	1	—	1
Heaton .. .. .	—	—	—	—	—	—	—	—	—
Added Area .. .. .	1	1	2	5	2	7	6	3	9
Extended Borough .. .. .	4	1	5	29	9	38	33	10	43

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

## **Tuberculosis in Bolton in 1924.**

### MORTALITY FROM TUBERCULOSIS.

204 deaths of Bolton residents were certified in 1924 as being due to tuberculosis. This gives a death-rate for tuberculosis of 1·12 per thousand inhabitants. The figures for 1923 were 204 deaths and a death-rate of 1·11. The slight apparent increase in the tuberculosis death-rate in 1924 is, in my opinion, to be explained by an error in the estimated population.

Of the deaths, 162 were due to pulmonary tuberculosis and 42 to non-pulmonary tuberculosis.

The deaths of 81 of those who died of tuberculosis took place in institutions. They were distributed as follows:—

- 13 died in the Bolton Borough Hospital;
- 11 died in the Bolton Infirmary;
- 51 died in Townleys Hospital;
- 2 died in Meathop Sanatorium;
- 2 died in Prestwich Asylum;
- 1 died in Lancaster Asylum;
- 1 died in Mount Vernon Hospital.

A number of those who died of tuberculosis in institutions outside the borough and who were returned as Bolton residents were admitted from common lodging-houses in Bolton. These persons were not, in any real sense of the term, Bolton residents. They were persons whose habitual place of residence was a common lodging-house, but they drifted about from one place to another and had no fixed domicile. This class is attracted to Bolton in considerable numbers. They react unfavourably on our health statistics.

Where the cause of death is in doubt it is, in my opinion, unfair to attribute it to tuberculosis unless there are good grounds for so doing. A death certified as due to tuberculosis is frequently a cause of great unhappiness to other members of the family and at times causes them real material injury.

The latest available tuberculosis death-rate figure for England and Wales is that for 1922. The figure is 1·12.

Where comparisons are made between different localities as regards phthisis it is essential to take into consideration the respiratory death-rate. The respiratory death-rate for Bolton in 1924 was 2·8 per thousand inhabitants. By respiratory death-rate is meant the death-rate from all diseases of the respiratory system other than phthisis.

**Phthisis Deaths.**

162 deaths were registered from this disease, including those Bolton residents who died in institutions outside the Borough. The death-rate is 89 per 1,000 inhabitants.

The age and sex distribution are shown below:—

Sex.	Total.	Ages.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males .. ..	95	1	—	1	7	24	23	19	10	5
Females .. ..	67	—	1	3	8	29	10	6	8	2
Total .. ..	162	1	1	4	15	53	38	25	18	7

**OCCUPATIONS.**

Weaving .. .. .	4
Spinning .. .. .	3
Other Cotton Operatives .. . . .	24
Bleaching and Printing .. .. .	5
Metals, Machines and Implements .. .. .	7
Coal Mining .. .. .	6
Building .. .. .	3
Conveyance of Men and Goods .. .. .	9
General Labourers .. .. .	11
Food, Drink and Tobacco .. .. .	9
Dress, etc. .. .. .	3
Clerks .. .. .	4
Household Work .. .. .	37
School Children .. .. .	3
Miscellaneous occupations .. .. .	23
No occupation or occupation unknown .. .. .	11

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
1924 .. .. .	42	3	3	14	1	100	162	·89

**Non-pulmonary Tuberculosis.**

42 deaths were registered from non-pulmonary tuberculosis. The death-rate is .23 per 1,000 inhabitants.

The age and sex distribution are shown below :

Sex.	Total.	Ages.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males .. ..	24	9	2	1	—	6	1	3	2	—
Females.. ..	18	8	1	1	4	3	—	1	—	—
Total .. ..	42	17	3	2	4	9	1	4	2	—

## OCCUPATIONS :—

Weaving .. .. .	3
Spinning .. .. .	1
Other Cotton Operatives .. .. .	1
Bleaching and Printing .. .. .	1
Metals, Machines and Implements .. .. .	1
Coal Mining .. .. .	2
Conveyance of men and goods .. .. .	2
General Labourers .. .. .	1
Food, Drink and Tobacco .. .. .	2
Dress, etc. .. .. .	1
Clerks .. .. .	1
Household Work .. .. .	2
School Children .. .. .	2
Miscellaneous occupations .. .. .	1
No occupation or occupation unknown .. .. .	21
	—
	42

## NON-PULMONARY TUBERCULOSIS DEATHS, 1924.

Cause of Death.	Age.	Sex.	Occupation.
Tuberculosis of:—			
Cervical glands .. .. .	11 months	.. .. F .. ..	Nil.
General miliary .. .. .	44 years	.. .. M .. ..	Furnaceman.
Tabes mesenterica .. .. .	9 ..	.. .. F .. ..	Scholar.
Lupus and hip .. .. .	21 ..	.. .. M .. ..	Croft boy.
Hip and generalized .. .. .	20 ..	.. .. F .. ..	Clerk.
Meninges .. .. .	21 months	.. .. F .. ..	Nil.
Peritoneum .. .. .	49 years	.. .. M .. ..	Puddler.
Peritoneum .. .. .	2 ..	.. .. M .. ..	Nil.
Peritoneum .. .. .	27 ..	.. .. F .. ..	Weaver
Peritoneum .. .. .	54 ..	.. .. F .. ..	Housewife.
Peritoneum .. .. .	26 ..	.. .. F .. ..	Housewife.
Meninges .. .. .	20 ..	.. .. M .. ..	Not known.
Meninges .. .. .	6 months	.. .. F .. ..	Nil.
Meninges .. .. .	16 ..	.. .. M .. ..	Nil.
Glands of neck .. .. .	62 years	.. .. M .. ..	Nil.
Meninges .. .. .	14 ..	.. .. F .. ..	Nil.
Peritoneum .. .. .	14 ..	.. .. M .. ..	Little piecer.
Caecum .. .. .	51 ..	.. .. M .. ..	Costumier
Peritoneum .. .. .	18 ..	.. .. F .. ..	Errand girl.
Mesenteric glands and peritoneum .. .. .	13 months	.. .. M .. ..	Nil.
Peritoneum .. .. .	1½ years	.. .. F .. ..	Nil.
Meninges .. .. .	4 ..	.. .. M .. ..	Nil.
Meninges .. .. .	15 ..	.. .. F .. ..	Cotton roving frame doffer.
Meninges .. .. .	15 months	.. .. M .. ..	Nil.
Meninges .. .. .	5 years	.. .. M .. ..	Nil.
Meninges .. .. .	3 ..	.. .. F .. ..	Nil.
Testis, metacarpal and generalized .. .. .	2 ..	.. .. M .. ..	Nil.
Meninges .. .. .	4 ..	.. .. F .. ..	Nil.
Spine .. .. .	27 ..	.. .. M .. ..	Coal mincr.
Hip .. .. .	26 ..	.. .. M .. ..	Weaver
Meninges .. .. .	15 ..	.. .. F .. ..	Weaver.
Meninges .. .. .	3 ..	.. .. F .. ..	Nil.
Peritoneum .. .. .	10 months	.. .. M .. ..	Nil.
Intestines .. .. .	16 days	.. .. F .. ..	Nil.
Peritoneum .. .. .	16 years	.. .. F .. ..	Pastry cook.
Peritoneum .. .. .	2 ..	.. .. M .. ..	Nil.
Meninges .. .. .	4 ..	.. .. M .. ..	Nil.
Spine .. .. .	31 ..	.. .. M .. ..	Brickyard labourer.
Spine .. .. .	56 ..	.. .. M .. ..	Pork butcher.
Spine .. .. .	21 ..	.. .. M .. ..	Steam lorry driver.
Peritoneum .. .. .	53 ..	.. .. M .. ..	Collier.
Peritoneum .. .. .	5 ..	.. .. M .. ..	Scholar.

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
1924 .. .. .	9	..	..	10	1	23	42	·23

### Notification of Tuberculosis.

19 of those persons who were certified as having died of tuberculosis had not been notified before death. Of these cases 11 died of non-pulmonary tuberculosis and 8 of pulmonary tuberculosis.

I am satisfied that there is no reluctance to notify tuberculosis. In the non-pulmonary cases the diagnosis in many of them was left in doubt until the time of death. In the pulmonary cases the failure to notify was due in most cases to a belief that they had already been notified.

#### NEW CASES NOTIFIED.

The number of new cases notified in 1924 was 225. Of these cases 166 were pulmonary and 59 non-pulmonary.

The age and sex distribution of the cases notified is shown in the following tables:—

#### 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 .. ..	..	..	..	6	10	14	13	25	21	7	5	101
Females .. ..	..	..	2	1	10	11	14	13	7	7	..	65

##### 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 .. ..	..	5	5	6	3	2	2	1	2	2	..	28
Females .. ..	1	5	2	6	5	1	5	2	3	1	..	31

The number of notifications of tuberculosis from 1912 to 1924 was as follows:—

	Pulmonary.	Non-pulmonary.
1912 .. .. .	321	—
1913 .. .. .	349	158
1914 .. .. .	303	69
1915 .. .. .	268	61
1916 .. .. .	233	69
1917 .. .. .	234	45
1918 .. .. .	198	86
1919 .. .. .	185	95
1920 .. .. .	151	64
1921 .. .. .	160	79
1922 .. .. .	135	80
1923 .. .. .	133	60
1924 .. .. .	166	59

Non-pulmonary Tuberculosis was not compulsorily notifiable until 1913.

### **Tuberculosis Dispensary.**

The Tuberculosis Dispensary exists for the purpose of assisting as far as possible all persons suffering from, or suspected of suffering from tuberculosis in any form.

The Tuberculosis Officer works in complete harmony with the local medical practitioners, who send cases freely for examination and advice.

Nearly all patients who have had institutional treatment provided by the Public Health Authority attend at intervals for examination and advice. Many of them attend with very great regularity and undoubtedly derive much benefit from the advice given and from the feeling that their welfare is being watched over.

Special treatments are given regularly at the Dispensary, but the treatment of symptoms by drugs is not undertaken. Practically all treatments, the evidence in favour of which is such as to justify their trial, have been used at the dispensary. Collosol calcium and sodium morrhuates have been given a thorough trial, with, I regret to say, disappointing results. Tuberculin continues to give very good results in surgical tuberculosis. It is never given to those suffering from pulmonary tuberculosis.

I am hoping that we may be able to provide artificial sunlight for the treatment of suitable cases of surgical tuberculosis.

The following tables show the number and nature of the cases dealt with at the Tuberculosis Dispensary in 1924.

Insured persons .. .. .	959 attendances.
Uninsured persons .. .. .	1732 ..
Total attendances .. .. .	<u>2691</u>

CONSULTATIONS.

Total number sent for consultations—	Insured .. .. .	164
	Uninsured .. .. .	<u>136</u>
		300

FINDINGS AT CONSULTATIONS.

Number found to have pulmonary tuberculosis .. .. .	89
Number found to have non-pulmonary tuberculosis.. .. .	45
Number in whom pulmonary tuberculosis was suspected but not definitely diagnosed .. .. .	23
Number in whom no evidence of tuberculosis was found .. .. .	143

TUBERCULIN DISPENSARY.

Number of cases treated .. .. .	87
Number of attendances .. .. .	1701

EX-SERVICEMEN.

Number of ex-servicemen who have attended the Tuberculosis Dispensary .. .. .	73
Total attendances of ex-servicemen .. .. .	452
Number of ex-servicemen referred by Pensions Board for opinion as to tuberculosis.. .. .	28
Number found to be suffering from Phthisis.. .. .	7
Number of those in whom no evidence of Phthisis was found .. .. .	16
Number of doubtful cases kept under observation.. .. .	5

TREATMENT OF TUBERCULOSIS.

For the residential treatment of pulmonary tuberculosis we have thirty beds at the Wilkinson Sanatorium and twenty-four at the Bolton Borough Hospital. For surgical tuberculosis we have an arrangement with the Bolton Infirmary, but no general hospital is a suitable place for the prolonged treatment of cases of surgical tuberculosis when the stage of operation, if such be needed, is over.

Where there are special reasons for doing so we send cases to institutions at which we pay for beds as per user. In this way a few cases were sent in 1924 to Meathop Sanatorium and to Birkdale Sanatorium.

We have a call on six beds at the Liverpool Children's Hospital at Heswall, in Cheshire. This is not enough, and proposals are at the present time under consideration for a complete scheme for the treatment and care of cripples. Surgical tuberculosis is included in this scheme.

The following tables show the treatment applied for and advised, and the treatment given.

APPLICATIONS.		TREATMENT PROVIDED.	
Insured.. .. .	153	Residential .. ..	153
Uninsured .. .. .	44	Domiciliary .. ..	36
		Cancelled .. .. .	2
Total .. .. .	197	Declined treatment..	2
Pul. Tuberculosis ..	167	Waiting List .. ..	4
Non-pul. tuberculosis	30		

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1924.

INSTITUTION.	Beds.	Treated.			Under Treatment 31st Dec. 1924
		Total.	Insured.	Unins.	
*Meathop Sanatorium .. .. .	..	8	7	1	1
Wilkinson Sanatorium .. .. .	30	62	54	8	21
Borough Hospital .. .. .	24	68	50	18	18
*Birkdale Hospital .. .. .	..	1	1	..	1
*Heswall .. .. .	6	4	..	4	2
*Infirmery .. .. .	..	12	5	7	..
Dispensary .. .. .	..	87	19	68	57
Domiciliary .. .. .	..	36	36	..	54

\* Paid for per user.

ADMISSIONS TO AND DISCHARGES FROM INSTITUTIONS :—

	Admissions.	Discharges.
Meathop Sanatorium .. .. .	9	10
Wilkinson Sanatorium .. .. .	62	54
Borough Hospital .. .. .	68	73
Infirmery .. .. .	12	14
Heswall (Children's Hospital) ..	4	4
Birkdale Hospital .. .. .	1	..

ASSISTANCE GIVEN TO NECESSITOUS TUBERCULOUS PATIENTS.

1. Total number of patients assisted .. .. . 69
2. Average time receiving assistance .. .. . 3½ months
3. Amount of milk given .. .. . 7048 pints
4. Malt and oil given .. .. . 135-lbs.

The results of our sanatorium treatment fully justify the expenditure involved. Some patients are cured. To all patients sanatorium treatment brings comfort and prolongation of life. It diminishes appreciably the amount of infection to which the general population is exposed.

Venereal Diseases.

The Venereal Disease Clinic conducted at the Public Health Department continues to do good work.

The total number of new cases which attended the clinic in 1924 was 529, of these 404 were men and 125 women.

The number of women who attended is distinctly disappointing. The number of women who suffer from gonorrhœa is very large, and most of these women are innocent victims. Efforts are being made to get more cases to attend. Gonorrhœa is at least three times as prevalent as syphilis, and the number under treatment for this disease should be much larger. In treating the women it is desirable to separate the innocent from the guilty, and an effort will be made in this direction.

Our experience in Bolton's Venereal Diseases Clinic has shown that congenital syphilis, that is syphilis handed down to innocent children by parents who have contracted the disease, is not as common as it was thought to be. In the last few years a great amount of evidence has been collected which shows that still-births are not nearly as often the result of syphilis as they were once thought to be.

The incidence of syphilis has undoubtedly greatly diminished as the result of the work done all over the country by venereal disease clinics. The new cases attending each year is not a fair indication of the prevalence of this disease.

The total number of attendances made by patients in 1924 was 6,924.

PROPAGANDA WORK.

In the week Feb. 10th to Feb. 17th, 1924, a campaign was carried out in Bolton for the purpose of spreading knowledge regarding venereal diseases and their effects. The moral aspect was strongly emphasized during this campaign. The films shown were: Whatsoever a Man Soweth; Social Hygiene for Women; The End of the Road; Venereal Diseases; Damaged Goods;

The Shadow; etc., etc. Most of the meetings were addressed by Mr. T. Bowen Partington, Lecturer to the National Council for Combating Venereal Diseases. All the meetings were well attended, the total of the attendances at all the meetings amounting to 5,800.

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.	
Wednesday .. .. .	7-0 p.m.	
Thursday .. .. .	7-0 p.m.	} Females.
Saturday .. .. .	11-0 a.m.	

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.
Tuesday .. .. .	7 p.m.
Wednesday .. .. .	10 a.m. and 7 p.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.

105 doses of Salvarsan substitutes were supplied to 7 medical men. 135 samples of blood and 7 smears sent by private practitioners were sent to Manchester for examination.

The following table shows the attendances and treatment received by Bolton patients 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.	Deans Hosp. S. Shields
Attendances	70	3	41	9	138	8	26
Doses of Salvarsan substitutes given	9	..	11	1	..	..	..
Tests—							
Wassermann	4	..	5	..	..	..	..
Gonorrhœa	..	..	..	2	3	..	..

The tables on pages 46 and 47 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, 1924.

	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, 1924, were under treatment or observation for:—	181	112	1	..	241	34	8	7	431	153
2. Number dealt with during the year in the out-patient Clinic for the first time and found to be suffering from:—										
Syphilis only .. .. .	61	42	..	..	..	..	..	..	61	42
Soft chancre only .. .. .	..	..	..	..	..	..	..	..	..	..
Gonorrhœa only .. .. .	..	..	..	..	191	17	..	..	191	17
§Syphilis and soft chancre .. .. .	..	..	..	..	..	..	..	..	..	..
§Syphilis and gonorrhœa .. .. .	11	..	..	..	11	..	..	..	22	..
§Gonorrhœa and soft chancre .. .. .	..	..	..	..	..	..	..	..	..	..
§Syphilis, soft chancre & gonorrhœa .. .. .	..	..	..	..	..	..	..	..	..	..
Conditions other than venereal .. .. .	..	..	..	..	..	..	130	66	130	66
TOTAL—Item 2 .. .. .	72	42	..	..	202	17	130	66	404	125
TOTAL—Items 1 and 2 .. .. .	253	154	1	..	443	51	138	73	835	278
3. §Number of persons who ceased to attend the out-patient Clinic										
(a) before completing the first course of treatment for .. .. .	47	24	..	..	107	4	..	..	154	28
(b) after one or more courses but before completion of treatment for	40	29	..	..	..	..	..	..	40	29
(c) after completion of treatment, but before final tests as to cure of..	22	13	..	..	53	7	..	..	75	20
4. Number of persons transferred to other Treatment Centres after treatment for .. .. .	6	3	..	..	2	..	..	..	8	3
5. §Number of persons discharged from the out-patient Clinic after completion of treatment and observation for .. .. .	35	19	..	..	55	13	98	67	188	99
6. §Number of persons who, on the 1st January, 1925, were under treatment or observation for .. .. .	103	66	1	..	226	27	40	6	370	99
TOTAL—Items 3, 4, 5, and 6 .. .. .	253	154	1	..	443	51	138	73	835	278
7. Out-patient attendances:—										
(a) For individual attention by the Medical Officer .. .. .	1318	726	24	..	2517	132	428	148	4287	1006
(b) For intermediate treatment e.g. irrigation, dressings, etc.	..	..	..	..	1370	261	..	..	1370	261
Total attendances .. .. .	1318	726	24	..	3887	393	428	148	5657	1267
8. Examinations of Pathological material:—										
(a) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre.. .. .	..	..	..	..	125	..	..	..	..	..
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory .. .. .	..	..	..	..	3	..	..	..	306	..

§ 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.

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.	Bootle C.B.	Rochdale 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 .. .. .	84	27	..	2	1	..	..	114
Soft chancre .. .. .	..	..	..	..	..	..	..	..
§Gonorrhœa .. .. .	153	63	..	1	1	1	..	219
Conditions other than venereal ..	154	38	1	2	..	..	1	196
TOTAL .. .. .	391	128	1	5	2	1	1	529
B. Total number of attendances at the out-patient Clinic of all patients residing in each area .. .. .	4860	1973	1	54	14	18	4	6924
C. Aggregate number of " In-patient days " of all patients residing in each area	..	..	..	..	..	..	..	..
D. Number of doses of Arsenobenzol compounds given in the :—	633	440	..	7	6	..	..	1036
1. Out-patient Clinic								
2. In-patient Dept.	..	..	..	..	..	..	..	..
E. Give the names of Arsenobenzol compounds used in the treatment of syphilis and the usual initial and final doses.	<p>For Males—·45 NAB. (initial dose) ·6 NAB. (final dose). For females—·30 NAB. (initial dose) ·45 NAB. (final dose).</p>							
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.	<p>For all sores, primary, etc., local treatment is given Lotio. Nigra, Pulv. Cal., and ZnO, etc. For the constitutional invasion we use NAB., 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, individual idiosyncracies considered in every case. Mercury is given throughout the course as grey powder given by mouth. All NAB., etc., is given intravenously.</p>							
G. State the nature of tests applied in deciding as to discharge of patients referred to in item 5 on previous page.	<p>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.</p>							

**Borough Isolation Hospitals.**

No. of Patients.	No. of Patients suffering from the following Diseases :						Total.
	Scarlet Fever.	Enteric Fever.	Diphtheria.	Pulmonary Tuberculosis.	Other Tuberculous Diseases	Other Diseases	
Remaining, Dec. 31st, 1923	19	..	..	23	..	..	42
Admitted in 1924 .. ..	142	3	11	65	3	17	241
Total No. treated, 1924 ..	161	3	11	88	3	17	283
Discharged in 1924 .. ..	150	2	10	58	2	13	235
Died in 1924 .. .. .	..	1	1	12	1	3	18
Remaining, Dec. 31st, 1924	11	..	..	18	..	1	30

**SCARLET FEVER.**

144 cases were admitted as scarlet fever. Of these cases none died.

Two of the cases admitted as scarlet fever showed no evidence of scarlet fever or any other disease from the time of admission.

There were a few severe cases. They all had antistreptococcic serum and did well.

There was no clinical evidence that any of the scarlet fever cases were suffering from diphtheria.

No member of the hospital staff contracted scarlet fever.

The following complications occurred in patients suffering from scarlet fever:—

Albuminuria .. .. .	8
Rheumatism .. .. .	10
Otitis Media .. .. .	3
Parotitis .. .. .	2

At the time of discharge the patients who had suffered from these complications had, so far as clinical examination could show, made a complete recovery.

#### DIPHThERIA.

18 cases were admitted as diphtheria.

Of these cases two were found to be suffering from whooping cough only, one from measles only, four from sore throats other than diphtheritic.

Two patients suffering from diphtheria had the operation of tracheotomy performed on them. One recovered and one died. In the case of the patient on whom tracheotomy was performed and who subsequently died, death took place three weeks after the operation for tracheotomy, the cause of death being heart failure. The laryngeal diphtheria was secondary to faucial diphtheria.

#### ENTERIC FEVER.

Of the six patients admitted for enteric fever one was found to be suffering from tuberculous peritonitis, one from phthisis, and one from encephalitis lethargica. In the case of one of the enteric patients, who was suffering from paratyphoid B. infection, perforation took place. The case was operated on very shortly after perforation, but the patient unfortunately died of acute peritonitis. Recovery in such cases is, of course, extremely rare.

The average stay in hospital of scarlet fever cases was 41 days, and of diphtheria cases 43 days.

There were only two scarlet fever return cases. That these cases were infected by a case discharged from hospital was very doubtful.

There were no cases of cross infection. The health of the hospital staff was very good throughout the year. There were no cases of notifiable infectious disease.

Once more I return sincere thanks to Miss Bateman, the Matron, for her able management of the hospital and her solicitude for the welfare of the patients. I desire to thank the staff also for loyal and able assistance.

The first part of the paper is devoted to a general discussion of the problem. It is shown that the problem is equivalent to the problem of finding a function which satisfies certain conditions. This is done by using the method of characteristics.

The second part of the paper is devoted to the construction of the function which satisfies the conditions. It is shown that the function can be expressed in terms of the solutions of a certain differential equation. This is done by using the method of separation of variables.

The third part of the paper is devoted to the study of the properties of the function. It is shown that the function is continuous and differentiable. This is done by using the method of the mean value theorem.

The fourth part of the paper is devoted to the study of the asymptotic behavior of the function. It is shown that the function approaches a certain limit as the independent variable approaches infinity. This is done by using the method of the asymptotic expansion.

The fifth part of the paper is devoted to the study of the numerical properties of the function. It is shown that the function can be calculated to a high degree of accuracy. This is done by using the method of the finite difference method.

The sixth part of the paper is devoted to the study of the physical properties of the function. It is shown that the function has certain physical properties. This is done by using the method of the physical interpretation.

The seventh part of the paper is devoted to the study of the mathematical properties of the function. It is shown that the function has certain mathematical properties. This is done by using the method of the mathematical analysis.

The eighth part of the paper is devoted to the study of the historical properties of the function. It is shown that the function has a long history. This is done by using the method of the historical research.

The ninth part of the paper is devoted to the study of the future properties of the function. It is shown that the function has a bright future. This is done by using the method of the future research.

The tenth part of the paper is devoted to the study of the concluding properties of the function. It is shown that the function has certain concluding properties. This is done by using the method of the concluding analysis.

SECTION III.

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1. Maternity and Child Welfare.
2. Haslam Maternity Home.
3. Control of Midwives.

SECTION III

1. Maternity and Child Welfare
2. Hospital Maternity Home
3. Control of Midwives

### Maternity and Child Welfare.

There were born in Bolton in 1924 living children to the number of 3,203, of whom 3,084 were legitimate and 119 illegitimate. Of the legitimate children 269 died, and of the illegitimate 26. Taking each of these classes separately we get an infantile mortality rate for the legitimate children of 87, and for the illegitimate of 219.

#### NOTIFICATION OF BIRTHS.

Of the 3,203 live births which occurred 3,116 were notified. Where the requirements of the Notification of Births Acts are not complied with a letter is sent to the party responsible. In every case a notification was received in reply, together with a more or less satisfactory explanation of the failure to notify.

156 still births were notified. This makes a total of 3,272 notifications.

The 156 still births are a rate of 4·8 per 100 registered live births. The latest corresponding rate for England and Wales is that for 1922; it was 3·5 per 100 births.

As I have already mentioned, venereal disease is not as common a cause of still-births as it was once believed to be.

No doubt some of the maternal deaths and some of the still-births could have been prevented by skilled examination of the mother at an early period of her pregnancy. I hope before long to have an ante-natal clinic in charge of a physician specially skilled in obstetrics. To such a clinic midwives who had any doubt as to the condition of their patients could send them for competent advice.

Infantile mortality, by which is meant the mortality of the first twelve months of life, has in recent years been greatly reduced. The reduction, however, is entirely confined to the mortality in the period subsequent to the first four weeks of life. The mortality of the first four weeks, known as the neo-natal death-rate has remained practically unaltered. The reasons for this failure to improve the neo-natal mortality are obscure. The neo-natal mortality must be due to causes which are at work prior to birth. The lesson is undoubtedly that more attention must be given to the pre-natal period. Hence the need of medical oversight during the period of pregnancy.

The following Table shows the deaths and causes of death during the first four weeks of life, during 1924.

### Deaths under Four Weeks.

CAUSES OF DEATH.	Under 7 days	Under 14 days	Under 21 days	Under 28 days	Total under 28 days
Abdominal Tuberculosis .. .. .	-	-	1	-	1
Convulsions .. .. .	2	4	3	2	11
Bronchitis .. .. .	-	-	1	1	2
Pneumonia (all forms) .. .. .	-	1	-	-	1
Diarrhœa .. .. .	-	-	-	1	1
Enteritis .. .. .	-	3	3	2	8
Syphilis .. .. .	-	-	1	2	3
Injury at Birth .. .. .	3	-	-	-	3
Atelectasis.. .. .	6	1	1	-	8
Congenital Malformations .. .. .	5	4	1	-	10
Premature Birth .. .. .	35	5	1	3	44
Atrophy, Debility and Marasmus ..	10	1	3	1	15
Other Causes .. .. .	6	-	1	-	7
Totals .. .. .	67	19	16	12	114

The neo-natal death rate for Bolton during 1924 is therefore, 35.5.

It will be noted that premature birth claims the heaviest toll of infant life during the four weeks following birth. This indicates the importance of ante-natal work, work in which the midwives of Bolton can give very great assistance.

## 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	1924	35·5

The neo-natal rate for 1924 is the lowest recorded in Bolton; but it was nearly as low in 1906. We have not influenced very much the causes which determine, whilst the infant is yet in its mother's womb, that its life shall be one of only very few days.

## MATERNAL DEATHS.

By maternal deaths are meant the deaths of mothers or prospective mothers from causes directly due to pregnancy or childbirth. Like the neo-natal death-rate, the maternal death-rate has remained throughout the whole country practically unaltered for many years. 25 such deaths took place in Bolton in 1924. Details of these cases are given below. It is difficult to see how some of these deaths could have been prevented; some could undoubtedly have been prevented by greater care in the ante-natal period and by better conditions at the time of confinement.

The maternal death-rate is the number of maternal deaths per thousand live births. There were in Bolton in 1924, 3,203 live births. The maternal death-rate for 1924 is therefore 7·8

Details of Maternal Deaths in 1924.

No.	Age.	Cause of Death.	Occupation.	Domestic Environment.	Previous Pregnancies.	Delivery.	Nursing.	Remarks.
1	26	Miscarriage.	Winder in cotton mill.	Good.	Nil.	Nil.	Own home.	7 weeks pregnant.
2	26	Incomplete abortion.	Hawker of sand, etc.	Poor.	Three—living.	Nil.	Hospital.	4 months pregnant.
3	41	Ante-partum hæmorrhage and difficult labour.	Housewife and washerwoman.	Satisfactory.	Seven—living.	Doctor.	Own home.	Baby lived 20 minutes.
4	38	Hyperemesis gravidarum.	Housewife.	Satisfactory.	Seven—five living.	Nil.	Hospital.	4 months pregnant.
5	35	Post-partum hæmorrhage.	Housewife.	Satisfactory.	Two—living.	Doctor.	Own home.	Stillborn.
6	45	Post-partum hæmorrhage.	Housewife.	Satisfactory.	Nine—five living.	Doctor.	Own home.	Stillborn.
7	32	Placenta prævia.	Housewife.	Satisfactory.	Two—living.	Nil.	Hospital.	Died before delivery.
8	43	Placenta prævia.	Housewife.	Satisfactory.	Seven—living.	Doctor.	Hospital.	Stillborn.
9	44	Placenta prævia.	Housewife.	Fairly good.	Ten—nine living.	Doctor.	Hospital.	Stillborn.
10	27	Confinement.	Housewife.	Fairly good.	Three miscarriages.	Doctor.	Own home.	Baby macerated.
11	38	Difficult parturition (twin pregnancy).	Housewife.	Satisfactory.	Nil.	Midwife.	Own home.	Twins—both stillborn.
12	43	Obstructed pregnancy. Cæsarean Section.	Housewife.	Satisfactory.	Nil.	Doctor.	Hospital.	Baby lived 10 minutes.
13	39	Parturition. Retained adhesive placenta.	Housewife.	Very good.	One—living.	Midwife.	Own home.	Baby healthy.
14	30	Obstructed labour. Contracted pelvis.	Domestic servant.	Good.	Nil.	Doctor.	Hospital.	Stillborn.
15	31	Puerperal sepsis in fallopian tubes. (Inquest.)	Housewife.	Fairly good.	Five—three living.	Midwife.	Own home.	Baby healthy. Mother expired.
16	29	Puerperal fever.	Housewife.	Very good.	Nil.	Doctor.	Own home.	Baby healthy.
17	35	Puerperal fever.	Housewife.	Good.	One—living.	Doctor.	Sister's home.	Baby healthy.
18	23	Eclampsia. Cæsarean Section. Septicæmia.	Cop winder.	Good.	Nil.	Doctor.	Hospital.	Baby healthy.
19	37	Puerperal septicæmia.	Housewife.	Unsatisfactory.	Six—living.	Midwife.	Hospital.	Baby healthy.
20	31	Puerperal septicæmia.	Housewife.	Good.	Three—one living.	Midwife.	Hospital.	Stillborn.
21	33	Confinement. Thrombosis of femoral veins.	Housewife.	Satisfactory.	One—living.	Doctor.	Own home.	Baby healthy.
22	31	Toxæmia of pregnancy.	Housewife.	Satisfactory.	Nil.	Doctor.	Hospital.	Cæsarean section. Baby lived 10 minutes.
23	41	Pregnancy; 8th month. Eclamptic convulsions.	Housewife.	Satisfactory.	Seven—living.	Nil. Doctor in attendance.	Own home.	Unborn.
24	21	Eclampsia. Confinement.	Weaver in cotton mill.	Satisfactory.	Nil.	Doctor.	Hospital.	Stillborn.
25	33	Pre-eclamptic toxæmia. Childbirth.	Housewife.	Good.	Nil.	Doctor.	Hospital.	Baby healthy.

The following figures indicate very clearly the work done by the health visitors. It is unnecessary at this time of day to lay any stress on the value of work done by health visitors. Bolton is fortunate in having health visitors who do this work as competently and as conscientiously as, I believe, those of any other area whatever.

1. VISITS BY HEALTH VISITORS.

Primary birth enquiries .. .. .	3240
Visits to Children, 1-5 years .. .. .	3714
Primary visits to expectant mothers .. .. .	862
Revisits to infants under 1 year .. .. .	9795
Revisits to children, 1-5 years .. .. .	2616
Revisits to expectant mothers .. .. .	1481
Visits to Puerperal Fever Cases .. .. .	16
Visits to Ophthalmia Cases .. .. .	357
Death enquiries made .. .. .	286
Visits to midwives' houses .. .. .	284
 Total visits .. .. .	 22651

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

No. of Persons.	Assistance given.
636 .. .. .	New Milk.
112 .. .. .	Dried Milk.
2 .. .. .	Nestles Milk.
165 .. .. .	Malt and Oil and Virol.
6 .. .. .	Home Helps on 66 days.

3. AMOUNT OF FOOD DISTRIBUTED.

	Amount.
New Milk .. .. .	24596 qts.
Dried Milk .. .. .	1329 lbs.
Nestles Milk .. .. .	78 tins.
Malt and Oil .. .. .	373 lbs.
Virol .. .. .	182 lbs.

4. METHOD OF FEEDING.

	Living infants visited.	Infants who died under 1 year
1. Breast fed only .. .. .	2018	73
2. Breast fed partly .. .. .	406	40
3. Artificially fed .. .. .	660	173

5. OTHER CONDITIONS.

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

1. Healthy .. .. .	2715
2. Delicate .. .. .	206
3. Premature .. .. .	163

6. OTHER INFORMATION.

Nuisances found and referred to M.O.H. .. .. .	55
Cases referred to N.S.P.C.C. .. .. .	8
Leaflets distributed .. .. .	3111
Houses found to be clean .. .. .	2965
Houses found to be dirty .. .. .	196
No. of mothers returning to work within three months of birth of child.. .. .	138

**School for Mothers and Infant Clinics.**

The Bolton School for Mothers and the Bolton Public Health Department continue to co-operate harmoniously and successfully for the welfare of the infant population of Bolton. As the pioneers in this work the Bolton School for Mothers deserves great credit. It well deserves the support of Bolton people for the valuable work done by its voluntary workers.

The infant consultations which are held in connexion with the meetings of the School for Mothers are under the control of the Medical Officer of Health. With one exception they are staffed by whole-time medical officers. St. Chad's, the eighth and most recently established of the clinics has now (May, 1925) been provided with a part-time medical officer.

Particulars of the attendances at the eight centres are shown in the following table. The attendances are for the calendar year 1924. Each Centre is open one afternoon a week.

	New Members	No. on Roll	Total Attendances	Meetings	Average
1. Tipping Street .. .. .	146	242	1834	42	43·6
2. Peace Street .. .. .	199	290	2236	43	52·0
3. Halliwell .. .. .	258	342	2830	43	65·8
4. Grecian Street .. .. .	193	257	2376	45	52·8
5. Kensington .. .. .	199	317	1851	44	42·0
6. Saviours .. .. .	135	237	1526	42	36·3
7. James Terrace .. .. .	183	232	1752	45	38·9
8. St. Chad's .. .. .	66	88	895	44	20·3
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	1379	2005	15300	348	351·7

The ages of the new members at the time of their first attendance were as follows:—

Under one month	..	..	..	..	..	289
„ two months	..	..	..	..	..	359
„ three months	..	..	..	..	..	212
„ six months	..	..	..	..	..	188
„ twelve months	..	..	..	..	..	104
Twelve months and over	..	..	..	..	..	227

From this table it appears that of the new cases enrolled 1,152 were aged under 12 months. The total live births for Bolton in 1924 were 3,203. The attendance at the infant clinics shows the extent of the work done by the Public Health Department in conjunction with the School for Mothers and the influence which it is within the power of this organisation to exercise on the infant life of Bolton.

#### PRE-NATAL WORK.

Miss Steeples has continued to do excellent work with her class for expectant mothers. It is essential that this work should now be extended by the establishment of a pre-natal clinic in charge of a competent obstetrician. Such a clinic could be an invaluable help to the midwives of Bolton, and is really essential if we are to do our best for the mothers of Bolton.

#### MASSAGE.

Massage treatment is given at Flash Street School to suitable cases sent from the clinics. The treatment is given entirely gratuitously by Mrs. Ernest Mallett. It has proved extremely beneficial, and I take this opportunity of expressing to Mrs. Ernest Mallett, who is a trained masseuse, the sincere thanks of all connected with the Clinics and the School for Mothers for her very valuable services.

During the year 603 treatments were given by Mrs. Mallett.

The School for Mothers employs two nurses who, in addition to giving their assistance at the meetings, pay a large number of visits to the homes of the mothers attending the clinics. These nurses paid in 1924 a total of 3,204 visits to 1,328 babies.

### **Bolton Day Nursery.**

This institution, managed by a voluntary body, but in receipt of an annual grant of £300 from the Bolton Public Health Authority and of a grant also from the Ministry of Health, continues to do good work and supplies a real want in the social life of Bolton. It is under the general supervision of the Medical Officer of Health, but Dr. Falconer is its medical officer.

The total number of attendances made by the children confided to its care numbered 8,279 in 1924, each half-day counting as one attendance. The attendances were adversely affected in 1924 by epidemics of measles and chickenpox. It would be difficult to overestimate the amount of comfort and peace of mind which a host of mothers derived from being able to leave their children in an institution where they knew they would be well cared for whilst they themselves are compelled to go out to work in order to enable them to keep a home of any sort together.

The Day Nursery is a worthy pioneer in the work of caring for children under the age of five. This work is sure to be extended and nursery schools will undoubtedly be a boon to many children, though I hope attendance at them will never be compulsory.

The Day Nursery is open from 7 a.m. to 5-30 p.m. from Monday to Friday and from 7 a.m. to 1 p.m. on Saturdays. A charge of 1/- is made for a whole day's attendance and 6d. for Saturday.

### **Haslam Maternity Home.**

This home contains 21 beds, two of which are in the labour ward and one in the isolation ward. The maximum number of patients it can accommodate at any one time is therefore 18.

3,000 copies of the following leaflet were distributed in March, 1925 at the infant clinics and elsewhere in order to make known as fully as possible the advantages offered by the Haslam Maternity Home.

COUNTY BOROUGH OF BOLTON.

HASLAM MATERNITY HOME.

Chorley New Road, Bolton.

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1.—The Home is situated at Ravenswood, Chorley New Road, about 200 yards beyond Markland Hill. It is a very fine building and stands in extensive grounds. There are 4 Wards containing respectively 6-5-3-4 beds. There are in addition a labour ward where each patient is delivered entirely alone, and an isolation ward for cases which for any reason require strict isolation.

The telephone number of the Home is Bolton 487.

2.—The Home is for the following classes of patient:—

- (a) Cases in which there is a history of complication in a previous confinement.
- (b) Cases in which some difficulty during confinement is anticipated.
- (c) Cases for which there is no proper accommodation for confinement at home.
- (d) Cases in which for various reasons the patients do not wish the confinement to take place at home.

3.—The weekly fees payable by patients vary according to income, the maximum fee payable being £4 4s. 0d. per week. This does not include medical attendance.

Patients may engage any doctor they please. They need not engage any doctor at all, but may leave it to the Matron to call in a doctor should any emergency render this necessary. The patient will be responsible for the doctor's bill.

Most cases pay £2 2s. 0d. per week, and most cases do not require a doctor.

The average stay in the Home of cases admitted is 15 days, so that the average bill for the patient is £4 10s. 0d. In exceptional circumstances the bill may be much less.

4.—Applications for admission to the Home should be made to the Medical Officer of Health, Public Health Offices, Howell Croft North, Bolton, any morning between the hours of 10-0 and 12-0, or in the afternoon between 2-30 and 5-0.

5.—The Matron may be interviewed at the Home any morning between the hours of 10-0 and 12-0, and on Monday and Wednesday afternoon at 3-0.

6.—A list will be supplied to applicants of what they are expected to bring with them to the Home.

C. W. PAGET MOFFATT, M.A., M.B.,  
Medical Officer of Health.

Public Health Dept.,  
Howell Croft North,  
Bolton.  
3rd March, 1925.

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.

Full particulars of all cases admitted to the home during 1924 are given below :—

STATISTICS, 1924.

1. Total number of cases admitted .. .. .	220
2. Average duration of stay in days .. .. .	14.4
3. No. of cases delivered by :—	
(a) Midwives .. .. .	180
(b) Doctors .. .. .	39

4. No. of cases in which medical assistance was sought by the midwife with reason for requiring assistance .. .. .	44
(a) Antenatal .. .. .	—
(b) During labour .. .. .	42
Ruptured perineum .. .. .	28
Delayed vertex .. .. .	5
Tedious labour .. .. .	2
Ante-partum hemorrhage .. .. .	2
Premature labour .. .. .	1
Retained placenta .. .. .	1
Malpresentation .. .. .	3
(c) After labour .. .. .	1
Rise of temperature .. .. .	1
(d) For infant .. .. .	1
Abscess on Neck .. .. .	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 .. .. .	9
7. No. of cases notified as ophthalmia neonatorum, with result of treatment in each case .. .. .	Nil
8. No. of " Inflammation of eyes " however slight .. .. .	8
9. No. of infants not entirely breast fed whilst in the institution, with reasons why not breast fed .. .. .	8
Milk insufficient .. .. .	6
Milk not suitable .. .. .	1
Premature infant .. .. .	1
10. No. of maternal deaths, with causes .. .. .	Nil
11. No. of fetal deaths (Stillborn or within 10 days of birth) and their causes and the results of the post-mortem examinations, if obtainable .. .. .	9
(a) Stillbirths .. .. .	8
(b) Deaths within 10 days of birth .. .. .	1

No post-mortem examinations were made.

I am very grateful to the Matron and staff of the Haslam Maternity Home for the ability and unsparing assiduity with which they do their very best for every patient in the Home.

## Control of Midwives.

### LECTURES TO MIDWIVES.

During the winter season 1924-5 a course of six lectures was arranged for the Bolton midwives. The lectures were very greatly appreciated, and the attendances of midwives at them were very large. A similar course will be arranged next season. The lecturers and the subjects were as follows:—

Dr. Catherine Chisholm	..	Infant Feeding.
Dr. Georgiana Duthie	.. ..	Normal Labour.
Dr. Mary E. Boullen	.. ..	Puerperal Infection.
Dr. Georgiana Duthie	.. ..	Hæmorrhage.
Dr. Douglas Gray	.. ..	When to send for the Doctor.
Dr. H. M. Coope	.. ..	Some complications of pregnancy and labour.

Dr. Mary E. Boullen now assists in the supervision of the midwives of Bolton. The midwives of Bolton are, as to the great majority, very anxious to do their best and are very ready to co-operate with the Public Health Authority. The very great interest they took in the lectures provided for them was very gratifying.

94 notifications of their intention to practise within the Borough were received from midwives during the year, of these, 13 were from midwives engaged at the Haslam Maternity Home.

	Trained.	Untrained.	Total.
No. of midwives .. .. .	81	13	94
No. of cases delivered .. .. .	2471	287	2758
Av. No. of cases per midwife ..	31	22	29
No. of calls for medical aid .. ..	319	26	345
Per cent. of cases in which medical aid was sought .. .. .	12%	9%	12%
No. on the Register at the beginning of the year .. .. .			80
No. who ceased to practise in Bolton .. .. .			13
No. who notified their intention to practise in Bolton for the first time .. .. .			14
No. on the Register at the end of the year .. .. .			81
Names voluntarily removed from Roll .. .. .			2

The following 475 notifications were received from the midwives in accordance with the regulations of the Central Midwives' Board:—

Medical assistance .. .. .	345
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CONDITIONS FOR WHICH DOCTORS WERE SUMMONED IN AN  
EMERGENCY BY MIDWIVES.

PREGNANCY. . . . .	..	31
Abortion or threatened abortion .. .. .	6	
Ill-health .. .. .	5	
Ante-partum hæmorrhage .. .. .	10	
Deformity or stunted growth .. .. .	6	
Alarming prostration .. .. .	1	
Excessive sickness .. .. .	3	
LABOUR .. .. .	..	219
Delayed, complicated or obstructed labour.. .. .	66	
Ruptured perineum .. .. .	80	
Malpresentation .. .. .	41	
Retained placenta .. .. .	14	
Placenta prævia .. .. .	4	
Excessive bleeding .. .. .	3	
Albuminuria .. .. .	8	
Threatened heart failure .. .. .	3	
PUERPERIUM. . . . .	..	16
Rise of temperature .. .. .	11	
Post-partum hæmorrhage .. .. .	5	
Prolapse of bladder.. .. .	..	
INFANTS .. .. .	..	79
Feebleness, etc. .. .. .	25	
Inflammation of eyes .. .. .	24	
Prematurity .. .. .	21	
Malformation .. .. .	4	
Convulsions .. .. .	5	
		345
Stillbirths .. .. .	..	103
Artificial feeding .. .. .	..	17
Death of mother or child .. .. .	..	9
Laying out of dead body .. .. .	..	..
Liability to be a source of infection .. .. .	..	1

2758 cases out of a total of 3272 births notified were attended by midwives.

The Local Authority neither employs nor subsidizes any practising midwives.

COST OF MEDICAL AID SENT FOR BY MIDWIVES IN 1924.

No. of calls for Medical Aid .. .. .	345
No. of Doctors' fees payable by Local Supervising Authority	139
Gross amount paid by Local Supervising Authority .. ..	£225 1s. 0d.
No. of such fees or part thereof recoverable from patients..	6
Amount recoverable from patients .. .. .	£9 8s. 0d.
Net amount to be paid by Local Supervising Authority for Medical Aid to Mothers and Infants at time of confinement .. .. .	£215 13s. 0d.

I desire to record once more my appreciation of the manner in which the midwives of Bolton, with few exceptions, carry out their difficult and scantily-remunerated duties. I find them most ready to carry out instructions and to do their best for their patients.

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

Cost of Disease and Loss of Productivity in 1934

100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...
100	Loss of life for Medical Aid	...

The following table shows the estimated cost of disease and loss of productivity in 1934. The total cost is estimated to be \$1,000,000,000. This cost is divided into two main categories: the cost of disease and the cost of loss of productivity. The cost of disease is estimated to be \$500,000,000, and the cost of loss of productivity is estimated to be \$500,000,000. The cost of disease is further divided into the cost of communicable diseases and the cost of non-communicable diseases. The cost of loss of productivity is further divided into the cost of physical disability and the cost of mental disability.

SECTION IV.

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

SECTION IV

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

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

GENERAL INSPECTIONS.

Beasts .. .. .	10226
Calves .. .. .	291
Sheep .. .. .	55189
Swine .. .. .	10325
Store Cattle.. .. .	577
Slaughter-houses.. .. .	2199
Railway Sidings .. .. .	87
Markets and Fairs .. .. .	720
Farms .. .. .	27
Shops .. .. .	8093
Cold Stores .. .. .	15
Knackers Yards .. .. .	14
Gut Cleaners .. .. .	14
Tripe Works .. .. .	28

208 A register of butchers' shops has been prepared containing a list of premises.

Systematic inspections have been made of the whole of these premises.

## CARCASSES FOUND TO BE AFFECTED WITH DISEASE.

Diseases or Defects.	Examined.							Action taken.		Total.
	Cows.	Bulls.	Heifers.	Bullocks.	Calves	Sheep.	Swine.	Whole Carcasses Destroyed.	Parts and Organs Destroyed.	
Tuberculosis .. .. .	988	22	38	61	2	..	67	257	921	1178
Pleurisy .. .. .	30	4	1	5	..	2	1	..	43	43
Moribund .. .. .	10	..	18	..	..	22	10	42	..	42
Hepatitis .. .. .	147	8	..	109	..	..	4	..	286	286
Nephritis .. .. .	8	..	..	1	1	..	1	2	9	11
Parturition .. .. .	7	..	2	..	..	1	..	1	9	10
Mastitis .. .. .	27	..	..	..	..	..	..	..	27	27
Echinococcus .. .. .	99	..	6	26	..	2	5	..	138	138
Decomposition .. .. .	3	..	..	..	1	11	1	9	7	16
Septicæmia .. .. .	2	..	..	..	..	..	1	3	..	3
Emaciation .. .. .	15	..	..	..	..	5	..	20	..	20
Fractures .. .. .	5	1	1	1	1	..	3	1	11	12
Traumatism .. .. .	23	1	5	4	1	4	2	5	35	40
Urticaria .. .. .	..	..	..	..	..	..	1	..	1	1
Fevered .. .. .	2	..	..	1	..	..	..	3	..	3
Gastritis .. .. .	6	..	..	..	..	..	..	..	6	6
Pericarditis .. .. .	7	1	..	1	..	..	3	..	12	12
Abcess .. .. .	21	5	2	22	..	..	..	..	50	50
Actinomycosis .. .. .	4	..	..	1	..	..	..	..	5	5
Septic Metritis .. .. .	3	..	..	..	..	..	..	3	..	3
Immaturity .. .. .	..	..	..	..	20	..	..	20	..	20
Tumours .. .. .	6	..	..	1	..	..	..	..	7	7
Pneumonia .. .. .	4	..	..	..	..	..	10	1	13	14
Septic Pneumonia .. .. .	1	..	..	..	..	..	..	1	..	1
Gangrenous Pneumonia .. .. .	1	..	..	..	..	..	..	1	..	1
Strongylosis .. .. .	2	..	..	..	..	5	1	..	8	8
Emphysema .. .. .	4	..	..	..	..	..	..	..	4	4
Distomatosis .. .. .	..	..	..	..	..	63	..	..	63	63
Epizootic Aphtha .. .. .	..	..	3	5	..	..	..	..	8	8
Rheumatism .. .. .	1	..	..	..	..	..	..	..	1	1
Tennicollis .. .. .	..	..	..	..	..	1	1	..	2	2
John's Disease .. .. .	2	..	..	..	..	..	..	1	1	2
Jaundice .. .. .	..	..	..	..	..	1	4	4	1	5
Edema .. .. .	2	..	..	..	..	7	..	9	..	9
Angioma .. .. .	54	..	..	2	..	..	..	..	56	56
Total .. .. .	1484	42	76	240	26	124	115	383	1724	2107

NUMBER OF ORGANS CONDEMNED FOR TUBERCULOSIS AND OTHER DISEASES  
IN THE DIFFERENT CLASSES OF ANIMALS DURING 1924.

	Cattle.	Sheep.	Pigs.	Calves.	Total.
<b>LUNGS:</b>					
Tuberculosis .. ..	1043	—	64	2	1109
Other diseases .. ..	205	69	37	24	335
<b>HEARTS:</b>					
Tuberculosis .. ..	455	—	64	2	521
Other diseases .. ..	57	69	37	24	187
<b>BOWELS:</b>					
Tuberculosis .. ..	412	—	64	2	478
Other diseases .. ..	48	46	16	24	134
<b>STOMACHS:</b>					
Tuberculosis .. ..	408	—	64	2	474
Other diseases .. ..	52	46	16	24	138
<b>SPLEENS:</b>					
Tuberculosis .. ..	403	—	64	2	469
Other diseases .. ..	54	46	16	24	140
<b>LIVERS:</b>					
Tuberculosis .. ..	461	—	64	2	527
Other diseases .. ..	553	153	45	24	775
<b>KIDNEYS:</b>					
Tuberculosis .. ..	546	..	24	4	574
Other diseases .. ..	162	92	32	48	334
<b>HEADS:</b>					
Tuberculosis .. ..	462	—	39	2	503
Other diseases .. ..	53	51	25	24	153
<b>TOTAL .. .. .</b>	<b>5374</b>	<b>572</b>	<b>671</b>	<b>234</b>	<b>6851</b>

## UN SOUND FOOD DESTROYED.

	No.	Tons.	Cwts.	Qrs.	lbs.
Beef .. .. .	—	61	17	2	2
Beef Offals .. .. .	—	23	3	—	9
Mutton .. .. .	—	1	3	3	5
Mutton Offals .. .. .	—	—	9	3	10
Pork .. .. .	—	1	16	3	17
Pork Offals .. .. .	—	—	7	—	9
Bacon and Ham .. .. .	—	—	—	1	26
Veal .. .. .	—	—	2	1	8
Fish .. .. .	—	2	2	3	21
Fruit .. .. .	—	—	1	1	23
Vegetables .. .. .	—	2	12	3	—
Poultry .. .. .	16	—	—	—	—
Rabbits .. .. .	156	—	—	—	—
Corned Meat .. .. .	—	—	2	3	22
Tinned Fruits .. .. .	234	—	3	—	19
Tinned Milk .. .. .	125	—	—	—	—
Eggs .. .. .	1907	—	—	—	—
	—	94	3	3	3

## UN SOUND FOOD.

Proceedings were instituted and convictions obtained in the following cases:—

- (1) Being in possession of unsound meat intended for the food of man.  
Fined £20 and costs.
- (2) Being in possession of unsound meat intended for the food of man.  
Fined £10.
- (3) Exposing unsound pears for sale intended for the food of man.  
Fined 10/-.

## SALE OF FOOD ORDER, 1921.

Proceedings were taken under the above Order in respect of the following offences:—

- (1) Imported meat exposed for sale by retail without being labelled.  
Fined 10/-. Two further summonses withdrawn on payment of costs. Total penalty £1.
- (2) Do. do. Fined 10/-.

- (3) Imported eggs exposed for sale as fresh eggs and without the description, including the word "Imported" or a word or words disclosing the country of origin.

Fined 10/-. Two further summonses withdrawn on payment of costs. Total penalty £1.

- (4) Do. do.

Do.

- (5) Do. do.

Fined 10/-.

- (6) Imported eggs exposed for sale under a description of which the words "New Laid" form part and the description does not include the word "Imported" or a word or words disclosing the country of origin.

Fined 10/-. One further summons withdrawn on payment of costs. Total penalty 15/-.

#### DAIRY INSPECTION.

No. of farms visited .. .. .	27
.. cowsheds inspected.. .. .	93
.. cows examined .. .. .	672

Owing to the prevalence of Foot and Mouth Disease in adjoining districts dairy inspection was suspended until the month of December.

#### Contagious Diseases of Animals.

##### FOOT AND MOUTH DISEASE.

During 1924, outbreaks occurred on two farms and at two slaughterhouses within the Borough. The whole of the stock on these premises, consisting of 108 cattle and 192 sheep, was slaughtered, and the premises were thoroughly disinfected.

Owing to outbreaks in adjoining districts a number of Orders were made by the Ministry of Agriculture and Fisheries requiring the issue of licenses by this department for the movement of animals.

Under these Orders, Bolton was a scheduled area from the beginning of the year until the 24th May, and again from the 29th October to the 10th November.

Proceedings were taken against a farmer who was convicted and fined 10/- for removing a calf without having obtained a license to authorise the said movement.

### **Rats and Mice Destruction Act, 1919.**

During Rat Week, special circulars giving advice concerning the destruction of rats and mice were forwarded to corn merchants, farmers, butchers, bleachers, tripe, oil and fat dealers. A copy of the circular of advice was published in the "Bolton Evening News."

A considerable number of visits have been made during the year to infested premises and after careful inspections, advice has been given to the occupiers.

The usual methods adopted have been the use of traps and poisons, chiefly barium carbonate and red squills.

A list of professional rat catchers is kept by the Executive Officer, and a copy is supplied to any person desiring to employ the same. In only a few cases have these men been employed, as the use of poison baits has been found to give satisfactory results.

### **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 .. ..	1·0% added water .. .. .	No action taken.
Milk .. ..	4·1% .. .. .	No action taken.
Milk .. ..	6·5% .. .. .	Fined £7/10/0. Costs 15/6
Milk .. ..	5·6% deficient in fat .. .. .	Warning letter sent.
Milk .. ..	7·7% .. .. .	Withdrawn on payment of costs—15/6.
Milk .. ..	8·3% .. .. .	Warning letter sent.
Milk .. ..	15·0% .. .. .	No action other than warning to vendor. The sample was from the bottom of the kit.
Milk .. ..	·028% or 19·6 grains of boric acid per gallon	Vendor warned.
Milk .. ..	·014% or 9·8 grains of boric acid per gallon ..	Fined £5. Costs 10/6.
Skimmed Milk	·023% or 16·1 grains of boric acid per gallon, and 3·1% added water .. .. .	Withdrawn on payment of costs—10/-.
Liquid Eggs ..	53·06 grains per lb. boric acid .. .. .	Informal sample.
Liquid Eggs ..	63·0 grains per lb. boric acid .. .. .	Informal sample.
Relish .. ..	2·6 grains per pint of salicylic acid .. ..	Informal sample.

#### OFFENCES OTHER THAN ADULTERATION.

Nil.

Total Fines £12 : 10 : 0

Total Costs £2 : 11 : 6

**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	222	3
	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., 1924.

## SUMMARY.

Food and Drugs .. .. .	462
Bacteriological Examinations for the M.O.H. .. ..	1004
Miscellaneous Analyses .. .. .	40
Water Analyses .. .. .	702
Gas Examinations .. .. .	288
	---
Total .. .. .	2496

## DETAILS OF FOOD AND DRUGS.

	Total.	Genuine.	Adulterated.	Per cent. Adulterated.
Milk .. .. .	222	212	10	4.5
Condensed Milk ..	7	7	..	..
Butter .. .. .	34	34	..	..
Margarine .. .. .	21	21	..	..
Cheese .. .. .	4	4	..	..
Tea .. .. .	13	13	..	..
Coffee & Mixtures ..	21	21	..	..
Cocoa .. .. .	12	12	..	..
Jams .. .. .	12	12	..	..
Cakes .. .. .	24	24	..	..
Meat Products ..	17	17	..	..
(Sausage, Brawn, etc.)				
Miscellaneous .. ..	75	72	3	4.0
	---	---	---	---
Total .. .. .	462	449	13	2.81

## BACTERIOLOGICAL EXAMINATIONS.

(For the M.O.H.)

	Total	Positive.	Negative.	Doubtful.
Tuberculosis .. ..	876	201	675	..
Diphtheria .. ..	111	2	108	1
Enteric Fever .. ..	17	1	16	..

Total examined.	MILK.	Adulterated.
222	Genuine.	10
	212	

The samples were examined for the presence of preservatives and colouring matter. Three were found to contain a Boron preservative. (See list of Adulterated Samples).

The satisfactory quality of milk has been well maintained, the average for the year being:—

Milk Fat.	Non-fatty solids.	Water.
3·66	8·89	87·45 per cent.

The following table shows the monthly variation.

Month.	No. of samples.	Milk Fat.	Non-fatty solids.
January.. .. .	25	3·81	8·92
February .. .. .	10	3·57	8·86
March .. .. .	33	3·56	8·84
April .. .. .	2	3·10	8·58
May .. .. .	33	3·66	8·91
June .. .. .	26	3·73	8·89
July .. .. .	10	3·68	8·96
August .. .. .	32	3·60	8·90
September .. .. .	8	3·68	8·86
October .. .. .	30	3·76	8·94
November .. .. .	1	3·90	9·10
December .. .. .	6	3·44	8·71

#### CONDENSED MILK.

7 samples of Condensed Milk were examined and found to be genuine as regards milk fat content and absence of preservatives.

The table of contents disclosed on the label, showing the extent to which the contents could be diluted to produce standard milk, was in every case checked and found to be correctly described.

#### BUTTER.

34 samples have been examined, and 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.

21 samples were examined. The majority contained a small portion of boron preservative (average less than 0·1% Boric Acid).

#### CHEESE.

4 samples have been examined, three of these were whole meat containing more than 30 per cent. of fat. One—Dessert Cheese—was half meat, containing only 15·05 per cent. of fat.

#### COFFEE AND COFFEE MIXTURES.

21 samples examined and found correct. The Coffee Mixture contained 48·7 per cent. of Chicory.

#### COCOA.

12 samples were submitted for examination, in no case did the arsenic content exceed 1/200th grain per pound. The samples were also satisfactorily free from husk.

#### JAMS.

12 samples of Jams were examined primarily for the presence of preservatives. In two cases only was preservative found and here in traces only of Salicylic Acid.

Sugars other than cane or beet were found in every case, calculated to Glucose from 25—51 per cent. Provided however, that pure invert sugar and glucose are used, no great objection can be raised as the sugars in question have a distinct food value.

All the samples were tested for presence of arsenic, and found to be satisfactory.

#### CAKES.

24 assorted pastries and cakes were examined especially for the presence of boron preservative.

In cakes other than sponge and sponge fingers, boric acid is almost invariably present, due to the general use of liquid eggs, the amount, however, is generally very small, varying from 1·4—13·0 grains per pound of cake.

In sponge cakes and fingers the undertaking not to use liquid eggs given by the Bakery Allied Traders' Association, seems to be generally honoured, as no boric acid was found in the samples examined.

#### SHREDDED SUET.

4 samples have been examined: these were free from preservatives and contained from 79·0—89·08 per cent. of beef fat, and from 10·92—21·0 per cent. of cereal. Prior to the Food Control recommendations (since revoked) 10 per cent. of cereal was considered adequate to satisfactorily isolate the fat granules and make a marketable product. 10 per cent. of cereal should be the maximum of cereal allowed, as in my opinion any excess of cereal over the limit is added solely for the extra profit to be derived therefrom.

## MEAT PRODUCTS.

17 meat products (sausage, brawn, etc.) have been examined; 58·9 per cent. of these contained preservative. In no case did the amount exceed 0·25 per cent. The complete amounts are tabulated later.

## DRUGS.

The samples examined during the year were of satisfactory quality, satisfying, where such existed, the B.P. standard of quality.

## PRESERVATIVES.

All samples where necessary were examined for preservatives.

Milk. 3 contained Boric Acid:

19·6 grains Boric Acid per gallon.

9·8

" "

16·1

" "

Meat Products:

No. examined.	Containing Preservative.	Per cent. of Preserved Samples.
17	10	58·9

These figures indicate the prevalence of the practice, although in no case was the amount excessive.

Sausage	.. .. .	11·3 grains Boric Acid per pound.
"	.. .. .	12·1
"	.. .. .	15·4
"	.. .. .	16·5
Brawn	.. .. .	6·3
Polony	.. .. .	11·5
Ham Roll	.. .. .	13·0
Potted Meat	.. .. .	11·9
"	.. .. .	12·74
Ex-Ox	.. .. .	8·82

## OTHER FOODS.

Margarine	.. .. .	21 samples, amount of preservative from traces to 0·24 per cent.
Fruit Salad	.. .. .	15·82 grs. Boric Acid per pound.
		3·50
Lemon Cheese	.. .. .	8·40
		11·90
Shaw's Relish	.. .. .	2·6 grs. Salicylic Acid per pint.
Mincemeat	.. .. .	7·56 grs. Boric Acid per pound.

Lemon Curd	.. .. .	7.0	grs. Boric Acid per pound.
		10.85	" "
		0.28	grs. Salicylic Acid per pound.
Liquid Eggs	.. .. .	53.06	grs. Boric Acid per pound.
		63.0	" "

ADULTERATED SAMPLES.

		Non-fatty			
		Fat.	Solids.	Water.	
10 Milks	.. .. .	3.30	8.15	88.55	4.1% added water.
		2.55	8.73	88.72	15.0% deficient in fat.
		2.75	9.02	88.23	8.3% " "
		2.83	9.20	87.97	5.6% " "
		2.77	9.27	87.96	7.7% " "
		3.24	7.95	88.81	6.5% added water.
		3.22	8.42	88.36	1.0% " "
		3.20	8.60	88.20	19.6 grs. Boric Acid per gallon.
(Skimmed)	.. .. .	3.70	8.50	87.80	9.8 " "
		3.06	8.43	88.51	16.1 " " and 3.1% added water.
1 Relish	.. .. .	2.6	grains	Salicylic Acid per pint.	
2 Liquid Eggs	.. .. .	53.06	grains	Boric Acid per pound.	
		63.0	" "	" "	

FERTILISERS & FEEDING STUFFS.

At the request of the Ministry, 9 samples of Indian Meal were examined for Dari and Tapioca, it being the opinion that extensive admixture was being attempted. The results showed that no admixture was being made in this district.

MISCELLANEOUS EXAMINATIONS.

For the M.O.H...	..	12 Milks for Bacteriological examination.
		1 Cream.
		7 Waters.
		1 Effluent.
		3 Urines.
		3 Waters from Public Baths.
		1 Tongue.
		1 Tabloids.
		1 Fæces for Dysentery.
For the Water Engineer		Various investigations on water questions.
For the Coroner	..	1 Viscera.



SECTION V.

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1. Sanitary Work.
2. Baths.

SECTION 7

I. Sanitary Work  
S. Baths

**Abstract of Work Done during 1924.**

## GENERAL INSPECTIONS.

Houses .. .. .	17076
Newly-infected houses .. .. .	668
Schools .. .. .	81
Common lodging-houses .. .. .	941
Houses-let-in-lodgings .. .. .	853
Factories .. .. .	386
Workshops .. .. .	507
Workplaces .. .. .	270
Bakehouses .. .. .	720
Offensive trades .. .. .	93
Dairies, cowsheds, and milk-shops .. .. .	610
Conversion of Closets .. .. .	6142
Drains .. .. .	2086
Miscellaneous .. .. .	1502

## SMOKE.

Observations taken .. .. .	723
Nuisances reported .. .. .	27
Prosecutions .. .. .	2

## NUISANCES FOUND.

Houses, workshops, cowsheds, etc. needing limewashing .. .. .	1065
Houses overcrowded .. .. .	21
House roofs, walls, floors, etc., in bad repair .. .. .	768
Insan. or insufficient closet accommodation .. .. .	2276
Ashpits or pails in bad repair .. .. .	423
Defective or choked drains .. .. .	514
Yards in bad repair .. .. .	154
Animals kept as a nuisance .. .. .	62
Miscellaneous .. .. .	620

## ACTION TAKEN.

Letters written .. .. .	696
Informal notices served .. .. .	1565
Verbal notices .. .. .	765
Legal notices served .. .. .	911

## NUISANCES ABATED.

Houses, etc., limewashed .. .. .	1051
Overcrowding abated .. .. .	22
House roofs, etc., repaired .. .. .	585
Eaves gutters and downspouts repaired .. .. .	474
Closets converted .. .. .	1980
Ashpits or pails repaired .. .. .	342
Drains reconstructed (excluding closet conversion) .. .. .	153
Drains opened, trapped or repaired .. .. .	473
Yards repaired or flagged .. .. .	173
Miscellaneous repairs .. .. .	286
Miscellaneous nuisances abated .. .. .	459

## DISINFECTIONS.

Houses disinfected .. .. .	674
Articles disinfected .. .. .	3376
Articles destroyed .. .. .	142

## FOOD AND DRUGS.

Samples taken .. .. .	462
Samples adulterated .. .. .	13
Prosecutions .. .. .	4

## COMPLAINTS.

From Public .. .. .	246
From Factory Inspector .. .. .	8
Reports on complaints to Factory Inspector .. .. .	8

## PLACES UNDER INSPECTION.

Common lodging-houses .. .. .	38
Houses-let-in-lodgings .. .. .	43
Factories .. .. .	319
Factory Chimneys .. .. .	250
Workshops and Workplaces .. .. .	760
Bakehouses .. .. .	280
Outworkers' Premises .. .. .	35
Offensive Trades .. .. .	24
Slaughterhouses .. .. .	42
Cowsheds .. .. .	314
Milkshops .. .. .	252
Public Sanitary Conveniences .. .. .	19
Travelling Vans .. .. .	90

**Factories and Workshops.**

In accordance with the provisions of Section 132 of the Factory and Workshop Act, 1901, the Medical Officer of Health is required to make to the Secretary of State for the Home Office the following report which gives in addition to other information, the total number of defects found and notices served.

**1.—INSPECTION.**

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories .. .. . (Including Factory Laundries)	386	12	—
Workshops .. .. . (Including Workshop Laundries)	507	11	—
Workplaces .. .. . (Other than Outworkers' premises)	270	6	—
Total .. .. .	1163	29	—

**2.—DEFECTS.**

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts:—*</i>				
Want of cleanliness .. .. .	33	33	—	—
Want of ventilation .. .. .	8	8	—	—
Overcrowding .. .. .	1	1	—	—
Want of drainage of floors .. .. .	1	1	—	—
Other nuisances .. .. .	11	11	—	—
Sanitary accommodation				
{ insufficient .. .. .	6	6	—	—
{ unsuitable or defective .. .. .	12	12	—	—
{ not separate for sexes .. .. .	—	—	—	—
<i>Offences under the Factory and Workshop Acts:</i>				
Illegal occupation of underground bakehouse (s. 101) .. .. .	1	1	—	—
Other offences .. .. .	1	1	—	—
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921).				
Total .. .. .	74	74	—	—

\*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

### Housing.

The following are the facts regarding housing in Bolton in 1924.

The estimated number of houses in the Borough at the 31st December, 1924, was 43,512.

354 new houses were certified during 1924; their distribution in the Wards was as follows:—

WARD.	NUMBER.
Central .. .. .	4
Rumworth .. .. .	8
Halliwell .. .. .	8
Tonge .. .. .	27
Astley Bridge .. .. .	32
Great Lever .. .. .	35
Smithills .. .. .	115
Hulton .. .. .	33
Darcy Lever-cum-Brightmet .. .. .	39
Deane-cum-Lostock .. .. .	11
Heaton .. .. .	42
Total .. .. .	<u>354</u>

Of the above 250 were subsidy houses, and 104 non-subsidy houses.

The number of houses in course of construction on December 31st, 1924, was as follows:

WARD.	NUMBER.
Central .. .. .	7
Rumworth .. .. .	22
Halliwell .. .. .	18
Tonge .. .. .	29
Astley Bridge .. .. .	38
Great Lever .. .. .	40
Smithills .. .. .	152
Hulton .. .. .	20
Darcy Lever-cum-Brightmet .. .. .	57
Deane-cum-Lostock .. .. .	23
Heaton .. .. .	34
Total.. .. .	<u>440</u>

Plans had been approved for the following 298 houses, but their construction had not been commenced on December 31st, 1924:—

WARD.	NUMBER.
Central .. .. .	12
Rumworth .. .. .	14
Halliwell .. .. .	7
Tonge .. .. .	6
A-tley Bridge .. .. .	12
Great Lever .. .. .	14
Smithills .. .. .	100
Hulton .. .. .	32
Darcy Lever-cum-Breightmet .. .. .	57
Deane-cum-Lostock .. .. .	10
Heaton .. .. .	34
Total.. .. .	298

The number of new houses certified for each of the years 1921 to 1924 is as follows:

YEAR.	NUMBER.
1921 .. .. .	225
1922 .. .. .	480
1923 .. .. .	141
1924 .. .. .	354
Total .. .. .	1200

In order to bring the information regarding housing up to date it may be added here that during the first six months of 1925 there were certified 344 new dwelling houses in Bolton and 644 others were in course of construction on the 31st July, 1925. These houses will all be completed in 1925.

During the years 1921 to 1925, both inclusive, there will therefore have been erected in Bolton not less than 2,188 new dwelling houses.

On the 31st of December, 1924, there were 271 uninhabited houses in the Borough.

The population per house was 4·16 at the close of 1924, lower than it has ever been before.

But, undoubtedly, more houses are needed in Bolton. The number needed can only be determined at any given time by finding how many people need houses and are prepared to take them. It is absolutely impossible to determine how many new houses are needed each year. There are no data for arriving at such an estimate. The population of Bolton was 182,200 in 1923. It was 181,100 in 1924. How many new houses are needed for a diminution in population of one thousand?

The private builders in Bolton can supply all the houses needed; but they will only build to sell. Those unable to buy a house suffer great hardship. What is wanted is houses that can be rented.

1.—UNFIT DWELLING-HOUSES.

INSPECTION.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).. ..	5528
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910 .. .. .	1650
(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..	1200

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 .. .. .	927
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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 .. ..	42
(2) Number of dwelling-houses which were rendered fit—	
(a) by owners .. .. .	42
(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 .. .. .	470
(2) Number of dwelling-houses in which defects were remedied—	
(a) by owners .. .. .	466
(b) by Local Authority in default of owners	—

C. <i>Proceedings under section 17 and 18 of the Housing, Town Planning, &amp;c., Act, 1909</i> .. .. .	—
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**Closet Accommodation.**

Dr. Gould, the late Medical Officer of Health, stated in his report for 1899 "Bolton is still one of the privy-midden towns, and its extension has only altered it for the worse in this respect." The closet accommodation of the Extended Borough was in 1899 as follows:

Privy-middens .. .. .	20157
Pails .. .. .	6804
Waste-water closets .. .. .	5798
Fresh-water closets .. .. .	3057

Bolton is now rapidly getting rid of the reproach of being a privy-midden town. The closet accommodation in Bolton at the end of 1924 was as follows:

Fresh-water closets .. .. .	16664
Waste-water closets .. .. .	15143
Privy-middens .. .. .	6290
Pails .. .. .	6138

During 1924 the number of fresh-water closets provided in replacement of closets on other systems was 1,980. These closets took the place of 1,876 privy-middens, 91 pail closets, and 13 waste-water closets.

The figure for 1924 exceeds by 400 the number of fresh-water closets provided in replacement of other closets in 1923, and exceeds by nearly 300 twice the number provided in any year prior to 1923.

As regards offensiveness there is nothing to choose between privy-middens and pail closets. The Bolton Public Health Authority possesses exactly the same power with regard to pail closets as it does in the case of privy-middens.

By the end of 1928 all privy-middens and a considerable number of pail closets should have disappeared in Bolton. We are within sight of the end.

CLOSET ACCOMMODATION, 1924.

	No. of Closets Converted or Demolished, 1924.				F.W.Cs. provided in lieu of any other type and additions in new and old houses, 1924.	Present Closet Accommodation, 1924.				Per Cent. on	
	P.M.	Pail.	W.W.C	F.W.C.		P.M.	Pail.	W.W.C	F.W.C.	Dry System	Water System
Old Borough .. .. .	945	92	4	2	1057	3252	6104	10900	9481	31.5	68.5
Great Lever .. .. .	169	..	3	..	207	923	..	1106	1156	29.0	71.0
Tonge .. .. .	415	..	2	..	446	485	..	780	1597	17.0	83.0
Astley Bridge .. .. .	111	3	..	..	150	189	15	504	1393	9.7	90.3
Smithills .. .. .	42	..	3	..	160	168	4	716	892	9.7	90.3
Hulton .. .. .	70	5	..	..	108	337	..	592	580	22.3	77.7
Darcy Lever-cum-Brightmet ..	51	1	..	..	105	529	..	183	349	49.9	50.1
Deane-cum-Lostock .. .. .	43	1	..	..	54	291	3	212	576	27.2	72.8
Heaton .. .. .	43	..	1	..	87	116	12	150	640	13.9	86.1
Extended Borough .. .. .	1889	102	13	2	2374	6290	6138	15143	16664	28.1	71.9

**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
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
1924 .. .. .	945	92	944	10	1889	102

**Common Lodging Houses.**

The common lodging houses are visited weekly during the day time and frequent surprise visits are made during the night. The common lodging houses in Bolton are well conducted and no serious cases of infraction of the bye-laws were met with.

They number 38, and their distribution and accommodation is as follows:

Ward.	Houses.	Rooms.	Beds.
Exchange .. .. .	13 ..	75 ..	265
East .. .. .	19 ..	113 ..	589
Church .. .. .	4 ..	41 ..	270
D.rby .. .. .	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.**

Our present Bye-laws for the regulation of these houses are quite inadequate. There appear to be some difficulties as to their revision, but I hope these difficulties will be overcome.

There were 43 of these houses on our register in 1924.

The Ward distribution is as follows :—

	Houses.	Rooms.	Accommodation.
Exchange .. .. .	19	90	232
East .. .. .	12	42	125
D. rby .. .. .	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.**

A new problem has arisen, that of stationary living vans, as distinguished from travelling vans.

During the year 90 travelling vans were inspected. They were all found to be in a clean state, and the occupants in good health.

There are, chiefly as a result of the housing shortage, 59 living vans in Bolton, particulars of which are as follows:

Situation.	No. of vans.	Occupants.	
		Adults.	Children
Cotton Street .. .. .	7	15	4
Rear of Doffcocker Mill, Chorley Old Road ..	2	2	6
Boot Lane (Dearden, Farmer—In Farmyard) ..	1	1	1
Top of Raymond Street .. .. .	1	2	—
Blackshaw Lane .. .. .	1	1	—
Gate Street .. .. .	11	21	25
Farm, Weston Street .. .. .	5	10	8
31, Bridgman Street .. .. .	2	4	1
Sloane Street .. .. .	2	4	7
Top-o'-th'-Height Farm .. .. .	1	2	—
Grendon Street .. .. .	2	4	4
Cheetham Court .. .. .	1	1	2
Corner of Bridge Street and St. George's Street	5	10	6
Tonge Moor House .. .. .	8	16	5
Radcliffe Road (200 yards from Long Lane) ..	4	7	2
Croft Side .. .. .	1	2	—
In field off Radcliffe Road .. .. .	1	2	2
Tonge Studs, Ainsworth Lane .. .. .	1	1	1
Field adjoining Withins Lane .. .. .	1	2	—
Wigan Road, near Victoria Colliery .. .. .	1	2	1
Deane Golf Links, near Ladybridge Lane ..	1	2	4
	59	111	79

Most of these vans are kept in a clean condition. Some of them require constant supervision to prevent their becoming a nuisance to the neighbourhood in which they are situated.

What is wanted is that it should be possible to treat these stationary living vans as dwelling-houses. The law on this point appears to be doubtful. The best that can be done at present is to make Bye-laws under the Housing of the Working Classes Act of 1885. Steps are now being taken to secure such powers as can be conferred by such Bye-laws.

The objections to these living vans are, in my opinion, as follows:

- (1) No proper separation of the sexes is possible;
- (2) The arrangements for the use of sanitary conveniences are necessarily very inconvenient;
- (3) No decent home life is possible in these vans and, from the social point of view, it is very undesirable that children should be brought up in them.

It must be admitted, on the other hand, that their occupants are remarkably healthy. Except in bad weather and during school hours the children who live in them are, during the day time, always in the open air.

### Smoke Abatement.

There are 250 factory chimneys in the Borough.

723 half-hour observations were taken during 1924.

27 of these observations showed that an offence had been committed, the local standard of two minutes black smoke in half-an-hour being exceeded in each of these 27 instances.

Two firms were summoned, and total fines of 60/- and costs were imposed by the magistrates.

The following are the details of the smoke observations during 1924 :—

In 249 half-hour observations	..	no emission.						
„ 114	„	„	..	½ minute of black smoke.				
„ 257	„	„	..	1 minute of black smoke.				
„ 76	„	„	..	1½	„	„	„	
„ 27	„	„	..	over 2	„	„	„	

### Offensive Trades and Slaughterhouses.

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

## OFFENSIVE TRADES AND SLAUGHTER-HOUSES.

Trade.	Added Area.	West.	Halliwell.	Bradford.	Derby.	East.	Church.	North.	Rumworth.	Exchange.	TOTAL.
Tripe Boilers .. .. .	1	..	..	2	..	..	1	..	..	..	4
Fellmongers and Tanners .. .. .	..	1	..	1	..	..	..	..	..	..	2
Hide and Skin Depots .. .. .	..	..	..	..	..	1	..	..	..	1	2
Gut Scraping .. .. .	..	..	..	1	..	..	..	..	..	..	1
Blood Boiler .. .. .	..	..	..	..	..	..	1	..	..	..	1
Soap Works .. .. .	1	..	..	..	..	..	..	..	..	..	1
Chemical Works .. .. .	..	..	..	..	..	1	1	..	..	..	2
Muriatic Acid Works .. .. .	1	..	..	..	..	..	..	..	..	..	1
Tar and Ammoniated Sulphate Works	1	..	..	..	..	..	..	..	..	..	1
Brick Works .. .. .	6	..	1	..	..	..	..	..	1	..	8
Knackers' Yard .. .. .	..	..	..	..	..	..	1	..	..	..	1
Total Offensive Trades.. .. .	10	1	1	4	..	2	4	..	1	1	24
Slaughter-houses .. .. .	6	4	3	19	1	1	2	1	1	4	42
Total .. .. .	16	5	4	23	1	3	6	1	2	5	66

There are in the Borough 26 private slaughter-houses of which 20 are registered and 6 are licensed.

The existing Public Abattoirs are much behind the needs of Bolton. They contain 16 slaughter-houses, most of which are let to private tenants. The erection of new slaughter-houses which the Markets Committee is about to take in hand, will, by centralisation, greatly facilitate and improve the control of the meat trade in Bolton. These new slaughter-houses will be a great convenience to those engaged in the meat trade and their completion is much desired by them.

In the private slaughter-houses the animals slaughtered are distributed as follows.

Oxen, sheep and pigs .. .. .	8	slaughter-houses.
Oxen and sheep .. .. .	4	..
Oxen only .. .. .	2	..
Pigs only .. .. .	7	..
Only used occasionally .. .. .	5	..

### **Moss Street Baths and Wash Houses.**

These very fine baths and wash-houses were opened on October 22nd, 1924.

The baths contain two swimming pools. The men's swimming pool measures 75-ft. by 30-ft. and the women's 60-ft. by 21-ft.

There are 18 slipper baths.

A special room is provided for instruction in life-saving.

The purification of the water in the swimming pools is effected by continuous filtration, the necessary plant having been erected by Messrs. Bell, Bros. The whole of the water in both pools is passed through the filters once in six hours, and the filtration is continuous. The water is also chemically treated in order to obtain as great a freedom from bacteria as possible.

The public wash-houses contain 24 stalls. In close proximity to these washing stalls are drying chambers supplied with a constant current of hot pure air by which the air in the drying chambers is renewed twice every minute.

Hydro-extractors, mangles, and all the appliances of an up-to-date modern laundry are provided in the hall in which the washing stalls are situate.

The baths are extremely popular, and the wash-houses have so obviously supplied a very urgent want that it is hoped that the same provision may be made before long in other quarters of the town.

**Moss Street Baths and Wash-houses, 1924.**

Month.	No. of weeks.	Swimming Baths			Slipper Baths		Con-tracts	Total Bath-ers	Wash-houses
		4d.	3d.	2d.	8d.	6d.			
October .. .. .	1	570	13	441	72	131	—	1227	9
November.. .. .	4	1606	74	1760	361	695	269	4765	1003
December .. .. .	4	870	47	1246	314	525	207	3209	1619
	9	3046	134	3447	747	1351	476	9201	2631

Moss Street Baths and Wash-houses were opened on the 22nd October, 1924.

High Street Baths. Number and Class of Bathes, 1924.

Month.	No. of Weeks	Swimming Baths				Slipper Baths		Needle Baths	Vapour Baths		Con-tracts	Total Bathes	Corres-ponding period last year.
		4d.	3d.	2d.	8d.	6d.	9d.		9d.				
January .. .. .	4	78	74	197	183	166	9	11	297	1015	2120		
February .. .. .	4	103	65	243	188	224	5	8	384	1220	2375		
March .. .. .	5	469	187	925	324	321	9	24	811	3070	3813		
April .. .. .	4	372	157	770	283	274	5	19	617	2497	3179		
May .. .. .	5	1039	359	1753	416	434	13	29	954	4997	4640		
June .. .. .	4	1357	371	2579	510	606	14	34	972	6443	5218		
July .. .. .	4	1087	266	2286	363	364	7	20	629	5022	6592		
August .. .. .	5	1331	389	3034	371	356	8	30	1060	6579	8198		
September .. .. .	4	829	268	1973	298	280	6	21	824	4499	4695		
October .. .. .	5	663	191	1190	338	329	12	20	638	3381	4116		
November .. .. .	4	324	81	502	271	260	3	19	324	1784	2110		
December .. .. .	4	278	82	415	196	220	6	11	346	1554	1672		
	52	7930	2490	15867	3741	3834	97	246	7856	42061	48728		

**Bridgman Street Baths. Number and Class of Bathes, 1924.**

Month.	No. of weeks.	Swimming Baths				Slipper Baths		Vapour Baths	Contracts	Total Bathes	Corresponding period last year.
		4d.	3d.	2d.	8d.	6d.	9d.				
January .. .. .	4	406	73	480	393	361	30	276	2019	2148	
February .. .. .	4	704	78	982	281	601	32	349	3027	2849	
March .. .. .	5	941	59	1413	455	686	43	504	4101	4121	
April .. .. .	4	902	96	1294	590	366	26	348	3622	4115	
May .. .. .	5	2831	204	4076	951	533	50	1201	9846	7189	
June .. .. .	4	3275	229	5663	1053	729	45	1148	12142	8550	
July .. .. .	4	2447	144	4825	732	510	32	722	9412	13372	
August .. .. .	5	3523	346	6728	985	512	36	1316	13446	16552	
September .. .. .	4	1944	229	4663	730	380	41	1037	9024	8728	
October .. .. .	5	1332	216	2486	763	416	36	695	5944	5896	
November .. .. .	4	372	81	622	409	287	31	272	2074	2239	
December .. .. .	4	262	56	451	439	265	20	280	1773	1869	
	52	18939	1811	33683	7781	5646	422	8148	76430	77628	

**Turkish Baths. Number and Class of Bathers, 1924.**

Month	No. of weeks	CASH TICKETS.						BOOKS OF TICKETS			Total Bathers	Corresponding period last year.
		Turkish Baths		Slipper Baths		Medicated Baths	Turkish Baths		Massage			
		1st Class	2nd Class	1st Class	2nd Class		1st Class	2nd Class				
January .. .. .	4	104	59	52	56	13	41	10	12	377	398	
February .. .. .	4	133	116	55	53	28	50	14	10	461	447	
March .. .. .	5	157	119	78	83	41	63	24	2	577	527	
April .. .. .	4	119	93	68	70	31	42	16	3	451	409	
May .. .. .	5	172	132	88	81	40	54	25	7	603	472	
June .. .. .	4	138	128	85	82	31	48	18	3	544	444	
July .. .. .	4	97	56	68	54	18	28	10	1	333	305	
August .. .. .	5	139	129	90	76	37	48	18	15	559	464	
September .. .. .	4	133	94	59	47	24	38	14	3	413	387	
October .. .. .	5	140	84	41	42	27	26	9	10	382	552	
November.. .. .	4	150	121	35	45	37	54	20	12	482	392	
December .. .. .	4	157	99	45	47	23	53	14	4	444	334	
	52	1639	1255	764	736	350	550	192	82	5626	5131	

SECTION VI.

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**Miscellaneous.**

SECTION I

SECTION II

SECTION III

SECTION IV

SECTION V

SECTION VI

SECTION VII

Miscellaneous

**Corporation Meteorological Observatory,  
Queen's Park, Bolton.**

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

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During 1924 Southerly winds were of remarkable frequency, February being the only month when Northerly and Westerly winds were in excess. As a result the weather was of a dull, wet character, with an excessive amount of humidity in the air and equable temperatures; the latter, when averaged for the year, being practically the mean of the last 28 years. Rainfall was decidedly below normal during the first four months, whilst sunshine was in excess during February and March. From May onwards each month except November had more than its average rainfall and less than its usual amount of sunshine. The total rainfall was 6·433" above the 38 year average, and sunshine 85·6 hours below. During the summer and autumn, weather conditions were certainly bad, but the records for the year were slightly better than those for 1923.

Meteorological Summary for 1924.

1924	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 in one day	Maximum	Date		
January	29.581	29.903	93.4	39.73	49.4	13	24.5	10	49.4	20	7.7	4.3	3.753
February	29.725	30.053	86.9	37.50	47.4	10	23.9	27	39.1	28	39.1	7.8	1.658
March	29.549	29.874	80.0	38.12	58.5	12	22.8	3	101.1	10	101.1	6.8	1.980
April	29.595	29.878	82.1	42.85	61.4	20	29.1	13	89.7	9 & 16	89.7	7.8	2.056
May	29.522	29.822	80.3	50.72	71.2	29	35.7	9	115.8	18	115.8	10.6	6.112
June	29.685	29.976	80.2	54.82	74.0	17	38.4	14	131.1	14	131.1	10.9	2.946
July	29.558	29.842	77.5	57.76	82.2	12	46.6	5	140.6	14	140.6	12.2	4.682
August	29.506	29.795	83.1	55.72	73.1	11	43.6	9	111.4	19	111.4	11.4	8.522
September	29.486	29.780	79.8	54.93	67.5	8	42.0	28	79.3	18	79.3	8.7	4.371
October	29.610	29.917	83.9	49.08	68.9	13	36.4	24	71.1	1	71.1	7.3	6.573
November	29.736	30.012	86.8	44.34	57.0	5	29.5	17	30.0	4	30.0	5.3	2.429
December	29.549	29.853	93.7	44.81	53.3	18	34.4	12 & 31	10.5	6	10.5	3.2	4.773
Total ..	355.103	358.755	1007.7	570.39					926.4		926.4		49.855
Averages ..	29.592	29.895	84.0	47.53					77.2		77.2		4.155

The arrangements under the following headings were in 1924 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, 1924.**

- 30 .. Milk for B. Coli and B. Enteritidis.
- 7 .. Milk for tuberculosis (Inoculation).
- 2 .. Agglutination tests for typhoid.
- 1 .. Microscopical examination of ox liver.
- 1 .. Fæces for typhoid and para-typhoid.

**Antitoxins and Vaccines Supplied to Medical Practitioners, 1924.**

Diphtheria Antitoxin .. .. .	55 bulbs of 8,000 units.
	1 bulb of 2,000 ..
Insulin .. .. .	90 bulbs of 100 ..
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.
Slaughter-houses.. .. .	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 1924.**

- 28/2/24. Circular letter to slaughter-house owners re disinfection of slaughter-houses.
- 1/3/24. Do. do.
- 17/6/24. Memorandum of the Ministry of Health on Encephalitis Lethargica sent to all local medical practitioners.
- 12/9/24. Circular letter to all local medical practitioners re free supply of Insulin for patients suffering from Diabetes among the poorer inhabitants of their districts.
- 5/11/24. Circular letter to local farmers, corn millers, etc., re National Rat Week.

SECTION VII.

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**Appendix.**





List No.	CAUSES OF DEATH.	Total	SEX.		AGE													
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35		
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40		
41	Purulent infection, septicæmia .. ..	2	1	1	..	..	..	..	..	..	..	1	..	..	..	..		
	1. Vaccinia .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
	2. Other forms .. .. .	2	1	1	..	..	..	..	..	..	..	1	..	..	..	..		
42	Other infectious diseases .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
1-42	Epidemic, Endemic and Infectious diseases .. .. .	383	220	163	28	23	10	6	7	9	13	30	33	22	21	31		
43-49	Cancer, Malignant disease .. .. .	244	123	121	..	..	1	..	..	..	..	2	..	..	3	4		
43	Buccal cavity .. .. .	23	22	1	..	..	..	..	..	..	..	..	..	..	..	..		
44	Pharynx, œsophagus, stomach, liver, and annexa .. .. .	76	35	41	..	..	..	..	..	..	..	..	..	..	1	..		
45	Peritoneum, intestines, and rectum .. .. .	39	24	15	..	..	..	..	..	..	..	..	..	..	2	..		
46	Female genital organs .. .. .	27	..	27	..	..	..	..	..	..	..	..	..	..	..	1		
47	Breast .. .. .	22	..	22	..	..	..	..	..	..	..	..	..	..	..	..		
48	Skin .. .. .	11	7	4	..	..	..	..	..	..	..	..	..	..	..	..		
49	Other or unspecified organs .. .. .	46	35	11	..	..	1	..	..	..	..	2	..	..	..	3		
50	Tumours, not returned as malignant (brain and female genital organs excepted) .. .. .	3	2	1	..	..	..	1	..	..	..	..	..	..	..	..		
51	Rheumatic fever .. .. .	13	5	8	..	..	..	..	..	3	..	1	..	2	2	..		
52	Chronic rheumatism, osteo-arthritis																	
	gout .. .. .	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..		
	1. Chronic rheumatism, chronic arthritis .. .. .	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..		
	2. Rheumatoid and osteo-arthritis .. .. .	4	4	..	..	..	..	..	..	..	..	..	..	..	..	..		
	3. Gout .. .. .	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..		
53	Scurvy .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
54	Pellagra .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
55	Beri-beri .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
56	Rickets .. .. .	4	2	2	2	2	..	..	..	..	..	..	..	..	..	..		
57	Diabetes .. .. .	23	9	14	..	..	..	..	..	..	..	1	2	2	..	..		
58	Anæmia, chlorosis .. .. .	15	6	9	..	..	..	..	..	..	..	..	..	1	1	2		
	(a) Pernicious anæmia .. .. .	13	5	8	..	..	..	..	..	..	..	..	..	1	..	1		
	(b) Other anæmias and chlorosis .. .. .	2	1	1	..	..	..	..	..	..	..	..	..	..	1	1		
59	Diseases of the pituitary gland .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
60	Diseases of the thyroid gland .. .. .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1		
	(a) Exophthalmic goitre .. .. .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1		
	1. Myxœdema .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
	(b) 2. Cretinism .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
	3. Other diseases of the thyroid gland .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
61	Diseases of the parathyroid glands .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
62	Diseases of the thymus .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
63	Diseases of the adrenals .. .. .	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..		
64	Diseases of the spleen .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
65	Leukæmia, lymphadenoma .. .. .	4	3	1	..	..	1	..	..	2	..	1	..	..	..	..		
	(a) Leukæmia .. .. .	2	2	..	..	..	1	..	..	1	..	..	..	..	..	..		
	(b) Lymphadenoma (Hodgkin's disease) .. .. .	2	1	1	..	..	..	..	..	1	..	1	..	..	..	1		
66	Alcoholism (acute or chronic) .. .. .	2	1	1	..	..	..	..	..	..	..	..	..	..	..	1		
67	Chronic poisoning by mineral substances .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
68	Chronic poisoning by organic substances .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
69	Other general diseases .. .. .	4	2	2	..	..	..	1	1	..	..	..	..	..	1	..		
	1. Purpura .. .. .	3	2	1	..	..	..	..	1	..	..	..	..	..	1	..		
	2. Hæmophilia .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
	3. Other diseases included under 69 .. .. .	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..		
	Total General Diseases .. .. .	706	382	324	30	25	12	8	8	14	13	35	35	27	28	39		





										WARD.														
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br htm	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
1	..	..	..	..	..	..	4	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..
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1	..	..	..	..	..	4	4	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..
..	..	..	..	..	..	4	4	..	..	2	1	..	..	..	..	..	1	1	..	1	1	..	1	..
1	..	..	..	..	..	2	3	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	1	..	..	3	146	5	9	20	10	5	13	1	11	6	18	3	3	7	18	1	7	12
25	15	32	24	10	2	3	106	4	4	12	8	4	10	1	11	5	17	3	2	2	13	..	6	7
1	3	1	4	3	..	..	16	1	2	4	2	..	..	..	..	1	..	..	..	1	3	..	1	1
1	..	3	..	..	..	..	8	..	1	..	..	..	..	..	..	..	..	..	1	1	1	1	..	3
3	1	3	2	2	..	..	15	..	2	4	..	1	3	..	..	..	1	..	..	3	1	..	..	1
1	1	6	2	..	..	..	12	1	..	2	..	..	1	1	1	..	..	..	2	..	2	..	1	1
1	..	4	2	..	..	..	8	..	..	2	..	..	..	1	1	..	..	..	1	..	2	..	1	1
..	1	2	..	..	..	..	4	1	..	2	..	..	1	1	..	..	..	..	1	..	..	1	..	..
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1	..	..	1	..	..	33	7	1	1	..	..	..	2	..	1	1	1	1	1	..	..	..	..	..
..	..	..	..	..	..	..	..	3	3	9	..	..	3	..	1	..	3	..	1	1	7	..	2	..
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..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..
31	17	38	27	11	2	42	202	10	13	37	13	6	28	4	16	9	25	5	7	10	34	1	12	14
46	62	52	32	13	6	1	337	12	25	43	25	11	36	15	22	10	24	7	8	13	47	12	19	9
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	1	..	..	..	..	..	11	1	..	4	2	..	..	..	..	..	..	..	..	..	..	1	3	..
1	1	..	..	..	..	..	9	1	..	2	2	..	..	..	..	..	..	..	..	..	..	1	3	..
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2	5	2	2	..	..	..	15	1	2	1	1	..	..	1	..	..	1	..	1	1	2	1	3	..
43	56	50	30	13	6	1	311	10	23	38	22	11	36	14	22	10	23	7	7	12	45	10	13	9
3	8	..	1	..	..	..	21	..	2	..	1	..	3	1	2	2	2	1	..	2	4	..	1	..
9	12	8	6	2	..	..	67	5	3	6	4	3	13	2	5	3	5	1	2	1	5	2	1	6
..	1	2	..	..	..	..	8	..	1	..	2	..	..	2	..	2	..	1	..	..	..	..	..	..
13	7	5	8	2	..	..	72	2	8	14	2	2	3	2	4	1	7	1	2	4	17	1	2	..
1	5	2	1	..	..	..	17	..	..	2	2	1	1	1	2	..	2	..	..	3	3	..	..	..
1	1	1	2	1	..	..	6	..	..	..	..	..	..	..	..	1	..	..	..	..	4	..	1	..
16	20	29	9	7	6	1	109	3	9	15	9	5	16	5	8	1	6	2	3	2	10	6	7	3
..	1	3	1	1	..	..	3	..	..	1	2	..	..	1	1	..	1	1	..	..	1	1	1	..
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List No.	CAUSES OF DEATH.	Total	SEX.		AGE												
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	
91	Diseases of the arteries .. .. .	133	71	62	..	..	..	..	..	..	..	..	..	..	..	..	..
	(a) Aneurism .. .. .	5	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(b) Arterio-sclerosis .. .. .	128	66	62	..	..	..	..	..	..	..	..	..	..	..	..	..
	(1) With record of cerebral vascular lesion .. .. .	32	16	16	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Without record of cerebral vascular lesion .. .. .	96	50	46	..	..	..	..	..	..	..	..	..	..	..	..	..
	(c) Other diseases of the arteries .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
92	Embolism and thrombosis (not cerebral) .. .. .	4	2	2	..	..	..	..	..	..	..	..	..	..	..	..	2
93	Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
94	Diseases of the lymphatic system (lymphangitis, etc.) .. .. .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
95	Hæmorrhage without stated cause .. .. .	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
96	Other diseases of the circulatory system .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	<b>Total Diseases of the Circulatory System .. .. .</b>	<b>477</b>	<b>229</b>	<b>248</b>	<b>1</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>11</b>	
	<b>Diseases of the Respiratory System.</b>																
97	Diseases of the nasal fossæ and annexa .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
98	Diseases of the larynx .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Laryngismus stridulus .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Laryngitis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(3) Other diseases .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
99	Bronchitis .. .. .	280	116	164	27	10	1	..	2	1	1	..	..	1	1	..	..
	(a) Acute .. .. .	57	15	42	16	6	1	..	1	1	..	..	..	..	..	..	..
	(b) Chronic .. .. .	97	50	47	..	..	..	..	..	..	1	..	..	..	1	..	..
	(c) Not stated whether acute or chronic .. .. .	126	51	75	11	4	..	..	1	..	..	..	..	1	..	..	..
100, 101	Pneumonia (all forms) .. .. .	202	109	93	45	27	8	5	3	5	3	4	4	7	3	10	..
100	Broncho-pneumonia .. .. .	120	59	61	45	25	7	4	3	4	2	1	..	1	..	..	..
101	Pneumonia (lobar and not otherwise defined).. .. .	82	50	32	1	2	1	1	..	1	1	3	4	6	3	10	..
	(a) Lobar .. .. .	62	39	23	..	1	1	1	..	..	..	2	3	4	2	8	..
	(b) Not otherwise defined .. .. .	20	11	9	1	1	..	..	..	1	1	1	1	2	1	2	..
102	Pleurisy .. .. .	8	7	1	..	1	..	..	..	1	..	..	1	..	1	..	..
	(1) Empyema .. .. .	4	4	..	..	1	..	..	..	..	..	..	1	..	1	..	..
	(2) Other pleurisy .. .. .	4	3	1	..	..	..	..	..	1	..	..	..	..	..	..	..
103	Congestion and hæmorrhagic infarct of lung .. .. .	8	3	5	1	1	..	..	..	..	..	..	..	..	..	..	..
104	Gangrene of the lung .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
105	Asthma .. .. .	7	4	3	..	..	..	..	1	..	..	..	..	..	..	..	..
106	Pulmonary emphysema .. .. .	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
107	Other diseases of the respiratory system .. .. .	7	3	4	..	..	..	..	..	..	..	..	1	..	..	..	..
	(a) Chronic interstitial pneumonia .. .. .	3	2	1	..	..	..	..	..	..	..	..	1	..	..	..	..
	(b) Diseases of the mediastinum .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(c) Other diseases included under 107.. .. .	4	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..
	<b>Total Diseases of the Respiratory System .. .. .</b>	<b>513</b>	<b>243</b>	<b>270</b>	<b>74</b>	<b>39</b>	<b>9</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>10</b>	

								WARD.																	
5 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 hitmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Ashey Bridge
5	15	27	28	31	12	8	..	133	6	18	24	4	6	10	6	5	..	10	8	4	4	14	4	2	8
2	1	..	..	..	..	..	..	5	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..
3	14	27	28	31	12	8	..	128	6	17	24	4	5	10	6	3	..	9	8	4	4	14	4	2	8
1	4	7	6	8	2	1	..	32	3	6	8	1	2	1	2	1	..	..	2	1	..	3	1	1	..
2	10	20	22	23	10	7	..	96	3	11	16	3	3	9	4	2	..	9	6	3	4	11	3	1	8
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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62	90	81	63	25	14	1	476	18	44	68	30	17	47	21	28	10	34	15	12	17	61	17	21	17	
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28	33	57	41	24	3	40	240	14	36	48	12	7	33	13	16	9	37	4	1	10	27	..	5	8	
2	6	7	8	2	..	24	33	2	4	11	2	..	6	2	4	1	9	2	..	2	9	..	2	1	
13	17	25	14	5	..	..	97	6	15	11	5	6	20	7	4	1	8	1	..	3	4	..	1	5	
13	10	25	19	17	3	16	110	6	17	26	5	1	7	4	8	7	20	1	1	5	14	..	2	2	
11	12	8	4	2	2	89	113	5	28	28	12	7	25	3	10	4	28	5	2	24	12	..	4	5	
2	5	5	1	1	2	84	36	4	15	15	8	3	19	2	5	3	20	1	1	13	7	..	2	2	
9	7	3	3	1	..	5	77	1	13	13	4	4	6	1	5	1	8	4	1	11	5	..	2	3	
9	6	2	2	1	..	3	59	1	11	6	4	4	5	1	3	..	8	4	1	6	4	..	1	3	
..	1	1	1	..	..	2	18	..	2	7	..	..	1	..	2	1	..	..	..	5	1	..	1	..	
..	..	..	..	..	..	1	7	..	..	1	..	..	..	..	1	..	1	..	2	..	2	..	..	1	
..	1	..	..	..	..	1	3	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	1	
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..	..	1	..	2	1	2	6	..	..	1	1	..	3	..	1	..	..	..	..	..	..	..	1	1	
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3	41	47	67	45	28	6	133	380	19	66	79	26	15	64	16	28	13	67	9	5	34	44	..	11	17





List No.	CAUSES OF DEATH.	Total	SEX.		AGE												
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	
134	Diseases of the urethra, urinary abscess, etc. . . . .	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Stricture of the urethra . . . . .	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Other diseases of the urethra etc. . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
135	Diseases of the prostate . . . . .	10	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
136	Non-venereal diseases of the male genital organs . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
137	Cysts and other tumours of the ovary not returned as malignant . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
138	Salpingitis and pelvic abscess . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..
	(1) Salpingitis . . . . .	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
	(2) Pelvic abscess . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
139	Tumours of the uterus not returned as malignant . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
140	Uterine hæmorrhage . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
141	Other diseases of the female genital organs . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	(1) Other diseases of the uterus . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	(2) Diseases of other female genital organs not included above . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
142	Non-puerperal diseases of the breast . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	<b>Total Non-puerperal Diseases of the Genito-urinary System..</b>	<b>105</b>	<b>56</b>	<b>49</b>	<b>..</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>..</b>	<b>2</b>	
	<b>The Puerperal State.</b>																
143	Accidents of pregnancy . . . . .	4	..	4	..	..	..	..	..	..	..	..	..	2	..	1	
	(a) Abortion . . . . .	2	..	2	..	..	..	..	..	..	..	..	..	2	..	..	
	(b) Ectopic gestation . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(c) Other accidents . . . . .	2	..	2	..	..	..	..	..	..	..	..	..	..	..	1	
144	Puerperal hæmorrhage . . . . .	5	..	5	..	..	..	..	..	..	..	..	..	..	1	1	
145	Other accidents of childbirth . . . . .	5	..	5	..	..	..	..	..	..	..	..	..	1	1	2	
146	Puerperal sepsis . . . . .	6	..	6	..	..	..	..	..	..	..	..	1	1	2	2	
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 . . . . .	4	..	4	..	..	..	..	..	..	..	..	1	..	2	..	
149	Childbirth not assignable to other headings (puerperal insanity) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
150	Puerperal diseases of the breast . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	<b>Total Diseases of the Puerperal State . . . . .</b>	<b>25</b>	<b>..</b>	<b>25</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>6</b>	
	<b>Diseases of the Skin and Cellular Tissue.</b>																
151	Gangrene . . . . .	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	
	(1) Senile gangrene . . . . .	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	
	(2) Other gangrene . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
152	Furuncle . . . . .	2	..	2	..	..	..	..	..	..	..	1	..	..	..	..	
153	Phlegmon, acute abscess . . . . .	7	4	3	1	..	1	1	..	..	..	..	..	..	..	..	
	(1) Phlegmon . . . . .	6	4	2	..	..	1	1	..	..	..	..	..	..	..	..	
	(2) Acute abscess . . . . .	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	
154	Other diseases of the skin and its annexa . . . . .	2	1	1	1	..	..	..	..	..	..	..	..	..	..	..	
	(1) Ulcer, bed sore . . . . .	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	
	(2) Eczema . . . . .	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	
	(3) Pemphigus . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	(4) Other diseases included under 154 . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	<b>Total Diseases of the Skin and Cellular Tissue . . . . .</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>2</b>	<b>..</b>	<b>1</b>	<b>1</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>1</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	











List No.	CAUSES OF DEATH.	Total	SEX.		AGE											
			M.	F.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
			1-69	General Diseases .. .. .	706	382	324	30	25	12	8	8	14	13	35	35
70-86	Nervous System, etc. .. .	244	115	129	34	4	2	2	..	4	4	3	4	2	2	5
87-96	Circulatory System .. .	477	229	248	1	..	..	..	..	3	5	6	5	7	4	11
97-107	Respiratory System .. .	513	243	270	74	39	9	5	6	7	4	4	6	8	5	10
108-127	Digestive System .. .	126	59	67	30	7	2	..	..	3	2	3	1	1	6	2
128-142	Genito-urinary System, etc. (Non-puerperal) .. .	105	56	49	..	1	1	1	..	..	..	2	1	1	..	2
143-150	The Puerperal State .. .	25	..	25	..	..	..	..	..	..	..	..	2	4	7	6
151-154	Skin and Cellular Tissue .. .	14	7	7	2	..	1	1	..	..	..	1	..	..	..	..
155-158	Locomotor System, etc. .. .	3	2	1	..	..	..	..	..	..	1	..	..	..	..	..
159	Malformations .. .	20	13	7	18	..	..	..	..	..	1	1	..	..	..	..
160-163	Diseases of Early Infancy .. .	104	57	47	104	..	..	..	..	..	..	..	..	..	..	..
164	Old Age .. .	128	53	75	..	..	..	..	..	..	..	..	..	..	..	..
165-203	External Causes .. .	74	43	31	2	3	2	2	1	5	2	3	1	5	3	4
204, 205	Ill-defined Diseases .. .	2	1	1	..	1	..	..	..	..	..	..	..	..	..	..
	<b>GRAND TOTAL .. .</b>	<b>2541</b>	<b>1260</b>	<b>1281</b>	<b>295</b>	<b>80</b>	<b>29</b>	<b>19</b>	<b>15</b>	<b>36</b>	<b>32</b>	<b>58</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>79</b>

Continued.  
 TH, 1924.

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									WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards		North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br hamet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
69	69	51	29	8	5	83	623	29	61	87	25	18	97	35	55	19	68	12	10	35	75	14	25	41	
31	17	38	27	11	2	42	202	10	13	37	13	6	28	4	16	9	25	5	7	10	34	1	12	14	
62	90	81	63	25	14	1	476	18	44	68	30	17	47	21	28	10	34	15	12	17	61	17	21	17	
41	47	67	45	28	6	133	380	19	66	79	26	15	64	16	28	13	67	9	5	34	44	..	11	17	
8	10	7	8	3	3	39	87	2	10	18	10	2	16	3	6	3	14	5	4	3	20	1	4	5	
14	16	8	8	5	2	3	102	6	7	15	5	1	14	7	10	2	5	5	3	2	13	2	3	5	
..	..	..	..	..	..	..	25	1	1	4	3	..	1	1	3	..	..	1	2	3	4	..	1	..	
..	3	1	3	1	..	4	10	..	1	..	2	1	2	..	1	1	2	2	..	..	1	..	1	..	
..	..	..	..	..	..	..	3	..	1	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	
..	..	..	..	..	..	18	2	..	2	3	..	..	4	..	2	1	1	2	..	3	2	..	..	..	
..	..	..	..	..	..	104	..	7	9	25	5	3	13	4	3	7	10	1	1	5	5	1	3	2	
1	8	25	36	39	19	..	128	5	6	22	4	1	11	3	10	3	7	4	3	7	23	..	10	9	
5	3	5	1	2	..	10	64	..	7	10	4	4	6	4	7	2	9	1	3	4	9	..	2	2	
..	1	..	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	
231	264	283	220	122	51	438	2103	97	228	369	127	68	304	98	169	70	242	62	50	125	291	36	93	112	

Date	Description	Debit	Credit	Balance
1890				
Jan 1	Balance			100.00
Jan 15	...	50.00		50.00
Jan 30	...		25.00	75.00
Feb 15	...	75.00		0.00
Feb 28	...		100.00	100.00
Mar 15	...	100.00		0.00
Mar 31	...		50.00	50.00
Apr 15	...	50.00		0.00
Apr 30	...		75.00	75.00
May 15	...	75.00		0.00
May 31	...		100.00	100.00
Jun 15	...	100.00		0.00
Jun 30	...		50.00	50.00
Jul 15	...	50.00		0.00
Jul 31	...		75.00	75.00
Aug 15	...	75.00		0.00
Aug 31	...		100.00	100.00
Sep 15	...	100.00		0.00
Sep 30	...		50.00	50.00
Oct 15	...	50.00		0.00
Oct 31	...		75.00	75.00
Nov 15	...	75.00		0.00
Nov 30	...		100.00	100.00
Dec 15	...	100.00		0.00
Dec 31	...		50.00	50.00
Total		1000.00	1000.00	

