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**Contributors**

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**Publication/Creation**

1925

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44863  
County

Borough



of Bolton.

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# SURVEY REPORT

FOR THE QUINQUENNIUM, 1921-1925,

AND

# ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

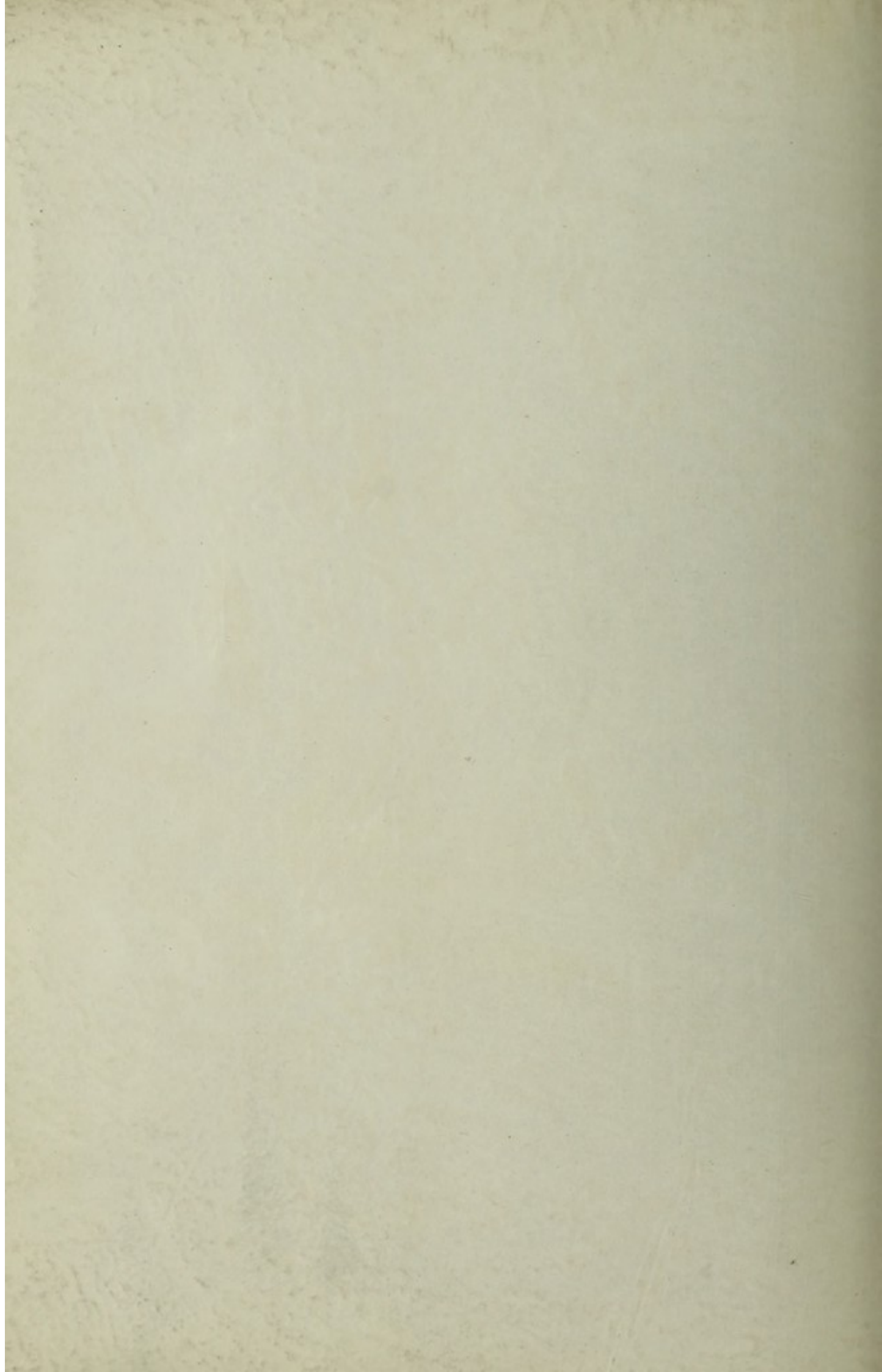
**1925.**

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BOLTON :

ROBT. WHEWELL AND SON, 5-13, FOLDS ROAD.

1926.



County

Borough



of Bolton.

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**SURVEY REPORT**  
FOR THE QUINQUENNium, 1921-1925,  
AND  
**ANNUAL REPORT**  
OF THE  
**Medical Officer of Health,**  
FOR  
**1925.**



County

Borough of Boston

SURVEY REPORT

ANNUAL REPORT

Medical Officer of Health

FOR

1913

PUBLIC HEALTH DEPARTMENT,  
BOLTON.

3rd August, 1926.

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

LADIES AND GENTLEMEN,

I have the honour to submit my Annual Report for 1925, as Medical Officer of Health to the County Borough of Bolton.

The year 1925 was a healthy year, free from any serious epidemic and showing an improvement on 1924, both in the death-rate and in the infantile mortality rate. The death-rate was 13.6 as against 14.0 in 1924, and the infantile mortality rate 87 as against 92 in 1924. Only in two previous years, 1921 and 1923, has Bolton had a lower death-rate, and only on two occasions, 1919 and 1923, a lower infantile mortality rate.

The Registrar General's estimate of Bolton's population at the middle of 1925 is 180,400. This figure is once more below the corresponding figure for the previous year. The estimated population of Bolton in 1924 was 181,100. It is not likely that the tide will turn until a real improvement in the trade of Bolton, and of the country generally, takes place.

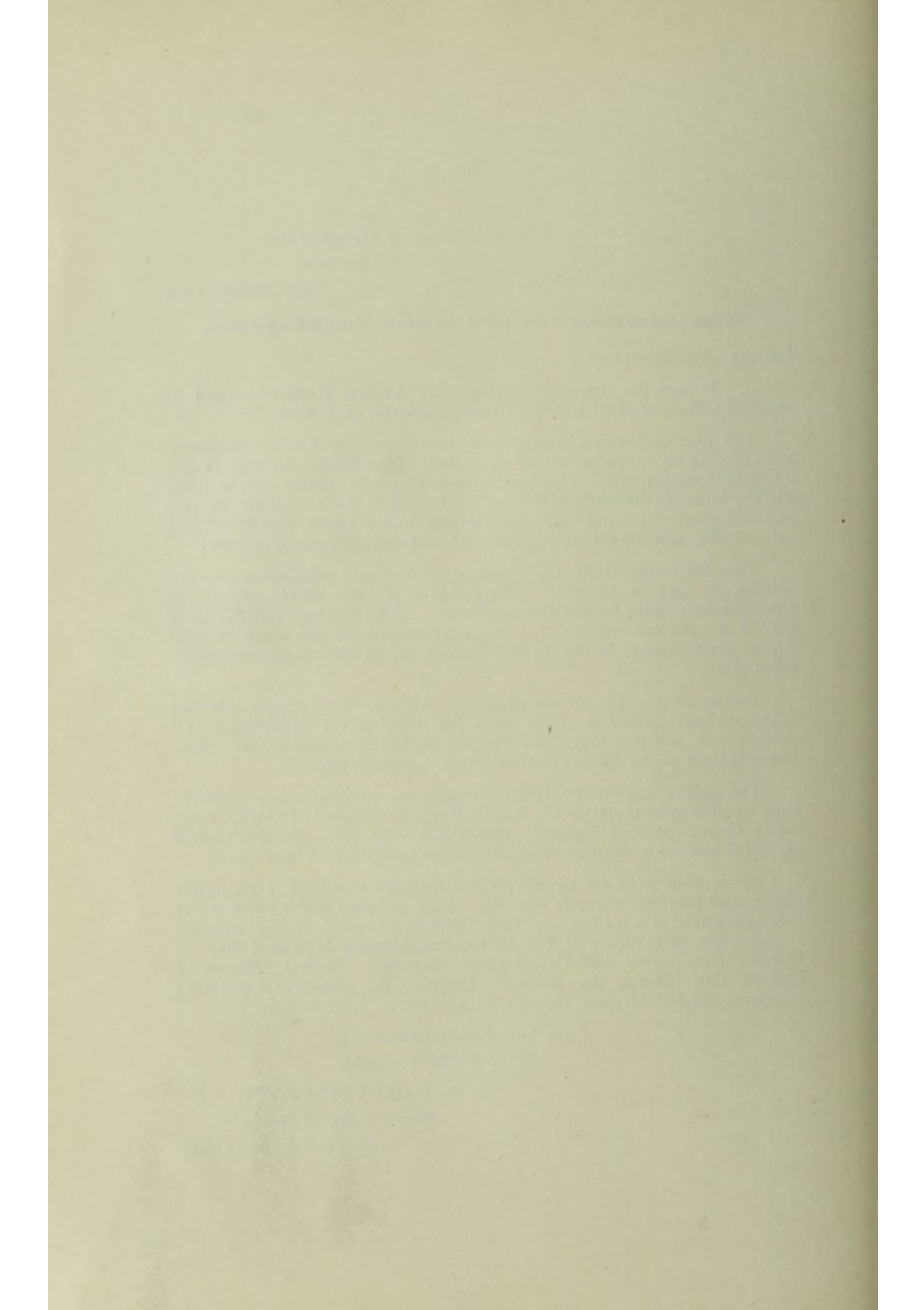
Bolton remained free from small-pox in 1925. I am greatly indebted to the medical profession of the town for drawing my attention to all cases which justified even the slightest suspicion of small-pox. The dissemination of the disease is always due to missed cases.

The staff of the Public Health Department suffered a severe loss in 1925 by the appointment of Dr. Austin Byrne to the post of health expert to the Government of Egypt. He was a very able official and had endeared himself to all with whom his duties brought him in contact.

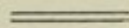
Once more with all sincerity I thank all the members of the public health staff for loyal and able service. I am satisfied that I have as my colleagues as able a staff as any medical officer of health in the country. I make special mention of Dr. McKeague, Deputy Medical Officer of Health, Dr. Byrne, and Dr. Boullen, Assistant Medical Officers of Health, Mr. Hurst, the Borough Analyst, Mr. Holmes, Veterinary Surgeon, and Mr. Herbert Daniels, Chief Clerk.

I am, ladies and gentlemen,  
Your obedient servant,

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



## Table of Contents.



<b>Section</b>	<b>I.</b>	Natural and Social Conditions	...	...	1
	<b>II.</b>	General Provision of Health Services.	...		21
	<b>III.</b>	Sanitary Circumstances	...	...	27
	<b>IV.</b>	Housing	...	...	43
	<b>V.</b>	Inspection and Supervision of Food	...	...	53
	<b>VI.</b>	Prevalence of, and Control over, Infectious Diseases			79
	<b>VII.</b>	Tuberculosis	...	...	97
	<b>VIII.</b>	Venereal Diseases	...	...	105
	<b>IX.</b>	Maternity and Child Welfare...	...	...	111
	<b>X.</b>	Miscellaneous	...	...	127
	<b>XI.</b>	Appendix...	...	...	137



# COUNTY BOROUGH OF BOLTON.

## Public Health Committee.

THE MAYOR, COUNC. P. KNOTT, J.P.

*Chairman*—ALD. E. ASPINALL, J.P.

*Vice-Chairman*—THE MAYOR.

Ald. SIR KNOWLES EDGE, J.P.

„ Dr. E. MONKS.

„ F. STEEL.

Counc. Mrs. B. L. AGNEW, J.P.

„ H. BOMMER.

„ R. DEMAINE.

„ MRS. A. E. DOWLING.

„ Sir T. E. FLITCROFT, J.P.

Counc. D. HEAP.

„ A. E. HOLT, J.P.

„ J. W. MAKANT.

„ B. ROBINSON.

„ W. RUSSELL, J.P.

„ L. SHAW.

„ J. SIMMS.

„ Mrs. E. TAYLOR.

„ G. THOMPSON.

## 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.
4. Miss F. G. LEECH, 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. MARKLAND, Cert. R. San. I. and Cert. for Food.

5. C. J. DAWSON, Cert. R. San. I. and Cert. for Food.

6. T. ISHERWOOD, Cert. R. San. I.

7. F. J. SAUNDERS, Cert. R. San. I. and Cert. for Food.

8. A. H. HOLT, Cert. R. San. I.

*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—*

MARY E. BOULLEN, M.B., Ch.B., D.P.H.

AUSTIN W. BYRNE, M.B., Ch.B., Liverpool, D.P.H., Manc.

*Tuberculosis Officer and Deputy Medical Officer of Health—*

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

*Medical Officer of Health and School Medical Officer—*

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

M.R.C.S. Eng., L.R.C.P. Lond.

SECTION I.

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Natural and Social Conditions.

# NORTH AMERICAN REVIEW

Vol. 10, No. 1, 1841

Published by the American Review Association

NEW YORK: Published by the American Review Association, 1841.

Price, 10 Cents

Entered as Second-Class Matter, May 10, 1841.

Vol. 10, No. 1

## Natural and Social Conditions

By J. W. Alden

NEW YORK: Published by the American Review Association, 1841.

Price, 10 Cents

Entered as Second-Class Matter, May 10, 1841.

Published by the American Review Association, 1841.



# SUMMARY OF NATURAL FEATURES

—AND—

## VITAL AND MORTAL STATISTICS

1925.

### COUNTY BOROUGH OF BOLTON.

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 1925)	... ..	180,400
Density	... ..	11·8
Inhabited Houses (Census 1921)	... ..	41,828
Private Families or Separate Occupiers (Census 1921)	... ..	42,635
New Houses Certified 1925	... ..	681
Estimated No. of Houses in the Borough at 31st December 1925,	44,193	
Rateable Value at 31st March, 1926	... ..	£1,149,911
Sum represented by a Penny Rate (1925-1926)	... ..	£4,401-14-9
Births	... ..	2,949
Birth-Rate	... ..	16·3
Deaths	... ..	2,455
Death-rate (Crude)	... ..	13·6
Death-rate (Registrar General's)	... ..	13·3
Average Death-rate (1916-1925)	... ..	14·2
Infantile Mortality	... ..	87
Neo-natal Death-rate	... ..	32·8
Maternal Death-rate	... ..	4·7
Epidemic Death-rate (seven chief diseases)...	... ..	·55
Diarrhoea & Enteritis (under 2 years), Death-rate per 1,000 Births	14·9	
Phthisis Death-rate	... ..	·83
Other forms of Tuberculosis, Death-rate	... ..	·18
Respiratory Death-rate	... ..	2·5
Rainfall (Av. 1887-1925—43·462")	... ..	45·002"



SUMMARY—Continued.

105 COUNTY BOROUGHES AND GREAT TOWNS—

Birth-rate	...	...	...	...	...	...	18·8
Death-rate	...	...	...	...	...	...	12·2
Infantile Mortality	...	...	...	...	...	...	79
Diarrhoea and Enteritis (under 2 years) Death-rate per 1,000 Births	...	...	...	...	...	...	10·8

ENGLAND AND WALES—

Birth-rate	...	...	...	...	...	...	18·3
Death-rate	...	...	...	...	...	...	12·2
Infantile Mortality	...	...	...	...	...	...	75
Diarrhoea and Enteritis (under 2 years), Death-rate per 1,000 Births	...	...	...	...	...	...	8·4

The main facts regarding the population of Bolton elicited by the census of 1921 are as follows :

The total population of the 1921 census (178,683) consisted of 83,680 males and 95,003 females.

Males under 12 years of age	...	...	...	17,876
Males over 12 years of age	...	...	...	65,804
Females under 12 years of age	...	...	...	17,881
Females over 12 years of age...	...	...	...	77,122
Total Number of occupied persons :				
Aged 12 and over : Males...	...	...	...	60,699
Females	...	...	...	33,555
Total unoccupied and retired :				
Aged 12 years and over : Males	...	...	...	5,105
Females	...	...	...	43,567

Bolton is a typical Lancashire manufacturing town, whose staple industries are cotton manufacturing, engineering and coal mining. The number of persons returned at the 1921 census as being engaged in the above industries was

	Males.	Females.
Textile ... ..	13,668	19,807
Metal Workers ... ..	11,026	174
Mining and Quarrying...	3,863	8

Full particulars of the occupations of the inhabitants of Bolton as recorded in the 1921 census will be found in appendix on page 25.

Bolton has a damp climate and a clay soil. It is a bad climate for bronchitis and other respiratory diseases, and also for rheumatic affections, otherwise it is a healthy, bracing town. If it had not got a moist atmosphere it would not be the Bolton it is. The conditions under which the workers engage in their several occupations are in Bolton as favourable to health as in any other manufacturing town. There are in Bolton no conditions peculiar to the town in any of its industries which differentiate the effect on health of those industries from their effects in other towns.

All questions of housing and overcrowding are dealt with later on in the section on housing.

#### Poor Law Relief in Bolton.

I am indebted to Mr. H. I. Cooper, Clerk to the Guardians of the Bolton Union, for the following information.

The total amount of out-door relief paid in the Parish of Bolton during the year ended December 31st, 1925, was £42,748 4s. 1d.



During the same period, 1,954 persons from the Parish of Bolton were admitted to Townleys Hospital, the Infirmary of the Bolton Union.

The five year period ending with 1925 has not been characterised by any special incidence of disease or death such as to call for remark. There was no small-pox in the town during this period. The incidence and mortality from influenza was parallel with those in other parts of the country. Encephalitis lethargica is increasing, although a great part of the increase is undoubtedly due to increased familiarity with the disease on the part of the medical profession. It is a terrible disease, and it is earnestly to be hoped that some advance may be made before long both in the treatment of the disease and in the discovery of its cause and control. At present very little indeed is known either of its treatment, or of its prevention.

## VITAL STATISTICS.

### Population.

The Registrar-General's estimate of the mid-year population of Bolton in 1925 was 180,400. The corresponding figure for 1924 was 181,100. As compared with 1924 the population of Bolton diminished in 1925 by 700 souls. The natural increase of population in Bolton in 1925, that is the excess of births over deaths, was 494. The number of persons therefore who left Bolton in 1925 to reside elsewhere was approximately 1,194. Migration from a district has usually a definite influence on the vital statistics of that district. Migrants are usually drawn from the younger members of the community. Their loss lowers the birth-rate and raises the death-rate.

The census population of Bolton on the last four occasions on which it was taken was as follows :

1891	..	146,487
1901	...	168,215
1911	...	180,851
1921	...	178,683

The 1921 census population consisted of 83,680 males, and 95,003 females.

In 1921 there were 1,135 females for every 1,000 males. Taking England and Wales as a whole, there were, at the 1921 census, 1,096 females to every 1,000 males.

The number of persons per family at the 1921 census was 4.13, as against 4.39 at the census of 1911. The number of persons per family for the County of Lancaster, taken as a whole, was 4.27 in 1921.

**Births.**

2,949 Children were born of Bolton parents in 1925. This gives a birth-rate of 16·3 births per thousand.

The birth-rate for Bolton and for England and Wales for the five years ending with 1925 was as follows :—

Year.	BOLTON.		ENGLAND AND WALES.
	Total Births.	Rate per 1000.	Rate per 1000.
1921	3831	21·0	22·4
1922	3414	18·6	20·6
1923	3189	17·5	19·7
1924	3203	17·6	18·8
1925	2949	16·3	18·3

In 1902 the birth-rate of Bolton was 28·1 per thousand.

In the five years (1909-1913) preceding the year in which the Great War began, the average birth-rate in Bolton was 23·6 per thousand. The average birth-rate per year for the five year period ending with 1925 was 18·2 per thousand.

When the full tide of prosperity returns to Bolton, bringing with it employment and good wages for everybody, the birth-rate will rise from the low figure at which it now stands. It is extremely unlikely that it will ever rise to such a figure as the 28·1 of 1902.

Of the children born in Bolton in 1925, 1,484 were males, and 1,465 were females.

132 of the children born were illegitimate, and of these 25 were born in Townleys Hospital. The illegitimate births amounted to 4·5 % of the total births.

The natural increase of population in Bolton (that is the excess of births over deaths) was as follows for each of the years ending with 1925.

Year.	Natural Increase of Population.	
1921	...	1482
1922	...	916
1923	...	846
1924	...	662
1925	...	494

The number of still-births notified during 1925 was 140.



### Death-Rate and Deaths.

The total number of Bolton residents who died in 1925 was 2,455. Of these Bolton residents 549 died outside Bolton.

There died in Bolton in 1925, a total of 88 persons whose domicile was elsewhere than in Bolton, and of these, 75 died in the Bolton Infirmary.

443 Bolton residents died in Townleys Hospital, Farnworth, and 56 died in Lunatic Asylums outside Bolton.

163 Bolton residents died in the Bolton Infirmary.

The actual number of deaths, therefore, which took place in 1925 in Bolton was 1,994.

The 1925 death-rate for Bolton is therefore 13·6. The only years in which Bolton had a death-rate lower than this were 1921 and 1923, the death-rates of which were 12·8 for each year.

The following death-rates for 1925 are interesting for comparison :

England and Wales	...	...	...	...	12·2
105 Great Towns	...	...	...	...	12·2
157 Smaller Towns	...	...	...	...	11·2
London	...	...	...	...	11·7

It should be noted that these death-rates are those calculated by the Registrar-General. The Bolton death-rate for 1925 as calculated by the Registrar-General was 13·3.

Of the deaths, 1,235 were of males and 1,220 of females.

### Infantile Mortality.

Of the 2,949 Bolton children born in 1925, there died 259 under the age of one year. This gives an infantile mortality of 87, which is the number of infant deaths per 1,000 children born.

Of the children born, 2,817 were legitimate, and 132 illegitimate. The infantile mortality for the legitimate children was 80, and for the illegitimate children 196. It is obvious that a majority of the deaths of illegitimate infants were preventable deaths. It would be to the advantage of the community if the Poor Law Authority had power to take charge of the illegitimate children during the first year of life wherever this appeared advisable in the interest of the children.

## CHIEF CAUSES OF DEATH UNDER ONE YEAR OF AGE.

	1920	1921	1922	1923	1924	Av. 1920 to 1924	1925
Total Deaths ... ..	416	370	319	273	295	334	259
Diarrhœa and Enteritis ... ..	40	49	20	36	26	34	38
Respiratory ... ..	99	68	63	73	74	75	65
Prem. Births & Congenital Defects	82	89	85	60	74	78	47
Atrophy and Debility ... ..	61	53	43	31	31	43	22
Convulsions and Meningitis ... ..	35	26	31	22	31	29	19
Tuberculous Diseases ... ..	7	7	6	4	4	5	1
Epidemic Diseases (exclud'g Diarr )	34	19	26	15	19	22	29
All other Causes... ..	58	59	45	32	36	46	38

The following table gives the average infantile mortality in Bolton for five year periods from 1876 to 1915, and for each year from 1916 to 1925.

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
		1925 ...	87

It is obvious that in the case of a large number of the 259 infants who died in 1925 these deaths must be regarded as preventable. 26 died of bronchitis, 37 of pneumonia, and 38 of diarrhœa and enteritis. With proper care and foresight, at least half of these children should have been saved. How are such deaths to be prevented? Mainly by the education of the mothers. There are many agencies to help them. The Public Health Department gives milk and advice, and the Poor Law Infirmary readily admits infants in need of hospital treatment. With better training



in motherhood many of the illnesses which prove fatal could be prevented, and when sickness does come, if mothers would act promptly in seeking advice and help, they would, in very many cases, save their children. The work done by the School for Mothers, and the Infant Clinics conducted in co-operation with it, together with the quite equally important work done by the Health Visitors has undoubtedly influenced very favourably the infantile mortality of Bolton. Education of the mothers in the care of their children is undoubtedly what does most to reduce infantile mortality.

The mortality rate during the first four weeks of life is known as the neo-natal death-rate. As is well known this is the period of the first twelve months of life which is much more fatal to infant life than any other period of equal length. Many of these deaths are due to ante-natal causes, and probably a good many could not be prevented. Some children are born with the seeds of death in them, and no care of the mother before parturition, nor of the child after birth could save them.

But many could undoubtedly be saved, and the large number of deaths in the first month of life is an urgent indication of the need for ante-natal care of mother and child. Our ante-natal clinic now at work (June, 1926) under Dr. Mary Boullen, should do good service. Its opportunities are very great.

The neo-natal death-rate of Bolton for 1925 was 32·8 per 1,000 births. This is the lowest ever recorded. The rates for previous years were as follows:

#### NEO-NATAL MORTALITY-RATE PER 1000 BIRTHS.

Year.	Rate.	Year.	Rate.
1905 ... ..	46·8	1916 ... ..	40·1
1906 ... ..	36·7	1917 ... ..	49·8
1907 ... ..	44·6	1918 ... ..	38·9
1908 ... ..	37·3	1919 ... ..	40·3
1909 ... ..	45·4	1920 ... ..	38·9
1910 ... ..	36·7	1921 ... ..	41·2
1911 ... ..	43·2	1922 ... ..	43·0
1912 ... ..	38·7	1923 ... ..	37·6
1913 ... ..	41·7	1924 ... ..	35·5
1914 ... ..	45·8	1925 ... ..	32·8
1915 ... ..	37·8		

**Population, Densities, Birth-rates, Death-rates and 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
1924	181100	11'8	3203	17'6	2541	14'0	92
1925	180400	11'8	2949	16'3	2455	13'6	87
1925							
England and Wales	...	...	...	18'3		12'2	75
105 Great Towns	...	...	...	18'8		12'2	79
157 Smaller Towns	...	...	...	18'3		11'2	74
London	...	...	...	18'0		11'7	67



..12..  
SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1925.

	No. of Deaths.	Per cent. of Total Deaths.
GENERAL DISEASES.		
Measles... ..	18	'73
Whooping Cough ... ..	32	1'30
Influenza ... ..	98	3'99
Erysipelas ... ..	9	'36
Encephalitis Lethargica ... ..	13	'52
Pulmonary Tuberculosis ... ..	151	6'15
Other Forms of Tuberculosis ... ..	34	1'38
Syphilis ... ..	7	'28
Cancer ... ..	240	9'70
Rheumatic Fever ... ..	15	'61
Chronic Rheumatism, Osteo-arthritis, Gout ... ..	15	'61
Diabetes ... ..	26	1'05
Anæmia, Chlorosis ... ..	24	'97
Other General Diseases ... ..	34	1'38
NERVOUS SYSTEM.		
Meningitis ... ..	7	'28
Cerebral Hæmorrhage, Apoplexy, etc. ... ..	131	5'33
Paralysis of Unstated Origin ... ..	15	'61
General Paralysis of the Insane ... ..	10	'40
Epilepsy ... ..	10	'40
Convulsions (non-puerperal) ... ..	19	'77
Other Nervous ... ..	46	1'87
CIRCULATORY SYSTEM.		
Heart Diseases ... ..	323	13'15
Diseases of the Arteries ... ..	115	4'68
Other Circulatory ... ..	5	'20
RESPIRATORY SYSTEM.		
Bronchitis ... ..	275	11'20
Pneumonia (all forms) ... ..	175	7'12
Other Respiratory ... ..	18	'73
DIGESTIVE SYSTEM.		
Ulcer of the Stomach or Duodenum ... ..	15	'61
Other Diseases of the Stomach ... ..	10	'40
Diarrhœa and Enteritis ... ..	55	2'24
Appendicitis and Typhlitis ... ..	14	'57
Hernia, Intestinal Obstruction ... ..	33	1'34
Cirrhosis of the Liver... ..	14	'57
Other Digestive ... ..	28	1'14
GENITO-URINARY SYSTEM.		
Acute Nephritis ... ..	10	'40
Chronic Bright's Disease ... ..	84	3'42
Diseases of the Prostate ... ..	12	'48
Other Genito-urinary... ..	9	'36
DISEASES OF EARLY INFANCY.		
Atrophy, Debility, etc. ... ..	25	1'01
Premature Birth and Injury at Birth ... ..	38	1'54
Other Diseases of Early Infancy ... ..	8	'32
OLD AGE ... ..	99	4'03
EXTERNAL CAUSES... ..	84	3'42
MISCELLANEOUS CAUSES ... ..	52	2'11

## DEATHS FROM INFECTIOUS DISEASES.

The diseases known as the seven chief epidemic diseases (Small-pox, Scarlet Fever, Diphtheria and Membranous Croup, Enteric and Continued Fever, Measles, Whooping Cough and Diarrhœa) caused 101 deaths in Bolton in 1925. The death-rate due to these diseases is known as the zymotic death-rate. This death-rate was for 1925, in Bolton, '55 per 1000 inhabitants.

## CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1919	1920	1921	1922	1923	1924	1925
Smallpox... ..	—	1	—	—	—	—	—
Scarlet Fever... ..	4	2	7	4	6	1	3
Diphtheria and Memb. Croup ... ..	61	35	21	13	10	6	3
Enteric and Continued Fever ... ..	5	6	3	2	—	6	1
Measles ... ..	18	27	5	63	4	12	18
Whooping Cough ... ..	—	34	25	13	11	28	32
Diarrhœa and Enteritis under 2 years of age	27	41	52	24	42	33	44
Erysipelas ... ..	3	7	2	6	4	5	9
Puerperal Sepsis ... ..	1	5	6	3	3	6	8
Cerebro-spinal Fever ... ..	2	—	—	—	—	2	1
Encephalitis Lethargica ... ..	—	—	4	1	—	17	13
Influenza... ..	301	70	45	122	94	88	98

The most striking feature of the above figures is the number of deaths from encephalitis lethargica in 1924 and 1925, a total for these two years of 30 deaths. Encephalitis lethargica is a terrible disease. It has a high mortality, and many of its victims who escape death are left in a permanent and irremediable condition, almost worse than death. Further particulars as to its incidence and effects in Bolton are given in the section on infectious diseases.

## Deaths from Tuberculosis.

Pulmonary tuberculosis was the cause of death in 151 cases in 1925. This gives a phthisis death-rate of '83 per 1,000. Only once have we had a lower phthisis death-rate than this. In 1922 the death-rate was '75.



There were 34 deaths from non-pulmonary tuberculosis, giving a death-rate of '18 per 1,000.

The death-rate from all forms of tuberculosis was therefore 1'02 per 1,000 inhabitants.

The deaths from Tuberculosis in previous years are set forth in the following table :

DEATHS AND DEATH-RATES FROM TUBERCULOSIS IN BOLTON  
IN PREVIOUS YEARS.

Year.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Tuberculosis (all forms).	
	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
1911	187	1 03	67	'36	254	1'40
1912	182	'99	54	'29	236	1'29
1913	154	'83	58	'31	212	1'15
1914	167	'90	54	'29	221	1'19
1915	179	1'03	50	'28	229	1'32
1916	181	1'07	62	'36	243	1'43
1917	189	1'15	62	'37	251	1'53
1918	198	1 23	55	'34	253	1'57
1919	173	97	37	'20	210	1'18
1920	154	'83	32	'17	186	1'00
1921	161	'88	37	'20	198	1'08
1922	138	'75	40	'21	178	'97
1923	157	'86	47	'25	204	1'11
1924	162	'89	42	'23	204	1'12
1925	151	'83	34	'18	185	1'02

#### Deaths from Cancer.

Cancer was the cause of the death in 1925 of 240 Bolton residents, of whom, 108 were males and 132 females.



In the following table is shown the number of deaths caused by cancer in Bolton in each of the years 1901 to 1925, and also the cancer death-rate and the pulmonary tuberculosis death-rate for Bolton in each of these years.

**Deaths from Cancer in Bolton in the years 1901-1925.**

Year.	No. of deaths.			Total.	Cancer Death-rate.	Pulmonary Tuberculosis Death-rate.
	Males.	Females.				
1901	26	71	97	·57	1·69	
1902	51	73	124	·73	1·49	
1903	32	72	104	·60	1·27	
1904	45	88	133	·77	1·28	
1905	57	76	133	·76	1·20	
1906	40	74	114	·65	1·15	
1907	45	75	120	·68	1·05	
1908	53	69	122	·68	1·21	
1909	60	84	144	·80	1·20	
1910	58	92	150	·83	1·08	
1911	67	84	151	·83	1·03	
1912	80	88	168	·92	·99	
1913	72	10	182	·98	·83	
1914	77	196	173	93	·90	
1915	78	03	181	1·04	1·03	
1916	60	100	160	·94	1·07	
1917	73	193	166	1·01	1·15	
1918	85	102	187	1·16	1·23	
1919	72	104	176	·99	·97	
1920	96	107	203	1·10	·83	
1921	86	128	214	1·17	·88	
1922	88	104	192	1·05	·75	
1923	101	113	214	1·17	·86	
1924	123	121	244	1·34	·98	
1925	108	132	240	1·33	·82	

I reprint here an extract from a special report on cancer which I presented to the Public Health Committee in April, 1926. as I think what is reprinted here contains information which every one should have.

Cancer is a disease neither of poverty, nor of dirt, nor of wealth. It is equally common in all social classes and in all professions and occupations, with this reservation, that if any occupation involves chronic irritation of some part of the body, then such irritation will, in persons whose tissues are a suitable soil for the growth of the cancer seed, produce the cancerous growth.

There is no evidence that cancer is hereditary.

There is no evidence that any article of food increases the liability to cancer or prevents its appearing.

There is no evidence at present that any known drug or ointment will prevent cancer appearing or cure it when present.

There is no evidence that cancer can attack an individual by reason of his inhabiting a house or a district in which cancer happens to have been exceptionally common.

There is no evidence that cancer is infectious.

#### PREDISPOSING CAUSES OF CANCER.

Chronic irritation of some part of the body will, in susceptible individuals, determine the development of a cancerous growth. I cannot do better than quote here the report of the Committee appointed by the Ministry of Health to report on cancer.

The report says :—

“One certain factor about cancer is, that it frequently follows on chronic and prolonged irritation. Not all tissues, however, are equally liable in this respect. The palm of the hand, for example, in spite of its exposure to chronic irritation of all kinds, is probably never the seat of cancer. In the female breast cancer occurs far more commonly in the deeper parts of the gland than in the nipple, which is more exposed to injury. Some tissues show a special liability to develop cancer during chronic irritation, such as the skin of the face, the lips, inside of cheeks, tongue, lower part of bowel, neck of womb. Certain varieties of chronic irritation, too, are more liable to be followed by cancer than others. Thus, in the lip, long continued irritation by a clay pipe is particularly dangerous; in the tongue, irritation by a jagged tooth or badly fitting toothplate; in the womb, the chronic ulceration which may follow confinement. Again syphilitic disease affecting the tongue or female external generative organs, or tuberculosis of skin (lupus) affecting the face, particularly if it has necessitated prolonged treatment, is liable to end in cancer. And lastly, workers in tar such as briquette makers, workers with anilin or paraffin, chimney sweeps, and mule-spinners are apt to suffer from cancer in special parts of the body as a consequence of repeated irritation by the particular agent concerned.”

#### TREATMENT OF CANCER.

The treatment of cancer is much more hopeful than the general public believe. The reason of this is that the general public only knows cancer in its last stage. People generally think of cancer as a long, lingering painful illness, terminating invariably in death, either after, or without, operation. Why is this? It is because some stigma is supposed



to attach to cancer, so that those who have been operated on and cured whilst it was still in the early and curable stage do not talk about it. People who have been successfully operated on for appendicitis do not conceal the fact. They are rather proud of it and readily talk about it. Not so with cancer. Those who have suffered from cancer and have been successfully operated on nearly always conceal the fact.

They keep their mouths shut about it. Cures of cancer are not talked about and are unknown to the general public. But when a person dies of cancer, concealment is impossible. There is a long and painful illness, frequently lasting for months. Everybody knows about it; everybody talks about it. And so there is produced in the public mind a feeling of hopelessness about the disease.

And this hopelessness is by no means justified. If taken in the early stage, large numbers of cases are permanently cured, and, in large numbers of cases, the progress of the disease is stayed for many years, during which complete comfort and the fullest measure of good health may be enjoyed.

Early diagnosis and early treatment are essential. The fear of cancer being diagnosed, the fear of an operation being found necessary, results only too often in that last painful and hopeless stage to which we have already referred.

And cancer is, in the first stage, a purely local disease. If dealt with at this stage it may be completely and finally got rid of. I quote once more from the report of the Committee of the Ministry of Health :—

“ If a person has not recognised that something is wrong—and such cases occur—nothing more can be said. But very many persons are aware that something is wrong, fear it may be cancer, and put off consulting a doctor because they think that if cancer be diagnosed an operation will be necessary. Quite apart from the facts that anaesthetics and antiseptics have robbed operations of many of their terrors, and that many such cases would not be cancerous at all, the chances of a patient must be better the earlier he or she comes under treatment. Most medical authorities believe that in cancer, early operation affords the best chance to the patient, although they would not feel justified in stating that all risk of recurrence is necessarily removed by operation, even if undertaken in an early stage of the disease. But there is indubitable evidence that removal by operation, though ultimately followed by recurrence, enables many people to live a natural life in comfort for considerable periods, while in advanced cases such removal may relieve or prevent prolonged suffering. There are many cases, moreover, in which cancerous growths have been removed once and for all, the patient has lived for years afterwards without recurrence, and has ultimately died from an entirely different cause.”



## DEATHS FROM CANCER, 1925.

Age and Sex Distribution, and Localisation of Disease.

Lesion	Sex		AGE															
			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
	M.	F.																
<b>Buccal Cavity.</b>	3															1	1	1
Jaw ... ..																		
Lip ... ..	1																	
Mouth ... ..	5											1	1	1	2			
Tongue... ..	10								1				2	1	1	3	2	
		1															1	
<b>Total Buccal Cavity</b> ..	19								1			1	3	2	3	4	3	1
		1															1	
<b>Stomach, Liver, etc.</b>																		
Gall Bladder ... ..		2													1		1	
Liver ... ..	6												2	3	1			
		13									1	2		3	4	1	2	
Œsophagus ... ..	6										1				1	2	1	
		4												1	1		1	1
Pharynx ... ..	2													1		1		
Pylorus ... ..	1														1			
		3							1					1				1
Stomach ... ..	26								1	3	2	2	4	7	4	2	1	
		22							1	1	3	3	2	1	5	4		
<b>Total Stomach, Liver, etc.</b> ..	41								1	3	3	2	7	12	8	3	1	
		44							2	1	4	5	4	6	9	7	4	
<b>Peritoneum, Intestines and Rectum.</b>																		
Intestines ... ..	9										2		2	2	2	1		
		13								1			3	2	4	1	1	
Peritoneum ... ..																		
		1					1											
Rectum ... ..	9											1	2	1	3	1	1	
		3										1	1	1				
<b>Total Peritoneum, Intestines and Rectum</b> ..	18										2	1	4	3	5	2	1	
		17					1			1		1	4	3	4	1	1	
<b>Female Genital Organs.</b>																		
Labia Majora... ..		1									1							
Ovary ... ..		2											1	1				
Uterus ... ..		22						1	1	1	3	6	2	3	1	2	1	
Vagina ... ..		2											2					
<b>Total Female Genital Organs</b> ..		27						1	1	2	3	6	5	4	1	2	1	
Breast ... ..		24									1	1	5	4	8	1	2	2
<b>Skin.</b>																		
Face ... ..		5													1			3
Scrotum ... ..		3											1	1		1		



## DEATHS FROM CANCER, 1925.—Cont.

Lesion	Sex		AGE																	
			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
	M.	F.																		
Unstated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Total Skin	3	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...
	...	6	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	3	1	...
Organs.																				
Abdomen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Ladder	4	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...
	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...
Proin	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kidney...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Larynx...	6	...	...	...	...	...	...	...	...	...	...	1	1	1	2	...	1	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lang	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	...	2	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...
Mediastinum	3	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Back	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pose	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Pancreas	3	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...
	...	5	...	...	...	...	...	...	...	1	1	...	1	...	...	2	...	...	...	...
Ostate	4	...	...	...	...	...	...	...	...	...	...	1	2	...	1	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Throat...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Unstated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Total Other Organs	27	...	...	...	...	...	...	...	1	...	...	3	5	7	8	2	1	...	...	...
	...	13	...	...	...	...	...	...	...	1	2	1	1	1	2	3	...	1	1	...
of Males	108	...	...	...	...	...	...	...	2	1	3	9	11	21	27	19	10	3	2	...
of Females	...	132	...	...	...	...	...	1	1	4	7	9	18	19	24	18	13	12	4	2
TOTAL both sexes	...	240	...	...	...	...	...	1	3	5	10	18	29	40	51	37	23	15	6	2

### Vital Statistics of the Chief Lancashire Towns.

The following table has been given in the Bolton report for many years. It is naturally interesting, and indeed, important to know how Bolton stands as to life and death statistics when compared with those towns of Lancashire with which it may fairly be compared.

#### Birth-rate, Death-rate and Infantile Mortality in chief

##### Lancashire manufacturing towns.

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

1925.

	Birth-rate.	Death-rate.	Infantile Mortality.
England and Wales ... ..	18·3	12·2	75
105 County Boroughs and Great Towns, including London ...	18·8	12·2	79
Barrow-in-Furness ... ..	17·4	10·4	64
Bootle ... ..	24·8	11·7	83
St. Helens... ..	23·6	11·7	101
Warrington ... ..	22·2	13·1	85
<b>Bolton</b> ... ..	<b>16·1</b>	<b>13·3</b>	<b>86</b>
Salford ... ..	18·6	13·3	103
Blackburn... ..	15·3	13·6	92
Liverpool ... ..	22·9	13·7	98
Wigan ... ..	20·5	13·9	119
Bury ... ..	14·0	14·0	76
Burnley ... ..	16·1	14·0	108
Manchester ... ..	19·4	14·1	92
Preston ... ..	18·1	14·2	129
Oldham ... ..	15·3	14·6	100
Rochdale ... ..	12·8	15·1	107

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

#### ENGLAND AND WALES.

	1924	1925
Death-rate ... ..	12·2	12·2
Infantile Mortality ... ..	75	75

#### 105 COUNTY BOROUGHs AND GREAT TOWNS, INCLUDING LONDON.

	1924	1925
Death-rate ... ..	12·3	12·2
Infantile Mortality ... ..	80	79



SECTION II.

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General Provision of  
Health Services.

THE  
FEDERAL BUREAU OF INVESTIGATION  
UNITED STATES DEPARTMENT OF JUSTICE  
WASHINGTON, D. C.

REPORT OF THE  
SPECIAL AGENT IN CHARGE  
ON THE PROCEEDINGS OF THE  
SUBCOMMITTEE ON INVESTIGATIONS  
OF THE SELECT COMMITTEE ON ASSASSINATIONS  
OF THE HOUSE OF REPRESENTATIVES

IN CONNECTION WITH THE  
KIDNAPING OF EDWARD G. BREWER  
AND THE MURDER OF  
JAMES W. MCKEY

SECTION II

GENERAL PROVISIONS OF  
HEALTH SERVICES

## GENERAL PROVISION OF HEALTH SERVICES IN BOLTON.

Hospitals provided or subsidized by the Local Authority.

### 1—TUBERCULOSIS.

A pavilion for the reception of patients suffering from pulmonary tuberculosis has been erected in the grounds of the Borough Isolation Hospital at Deane. It contains 24 beds : 12 for males and 12 for females. The Borough Isolation Hospital is situate within the area of the County Borough of Bolton. The phthisis pavilion was opened for the reception of patients on the 8th of July, 1914.

### 2—MATERNITY.

The Haslam Maternity Home, owned and administered by the Local Authority, is located in a very fine building, presented to the town by the late Mr. J. P. Haslam. The Home has 18 beds. The situation of the Home is extremely pleasant, and it stands in extensive grounds of its own. It was opened on the 1st of December, 1920.

### 3—CHILDREN.

There are no hospitals in Bolton specially set apart for children.

### 4—FEVER.

The Borough Isolation Hospital is located at Deane, a part of the County Borough of Bolton. It consists of 4 separate pavilions and 2 administrative buildings. The pavilions contain one hundred beds for the treatment of cases of infectious disease, chiefly scarlet fever, diphtheria, and enteric fever. Other infectious diseases may be admitted.

### 5—SMALL-POX.

The County Borough of Bolton has no Small-pox Hospital of its own. There is at present an agreement with Salford by which six beds in the Salford Small-pox Hospital at Prestwich are set apart for the use of Bolton patients.

### 6—OTHER HOSPITALS.

Townleys Hospital, the hospital of the Bolton Union, lies a short distance outside the area of the County Borough of Bolton, and is situate in the Farnworth Urban District.



The Bolton Infirmary has 153 beds, and treated in 1925 a total of 4,056 in-patients. The Bolton Infirmary is a general hospital, and deals chiefly with acute surgical cases. This institution has two ancillary hospitals to which patients who have been treated in it during the acute stage of their illness are sent for further convalescent treatment. These hospitals are :

- (1) THE EDMUND POTTER HOSPITAL. This hospital, situate on Chorley New Road, has 43 beds, which are reserved for women and children.
- (2) BLAIR'S HOSPITAL. This hospital lies a short distance outside the area of the County Borough of Bolton. It has 37 beds, which are for the use of convalescent adult male patients.

#### INSTITUTIONAL PROVISION FOR UNMARRIED MOTHERS. ILLEGITIMATE INFANTS AND HOMELESS CHILDREN.

The Poor Law Authority provides for all the above.

There are in addition two charitable foundations in Bolton, Eden's Orphanage and Chadwick's Orphanage. Both of the institutions take in not only orphans but also fatherless children. Neither of these orphanages ever have the full complement of children that can be admitted.

#### AMBULANCE FACILITIES.

(a). A motor ambulance is kept at the Borough Isolation Hospital, and is available for all infectious cases.

(b). For non-infectious and accident cases, the County Borough of Bolton has provided three ambulances. These ambulances are available for the moving, within the area of the County Borough of Bolton, of all cases of sickness and accident for the moving of which an ambulance is necessary. A small charge is made if the circumstances of those requiring the use of the ambulance justify such charge.

#### CLINICS AND TREATMENT CENTRES.

Full particulars of Maternity and Child Welfare Centres, of our Day Nursery, of our Tuberculosis Dispensary and Treatment Centre for Venereal Diseases will be found in the sections of this report which deal severally with these subjects.

The School Clinic is conducted in a building which was formerly the Thomasson Library. The building is situate in Charles Street and has very suitable accommodation for the work of the clinic. The School Clinic is open as follows :

Monday to Friday, 9 a.m. to 12 noon.  
2 p.m. to 4-30 p.m.  
Saturday - 9 a.m. to 12 noon.

One of the School Doctors is in attendance at the clinic on Monday and Wednesday afternoons, and on Thursday and Saturday mornings. Treatment is carried out every day both in the morning and the afternoon.

## PROFESSIONAL NURSING IN THE HOME.

Up to the close of 1925, the Bolton Public Health Authority made no provision for the nursing of any disease at the home of the patient.

The Public Health Authority has now (June, 1926) arranged to pay the Bolton District Nurses Association for nursing in their homes, patients suffering from: puerperal fever, measles, whooping cough, epidemic diarrhoea and ophthalmia neonatorum. For each visit paid at the request of the Medical Officer of Health to cases suffering from any of the above diseases a fee of 1/6 will be paid.

The Bolton District Nurses Association provides nursing in the home for all cases other than those of infectious disease. In the great majority of cases the nursing is given gratuitously, but in cases where the patient's friends are able to pay, a small fee is asked.

MIDWIVES.

No midwives are employed, nor are any subsidized by the Local Authority.

The number of midwives who notified their intention of practising in Bolton in 1925 was 83.

CHEMICAL WORK.

The Local Authority employs a whole-time Chemist and Bacteriologist and has its own laboratory. A full account of his work in 1925 will be found in this report.



LEGISLATION IN FORCE.

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.
- Bolton Corporation Act, 1925.

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.
Tents, Vans, Sheds and Similar Structures	21st Jan., 1926.
Maternity Homes ... ..	15th Mar., 1926.



### SECTION III

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#### 1. Sanitary Circumstances.

THE UNIVERSITY OF CHICAGO

THE DIVISION OF THE PHYSICAL SCIENCES

THE DIVISION OF THE BIOLOGICAL SCIENCES

THE DIVISION OF THE SOCIAL SCIENCES

THE DIVISION OF THE ENGINEERING SCIENCES

THE DIVISION OF THE AGRICULTURAL SCIENCES

THE DIVISION OF THE MEDICAL SCIENCES

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## SANITARY CIRCUMSTANCES.

### Water.

The supply is sufficient to meet all requirements. The quality of the water supplied is excellent for domestic purposes and is constantly laid on under pressure. The number of dwelling-houses supplied within the Borough of Bolton is 45,489, and the proportion of the population supplied from the waterworks of the Corporation is practically 100 per cent. by direct supply. The source of supply is surface water from upland gathering grounds. The Corporation, for the purposes of the Water Undertaking, own practically the whole of the gathering grounds to their domestic supply reservoirs, and by the Bill being promoted by them in Parliament, Session 1926, expect to become the owners of the whole. The possibilities of contamination of the water at the source are very remote, and there is the additional safeguard that all the surface water is filtered. Waters having the tendency to plumbo-solvent action are satisfactorily treated by hardening with chalk or lime. It has not been necessary to take any action during the year under review in respect of any form of contamination.

Samples of water from each source of the Bolton supply are taken every week throughout the year and are examined bacteriologically every week, and chemically once a month. There has been no evidence of contamination of the Bolton water supply during the five years ending with 1925.

### Rivers and Streams.

Water from the small streams in Bolton is used only for industrial purposes. A general oversight over these streams is exercised by the Mersey and Irwell Joint Committee. Complaints arise occasionally regarding smells from the streams, but there has been no serious nuisance.

### Drainage and Sewerage.

The drainage system of Bolton is very satisfactory. Some small areas here and there throughout the Borough are not yet connected with the drainage system, but these areas are being rapidly dealt with and should all disappear before very long.

I am obliged to the Borough Surveyor, E. Ll. Morgan, Esq., A.M.I.C.E., for the following report on Sewerage and Sewage Disposal during 1925.

### Sewerage and Sewage Disposal.

The drainage of the Borough is by gravitation with ample falls discharging into five intercepting sewers, viz., the Tonge, Bradshaw Brook, Croal, Nile and Jenny Beck Intercepting Sewers which are mainly of brick construction and generally in good condition.



It was found necessary to construct a new sewer from Bow Street, along All Saints Street, St George's Road and Chorley New Road, to relieve the Croal Intercepting Sewer for which the Ministry of Health sanctioned the borrowing of £50,000. This sewer is circular in section and varying from four feet diameter down to two feet diameter, and constructed with an inner ring of Accrington bricks in a concrete cradle, and the crown nine inches thick, covered with concrete. The sewer is practically complete and has been brought into use.

Of the remaining sewers the older ones are of brick construction of varying condition, and are being gradually replaced as they become worn out.

During the past 25 years the newer districts have been sewered on the partially separate system, the surface water sewers discharging into streams, watercourses and manufacturers' reservoirs, and are chiefly constructed of earthenware pipes with the necessary manholes which are ventilated.

The greater portion of the sewage of the Borough is treated at Hacken Sewage Works by chemical precipitation and filtration.

This work was designed to treat three times the Dry Weather Flow, viz., 12,000,000 gallons as strong sewage, and three times Dry Weather Flow as storm water.

There are two Detritus Tanks, one Equalising Tank, three-quarter million gallons capacity, twelve Settling Tanks of a total capacity of  $4\frac{1}{2}$  million gallons, and four Storm Water Tanks of a total capacity of  $1\frac{1}{2}$  million gallons, three acres of Percolating Filters, the sludge being dealt with by pressing and disposed of to farmers for manure.

A portion of the tank effluent passes on to Rhodes Farm by a conduit four miles in length. The area of the farm is 180 acres and divided into 37 plots, the sewage being treated by downward filtration.

A scheme for reconstruction of Hacken Sewage Works, and the conversion to the Bio-Aeration system of treatment has been approved by the Ministry of Health at an estimated cost of £74,500, and the work is now in progress.

It was also intended to construct four acres of Filters for the further treatment of the effluent, but the Ministry of Health have sanctioned the postponement of this portion of the work for twelve months after the completion of the Bio-Aeration Tanks, in order to give the same a thorough test and ascertain the necessity or otherwise of final filtration.

The sewage from the Astley Bridge District is mainly treated at the Astley Bridge Sewage Works, situate in their own district, and consists of detritus tank, three chemical precipitation tanks, two storm water tanks and filters. The dry water flow is about 500,000 gallons. A portion of this district consisting of about 150 houses and several works drain to the Turton Sewage Works at Eagley, which has recently been reconstructed into the Bio-Aeration system of treatment.



Another group of about 60 houses at Bank Top in this district is drained to a small sewage works, consisting of two settling tanks and filters constructed at the cost of the owner of the property.

At Longworth Mill there is a group of twenty houses, the sewage from which is treated by means of a septic tank and filters.

In the Breightmet District 84 houses are drained into a Sewage Works on the Blackshaw Brook belonging to the Bury Rural District Council, and treated by means of septic tanks and filters.

A portion of the Great Lever District, bordering on Green Lane, consisting of 1,181 houses, drains to the Farnworth Sewage Works and is treated by chemical precipitation and filters.

#### Closet Accommodation.

The County Borough of Bolton attained its present size as regards area in 1899, in which year its boundaries were extended.

In 1899, immediately after the extension of its boundaries, the closet accommodation of the Borough was as follows :

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

The then Medical Officer of Health, Dr. Gould, described Bolton as being at that time a privy midden town. That reproach has now been largely removed. At the close of 1925 the state of affairs was as follows :

Fresh-water Closets	...	...	...	...	19138
Waste-water Closets	...	...	...	...	15124
Pails	...	...	...	...	6056
Privy-middens	...	...	...	...	4615

The percentage of the total number of closets represented by each separate type of closet was as follows in the years 1899 and 1925.

	1899	1925
Privy-middens	56.3 %	10.2 %
Pails	19.0 %	13.5 %
Waste-water Closets	16.2 %	33.7 %
Fresh-water Closets	8.5 %	42.6 %

In 1899 only one closet in 12 was a fresh water closet.

In 1925 five closets in 12 were fresh water closets.

In 1899 one closet in 2 was a privy midden.

In 1925 one closet in 10 was a privy midden.

In the following table is shown what has been done in 1925 in the way of getting rid of closets other than fresh water closets and providing fresh water closets in their stead. The table includes the number of fresh water closets provided in connection with new houses. The table shows what has been done in the Old Borough as it was before the extension, and also in each of the added areas.

# CLOSET ACCOMMODATION, 1925

	No. of Closets Converted or Demolished, 1925				F.W.C.'s. provided in lieu of any other type and additions in new and old houses, 1925.	Present Closet Accommodation, 1925				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...	939	80	6	2	1079	2313	6024	10894	10558	28'0	72'0
Great Lever ...	84	1	2	...	147	839	...	1104	1303	25'8	74'2
Tonge ...	300	...	7	...	410	185	...	773	2007	6'2	93'8
Astley Bridge ...	48	2	2	...	84	141	13	502	1477	7'2	92'8
Smithills ...	13	...	1	...	239	155	4	715	1131	7'9	92'1
Hulton ...	138	...	1	...	181	199	...	591	761	12'8	87'2
Darcy Lever-cum- Brightmet ...	69	...	...	...	157	460	...	183	506	40'0	60'0
Deane-cum-Lostock ...	62	...	...	...	104	229	3	212	680	20'6	79'4
Heaton ...	22	...	...	...	75	94	12	150	715	10'9	89'1
Extended Borough ...	1675	83	19	2	2476	4615	6056	15124	19138	23'7	76'3



The following table shows the number of privy middens and pail closets replaced by fresh water closets or demolished in each year since 1909.

**Privy-Middens and Pails converted or demolished since 1909.**

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
1925 ... ..	939	80	736	3	1675	83

It will be seen by the above table that during the three years 1923, 1924 and 1925, there were provided in replacement of privy middens 5,097 fresh water closets. This is an immense advance on anything that had previously been accomplished.

At the end of 1925 there were in Bolton 4,615 privy middens. At the present rate of extinction of these closets they should all, provided scheduled areas can be got rid of, have disappeared by the end of 1928.

But we have still 6,056 pail closets, and there is very little to choose between pail closets and privy middens. I think it well to repeat that the Local Authority has exactly the same powers with regard to pail closets as in the case of privy middens.

The Local Authority makes a grant of £4 in the case of every closet other than a fresh water closet replaced either at the request, or with the approval, of the Local Authority, by a fresh water closet. At the present time no grant is being made in respect of the replacement of waste water closets by fresh water closets.

### Scavenging.

The town's refuse, other than sewage, is disposed of in three ways :  
part is sold as manure, part is incinerated, and part is deposited on tips.

The contents of privy middens and of pail closets is sold as manure.

The remaining refuse is disposed of as follows :

60 per cent. is incinerated by the Corporation's destructors.

15 per cent. is disposed of as manure.

25 per cent. is placed on tips or disposed of to local farmers.

The removal of the town's refuse is carried out in an efficient manner under the supervision of the Cleansing Committee.

Ashbins are emptied weekly.

Ashpits are emptied weekly to once in 3 weeks.

Pail Closets are emptied once to three times a week.

Privy Middens are emptied every 3 to 6 weeks.

### SANITARY INSPECTION.

The following table summarises a great part, but by no means all, of the work of the Sanitary Inspectors.

#### GENERAL INSPECTIONS.

Houses	...	...	...	...	...	...	17958
Newly-infected houses	..	...	...	...	...	...	503
Schools	...	...	...	...	...	...	20
Common lodging-houses	...	...	...	...	...	...	1038
Houses-let-in-lodgings	...	...	...	...	...	...	1066
Factories	...	...	...	...	...	...	423
Workshops	...	...	...	...	...	...	519
Workplaces	...	...	...	...	...	...	365
Bakehouses	...	...	...	...	...	...	733
Offensive trades	...	...	...	...	...	...	95
Dairies, cowsheds, and milk-shops	..	...	...	...	...	...	919
Conversion of Closets	...	...	...	...	...	...	5196
Drains...	..	...	...	...	...	...	2189
Miscellaneous	...	...	...	...	...	...	2280

#### NUISANCES FOUND.

Houses, workshops, cowsheds, etc. needing limewashing..	891
Houses overcrowded	13
House roofs, walls, floors, etc., in bad repair	852
Insan. or insufficient closet accommodation	1401
Ashpits or pails in bad repair	326
Defective or choked drains	554
Yards in bad repair	156
Animals kept as a nuisance...	54
Miscellaneous	1058



# ACTION TAKEN.

Letters written	...	...	...	...	...	696
Informal notices served	...	...	...	...	...	1463
Verbal notices	...	...	...	...	...	599
Legal notices served	...	...	...	...	...	1012

# NUISANCES ABATED.

Houses, etc., limewashed	..	...	...	...	...	821
Overcrowding abated	...	...	...	...	...	13
House roofs, etc., repaired	...	...	...	...	...	796
Eaves gutters and downspouts repaired	...	...	...	...	...	368
Closets converted	...	...	...	...	...	1769
Ashpits or pails repaired	...	...	...	...	...	287
Drains reconstructed (excluding closet conversions)	...	...	...	...	...	78
Drains opened, trapped or repaired	...	...	...	...	...	447
Yards repaired or flagged	...	...	...	...	...	151
Miscellaneous repairs	...	...	...	...	...	426
Miscellaneous nuisances abated	...	...	...	...	...	571

# DISINFECTIONS.

Houses disinfected	...	...	...	...	...	609
Articles disinfected	...	...	...	...	...	3241
Articles destroyed	...	...	...	...	...	254

# COMPLAINTS.

From Public	...	...	...	...	...	240
From Factory Inspector	...	...	...	...	...	24
Reports on complaints to Factory Inspector	...	...	...	...	...	17

# PLACES UNDER INSPECTION.

Common-lodging-houses	...	...	...	...	...	40
Houses-let-in-lodgings	...	...	...	...	...	41
Factories	...	...	...	...	...	315
Factory Chimneys	...	...	...	...	...	237
Workshops and Workplaces	...	...	...	...	...	754
Bakehouses	...	...	...	...	...	271
Outworkers' Premises	...	...	...	...	...	37
Offensive trades	...	...	...	...	...	24
Slaughterhouses	...	...	...	...	...	42
Cowsheds	...	...	...	...	...	328
Milkshops	...	...	...	...	...	295
Public Sanitary Conveniences	...	...	...	...	...	19
Travelling Vans	...	...	...	...	...	74



**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.

**I.—INSPECTION.**

Premises.	Number of		
	Inspection.	Written Notices.	Prosecutions.
Factories ... .. (Including Factory Laundries)	423	13	—
Workshops ... .. (Including Workshop Laundries)	519	8	—
Workplaces ... .. (Other than Outworkers' premises)	365	2	—
Total ... ..	1307	23	—

**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 ... ..	36	36	—	—
Want of ventilation ... ..	9	9	—	—
Overcrowding ... ..	—	—	—	—
Want of drainage of floors ... ..	6	6	—	—
Other nuisances ... ..	22	22	—	—
Sanitary accommodation { insufficient ... ..	12	10	—	—
{ unsuitable or defective ... ..	10	7	—	—
{ not separate for sexes ... ..	3	3	—	—
<i>Offences under the Factory and Workshop Acts:—</i>				
Illegal occupation of underground bake-house (s. 101) ... ..	—	—	—	—
Other offences ... ..	—	—	—	—
(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 ... ..	98	93	—	—

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

There was no outwork found to be carried on in unwholesome premises during the year.

### Smoke Abatement.

The standard adopted by the Bolton Local Authority for determining whether a nuisance has been caused by the emission of black smoke is as follows :

If during any period of half-an-hour black smoke is emitted from a chimney for a period of two minutes or more, or for periods which in the aggregate amount to two or more minutes, then it is held that a nuisance has been caused. This does not apply to the chimneys of dwelling-houses.

There are 237 factory chimneys in Bolton.

During the year 1925 there were taken 634 half-hour observations.

The result of these observations is shown in the following table :

209 observations showed no emission of black smoke.
107 observations showed $\frac{1}{2}$ minute of black smoke.
249 observations showed 1 minute of black smoke.
55 observations showed $1\frac{1}{2}$ minutes of black smoke.
14 observations showed 2 or more minutes of black smoke.

Notice to abate the nuisance was served in each of 13 cases in which a nuisance was found to have been committed.

In one case, in which the nuisance recurred, a prosecution was instituted, with the result that a fine of 40/- was imposed.

In my opinion, no radical alteration for the better in the matter of the smoke nuisance in our industrial towns will be brought about by increased care in stoking, or by any methods which involve the burning of the kind of fuel at present in use. An adequate remedy will only result from the use of gas or a smokeless fuel. Electricity is at present too expensive to be widely adopted for domestic purposes. A large percentage of our smoke comes from domestic chimneys.

I take this opportunity of drawing attention to the very objectionable and very prevalent practice of firing the chimneys of dwelling-houses instead of having them swept. The nuisance which results for the neighbours is very much worse than that caused by any factory chimney, and the offence is one of which magistrates might well take a more serious view than they do.



## PREMISES CONTROLLED BY BYE-LAWS OR REGULATIONS.

### Common-Lodging-Houses.

Close supervision of the common-lodging-houses of the town is maintained. Night visits are paid to all of them at frequent intervals. The keepers of the lodging-houses have given considerable assistance to the Public Health Authority in all measures aimed at the detection and prevention of the spread of infectious disease.

There are in Bolton 40 registered common-lodging-houses. The following tables show the distribution in Wards and the accommodation afforded by these lodging-houses.

Ward.			Houses.		Rooms.		Beds.
Exchange	...	...	13	...	75	...	264
East	...	...	23	...	132	...	694
Church	...	...	2	...	18	...	182
Derby	...	...	2	...	16	...	74

### ACCOMMODATION FOR THE SEXES.

Description.			Houses.	Males.	Females.	Couples.
Males only	...	...	30	976	...	...
Females only	...	...	1	...	56	...
Males and Females	...	...	1	27	8	...
Females and Couples	...	...	1	...	7	4
Males and Couples	...	...	2	37	...	2
Males, Females and Couples			5	46	25	26
			40	1086	96	32

The Bolton Union area is composed of the County Borough of Bolton and the Urban Districts of Farnworth, Kearsley, Little Hulton, Little Lever, Horwich, Westhoughton and Turton. The population of the Union area was 272,273, at the 1921 census. Of these 178,683 were domiciled in the County Borough of Bolton, leaving 93,590 for the remaining areas of the Union.

Bolton has 40 registered common-lodging-houses. In the remainder of the Bolton Union area there is not a single common-lodging-house. This reacts unfavourably on the public health statistics of Bolton, and increases the risk of infectious disease being spread in the town by those who resort to common-lodging-houses. "Down and Outs" gravitate to large towns and render the statistics of these large towns, in many respects, incapable of comparison with the statistics of the surrounding county area.

### Houses Let-in-Lodgings.

The exemption clause of our present bye-laws makes the large premises which under our present social conditions are being converted into houses let-in-lodgings exempt from the control of such bye-laws. It is in my opinion desirable that these bye-laws should apply to all such premises.

At the end of 1925 we had 41 houses registered as houses let-in-lodgings. The accommodation provided by these houses was as follows :

3	Houses	let	2	rooms.
4	"	"	3	"
23	"	"	4	"
3	"	"	5	"
5	"	"	6	"
1	"	"	7	"
2	"	"	8	"

The number of large houses which are being let in apartments is rapidly increasing. It is desirable that they should be subject to our bye-laws.

All the above premises have been kept under close supervision, and, generally speaking, our requirements have been complied with in a reasonable manner.

### Vans.

During the year 74 travelling living vans passed through Bolton. They were all inspected and were found to be in every respect in a satisfactory condition. Their occupants were all in good health.

The living vans which have been established in Bolton in the last few years and which are to all intents and purposes dwelling-houses present a very different problem.

It is to my mind incomprehensible why these vans, which are in effect dwelling-houses, should not be subject to the same regulations and control as ordinary houses. These vans consist of one compartment, divided into two by a curtain. The average inside measurements of the vans are :

Length	...	...	...	15 feet.
Width	...	...	...	6 feet.
Height	...	...	...	6½ feet.

Is a wooden box of this sort a suitable permanent residence for a married couple and their children ?

Some of these vans have become a really intolerable nuisance to



those living in their vicinity. We hope soon to have adequate powers to deal with them.

At the close of 1925 there were 85 of these vans in Bolton, an increase of 26 on the number existing at the close of 1924.

The situation of these vans and details as to their occupants are given in the following table :

Situation.	No. of Vans.	Occupants.	
		Adults	Children
Cotton Street ... ..	13	26	12
Boot Lane (In Farmyard) ... ..	1	1	1
Top of Raimond Street ... ..	1	2	—
Blackshaw Lane ... ..	1	2	—
Gate Street ... ..	20	38	25
Farm, Weston Street ... ..	5	10	9
31, Bridgman Street ... ..	2	4	1
Sloane Street ... ..	2	4	7
Grendon Street ... ..	2	4	4
Cheetham Court ... ..	1	1	2
Corner of Bridge St. and St. Georges St. ...	5	10	5
Land adjoining Tonge Moor House ...	10	18	3
Tonge Head Farm, near Tonge Moor Road	4	8	9
Radcliffe Road (200 yards from Long Lane)	5	9	3
Land adjoining 307, Radcliffe Road ...	3	6	3
Rear of 405, Radcliffe Road ... ..	2	2	—
Opposite Roscoe Fold Farm ... ..	1	2	—
Parkers Court ... ..	1	2	1
Land near New House Farm ... ..	1	2	5
Croft Side ... ..	1	2	—
In field off Radcliffe Road ... ..	1	2	2
Tonge Studds, Ainsworth Lane ... ..	1	1	1
Field adjoining Withins Lane ... ..	1	2	—
Cuthbert Street ... ..	1	2	1
	85	160	94

The stationary living vans had therefore, at the close of 1925, a total population of 254 persons.

#### Offensive Trades.

Offensive trades are being carried on in 24 different premises in Bolton. The nature of these trades and their distribution in the wards of the town is shown in this table :

## OFFENSIVE TRADES.

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

No serious nuisance has arisen in connection with any of the above trades.

## Slaughter-Houses.

The Bolton Corporation possesses Public Abattoirs containing 16 slaughter-houses which are administered by the Markets Committee.

These Abattoirs cannot be described as being in any respect up to date and the accommodation they provide is quite inadequate to permit of all the slaughtering done in Bolton being carried out on their premises. The Markets Committee is giving very careful and anxious consideration to the question of providing new and up-to-date Abattoirs. That all slaughtering should be carried on in one place is obviously very desirable.

On the other hand it is not desirable that slaughtering should be discouraged in Bolton and that its meat should be imported dead.

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

Most of these slaughter-houses are situated at considerable distance from each other and many of them are in close proximity to dwelling houses.

Strict supervision has been maintained to ensure that the premises are kept in a cleanly condition. The animals with which the private slaughter-houses deal, are as follows:—

Oxen, Sheep and Pigs ... ..	...	...	6 Slaughter-houses.
Oxen and Sheep ... ..	...	...	3 "
Oxen only ... ..	...	...	2 "
Pigs only ... ..	...	...	6 "

The remaining 9 private slaughter-houses are only used occasionally.





SECTION IV.

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Housing.



## SECTION IV

### Planning

## HOUSING.

### GENERAL HOUSING CONDITIONS IN BOLTON.

The following facts concerning the population and housing of Bolton, must be carefully considered in connection with any attempt to estimate how many additional houses are needed at the present time.

The census population of Bolton in 1901 was 168,215. In the following decennium the population increased every year and the census of 1911 gave Bolton's population as 180,851.

Bolton's population increased rapidly until 1915, the first year in which the Great War began to make its influence on the population of the country felt. In 1914 it was 185,247, but it had declined at the census of 1921, (Registrar General's corrected estimate), to 182,200. Since the census of 1921, the population has declined every year, with the exception of 1922, and the estimated population in 1925 was 180,400. The following figures for the years 1921 to 1925 are very important.

		Population.		Births.		Deaths.		Excess of Births over Deaths.
1921	...	182,200	...	3831	...	2349	...	1482
1922	...	182,700	...	3414	...	2498	...	916
1923	...	182,200	...	3189	...	2343	...	846
1924	...	181,100	...	3203	...	2541	..	662
1925	...	180,400	...	2949	...	2455	...	494

The number of houses and of inhabitants per house in the census years and in 1925 is as follows:

		Houses.		Inhabitants per House.
Census 1901	...	36,177	...	4.64
" 1911	...	41,585	...	4.34
" 1921	...	42,475	...	4.28
Estimated 1925	...	44,193	...	4.08

These figures show quite conclusively that Bolton has more housing accommodation per inhabitant than it ever had since any records were kept. This does not mean that more houses are not needed; but it does mean that the reason for more houses being needed is not that we have failed to maintain the housing standard of the years before the war, but because social conditions have changed. That is why more housing accommodation per inhabitant is required. I shall have more to say concerning this later on.

How many more houses does Bolton need? It is a mere delusion to think that the answer to this question can be found by enquiring how many houses per year were needed in pre-war days to satisfy Bolton's



needs. How can a generation, which has one house for every 4.08 inhabitants, find out how many more houses per year it needs by examining how many new houses per year satisfied a generation which had only one house for every 4.3 inhabitants.

Bolton needs more houses, but it needs them, not because we have failed to maintain the standard of the past, but because social conditions have changed. Families are smaller than they were. There are, therefore, for the same population, more household units.

Further, a larger proportion of the population of Bolton consists of married persons than was the case in years gone by. The following tables showing the condition of Bolton's population as regards marriage at the last three censuses is very interesting.

#### MALES.

Census.	Total Number		Single.		Married.	
1901	...	79,150	...	48,092 (60.7 %)	...	28,553 (36.0 %)
1911	...	85,167	...	49,824 (58.5 %)	...	32,446 (38.0 %)
1921	...	83,680	...	44,643 (53.4 %)	...	35,951 (43.0 %)

#### FEMALES.

Census.	Total Number.		Single.		Married.	
1901	...	89,065	...	53,280 (59.8 %)	...	29,141 (32.8 %)
1911	...	95,684	...	55,020 (57.5 %)	...	33,558 (35.0 %)
1921	...	95,003	...	50,532 (53.2 %)	...	36,544 (38.5 %)

The above figures are very striking. Of Bolton's male population 36 per cent. was married in 1901, but in 1921 the percentage had risen to 43 per cent. Of the females 32.8 per cent. were married in 1901 and 38.5 per cent. in 1921.

Bolton's population is an older population than it was 15 years ago. The proportion of the population composed of children is smaller, and that of those of mature years is larger. The average age of its inhabitants is greater.

How can we find out how many houses are needed in Bolton? There is I am quite certain only one way, and that is to take a census of those who need houses. These applications can quite easily be carefully examined and a very accurate determination can be made of how many houses are needed.

As a matter of fact this is at present being done. Persons needing houses are invited to make their wants known to the Borough Treasurer. I understand that he has now about 1500 applications, and a committee is dealing with the applications and interviewing the applicants. My present information is that not more than half of these applications will prove to be genuine, or to use a business term, "firm" applications.

I repeat what I have said once before : more houses are needed in Bolton. Laborious efforts to determine how many houses are needed is a foolish waste of time. Let houses be turned out in batches of, say, one hundred, and let this continue as long as they are absorbed. When they cease to be absorbed we shall know that no more houses are needed.

The following figures give the new houses provided during the last five years.

Year.		Private Enterprise.		Municipal Schemes.		Total.
1921	...	34	...	191	...	225
1922	...	18	...	462	...	480
1923	...	111	...	30	...	141
1924	...	351	...	3	...	354
1925	...	502	...	179	...	681
		<hr/>		<hr/>		<hr/>
		1016		865		1881

#### OVERCROWDING.

Sporadic cases of overcrowding, when overcrowding is taken in the technical sense, and is measured by cubic air space, have occurred during 1925 as in previous years, but it would be entirely wrong to conclude that overcrowding is general in Bolton. It is not, and there is no evidence that cases of overcrowding are more numerous than they were ten years ago. They attract much greater attention than they did in the past. The overcrowding was abated in all the cases in which attention was drawn to it.

Several of the cases which attracted the attention of the Public Health Department were not really due to a shortage of houses but were due to poverty.

#### UNHEALTHY AREAS.

The following areas were reported some years ago to the Local Authority as unhealthy areas for which reconstruction schemes were necessary. It was decided that reconstruction schemes should be put in hand, but the war and the building difficulties of the post war period have so far prevented the work being carried out. The work of reconstruction in these areas will involve the demolition of about 200 houses.



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

#### BACK-TO-BACK HOUSES.

The number of back-to-back houses in Bolton is just over 1,000. The conversion of each pair of back-to-back houses into one through house will mean a loss to Bolton of 500 houses.

Prospective street improvements will involve also the demolition of a certain number of houses.

I estimate that approximately 800 houses will be required to replace houses to be demolished in unhealthy areas, back-to-back houses converted into through houses, and houses demolished for street improvements.

#### Housing Statistics for the Year 1925.

Number of new houses erected during the year :—

(a) Total (Including numbers given separately under (b).	681
(b) With State Assistance under the Housing Acts :	
(1) By the Local Authority ... ..	179
(2) By other bodies or persons... ..	412

# 1.—UNFIT DWELLING-HOUSES.

## INSPECTION.

(1)	Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) ...	4828
(2)	Number of Dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing Consolidated Regulations, 1925 ... ..	1329
(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	1071

## 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 ... ..	592
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## 3.—ACTION UNDER STATUTORY POWERS.

### A. *Proceedings under section 3 of the Housing Act, 1925.*

(1)	Number of dwelling-houses in respect of which notices were served requiring repairs ...	92
(2)	Number of dwelling-houses which were rendered fit—	
	(a) by owners... ..	88
	(b) by Local Authority in default of owners	4
(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	...	...	...	...	...	387
(2) Number of dwelling-houses in which defects were remedied—						
(a) by owners	...	...	...	...	...	386
(b) by Local Authority in default of owners						—

C. *Proceedings under sections 11, 14 and 15 of the Housing Act, 1925...*

The following tables give particulars as to numbers and situation in Wards of houses which were completed and certified during 1925, of all houses which were in course of construction during 1925, but which were unfinished at its close, and of all houses for which plans had been passed during 1925, but whose construction had not been begun when this year ended.

## New Houses Certified, 1925.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	9	4	13
Rumworth ... ..	13	—	13
Halliwell ... ..	23	1	24
Tonge ... ..	103	—	103
Astley Bridge ... ..	25	7	32
Great Lever ... ..	51	9	60
Smithills ... ..	210	15	225
Hulton ... ..	35	6	41
Darcy Lever-cum-Brightmet ... ..	73	4	77
Deane-cum-Lostock ...	27	13	40
Heaton ... ..	22	31	53
TOTAL ... ..	591	90	681

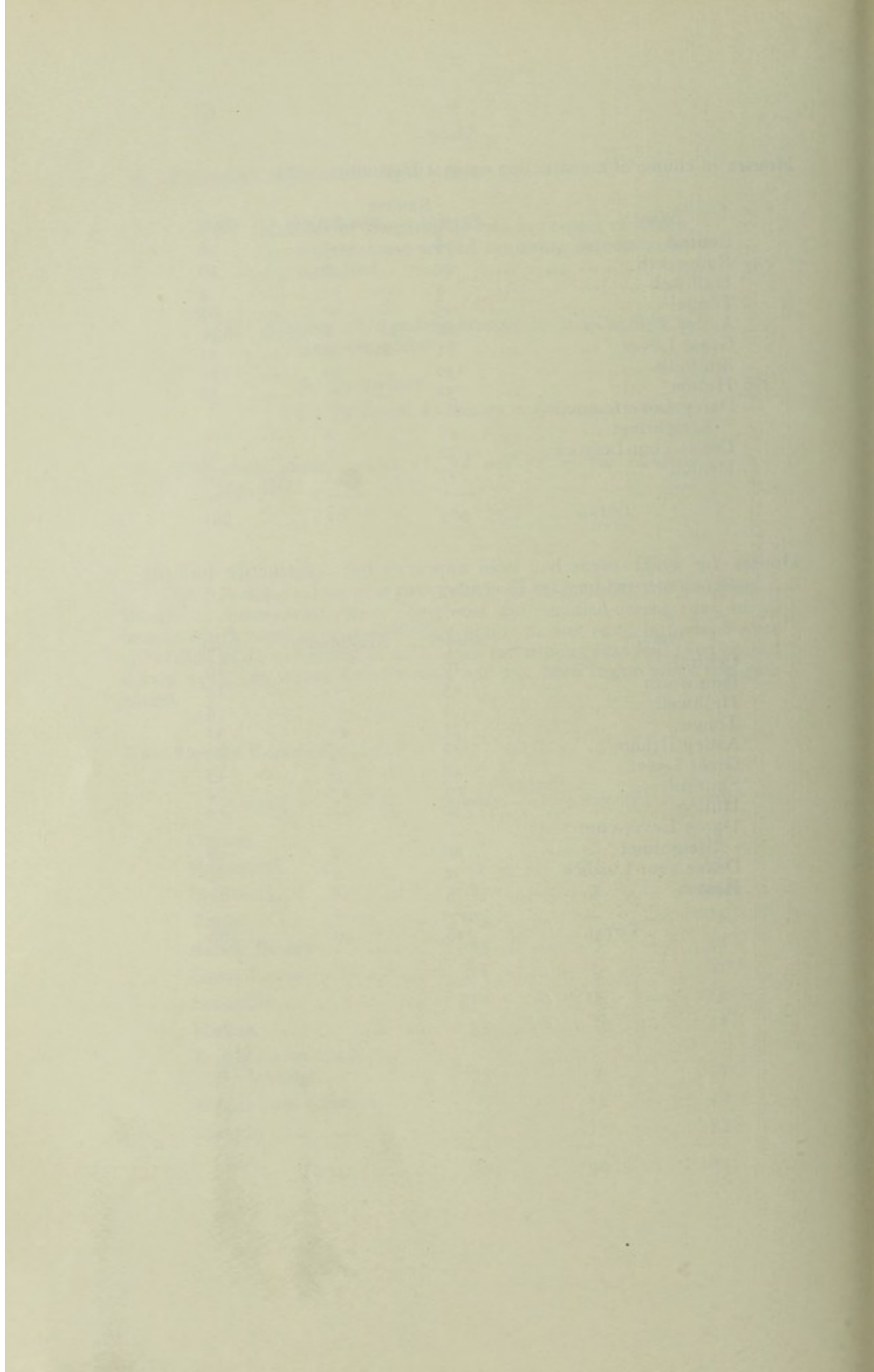
## Houses in course of construction on 31st December, 1925.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	26	—	26
Rumworth ... ..	20	6	26
Halliwell ... ..	4	—	4
Tonge ... ..	95	—	95
Astley Bridge ... ..	26	4	30
Great Lever ... ..	61	10	71
Smithills ... ..	150	20	170
Hulton ... ..	32	—	32
Darcy Lever-cum- Brightmet ... ..	47	2	49
Deane-cum-Lostock ...	21	8	29
Heaton ... ..	27	32	59
TOTAL ... ..	509	82	591

## Houses for which plans had been approved but construction had not been commenced on 31st December, 1925.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	10	—	10
Rumworth ... ..	15	—	15
Halliwell ... ..	4	—	4
Tonge ... ..	31	—	31
Astley Bridge ... ..	22	4	26
Great Lever ... ..	42	3	45
Smithills ... ..	61	13	74
Hulton ... ..	10	—	10
Darcy Lever-cum- Brightmet ... ..	26	2	28
Deane-cum-Lostock ...	2	2	4
Heaton ... ..	5	16	21
TOTAL ... ..	228	40	268





SECTION V.

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Inspection and Supervision  
of Food.



SECTION 7

Inspection and Supervision  
of Food

## MILK.

There are 119 cowkeepers within the area of the County Borough of Bolton. These produce about three fifths of the milk consumed in Bolton. The Bolton Co-operative Society supplies one-fifth, practically all of which comes from farms outside Bolton. Farms outside the boundary of the Borough supply another fifth.

All the milk supplied by the Bolton Co-operative Society is pasteurized. They have not bottled it, up to the present, but they are just completing (July, 1926) their arrangements for supplying it in bottles to those who wish to have it delivered in this manner.

The farms and all premises dealing with milk have been frequently visited by our veterinary surgeon and the inspectors, and very many improvements have been carried out. The inspection of farms and cowsheds had to be discontinued during the last quarter of 1925, on account of foot and mouth disease in adjoining areas. The veterinary surgeon paid 237 visits to farms during 1925, inspected 718 cowsheds, and examined 5,312 cows.

He reports that a gradual improvement has taken place during the year in the general cleanliness of the cows and cowsheds. Special attention was given to the examination of the udders of all cows for clinical evidence of tuberculosis and other diseases.

Fifteen samples of milk were taken from individual cows during the year, and examined for the presence of tubercle bacilli, with the following results :

Infected	Free	Total
5	10	15

In each of the five cases where the tubercle bacillus was found in the milk, all the cows from which this milk had come were slaughtered, the first four, by arrangement with the owners, and the last under the Tuberculosis Order which came into force on the 1st of September, 1925.

**"Certified" or "Grade A" (Tuberculin Tested) Milk.**

One dairy herd in the Borough has been specially tested by this department for the production of "Certified" milk in accordance with the terms and conditions prescribed in the "Milk (Special Designations) Order, 1923."

Before a licence is granted to a producer, he has to furnish a Veterinary Certificate showing the results of an examination of the herd carried out not more than three months before the date of the application, together with a certificate of a prescribed tuberculin test of the herd carried out within a similar period.



In addition every applicant has to make satisfactory arrangements for the production, storage, treatment and distribution of the milk.

A licence to produce "Certified" milk was granted by the Ministry of Health in the above case.

### "Grade A" Milk.

During the year one dairy farmer in the Borough has been granted a licence to produce "Grade A" Milk.

In addition to the veterinary examination of the herd, the requirements for the production, storage, treatment and distribution of the milk are similar to those for certified milk, except that the herd is not required to pass a prescribed tuberculin test.

### "Pasteurised" Milk.

One license was issued in respect of a pasteurising establishment selling "pasteurised" milk. This firm uses the Pasteuriser made by the Astra Pasteuriser Co., of Denmark, and supplied by the Dairy Supply Co., of London.

### Dairies, Cowsheds and Milkshops Order, and The Milk and Dairies Amendment Act, 1922.

#### COWKEEPERS, DAIRYMEN AND PURVEYORS OF MILK.

The following statement shows the number of cowkeepers, cowsheds, dairies and purveyors of milk premises on the register :

Cowkeepers on register (1924) ...	...	...	114
" added to the register (1925) ...	...	...	6
" discontinued (1925) ...	...	...	1
		Nett	119
Cowsheds on register (1924) ...	—	...	314
" added to register (1925) ...	...	...	17
" discontinued (1925) ...	...	...	3
		Nett	328

Number of cows provided for	...	...	2944
Average Number of cows in sheds (1925)			2396
Number of dairies and purveyor of milk premises on register (1924)	...	...	252
Number of dairies and purveyor of milk premises added to register (1925)	...	...	46
Number of dairies and purveyor of milk premises discontinued during (1925)	...	...	3
		Nett	295
<hr/>			
Grand total of cowsheds, dairies and purveyor of milk premises on register, 31st December 1925	...	...	623

During the year the Veterinary Officer made 237 inspections of the dairy farms, and during the same period the Sanitary Inspectors paid 919 visits to the dairies, purveyor of milk premises, and farms.

#### Milk (Special Designations) Order, 1923.

The following licences were granted during the year 1925 under this Order.

Producers Licence to use the designation "Certified"	...	1
(Licence issued by Ministry of Health.)		
Dealers Licence to use the designation "Certified"	...	2
Producers Licence to use the designation "Grade A"	...	1
Dealers Licence to use the designation "Pasteurised"	...	1
(Licence is in respect of a Pasteurising establishment.)		

All licensed premises have been systematically inspected during the year to see that the conditions of the licences were observed.

The following tables summarise the results of the bacteriological examinations of "Certified" and "Grade A" samples of milk during 1925.

#### "CERTIFIED" MILK.

No. of Samples.	Bacteria per c. c.		B. Coli communis,	
	Over 30,000	Under 30,000.	Present in $\frac{1}{10}$ c. c.	Absent in $\frac{1}{10}$ c. c.
26	— 2	24 —	4 2	20 —

The above 26 certified milk samples contained total bacteria per c.c. as follows :



..58..

Under 1,000	...	...	..	5
1,000—5,000	...	..	...	19
5,000 to 10,000	...	...	...	—
10,000 to 20,000	...	...	...	—
20,000 to 30,000	...	...	...	—
Over 30,000	...	...	...	2
				<hr/> 26

Under the regulations, "certified" milk must not contain more than 30,000 bacteria per c.c.

#### "Grade A" Milk.

No. of Samples.	Bacteria per c. c.		B. Coli communis	
	Over 200,000	Under 200,000	Present in 1/100 c. c.	Absent in 1/100 c. c.
42	—	42	—	42

The above 42 "Grade A" samples of milk contained total bacteria per c.c. as follows:

Under 1,000	...	...	...	1
1,000 to 5,000	...	...	...	34
5,000 to 10,000	...	...	...	3
10,000 to 20,000	...	..	...	3
20,000 to 30,000	...	...	...	—
30,000 to 40,000	...	...	...	1
				<hr/> 42

Under the regulations, "Grade A" milk must not contain more than 200,000 bacteria per c. c.

The following tables summarise the results of the bacteriological examination of milk obtained by hand milking and machine milking the cows.

No. of Samples.	Bacteria per c. c.		B. Coli. communis	
	Over 200,000	Under 200,000	Present in 1/100 c. c.	Absent in 1/100 c. c.
11 Hand milked	—	11	—	11
11 { Machine milked	3	—	3	—
do.	—	8	4	4

The above 22 samples of ordinary milk contained total bacteria per c.c. as follows :—

	Hand-milked.	Machine-milked.
Under 1,000	1	—
1,000 to 5,000	4	—
5,000 to 10,000	3	1
10,000 to 20,000	1	1
20,000 to 30,000	—	1
30,000 to 40,000	—	2
40,000 to 50,000	1	1
50,000 to 100,000	1	1
100,000 to 200,000	—	1
200,000 to 300,000	—	1
300,000 to 500,000	—	1
500,000 to 850,000	—	1
	<hr/>	<hr/>
	11	11
	<hr/>	<hr/>

In addition to the above, one sample of ordinary milk which had been bottled was examined with the following result.

12,000 bacteria per c. c., *B. coli communis* present in  $\frac{1}{10}$  c. c.



## GENERAL FOOD INSPECTION.

In the following report is set forth the work done during 1925 by Mr. R. P. Holmes, F.R.C.V.S., Veterinary Surgeon to the County Borough of Bolton, and Mr. F. J. Saunders, our Meat and Food Inspector. I have the very greatest pleasure in recording my high appreciation of the work they have done. Mr. Holmes and Mr. Saunders have proved themselves very able and very energetic officials, and their work is having a very beneficial effect on the food supply of Bolton. Those who desire to sell bad food in Bolton could give Mr. Holmes and Mr. Saunders a very excellent testimonial.

### General Inspections.

Cattle	...	...	10,770	Public Markets	...	...	657
Calves	...	...	842	Farms	...	...	331
Sheep	...	...	52,429	Slaughterhouses	...	...	3,075
Pigs	...	...	10,086	Knackers Yards	...	...	49
Store Cattle	...	...	507	Tripe Works	...	...	51
Railway Sidings	...	...	216	Gut Cleaners	...	...	42
Fairs	...	...	47	Food Preparation Premises	...	...	203
				Meat Carriers Vehicles	...	...	442

### Shops and Stores.

Beef Butchers	...	3,182	Provision Dealers	...	3,635
Pork Butchers	...	1,535	Fruiterers	...	2,870
Wholesale Meat Stores	...	242	Fishmongers	...	1,651
Cold Stores...	...	52	Street Hawkers	...	580
Ice Boxes	...	409	Cellars	...	344

## CARCASSES FOUND TO BE AFFECTED WITH DISEASE.

Disease or Defect.	Examined.				Action taken		Exam- ined	Action taken		Exam- ined	Action taken		Exam- ined	Action taken	
	Cows	Bulls	Heifers	Bullocks	Whole carcase destroyed	Parts and Organs destroyed		Whole carcase destroyed	Parts and Organs destroyed		Whole carcase destroyed	Parts and Organs destroyed		Pigs	Whole carcase destroyed
Tuberculosis ...	1331	37	37	77	225	1257	3	3	...	...	...	...	159	13	146
Pleurisy ...	48	1	4	20	...	73	...	...	...	1	...	...	16	...	16
Pneumonia ...	7	1	...	...	1	7	3	2	1	...	...	...	22	1	21
do. Parasitic ...	1	...	...	...	...	1	1	...	1	78	...	78	...	...	...
Peritonitis ...	3	...	1	...	1	3	...	...	...	...	...	...	3	...	3
Nephritis ...	10	1	...	2	...	13	1	...	1	...	...	...	1	...	1
Gastritis ...	7	...	...	...	...	7	...	...	...	...	...	...	...	...	...
Pericarditis ...	4	...	...	1	...	5	...	...	...	...	...	...	5	...	5
Mastitis ...	9	...	...	...	...	9	...	...	...	...	...	...	...	...	...
Parturition ...	1	...	...	...	...	1	...	...	...	1	1	...	...	...	...
Septic Metritis ...	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...
Septicæmia ...	2	...	...	...	2	...	...	...	...	1	1	...	...	...	...
Abscess ...	22	2	...	8	...	32	1	...	1	...	...	...	...	...	...
Bacterial Necrosis ...	33	2	...	14	...	49	...	...	...	...	...	...	2	...	2
Actinomycosis ...	7	1	...	3	...	11	...	...	...	...	...	...	...	...	...
Echinococcus ...	139	...	...	22	...	161	...	...	...	5	...	5	12	...	12
Distomatosis ...	402	16	71	378	...	867	...	...	...	346	...	346	...	...	...
Decomposition ...	5	...	1	...	3	3	2	1	1	33	21	12	5	5	...
Angioma ...	90	...	...	2	...	92	...	...	...	...	...	...	...	...	...
Emaciation ...	2	...	...	2	4	...	...	...	...	4	4	...	...	...	...
Johnes Disease ...	11	...	...	4	13	2	...	...	...	...	...	...	...	...	...
Jaundice ...	...	...	...	...	...	...	1	1	...	...	...	...	4	4	...
Fractures ...	6	...	1	...	...	7	2	...	2	1	...	1	1	...	1
Traumatism ...	9	...	1	3	1	12	...	...	...	1	...	1	2	...	2
Edema ...	8	...	...	2	10	...	3	3	...	18	18	...	...	...	...
Immaturity ...	...	...	...	...	...	...	22	22	...	...	...	...	...	...	...
Fevered ...	16	1	...	1	18	...	1	1	...	...	...	...	...	...	...
Tenuicollis ...	...	...	...	...	...	...	...	...	...	33	...	33	...	...	...
Cirrhosis ...	3	...	...	...	...	3	1	...	1	...	...	...	10	...	10
Urticaria ...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
Enteritis ...	2	...	...	...	...	2	1	...	1	...	...	...	...	...	...
Total ...	2181	62	116	539	281	2617	42	33	9	522	45	477	244	23	221



**Number of Organs Condemned for Tuberculosis and Other Conditions  
in the Different Classes of Animals during 1925.**

	Cattle.	Calves.	Sheep.	Pigs.	Total.
<b>LUNGS :</b>					
Tuberculosis ... ..	1462	3	...	133	1598
Other conditions ...	368	16	178	49	611
<b>HEARTS :</b>					
Tuberculosis ... ..	759	3	...	108	870
Other conditions ...	55	16	34	13	118
<b>BOWELS :</b>					
Tuberculosis ... ..	835	3	...	89	927
Other conditions ...	63	16	39	9	127
<b>STOMACHS :</b>					
Tuberculosis ... ..	811	3	...	91	905
Other conditions ...	72	17	34	8	131
<b>SPLEENS :</b>					
Tuberculosis ... ..	775	3	...	88	866
Other conditions ...	37	12	38	5	92
<b>LIVERS :</b>					
Tuberculosis ... ..	886	3	...	114	1003
Other conditions ...	1346	18	426	56	1846
<b>KIDNEYS :</b>					
Tuberculosis ... ..	650	6	...	30	686
Other conditions ...	140	26	58	20	244
<b>HEADS :</b>					
Tuberculosis ... ..	648	3	...	111	762
Other conditions ...	61	14	38	10	123
<b>TOTAL ... ..</b>	<b>8968</b>	<b>162</b>	<b>845</b>	<b>934</b>	<b>10909</b>

**Weight of Unsound Meat Destroyed.**

			Tons.	cwts.	qrs	lbs.
Beef	...	...	60	13	0	5
Beef Offals	...	...	41	14	2	24
Mutton	...	...	...	17	3	18
Mutton Offals	...	...	...	11	1	6
Pork	...	...	2	6	0	10
Pork Offals	...	...	...	18	3	12
Veal	...	...	...	10	3	16
Veal Offals	...	...	...	3	2	2
Total Weight	...	...	107	16	1	9

**Unsound Fish Destroyed.**

				Number.	Tons.	cwts.	qrs.	lbs.
Cod, Codling or Sprag	...	...	...	...	...	6	2	0
Plaice	...	...	...	...	...	3	3	0
Gurnard	...	...	...	...	...	3	0	0
Mackerel	...	...	...	...	...	10	0	0
Hake	...	...	...	...	...	2	0	0
Salmon	...	...	...	...	...	...	1	0
Skate	...	...	...	...	...	1	3	0
Grayling	...	...	...	...	...	5	0	0
Finnon Haddock & Dried Codling	...	...	...	...	...	7	2	25
Mussels	...	...	...	...	...	2	0	0
Crabs	...	...	...	320	...	...	...	...
Total	...	...	...	320	2	1	3	25

**Unsound Poultry, &c., Destroyed.**

			Number
Curlews	...	...	22
Fowls	...	...	14
Oyster Bird	...	...	1
Geese	...	...	4
Turkeys	...	...	7
Rabbits	...	...	1077



## Canned Foods and Provisions Destroyed as Unsound.

		Number of Tins.	cwts.	qrs.	lbs.
Corned Beef ...	...	25	1	1	10
Corned Tongue ...	...	1	...	...	2
Pears ...	...	48	...	3	6
Pineapples ...	...	14	...	...	21
Condensed Milk ...	...	8	...	...	8
Salmon ...	...	180	...	3	6
Bacon ...	...	...	...	...	20
Ham ...	...	...	...	...	10
Total ...	...	276	3	1	27

## Unsound Fruit and Vegetables Destroyed.

		Number	Tons.	Cwts.	Qrs.	Lbs.
Apples ...	...			5	2	8
Bilberries ...	...				1	17
Dates ...	...			5	0	26
Oranges ...	...	522		1	0	2
Lemons ...	...	30				6
Bananas ...	...	2180		4	3	13
Grapes ...	...					14
Pears ...	...			13	0	15
Plums ...	...			1	2	24
Raspberries ...	...				1	20
Tomatoes ...	...			8	2	6
Cabbage ...	...			8	3	0
Lettuce ...	...			4	1	14
Mushrooms ...	...				1	1
Onions ...	...			1	2	0
Potatoes ...	...			2	0	0
Peas ...	...		2	3	3	20
Sprouts ...	...			17	2	8
Total ...	...	2732	5	19	2	0

### **Unsound 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 £40.
- (2) Being in possession of unsound meat intended for the food of man.  
Fined £11-5-0.
- (3) Exposing for sale unsound rabbits intended for the food of man.  
Fined £10
- (4) Exposing for sale unsound apples intended for the food of man.  
Fined 10/-
- (5) Exposing for sale unsound pears intended for the food of man.  
Fined £1
- (6) Exposing for sale unsound dates intended for the food of man.  
Fined £1 and 6/- costs

### **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 £1. One further summons withdrawn on payment of costs. Total penalty £1-5-0.
- (2) Imported meat exposed for sale by retail without being labelled.  
Fined £1. Eleven further summonses withdrawn on payment of costs. Total penalty £3-15-0.

### **Public Health (Meat) Regulations, 1924.**

The regulations are designed to secure more adequate inspection of animals slaughtered in this country and improvements in the handling, transport and distribution of meat.

Previous to coming into operation on the 1st April, 1925, all slaughter-house occupiers were supplied with a copy of the regulations and a letter from the Medical Officer of Health giving a summary in an easily understood form, and lectures were given at meetings of the Master



Butchers' Association and Journeymen Butchers' Association explaining in detail the requirements of the Regulations. Since the Regulations came into force 97 cautions have been given to persons in respect of breaches thereof. These cautions were given chiefly when the Regulations first came into operation and at the latter part of the year there was a distinct improvement in compliance with the requirements.

There are now 230 Butchers' Shops on the Register.

4717 inspections have been made of Butchers Shops.

344	"	"	"	cellars.
409	"	"	"	ice boxes.
548	"	"	"	other places in which food is prepared, stored or sold.
3075	"	"	"	slaughter-houses.
442	"	"	"	meat carriers vehicles.

#### Notices received under the Public Health (Meat) Regulations, 1924.

Written notifications of regular slaughtering at fixed times on fixed days	...	...	...	...	...	...	...	...	28
Notifications of slaughtering at other than fixed times on fixed days	549								

#### Notification of disease or suspected disease or unsoundness.

Relating to cattle	...	...	...	...	...	...	...	380
„ sheep	...	...	...	...	...	...	...	10
„ pigs	...	...	...	...	...	...	...	42
„ calves	...	...	...	...	...	...	...	7
Total	...	...	...	...	...	...	...	439

#### Prosecutions under the Public Health (Meat) Regulations, 1924.

1. Failing to cause the meat to be so placed as to prevent mud, filth, or other contaminating substance being splashed or blown thereon.  
Fined £1
2. Neglecting to wear a clean and washable head covering when carrying meat about a place in which meat is sold by wholesale.  
Fined 10/-

### **Diseases of Animals Acts.**

The following is a list of the diseases of animals which are notifiable under the above Acts :

- Anthrax.
- Foot and Mouth Disease.
- Parasitic Mange of Horses, Asses and Mules.
- Rabies.
- Sheep Scab.
- Sheep Pox.
- Swine Fever.
- Cattle Plague.
- Pleuro Pneumonia.
- Epizootic Lymphangitis.
- Glanders and Farcy.
- Epizootic Abortion of Cattle.
- Tuberculosis.

#### **Anthrax.**

An outbreak of Anthrax occurred on one farm within the Borough, 4 cows were affected.

All necessary precautions were taken, the affected carcasses were destroyed at Wellington Yard and the premises thoroughly disinfected.

For removing to a Knacker's Yard the carcass of the first animal affected, proceedings were taken against the farmer who was convicted and fined 5/- and 7/6 costs.

#### **Foot and Mouth Disease.**

No cases of this disease occurred in Bolton during 1925.

In consequence of outbreaks of Foot and Mouth Disease in districts near to the Borough, orders were made by the Minister of Agriculture and Fisheries whereby movement of animals was prohibited unless accompanied by a licence.

These orders applied to Bolton from the 20th October, and remained in force until the end of the year.

During this period, 1,705 licences were granted by this department to authorise the movement of animals.



#### **Parasitic Mange.**

One suspected case of this disease was reported, and a microscopical examination was made of scrapings from the suspected animal with the result that it was found not to be parasitic mange.

#### **Tuberculosis Order of 1925.**

This order aims at the destruction of every cow suffering from tuberculosis of the udder or giving tuberculous milk and every bovine animal suffering from tuberculous emaciation, or suffering from a chronic cough and showing definite clinical signs of tuberculosis.

A strict enforcement of this order will do much towards the eradication of tuberculosis from the dairy herds of this country and will go a long way in aiding the production of milk free from the bacilli of tuberculosis.

Since the order came into operation on the 1st September, 1925, 13 cows have been dealt with in this County Borough.

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

During Rat Week, special circulars giving advice as to the best methods of destroying rats and mice were forwarded to corn dealers, farmers, butchers, bleachers, tripe, oil and fat dealers.

A copy of the circular of advice was published in the "Bolton Evening News" as was also a short popular article pointing out the damage due to these rodents and giving information as to where advice could be obtained.

Forty five visits were paid during the year to rat or mice infested premises, and after a careful survey, instruction was given to the occupiers as to the most suitable methods of exterminating the pests.

In addition a number of enquiries have been made at the Public Health Office and advice has been given.

Traps baited with fish have been found to be very effective and satisfactory results have been obtained by the use of Barium Carbonate as a poison. Although the total number of rats and mice destroyed cannot be definitely given, it is known that over 1,000 rats have been killed. There are three professional rat catchers in the Borough and anyone desiring to employ these men is supplied with their addresses by the Executive Officer.

**American Gooseberry Mildew Order, 1912.**

Under this Order frequent visits have been paid to markets and fruit dealers premises but no case of the disease has been detected during the year.

**Number of Animals Slaughtered in Bolton during 1925.****AVERAGE NUMBER OF ANIMALS SLAUGHTERED EACH WEEK.****MAY TO AUGUST.**

	Cattle.	Sheep.	Pigs.	Calves.
In private slaughter-houses ...	166	1385	266	29
In public abattoirs ... ..	41	175	1	7
Total ... ..	207	1560	267	36

**SEPTEMBER TO APRIL.**

	Cattle.	Sheep.	Pigs.	Calves.
In private slaughter-houses ..	249	910	353	29
In public abattoirs ... ..	53	140	2	11
Total... ..	302	1050	355	40

**TOTAL NUMBER OF ANIMALS SLAUGHTERED DURING THE YEAR.**

	Cattle.	Sheep.	Pigs.	Calves.
In private slaughter-houses ...	11537	55395	16877	1508
In public abattoirs ... ..	2554	7875	88	526
Total... ..	14091	63270	16965	2034

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

Most of these slaughter-houses are situate at considerable distance from each other and many of them are in close proximity to dwelling-houses.



Strict supervision has been maintained to ensure that the premises are kept in a cleanly condition.

The animals slaughtered in the private slaughter-houses are distributed as follows :

Oxen, sheep and pigs ...	...	...	6	slaughter-houses.
Oxen and sheep...	...	...	3	"
Oxen only ...	...	...	2	"
Pigs only ...	...	...	6	"
Only used occasionally...	...	...	9	"
			<hr/>	
			26	"

## 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 ... ..	5·6 parts of Formaldehyde per million of milk.				Informal sample
Milk ... ..	2·3 %	deficient in fat	...	...	No action taken
Milk ... ..	3·3 %	" "	...	...	No action taken
Milk ... ..	6·3 %	" "	...	...	No action taken. An appeal to cow sample
Milk ... ..	8·3 %	" "	...	...	Warning letter sent
Milk ... ..	8·7 %	" "	...	...	No action taken
Milk ... ..	9·7 %	" "	...	..	No action taken as a result of appeal to cow
Milk ... ..	10·0 %	" "	...	...	Withdrawn
Milk ... ..	10·0 %	" "	...	...	Informal sample
Milk ... ..	10·3 %	" "	...	...	Dismissed
Milk ... ..	9·0 %	" "	and 4·2 %	..	Withdrawn on payment of costs—5/-
	added water.				
Milk ... ..	1·20 %	" "	...	..	No action taken
Milk ... ..	2·40 %	" "	...	...	No action taken
Milk ... ..	2·94 %	" "	...	...	No action taken
Milk ... ..	3·53 %	" "	...	...	No action taken
Milk ... ..	8·90 %	" "	.	...	Fined 20/- and 15/6 costs.
Milk ... ..	14·70 %	" "	...	...	No action taken. An appeal to cow sample
Milk ... ..	15·18 %	" "	...	...	No action taken. An appeal to cow sample
Milk ... ..	15·53 %	" "	...	..	No action taken
Skimmed Milk	26·32 %	" "	...	...	Fined 10/- and 10/6 costs.
Skimmed Milk	30·50 %	" "	...	...	Informal sample
Brandy ...	35·68	degrees under proof.			No action taken

OFFENCES OTHER THAN ADULTERATION.

Nil.

Total Fines - 30/-

Total Costs - 31/-



**Public Health (Milk and Cream) Regulations, 1912 and 1917.  
Report for Year ended 31st December, 1925.**

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

	No. of Samples examined for preservative.	Number in which a preservative was reported present.
Milk	199	1 *(5·6 parts per million of Formaldehyde.)
Cream	0	0

(2) CREAM SOLD AS PRESERVED CREAM.

Correct statements made...	...	...	...	0
Incorrect statements made	...	...	...	0

\* This was an informal sample.

**Annual Report of the Public Analyst and Bacteriologist**  
**for the year ended December 31st, 1925.**

The Borough Analyst and Bacteriologist, Mr. H. Hurst, B.Sc., F.I.C., has furnished me with the following report on the work of his laboratory. Mr. Hurst's work inspires very great confidence and his laboratory has done excellent work.

**SUMMARY.**

	Number of Samples
Food and Drugs ... ..	462
Bacteriological examinations for the M.O.H. ... ..	1022
Miscellaneous Analyses ... ..	228
Water Analyses ... ..	709
Gas Examinations ... ..	288
	<hr/> 2709 <hr/>

**DETAILS OF FOOD AND DRUGS.**

	Total.	Genuine	Adulterated.	Percentage Adulterated.
Milk ... ..	199	178	21	11.8
Condensed Milk ... ..	16	16	...	...
Butter ... ..	40	40	...	...
Margarine ... ..	13	13	...	...
Cheese... ..	2	2	...	...
Lard ... ..	7	7	...	...
Coffee and Coffee Mixture ... ..	26	26	...	...
Cocoa ... ..	12	12	...	...
Jam ... ..	4	4	...	...
Meat Products ... ..	8	8	...	...
Cakes, Pastry, Pudding Powders, etc. ... ..	27	27	...	...
Spirits and Wines ... ..	13	12	1	7.6
Drugs ... ..	8	8	...	...
Miscellaneous... ..	87	87	...	...
	<hr/> 462 <hr/>	<hr/> 440 <hr/>	<hr/> 22 <hr/>	<hr/> 4.7 <hr/>

**BACTERIOLOGICAL EXAMINATIONS.**  
**(For the M.O.H.)**

	Total.	Positive.	Negative.	Doubtful.
Tuberculosis ... ..	866	181	685	...
Diphtheria ... ..	144	13	130	1
Enteric Fever ... ..	12	1	11	...



MILK.	Total examined.	Genuine.	Adulterated
	199	178	21

All the samples were examined for preservatives and colouring matter: in one case only was preservative, and in no case was Annatto found to be present.

The satisfactory quality has again been maintained, the average for the year being:

Milk fat.	Non-fatty solids.	Water.
3.55	8.89	87.56 per cent.

The following table shows the monthly variation:

Month.	No. of samples.	Milk Fat.	Non-fatty solids.
January ...	9	4.08	8.81
February ...	11	3.49	8.92
March ...	39	3.47	8.96
April ...	12	3.38	8.68
May ...	12	3.39	8.59
June ...	21	3.40	8.84
July ...	5	3.89	8.74
August ...	34	3.68	8.84
September ...	9	3.48	8.93
October ...	9	3.85	8.82
November ...	16	3.47	9.04
December ...	17	3.58	9.17

#### CONDENSED MILK.

16 samples have been examined for percentage of milk fat and non-fatty solids, also in cases where unopened tins have been submitted, the declaration on the label as to concentration has been checked; in every case the milk fat has been above the required standard and the concentration has been correctly declared.

The samples have also been examined for the presence of preservatives.

#### BUTTER.

40 samples of butter have been examined, all proved genuine and of good quality.

Certain butters of Irish origin have given somewhat abnormal figures, but I have satisfied myself that these samples contained no other fat than that derived from milk.

In no case was the maximum legal limit for water exceeded, and in no case was preservative found.

#### MARGARINE.

13 samples were examined, all contained a small amount of Boron preservative varying from less than 0.1 to 0.25 per cent. As 0.5 per cent is permissible, no action, other than noting the quantity present, was taken.

#### CHEESE.

2 samples only have been examined, these where whole meat cheeses of satisfactory fat content.

#### COCOA.

12 samples were examined. In no case did the arsenic content exceed 1/200 grain per pound. The samples were satisfactorily free from husk.

#### JAMS.

4 samples of jam were examined and found to be free from preservatives. The required quantity of total solids (65 per cent) was in every case well exceeded. Sugars other than beet and cane are invariably present, provided however, the invert sugar or glucose is pure and free from arsenic, I do not see how serious objection can be raised to their presence.

#### SPIRITS.

13 samples of wines and spirits were examined, 12 of these were genuine and of good quality. One sample of brandy was very slightly over diluted, being 35.68 degrees under proof. The offence was so trifling that no action was deemed necessary.

#### DRUGS.

All the samples examined, satisfactorily complied with the requirements of the British Pharmacopœia. The drugs sold in small packets and bottles are almost invariably of good quality, but the price charged is usually exorbitant, and many times the price paid had the commodity been purchased by the ounce.



MISCELLANEOUS ANALYSES.

25 shaving brushes were examined for Anthrax; from these the bacillus was isolated in no fewer than 5 cases (these were part of two consignments). The whole of the stock of brushes was surrendered and destroyed.

68 milks were examined bacteriologically for determination of agreement or otherwise with the standards set up by the Ministry of Health.

42 "Grade A" milks (Standard is Agar count 200,000 per 1 c.c. of sample, and absence of B. Coli in 1/100 c.c. of sample), and 26 "Certified" Milks (Standard, Agar count 30,000 per 1 c.c. of sample, and absence of B. Coli in 1/10 c.c. of sample).

"GRADE" A. MILKS.

Average count per c.c. of sample	...	...	...	...	=	3633
Per cent. of samples with B. Coli in	1/100 c.c.	...	...	...	=	0.0
"	"	"	1/100 c.c.	...	=	4.8
"	"	"	1 c.c.	...	=	11.9
"	"	"	absent in 1 c.c.	...	=	83.3

"CERTIFIED" MILKS.

Average count per c.c. of sample	...	...	...	...	=	6123
Per cent. of samples with B. Coli in	1/100 c.c.	...	...	...	=	7.7
"	"	"	1/10 c.c.	...	=	15.4
"	"	"	1 c.c.	...	=	3.8
"	"	"	absent in 1 c.c.	...	=	73.1

From these data I consider the standard for "Grade A" Milks much too lenient, and would suggest a count of 50,000 and B. Coli absent in 1/10 c.c.

During the current year, however, I am continuing the examinations and shall revert to this subject in my next report when more data will be available.

It will be observed that the "Grade A" Milks give better results than the "Certified," this is due to the fact that some of the samples of "Certified" Milk were not received until the day following the production of the milk.

54 examinations were made of the water in the plunges at the public baths at High Street, Bridgeman Place and Moss Street. These were for the most part satisfactory. The filter plant at Moss Street works well and keeps the water in a satisfactory state of bacteriological purity.

Other miscellaneous examinations included :

Feeding meals, effluents, urines, medicines, viscera for poisons, creosote oils, fæces, bricks, clothes for blood stains, etc.

These call for no special comment and were undertaken for various departments of the Corporation.

#### PRESERVATIVES.

During the year all samples, where necessary, were examined for the presence of preservatives.

	Number examined.	Containing preservative.	
Milk ...	199	1	5·6 pts. Formaldehyde per million of sample.
Potted Meats...	8	5	Sausage 8·68 grs./lb. Boric Acid.
			" 7·14 " "
			" 6·37 " "
			Potted Meat 8·82 " "
			" 3·47 " "
Margarine ...	13	13	In no case exceeding 0·25% Boric Acid.
Lemon Cheese	7	7	6·07, 6·09, 4·9, 10·5, 10·5, 7·84 and 6·08 grs./lb., Boric Acid respectively.
Cakes ..	6	6	2·8, 3·4, 5·6, 7·7, 6·7 and 8·4 grs./lb., Boric Acid respectively.
Mincemeat ...	7	6	Contain Boric Acid in negligible quantities.
Fruit Salad ..	1	1	1·68 grs./lb., Boric Acid.



ADULTERATED SAMPLES.

	Number Adulterated.	Extent of Adulteration.
Milk ...	21	5.6 parts per Million Formaldehyde.
		2.3 % deficiency in fat,
		3.3 %       "       "
		6.3 %       "       "
		8.3 %       "       "
		8.7 %       "       "
		9.7 %       "       "
		10.0 %       "       "
		10.0 %       "       "
		10.3 %       "       "
		9.0 %       "       "       and 4.2% added water.
		1.20 % added water.
		2.40 %       "       "
		2.94 %       "       "
		3.53 %       "       "
		8.90 %       "       "
		14.70 %       "       "
		15.18 %       "       "
		15.53 %       "       "
(Skimmed)		26.32 %       "       "
(Skimmed)		30.50 %       "       "
Brandy ...	1	35.68 degrees Under Proof.

SECTION VI.

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Prevalence of, and Control  
over, Infectious Diseases.



# Prevalence of, and Control over, Infectious Diseases

## SECTION VI

## ACUTE INFECTIOUS DISEASES.

The infectious diseases compulsorily notifiable in Bolton are the following :—

Small-pox	Acute Encephalitis Lethargica.
Scarlet Fever.	Typhus Fever.
Diphtheria & 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.	

In this section infectious disease does not include tuberculosis which is dealt with elsewhere.

The prevalence of and mortality due to infectious disease in the period 1920-1925 is shown in the following tables.

NOTIFICATIONS AND NOTIFICATION RATES PER 1000 INHABITANTS  
FOR EACH OF THE CHIEF INFECTIOUS DISEASES FOR THE YEARS  
1920 to 1925. The notification rates are in brackets.

Disease.	1920	1921	1922	1923	1924	1925
Scarlet Fever...	541 (2·93)	591 (3·24)	453 (2·48)	642 (3·52)	269 (1·48)	232 (1·28)
Diphtheria ...	175 (·94)	152 (·83)	97 (·53)	84 (·46)	30 (·16)	33 (·18)
Enteric Fever ...	12 (·06)	8 (·04)	4 (·02)	4 (·02)	18 (·09)	5 (·02)
Encephalitis Lethargica ..	— (—)	7 (·03)	1 (·00)	3 (·01)	40 (·22)	23 (·12)
Puerperal Fever ...	9 (·04)	7 (·03)	3 (·01)	3 (·01)	5 (·02)	8 (·04)



# DEATHS FROM INFECTIOUS DISEASE DURING 1920—1925.

Disease.	1920	1921	1922	1923	1924	1925
Scarlet Fever...	2	7	4	6	1	3
Diphtheria ...	35	21	13	10	6	3
Enteric Fever ...	6	3	2	...	6	1
Encephalitis Lethargica ..	...	4	1	...	17	13
Puerperal Fever ...	5	6	3	3	6	8
Measles ...	27	5	63	4	12	18
Influenza ...	70	45	122	94	88	98
Whooping Cough ...	34	25	13	11	28	32

From these tables it will be seen that the prevalence and severity of diphtheria in the years 1920 and 1921 was exceptionally great. The like prevalence and severity obtained in many other parts of England and Wales in the same years. The importance of giving antitoxin at an early period of the disease was very clearly demonstrated during these years. Many cases which had suffered from the disease for two or three days without having had antitoxin were quite obviously hopeless cases when first seen.

I think it right to emphasise once more the extreme importance of regarding as serious a sore throat occurring in a child. In a child a sore throat is probably a manifestation of one of three conditions:—scarlet fever, diphtheria, or rheumatism. All of these are serious conditions. The doctor should be sent for at once.

Further, if diphtheria is suspected, give antitoxin at once. To wait for a report on a swab is to lose the benefit that would be derived from antitoxin. Unless given early, antitoxin is almost useless.

The next notable feature of the period is the appearance of encephalitis lethargica, which is dealt with later.

During 1925 infectious disease in Bolton was small in amount and mild in character. 541 cases of infectious disease were notified. The number of notifications for the past five years is as follows:—

Year.	Notifications.
1921 ... ..	994
1922 ... ..	864
1923 ... ..	978
1924 ... ..	583
1925 ... ..	541

The number of cases notified per thousand inhabitants for Bolton and for England and Wales as a whole in 1925 was as follows:—

NOTIFICATION RATES PER 1000 OF THE POPULATION, 1925.

	Small-Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Puerperal Fever
Bolton .. .. .	None	1·28	0·18	0·02	0·04
England and Wales ... ..	0·14	2·36	1·23	0·07	0·06

The above figures show that the incidence of infectious disease in Bolton was well below the prevalence of the diseases in England and Wales as a whole.

The following table gives particulars of all cases notified:—

NOTIFIABLE DISEASES DURING THE YEAR 1925.

Disease.	Total Cases Notified.	Cases admitted to Hospital.	Total Deaths.
Small-pox ... ..	...	...	...
Scarlet Fever... ..	232	117	3
Diphtheria ... ..	33	16	3
Enteric Fever (including Paratyphoid) ... ..	5	4	1
Puerperal Fever ... ..	8	...	8
* Pneumonia ... ..	168	...	175
Erysipelas ... ..	55	...	9
Ophthalmia Neonatorum ... ..	15	...	...
Encephalitis Lethargica ... ..	23	2	13
Dysentery ... ..	2	...	...

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

There was no small-pox in Bolton. Several cases in which there was a reasonable suspicion that they might be cases of small-pox were brought to my notice by the medical practitioners of the town. They all proved not to be small-pox. I again record my appreciation of the assistance given to me by Dr. Butterworth, the County Medical Officer of Health, who is a recognised authority on small-pox. He saw with me several puzzling cases, and his assistance was very valuable.

Ophthalmia Neonatorum and Puerperal Sepsis are dealt with in the section on Maternity and Child Welfare.

**Encephalitis Lethargica.**

23 cases were notified in 1925 and there were 13 deaths. Notifications and deaths in the last 5 years were as follows:—



Year.	Notifications.		Deaths.	
1921	...	7	...	4
1922	...	1	...	1
1923	...	3	...	...
1924	...	40	...	17
1925	...	23	...	13
		<u>74</u>		<u>35</u>

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

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

Table showing the distribution throughout the year of notifications of encephalitis lethargica and the deaths from that disease.

	Notifications.				Deaths.
January	...	...	...	2	...
February	...	...	..	1	2
March	...	...	...	4	2
April	...	...	...	2	1
May...	...	...	...	8	1
June...	...	...	...	2	2
July ...	...	...	...	...	1
August	...	...	...	...	1
September	...	...	...	...	1
October	...	...	...	2	2
November	...	...	...	...	...
December	...	...	...	2	...
				<u>23</u>	<u>13</u>

Encephalitis Lethargica is a very terrible disease. The mortality is high and many of the survivors suffer permanently from after effects which are worse than death.

So far nothing whatever has been discovered which gives us any clue as to how to prevent the disease ; and no real advance has been made in its treatment.

During the five year period ending with 1925, there were notified 74 cases of encephalitis lethargica. Careful inquiry regarding all these cases has recently (June, 1926) been made. Of these 74 cases :

- 22 died of encephalitis lethargica.
- 1 committed suicide.
- 5 died of diseases other than encephalitis lethargica.
- 23 have made a complete recovery.
- 23 are mentally impaired in a greater or lesser degree.

It is certain that several of the 23 who are mentally impaired will never be normal again. Whether any of them will make a complete recovery it is too soon to say.

In addition to the 74 cases notified during the five years ending with 1925, the cause of death was in 13 cases not previously notified, certified to be encephalitis lethargica.

All the surviving cases are being kept under observation, either directly or through the medical practitioner in attendance.

#### **Puerperal Fever.**

I regret to say that 8 cases of puerperal fever were notified in 1925. All these cases ended fatally. Full particulars concerning them are given in the Maternity and Child Welfare Section.

#### **Ophthalmia Neonatorum.**

15 cases of this disease were notified during 1925.

Of these 15 cases 7 were treated at home and 8 were treated as out-patients at the Bolton Infirmary.

One of the cases died at the age of one month, the death being certified as due to congenital syphilis. The other 14 cases made a complete recovery, the sight being entirely unimpaired.

All cases of ophthalmia neonatorum are kept under close supervision during the period of treatment. The health visitors paid 268 visits to the 15 cases.



Of the 15 notified cases 11 were delivered by midwives and 4 by doctors.

Notifications of ophthalmia neonatorum in Bolton since 1917 have been as follows :

	1917	1918	1919	1920	1921	1922	1923	1924	1925
Number of cases ... ..	23	16	41	51	35	21	32	25	15
Rate per 1,000 births... ..	8.4	5.8	13.4	12.1	9.1	6.1	10.0	7.8	5.0

An arrangement has been made with the Bolton Infirmary to admit both mother and child as in-patients when this is deemed advisable in the interests of the child. At the present time, (July, 1926) one such case is being treated as an in-patient.

#### Anthrax.

Two cases of anthrax infection in the human subject occurred in the period 1920—1925, one in 1923 and one in 1925.

Both cases occurred in males and in both inoculation occurred in the beard area of the face and the infection was conveyed by a shaving brush. One case was removed to the Bolton Infirmary and the other to Townley's Hospital. The case which occurred in 1923 recovered and that of 1925 died.

The shaving brush used in each case was examined by our bacteriologist and in each case was found to be infected by anthrax.

The brush which caused the disease in 1923 had been bought in a town some distance from Bolton. The fullest information obtainable was conveyed to the Medical Officer of Health of that town.

The brush which was the source of infection in 1925 was bought locally. Several other brushes purchased at the same shop were found to be infected by anthrax and the shopkeeper gave up every shaving brush in stock and they were all destroyed. The Medical Officer of Health of the area in which the wholesale dealer resided, from whom the infected brushes sold in Bolton had been obtained, was communicated with and a large number of brushes were destroyed.

The following table, (compiled in accordance with the instructions of the Ministry of Health), gives the age and sex distribution of all cases of notifiable cases of infectious diseases which occurred in Bolton in 1925. It shows also the numbers admitted to hospital and the deaths due to each disease.

# NOTIFIABLE DISEASES DURING THE YEAR 1925.

Disease.	Cases Notified.														Cases admitted to Borough Hospitals.	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.		
Scarlet Fever ...	1	4	16	20	18	109	48	8	7	1	...	...	232	117	...	...	...	...	...	3	...	...	...	...	...	...	3		
Diphtheria ...	...	2	3	3	3	15	1	2	3	...	1	...	33	16	...	1	...	...	...	2	...	...	...	...	...	...	3		
Enteric Fever ...	...	...	...	...	...	...	...	...	2	2	1	...	5	4	...	...	...	...	...	...	...	...	1	...	...	1			
Puerperal Fever ...	...	...	...	...	...	...	...	...	6	2	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	8			
*Pneumonia ...	12	15	7	10	8	25	5	10	27	13	17	19	168	...	37	27	3	3	2	8	2	5	11	17	27	33	175		
Erysipelas ...	2	...	1	...	...	1	2	3	10	11	22	3	55	...	1	...	...	...	...	...	...	...	2	1	2	3	9		
Diphthemia Neonatorum ...	15	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Encephalitis Lethargica...	...	1	1	1	...	2	1	6	2	1	8	...	23	2	...	2	...	...	...	1	...	...	3	...	6	1	13		
Oysentery ...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

..87..

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



**Notification Rates per 1,000 Population in 1925 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
<b>Bolton</b> ... ..	<b>2.55</b>	<b>1.28</b>	<b>.18</b>	<b>.02</b>	<b>.92</b>	<b>.04</b>	<b>.08</b>
Wigan ... ..	4.24	.74	.50	.05	2.73	.03	.17
Bootle ... ..	4.49	1.90	.85	.06	1.16	.07	.44
Rochdale ... ..	4.57	3.00	.89	.09	.42	.06	.08
Oldham ... ..	4.90	2.70	1.00	.04	1.02	.02	.10
Blackburn ... ..	5.09	2.38	.52	.01	1.86	.10	.20
Barrow-in-Furness...	5.14	3.55	.80	.02	.68	.01	.06
Burnley ... ..	5.47	2.02	1.55	.04	1.70	.03	.10
Preston ... ..	5.49	2.68	1.90	.00	.72	.06	.10
St. Helens ... ..	6.09	2.24	1.26	.06	2.22	.14	.14
Salford ... ..	6.26	2.07	1.54	.12	2.19	.06	.25
Bury ... ..	7.46	3.13	1.21	—	2.81	.07	.22
Liverpool... ..	9.06	4.14	1.72	.04	2.26	.06	.82
Manchester ... ..	9.64	3.83	1.40	.09	3.68	.19	.43
Warrington ... ..	10.26	3.39	1.24	.01	5.32	.14	.15

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 1924.

**INFECTIOUS DISEASES NOT NOTIFIABLE.**

**Influenza.**

Influenza was the cause of 98 deaths in Bolton in 1925. The disease was very prevalent on two occasions during the year, but it was of a mild type and the mortality was low.

The deaths due to influenza in Bolton from 1915 up to 1925 are as follows :

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Deaths ... ..	27	18	19	367	301	70	45	122	94	88	98

**Whooping Cough.**

There were 32 deaths due to this disease.

### Measles

Measles caused 18 deaths. There were many cases, but nearly all of a very mild description.

### Return Cases.

During 1925 there were 3 return cases of scarlet fever. Two of these were cases where within four weeks of the return to the home of a patient, treated for scarlet fever in hospital, another case of scarlet fever occurred. One case was a home return case. Within four weeks of the house being disinfected after a patient treated at home had been declared by the doctor in attendance to be free from infection, another case of scarlet fever occurred in the house.

### Examination of Pathological and Bacteriological Specimens.

Ample facilities exist for all these examinations. The County Borough of Bolton has its own whole time Bacteriologist and Analyst, and whenever necessary, specimens are sent for examination to the Public Health Laboratory, Manchester.

The examinations made in our own laboratory during 1925 were as follows:

	Total	Positive	Negative
Sputum (for B. Tuberculosis) ...	866	181	685
Diphtheria (Throat swabs) ...	144	13	131
Enteric Fever (Agglutination test)...	12	1	11

At the Public Health Laboratory, Manchester. the following examinations were made :

	Total	Positive	Negative
Milk (Inoculation test for B. Tuberculosis) ...	12	3	9
Cerebro spinal fluid (Wassermann test and Cellular contents) ...	1	1	—

### Diphtheria and Antitoxin.

Antitoxin can be had day and night by the medical practitioners of the town. During 1925 there were supplied 74 phials, each of 8,000 units and one phial of 4,000 units.



### Insulin.

Since the 16th September, 1924, the Bolton Public Health Department has supplied insulin free to uninsured patients suffering from diabetes where the income of such patients made it impossible for them to purchase the drug. This has proved a great boon to many sufferers. During 1925, insulin was supplied to these patients to the amount of 449 bottles each containing 100 units.

### Disinfection.

There is a fully equipped disinfecting station at School Hill, near the centre of the town. Two motor vans are attached to this station. During 1925 the following work was done by the disinfecting station :

Houses Disinfected	...	...	...	...	...	609
Articles of clothing, etc., disinfected	...	...	...	...	...	3241
Articles of bedding, etc., destroyed	...	...	...	...	...	254

### Cleansing of Verminous Persons.

Arrangements have been made for the bathing of such persons at one of the Corporation's bathing establishments. Clothing is disinfected or destroyed at the School Hill Disinfecting Station.

## WORK OF THE BOROUGH HOSPITALS

### Scarlet Fever.

117 patients were admitted as scarlet fever; of these patients one was found to be suffering from measles and three from german measles. In the case of one patient there was from the time of admission no evidence of any disease. One of the patients admitted for scarlet fever died of that disease.

A patient admitted as a suspected case of enteric fever began to peel freely some time after admission and careful inquiry elicited facts which justified a diagnosis of scarlet fever. The patient was doing very well, but he died suddenly of acute heart failure. I am satisfied that in addition to scarlet fever he had also had diphtheria.

The type of the disease was very mild in the great majority of cases. The only complications which occurred were the following :

Otorrhoea	...	...	...	...	...	6 cases.
Albuminuria	...	...	...	...	...	3 cases.
Nephritis	...	...	...	...	...	1 case.
Glandular Abscess	...	...	...	...	...	1 case.

All the patients who suffered from the above complications were completely cured when discharged.

There were 2 return cases.

#### **Diphtheria.**

16 cases were admitted as diphtheria. One of these cases proved to be suffering from whooping cough only, and one from simple tonsillitis.

Four cases were tracheotomied. Of these two recovered and two died. The two that died were in a very bad condition on admission.

#### **Enteric.**

Four cases were admitted as enteric, one proved to be pernicious anæmia. The patient was transferred to a nursing home where he died. Of the other cases one was typhoid and two had a paratyphoid A. infection. All three made a good recovery.

#### **Encephalitis Lethargica.**

Two cases were admitted both of which recovered. One, a girl of fifteen, was apparently as well as ever both mentally and physically and has remained so. The other, an older girl, was physically in excellent condition when discharged, but mentally she was very dull. She has improved since her discharge, but is not at the present time normal.

#### **Cerebro-spinal Meningitis.**

One case was admitted, a boy of eleven. The case ended fatally.

#### **Purpura Hæmorrhagica.**

One case sent in as phthisis proved to be purpura hæmorrhagica. He made an excellent recovery and has kept well.

The following table summarises the admissions, discharges and deaths at the Borough Hospitals.



**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, 1924	11	...	...	18	...	1	30
Admitted in 1925 ... ..	117	4	16	56	1	9	203
Total No. treated, 1925 ...	128	4	16	74	1	10	233
Discharged in 1925 ... ..	105	3	14	45	1	8	176
Died in 1925 ... ..	2	...	2	7	...	2	13
Remaining, Dec. 31st, 1925	21	1	...	22	...	...	44

The health of the hospital staff, both nursing and domestic was good throughout the year, there being no serious illness. Three probationers contracted scarlet fever of a mild type. They made a complete recovery.

Electric light has now been installed throughout the whole hospital wards, and administration buildings. It is a very welcome improvement.

I have again to thank the Matron, Miss Bateman, for the excellent manner in which she has conducted the hospital. I desire also, to express my thanks to the nursing and domestic staffs.

INFECTIOUS DISEASES NOTIFIED FROM 1891 TO 1925.

Year Average.	Small-pox.	Scarlet Fever.	Diph. and Mem. Croup.	Enteric Fever.	Typhus.	Puerperal Fever	Cholera.	Erysipelas.	Total.	Rate per 1000 Pop'n.	Pulmonary Tuberculosis.	Non-pul. Tuberculosis	Ophthalmia Neonatorum	Measles.	Pneumonia Ac. Prim. & 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... ..	—	259	30	18	—	5	—	48	370	2.0	166	59	25	—	140	—	—	7	1	40
1925... ..	—	232	33	5	—	8	—	55	333	1.8	154	56	15	—	168	—	2	—	—	23

First Year Notification 1878.

Isolation Hospital Established 1884.

Borough Extended 1899.



## ENTERIC FEVER IN BOLTON, 1881-1925.

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
1925... ..	5	'02	1	'00	20·0

DEATHS OF CHILDREN UNDER 5 YEARS, 1901-1925, 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
1925 ... ..	—	—	1	—	18	32
Total ... ..	—	251	349	19	1097	930



## DEATHS IN EACH WARD FROM DIARRHOEAL DISEASES IN 1925.

	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 ... ..				3	1	4	3	1	4
Bradford ... ..	1		1	5	1	6	6	1	7
Derby ... ..				3	1	4	3	1	4
East ... ..	3		3	6	2	8	9	2	11
Rumworth ... ..	3	2	5	1		1	4	2	6
Church ... ..				1		1	1		1
North ... ..				2		2	2		2
Exchange ... ..				3		3	3		3
Old Borough ...	7	2	9	32	6	38	39	8	47
Great Lever ... ..				1		1	1		1
Tonge ... ..				1	1	2	1	1	2
Astley Bridge ... ..									
Smithills ... ..				1		1	1		1
Hulton ... ..	1	1	2				1	1	2
Deane-cum-Lostock ...									
Darcy Lever-cum-Breightmet				1		1	1		1
Heaton ... ..					1	1		1	1
Added Area ... ..	1	1	2	4	2	6	5	3	8
Extended Borough ...	8	3	11	36	8	44	44	11	55

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

SECTION VII.

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Tuberculosis.



SECTION VII

Tuberculosis

## TUBERCULOSIS.

## Notifications.

210 patients were notified for the first time in 1925 as suffering from tuberculosis, of these cases 154 were pulmonary and 56 non-pulmonary.

The number of notifications of tuberculosis in Bolton since 1913 is as follows :

		Pulmonary	Non-pulmonary		Totals
1913	...	349	158	...	507
1914	...	303	69	...	372
1915	...	268	61	...	329
1916	...	233	69	...	302
1917	...	234	45	...	279
1918	...	198	86	...	284
1919	...	185	95	...	280
1920	...	151	64	...	215
1921	...	160	79	...	239
1922	...	135	80	...	215
1923	...	133	60	...	193
1924	...	166	59	..	225
1925	...	154	56	...	210

The age and sex distribution of the new 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 ..	...	...	...	...	13	10	18	8	27	21	3	104
Females	...	...	...	...	8	5	24	4	8	3	2	54

## 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 ...	...	4	3	5	7	1	2	1	2	2	2	29
Females	...	7	3	5	4	3	4	...	1	...	...	27



In 25 deaths certified as due to tuberculosis, the deceased had not during life been notified as suffering from tuberculosis.

Inquiry was made in every case, and in no single case was the failure to notify due to any desire to conceal the decease. In most of the cases a definite diagnosis was only decided on at the time of death.

#### DEATHS.

185 deaths of Bolton residents were certified in 1925 as being due to tuberculosis.

Of these deaths 151 were due to pulmonary-tuberculosis, and 34 to non-pulmonary tuberculosis.

Bolton's death rate from tuberculosis in 1925 was therefore 1.02 per thousand inhabitants.

The latest available tuberculosis death rate for England and Wales, that of 1924, was 1.05.

74 of the deaths from tuberculosis took place in the following institutions.

7 died in the Bolton Borough Hospital.

4 died in the Wilkinson Sanatorium.

59 died in Townleys Hospital.

2 died in Prestwich Asylum.

1 died in Winwick Asylum.

1 died in Bull Hill Sanatorium, Darwen.

The age and sex distribution of the patients who died from tuberculosis was as follows:

#### PULMONARY TUBERCULOSIS.

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 ... ..	97	2	...	2	10	26	12	23	15	7
Females... ..	54	1	...	1	8	24	7	4	6	3
Total ... ..	151	3	...	3	18	50	19	27	21	10

## NON-PULMONARY TUBERCULOSIS.

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 ... ..	17	3	1	1	5	3	...	2	1	1
Females... ..	17	6	1	1	2	2	1	2	1	1
Total ... ..	34	9	2	2	7	5	1	4	2	2

## TUBERCULOSIS DISPENSARY.

The Tuberculosis Dispensary is open every day (except Saturday) from 9 a.m. to 12 noon, and on Wednesday afternoon from 2 p.m. to 5 p.m. New patients are seen at other times by appointment.

The work of a Tuberculosis Dispensary is now so well known that it is unnecessary to enter into any account of all its activities.

At the Dispensary special treatments are given, but no drug treatment of symptoms provided.

We have tried every special treatment for which there was sufficient evidence in support to justify its trial. I would mention Paget's tuberculin treatment by the nasal insufflation method, collosol calcium, and sodium morrhuate. We gave a really exhaustive trial to the last two, and failed to convince ourselves that they were of any use. The results we got from Paget's treatment did not justify our continuing it. Garlic juice has had a thorough trial in the case of several patients, but it failed to show any real benefit to those taking it.

We continue to give tuberculin in cases of surgical tuberculosis with on the whole, very good results.

The following figures show the amount of work done by the Tuberculosis Dispensary.

Total attendances ... ..	2265
Total number of patients sent for consultation ...	311

The result of these consultations were as follows;

Number found to have pulmonary tuberculosis ...	88
Number found to have non-pulmonary tuberculosis	39
Number of cases kept under observation for suspected pulmonary tuberculosis .. ...	13
Number in whom no evidence of tuberculosis was found	171



68 patients attended for tuberculin treatment, and made a total of 1,185 attendances:

The following table gives particulars of the ex-servicemen who attended the Dispensary :

#### EX-SERVICEMEN.

Number of ex-servicemen who have attended the Tuberculosis Dispensary	...	...	...	...	...	...	57
Total attendances of ex-servicemen	...	...	...	...	...	...	390
Number of ex-servicemen referred by Pensions Board for opinion as to tuberculosis	...	...	...	...	...	...	15
Number found to be suffering from phthisis	...	...	...	...	...	...	6
Number of those in whom no evidence of phthisis was found	...	...	...	...	...	...	1
Number of doubtful cases kept under observation	...	...	...	...	...	...	8

#### TREATMENT OF TUBERCULOSIS.

Our arrangements for the institutional treatment of tuberculosis remain as they were last year. They are as follows :

30 beds at the Wilkinson Sanatorium  
24 beds at the Bolton Borough Hospital.

These beds are for cases of pulmonary tuberculosis.

For surgical tuberculosis we can send patients to the Bolton Infirmary. We can also send children to the Liverpool Children's Hospital at Heswall.

We pay for the treatment at the Manchester and Salford Skin Hospital of cases of tuberculosis of the skin sent by us. Most of these cases attend as out-patients, but some receive in-patient treatment.

During 1925 there applied for treatment for tuberculosis 195 persons of whom 145 were suffering from pulmonary tuberculosis, and 32 from non-pulmonary tuberculosis.

These persons received treatment as follows :

Residential treatment	...	...	...	137
Domiciliary treatment	...	...	...	33
Out-patient treatment	...	...	..	20
Declined residential treatment	...	...	...	4
On waiting list at close of 1925	...	...	...	1

For patients suffering from tuberculosis of the skin the treatment given at the Manchester and Salford Skin Hospital has proved most useful. 20 cases received out-patient treatment and 3 were admitted as in-patients. The average stay in hospital of each of these cases were 76 days.

The following table summarises the residential treatment given during 1925:

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1925.

INSTITUTION	Beds.	Treated:			Under Treatment 31st Dec. 1925.
		Total.	Insured.	Unions.	
*Meathop Sanatorium ... ..	...	...	...	...	...
Wilkinson Sanatorium ... ..	30	64	52	12	14
Borough Hospital .. ...	24	57	48	9	22
*Heswall ... ..	6	4	...	4	3
*Infirmary ... ..	...	7	2	5	3
Blair Hospital ... ..	...	1	...	1	1
Shropshire Orthopædic Hospital ...	...	1	1	...	...
*Manchester and Salford Hospital for Skin Diseases ... ..	...	3	...	3	...

\* Paid for per user.

Occasional dental treatment is given to tuberculosis patients, but no scheme has been adopted. Insured persons can now get dental treatment partly free and partly on payment of 50 per cent. off the cost.

Our greatest need at present is adequate provision for the treatment of non-pulmonary tuberculosis in children and adults. There is a real prospect of this defect being made good in the near future.

The Tuberculosis Dispensary has worked in cordial co-operation with the local medical practitioners, and the arrangements set out in Memorandum 286 of the Ministry of Health have worked quite smoothly.

ASSISTANCE GIVEN TO NECESSITOUS TUBERCULOUS PATIENTS.

1. Total number of patients assisted	...	...	86
2. Average time receiving assistance	...	3 months	
3. Amount of milk given	...	...	7904 pints
4. Malt and oil given	...	...	144 lbs



The following table summarizes the treatment of the various types of cases which are referred to the various departments of the Government. The cases are classified according to the nature of the offense and the character of the offender. The cases are then referred to the appropriate department for consideration and action.

Type of Case	Department	Action
Cases involving the Government	Department of Justice	Prosecution
Cases involving the State	Department of Justice	Prosecution
Cases involving the County	Department of Justice	Prosecution
Cases involving the City	Department of Justice	Prosecution
Cases involving the Town	Department of Justice	Prosecution
Cases involving the Village	Department of Justice	Prosecution
Cases involving the Hamlet	Department of Justice	Prosecution
Cases involving the Estate	Department of Justice	Prosecution

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SECTION VIII



Venereal Diseases.



SECTION VIII

General Diseases

## VENEREAL DISEASES

The treatment of venereal diseases has been conducted during 1925 on the same lines as in previous years.

I repeat here what I have already said in previous reports: in the time that has elapsed since venereal disease clinics were established, no other work, whether conducted by public health departments or by other agencies, has done so much to stamp out disease as these venereal disease clinics. The work done by these clinics will very appreciably lighten for future generations the burden which disease imposes on the community.

What impairs the efficiency of our clinic more than anything else is our inadequate housing for the clinic. The clinic has never yet done the work it ought to, and could, be doing for women suffering from gonorrhœa. It is almost impossible to get female patients to attend during the day. It is the rule for them to express a desire to attend for irrigation during the evening. We have only one treatment room and this makes it impossible to make adequate provision for the treatment of female patients. When we get the new premises for which plans have now been prepared, the treatment of the women attending our clinic will be very greatly improved and extended.

We have very little difficulty in getting patients to attend regularly. About 12 per cent. cease to attend before treatment is complete. Large numbers of our patients are sent by medical men. The clinic is freely used by medical men for consultation purposes and for the treatment of patients. The times at which the clinic is open are well-known to all medical men in the district.

### Propaganda Work.

A public meeting for men and women was held in the Victoria Hall, on March 27th, 1925. The meeting had been widely advertised and was addressed by Dr. R. W. MacKenna, the well-known specialist of Liverpool, and by Councillor Mrs. Agnew. The attendance was very poor and nothing further in the way of propaganda was done during 1925.

All specimens taken in connection with our V.D. clinics are sent for examination to Professor Topley, at the Public Health Laboratory, York Place, Manchester.

11 medical men applied during 1925 for arsenobenzol compounds. They were considered competent to use these remedies and 163 doses of arsenobenzol compounds were supplied to them. In this connection it must be remembered that a very important change has taken place since arsenobenzol compounds were introduced. Deep subcutaneous and intra-muscular injections have now been shown to be preferable to the intravenous method. 144 samples of blood and 17 smears taken by private practitioners were sent to the Public Health Laboratory, Manchester.



We have now begun to use bismuth freely. Only insoluble preparations, given intramuscularly, are used.

The times and place where the clinics are held are announced by public notices in many places in the town. These notices are of a permanent character, being enamelled on iron plates.

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.

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. Luke's Hospital, Manchester	Royal Infirmary Manchester	Ancoats Hospital	Salford Royal Hospital	Dispensary Bury
Attendances	41	27	77	3	2	34
Doses of Salvarsan substitutes given	6	9	15	1	...	...
Tests—						
Wassermann	5	2	11	3	...	...
Gonorrhœa	...	...	2	...	...	...

The tables on pages 109 and 110 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, 1925.

	Syphilis.		Soft Chancre		Gonorr- hœa.		Conditions other than Venereal.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases which—										
(a) at the beginning of the year under report were under treatment or observation for ... ..	103	66	1	...	226	27	40	6	370	99
(b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection	13	8	...	..	17	3	2	1	32	12
TOTAL—Items 1 (a) and 1 (b) ... ..	116	74	1	...	243	30	42	7	402	111
2 (a) Number of cases dealt with at the Treatment Centre during the year for the first time ... ..	57	37	3	...	185	13	113	61	358	111
TOTAL*—Items 1 (a), 1 (b) and 2 (a) ...	173	111	4	...	428	43	155	68	760	222
2 (b) Number of cases included in item 2 (a) known to have received previous treatment at other Centres for the same infection... ..	4	1	...	...	6	1	...	...	10	2
3. Number of cases which ceased to attend—										
(a) before completing the first course of treatment for ... ..	20	7	...	...	79	6	...	...	99	13
(b) after one or more courses but before completion of treatment for ... ..	18	9	...	...	...	...	...	...	18	9
(c) after completion of treatment, but before final tests as to cure of ... ..	10	8	...	...	28	1	...	...	38	9
4. Number of cases transferred to other Treatment Centres after treatment for ... ..	...	3	...	...	5	1	...	...	5	4
5. Number of cases discharged after completion of treatment and observation for ... ..	14	7	3	...	46	7	112	53	175	67
6. Number of cases which, at the end of the year under report, were under treatment or observation for	111	77	1	...	270	28	43	15	425	120
TOTAL*—Items 3, 4, 5, and 6 ... ..	173	111	4	...	428	43	155	68	760	222
7. Out-patient attendances—										
(a) For individual attention by the Medical Officer... ..	1353	841	15	...	2267	215	329	192	4964	1248
(b) For intermediate treatment e.g., irrigation, dressings, etc. ... ..	...	...	...	...	2078	369	...	...	2078	369
TOTAL ATTENDANCES ... ..	1353	841	15	...	4345	584	329	192	7042	1617
9. Examinations of Pathological material :—										
					For Detection of				For	
					Spiro- chetes.	Gono- cocci.	Other Organ- isms.	For Wasser- mann Reaction		
(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 ...	...	...	...	...	...	6	...	...	274	...

\* The total of Items 1 (a), 1 (b) and 2 (a) in the vertical columns headed Syphilis, Soft Chancre and Gonorrhœa should agree with the corresponding total of Items 3, 4, 5, and 6.

STATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE 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.	London City.	Manch'st'r City.	Bury C.B.	Blackpool C.B.	Wigan C.B.	Norwich City.	Barnsley C.B.	Eccles M.B.	Chorley M.B.	TOTAL.
A. † Number of cases from each area dealt with during the year <i>for the first time</i> and found to be suffering from :—												
Syphilis ... ..	74	19	...	...	...	...	...	...	1	...	...	94
Soft Chancre ... ..	3	...	...	...	...	...	...	...	...	...	...	3
Gonorrhœa ... ..	115	75	1	1	...	1	2	1	...	1	1	198
Conditions other than Venereal	128	39	...	1	1	...	4	...	...	...	1	174
TOTAL ... ..	320	133	1	2	1	1	6	1	1	1	2	469
B. † Total number of attendances of all patients residing in each area ...	4877	2620	2	13	89	3	22	2	1	12	18	7659
C. † Aggregate number of "In-patient days" of all patients residing in each area ..	...	...	...	...	...	...	...	...	...	...	...	...
D. Number of doses of arsenobenzol compounds given in the :—												
1. Out-patient Clinic	865	327	...	...	...	...	...	...	1	...	...	1193
2. In-patient Dept.	...	...	...	...	...	...	...	...	...	...	...	...
to patients residing in each area.												
E. Give the names of arsenobenzol compounds used in the treatment of Syphilis and the usual initial and final doses.	For Males—.45 NAB. (initial dose) .6 NAB. (final dose). For Females—.30 NAB. (initial dose) .45 NAB. (final dose). (See also F.)											
F. State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre.	For all sores, primary, etc., local treatment is given Lotio Nigra, Pulv. Cal., and ZnO, etc. For the constitutional invasion we use NAB., Neo-salvarsan, Stabilarisan (intravenously) Sulfarsenol (subcutaneously) and Bismuth (intramuscularly). A course rarely consists of less than 12 injections. The further treatment of the case is determined by the clinical condition and blood reaction. Mercury is given throughout the course as grey powder given by the mouth.											
G. State the nature of tests applied in deciding as to discharge of patients referred to in Item 5 on previous page.	In the case of Syphilis patients have not been discharged until at least 3 blood tests at 3 to 6 monthly intervals without treatment have proved negative. In the case of Gonorrhœa, patients are not discharged until they have been free for at least 6 months from all clinical evidence of gonorrhœal infection. If considered desirable, prostatic massage is done and smear examined.											

† The totals in Item A should agree with the corresponding totals in Item 2 (a) on the previous page, and the totals in Items B and C should agree with the respective totals in items 7 and 8 on the previous page.



SECTION IX.

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Maternity and Child Welfare.



SECTION II

CHAPTER III

## MATERNITY AND CHILD WELFARE.

2,949 living children were born in Bolton in 1925.

Of these children 2,817 were legitimate and 132 illegitimate.

233 of the legitimate children died. This is a mortality rate of 82 per thousand births.

26 of the illegitimate children died; an infantile mortality rate of 196.

### Notification of Births.

34 of the 2,949 live births were not notified. A letter of enquiry is sent in every case, and the explanations given were such as to render it in my opinion unnecessary to carry the matter any further.

140 still-births were notified. That is a rate of 4·7 per 100 registered live births. The latest available corresponding figure for England and Wales was 4·7.

### Maternal Deaths.

We had 14 maternal deaths during 1925, as against 26 in 1924. The maternal death-rate for 1925 is therefore 4·7. By maternal death-rate is meant the number of maternal deaths per 1,000 live births. By maternal deaths are meant the deaths of mothers or prospective mothers from causes due to pregnancy or child-birth.

These deaths are extremely tragic. I quote the following passage from Dr. Janet Campbell's report on "Maternal Mortality."

"With certain exceptions the women concerned are in the prime of life, and are actively engaged in fulfilling the most important duty of bearing and rearing children for the nation. Most of them might, in the ordinary course of events, look forward to many years of health and usefulness. The unexpected loss of the mother is a tragedy for the family. It is not infrequently associated with the death of the infant for whom the maternal life has been sacrificed, and is often followed by the impaired health and nutrition of the remaining children. Further, the fact that the mortality returns reveal only a part of the total damage and disability, and that an incalculable amount of unreported and often untreated injury and ill-health result from pregnancy and labour, has many times been pointed out. It is this burden of avoidable suffering which we seek to relieve scarcely less than to save lives which need not be lost."

Many of these deaths are preventable. How? By educating the mothers, and by improving the service given by midwives. In my opinion, the country is getting as good a service from its midwives as it has any right to expect in return for the price it pays. A further improvement in the quality of the services rendered by midwives will only be brought about by increasing the remuneration they receive. The employment by a Local Authority of whole-time midwives is simply an indirect method of bringing this about.

The following table gives particulars of the maternal deaths which took place in Bolton in 1925. Many of these might probably have been prevented, but it is difficult to see how those cases, numbered respectively 9, 10, 11, 12 and 13 could have been prevented.

In view of some criticism offered last year on the causes of death, I desire to point out that the cause of death given in the following table is copied from the death certificate in each case.



## DETAILS OF MATERNAL DEATHS IN 1925.

Age.	Cause of Death	Occupation.	Domestic Environment.	Previous Pregnancies	Delivery.	Nursing.	Remarks.
41	Placenta prævia.	Housewife	Fairly good.	Eleven—seven living	Nil.	Hospital	Died one hour after admission
36	Contracted pelvis. Obstructed labour	Housewife.	Good.	Nil.	Doctor—stillborn	Hospital.	Cæsarean hysterectomy.
19	Childbirth. Anæmia.	Cotton frame tender.	Good	Nil.	Midwife.	Private house,	Healthy baby Doctor called in three weeks after birth.
26	Puerperal sepsis.	Cotton Weaver		Nil.	Midwife in midwife's home	Hospital until commencement of labour—Midwife's home.	Died three weeks after confinement. Small baby.
47	Puerperal septicæmia.	Housewife.	Good	Nil.	Doctor—called in by midwife on account of breech presentation	Own home.	Stillborn.
23	Puerperal Fever	Housewife.	Good.	Nil	Doctor.	Hospital.	Healthy baby.
35	Puerperal septicæmia	Housewife.	Good	Three—living.	Doctor—called in by midwife on account of transverse presentation.	Own home until three weeks after confinement:—Hospital until death, one week after admission.	Healthy baby.
32	Puerperal sepsis. Puerperal eclampsia	Housewife.	Satisfactory	Nil.	Midwife.	Hospital.	Healthy baby.
27	Septic peritonitis following miscarriage, but no evidence to show by whom procured.	Housewife.	Satisfactory	Three—living	Nil.	Private house.	Inquest.
30	Abortion. Two months. Septicæmia.	Housewife.	Good.	Four—one living.	Nil.	Hospital.	Fourth abortion.
34	Sapremia. Pre-mature labour.	Housewife.	Not good.	Five—living.	Nil.	Own home.	Miscarriage. Gangrenous fetus.
32	Phlegmasia alba dolens. Embolism of pulmonary artery.	Housewife.	Good.	Nil.	Doctor.	Own home.	Instrumental delivery. Healthy baby.
38	Parturition. Embolus of lung.	Housewife.	Good.	Five—four living.	Midwife—medical aid summoned day after confinement for "pain in the chest."	Own home.	Small baby (4 lbs)
26	Post-partum eclampsia.	Housewife.	Good.	Nil.	Midwife.	Own home.	Delicate premature baby (8 months).

### Neo-Natal Mortality.

The first four weeks is the most dangerous period the infant has to pass through during its first year of life. The mortality during these four weeks is called the neo-natal mortality. Although the mortality of the first twelve months of life has been greatly reduced during the last 25 years, the neo-natal mortality has not varied much during the same period. The neo-natal mortality is no doubt mainly due to causes which are at work before birth.

The neo-natal mortality for 1925 in Bolton was 32·8. This is the lowest yet recorded.

The following table gives the figures since 1905.

#### 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
				1925	...	...	32·8

The following Table shows the deaths and cause of death during the first four weeks of life, during 1925.

## Deaths under Four Weeks.

CAUSES OF DEATH.					Under 7 days	7 and under 14 days	14 and under 21 days	21 and under 28 days	Total under 28 days
Icterus Neonatorum	...	...	...	...	1	2	—	—	3
Convulsions	...	...	...	...	2	1	1	—	4
Bronchitis	...	...	...	...	—	1	2	—	3
Pneumonia (all forms)	...	...	...	...	1	—	1	1	3
Diarrhoea	...	...	...	...	—	—	1	—	1
Enteritis	...	...	...	...	—	1	—	2	3
Syphilis	...	...	...	...	1	—	1	1	3
Injury at Birth	...	...	...	...	3	1	—	—	4
Atelectasis	...	...	...	...	5	1	—	—	6
Congenital Malformations	...	...	...	...	4	4	3	—	11
Premature Birth	...	...	...	...	27	4	—	1	32
Atrophy, Debility and Marasmus	...	...	...	...	8	6	—	2	16
Other Causes	...	...	...	...	2	—	4	2	8
Totals	...	...	...	...	54	21	13	9	97

## Home Visits by Health Visitors.

During 1925 the Health Visitors paid a total of 22,326 home visits. I feel it to be a duty once more to record my appreciation of the excellent work done by our Health Visitors.



The following list gives particulars of the visits :

#### VISITS BY HEALTH VISITORS.

Primary birth enquiries	...	...	...	...	3093
Visits to Children, 1—5 years	...	...	...	...	4064
Primary visits to expectant mothers	...	...	...	...	575
Revisits to infants under 1 year	...	...	...	...	9838
Revisits to children, 1—5 years	...	...	...	...	2718
Revisits to expectant mothers	...	...	...	...	1200
Visits to Puerperal Fever Cases	...	...	...	...	56
Visits to Ophthalmia Cases	...	...	...	...	268
Death enquiries made	...	...	...	...	258
Visits to midwives' houses	...	...	...	...	256
Total visits	...	...	...	...	22326

The method of feeding and mortality amongst the infants visited was as follows :

#### METHOD OF FEEDING.

				Living infants visited.	Infants who died under 1 year
1. Breast fed only	...	...	...	1982	67
2. Breast fed partially	...	...	...	370	39
3. Artificially fed	...	...	...	602	152

The Health Visitors reported that of the infants visited

2628 were healthy,  
189 were delicate,  
137 were premature.

As a result of their visits the Health Visitors reported 50 nuisances to the Medical Officer of Health, and referred 7 cases to the N.S.P.C.C.

They found that 2,870 of the houses visited were clean and 195 dirty.

They distributed at the houses visited 2,863 leaflets.

They reported that of the mothers visited 139 returned to work within three months of their confinement.

#### Assistance given to Expectant and Nursing Mothers and Children under 5 years of age.

The assistance given was entirely gratuitous. In no case was any payment made.

The most careful inquiry is made as regards income and family circumstances in all cases in which assistance is granted. When any doubt exists enquiry is made of the employers as regards wages.

No assistance is given to cases in receipt of Poor Law relief.

26,999 quarts of new milk were given to 594 persons.

2,166 lbs. of dried milk were given for the use of 154 infants.

4 tins of Nestle's Milk were given to one case.

619 lbs. of Malt and Oil and 154 lbs. of Virol were given to 174 children.

Home Helps were provided for two mothers at the time of their confinement. Whenever suitable arrangements can be made for looking after the children in the house, I always strongly advise that the mother should go for her confinement to our Maternity Home. This is usually a much better arrangement than the provision of a home help.

#### **School for Mothers and Infant Clinics.**

I have very great pleasure in recording once more the excellent work done for infant welfare in Bolton by the Public Health Department acting in close co-operation with its Bolton School for Mothers.

The work done by the voluntary workers of the School for Mothers is invaluable. They are able, enthusiastic and business-like, and the whole of the work done at the clinics is real live work. The clinics enjoy in a very high degree the confidence of the mothers. It would be difficult to over-estimate that amount of good resulting to the community by the instruction and help which are given by the Infant Centres.

At each Centre a doctor and nurse are provided by the Public Health Department, and the infant consultations are under the control of the Medical Officer of Health. The premises are provided by the School for Mothers, whose helpers undertake the weighing of the children, and keep all records other than the purely medical ones.

There are eight infant Welfare Centres and one Ante-natal Centre. The Ante-natal Centre is now (July, 1926) in charge of Dr. Mary Boullen, a whole-time Medical Officer of the Public Health Department, who gives half her time to Maternity and Child Welfare work. 7 of the infant clinics are taken by our whole-time Medical Officers, and one by a part-time Medical Officer, Dr. Madge Heywood.



The Infant Welfare Centres and times of meeting are as follows :

NAME AND ADDRESS OF CENTRE.	DAY AND TIME OF MEETING		
The Friends' School Room, Tipping Street	...	Monday	3 p.m.
St. Matthew's Mission Room, James Terrace	...	Monday	3 p.m.
Halliwell Road Free Church	...	Tuesday	3 p.m.
Victorian Wesleyan School, Grecian Crescent	...	Tuesday	3 p.m.
Girls' Club, Kensington Street	...	Wednesday	3 p.m.
St. Chad's School, Belvoir Street	...	Wednesday	3 p.m.
The Saviour's Church House, Deane Road	...	Thursday	3 p.m.
Peace Street Primitive Methodist School	...	Thursday	3 p.m.
Mawdsley Street Congregational School	...	Friday	3 p.m.
(Expectant mothers' class).			

The attendances at the clinics during 1925 were as follows :

			New Members	No. on Roll	Total Attendances	Meetings	Average Attendance
1. Tipping Street	...	...	161	263	1845	44	41'9
2. Peace Street	...	...	237	433	2303	42	54'8
3. Halliwell	...	...	241	491	2663	43	61'9
4. Grecian Street	...	...	158	254	2258	44	51'3
5. Kensington	...	...	210	385	2290	43	53'2
6. Saviour's	...	...	122	255	1453	43	33'7
7. James Terrace	...	...	182	299	1886	44	42'8
8. St. Chad's	...	...	72	93	1068	44	24'2
			1383	2473	15766	347	363'8

The above figures show that all the Centres are in a thoroughly healthy state, and that the work is still increasing. The total attendances are 466 above the corresponding figures for 1924.

The ages of the new members enrolled at the Centres were as follows :

Under one month	...	...	...	291
„ two months	...	...	...	365
„ three months	...	...	...	205
„ six months	...	...	...	161
„ twelve months	...	...	...	102
Twelve months and over	...	...	...	259

These figures show that 1,124 of the new cases enrolled during 1925 were less than 12 months old. The total live-births for Bolton in 1925 were 2,949. These figures show clearly the extent and importance of the work done at the Infant Welfare Centres. Considerably more than one-third of Bolton's infant population attend the Centres.



### **Ante-Natal Work.**

Miss Steeples continued to do excellent work at her ante-natal class, but this class has now been superseded (June, 1926) by an ante-natal clinic, conducted by Dr. Mary Boullen.

### **Massage.**

Once more I record our very sincere thanks to Mrs. Mallett for her services at the massage clinic in connexion with our Infant Centres. Mrs. Mallett, who is a trained masseuse, gives her very valuable services entirely gratuitously. In addition to the work done for the Infant Welfare Centres, Mrs. Mallett has at my request treated some older school children with very beneficial results. I believe that before long an orthopædic scheme making provision for all school children will begin to work.

Mrs. Mallett gave 782 treatments during 1925.

### **Work of Nurses Employed by School for Mothers.**

The School for Mothers employs two nurses who do useful work in visiting the homes of cases that attend the Welfare Centres. The Medical Officer of Health is supplied each week with a list of the visits paid by these nurses, and these lists are used by the Health Visitors in such a way as to ensure that there shall be no over-lapping.

### **HASLAM MATERNITY HOME.**

This home is situated at Ravenswood, Chorley New Road. It is a fine building, standing in extensive grounds. There are 4 wards containing respectively, 6, 5, 4 and 3 beds. There are in addition a labour ward where each patient is delivered entirely alone, and an isolation ward.

307 cases were admitted during 1925, as compared with 220 in 1924. These numbers indicate clearly the increasing appreciation of the Home, the efficiency and success of which are largely due to the care and skill of the present matron, Miss Evans. The Haslam Maternity Home has no warmer friends than the mothers who have been its patients.

In the following table are set forth full particulars of all cases admitted during 1925.

## STATISTICS, 1925.

1. Total number of cases admitted ..	...	...	...	...	307
2. Average duration of stay in days	...	...	...	...	14.2
3. No. of cases delivered by :—					
(a) Midwives	...	...	...	...	244
(b) Doctors	...	...	...	...	57
4. No. of cases in which medical assistance was sought by the midwife with reason for requiring assistance	...	...			75
(a) Ante-natal	...	...	...	...	—
(b) During labour	...	...	...	...	51
Ruptured perineum	...	...	...	26	
Delayed vertex	...	...	...	12	
Tedious labour	...	...	...	4	
Albuminuria	...	...	...	4	
Retained placenta	...	...	...	2	
Malpresentation	...	...	...	2	
Multiple fibroids	...	...	...	1	
(c) After Labour	...	...	...	...	10
Rise of Temperature	...	...	...	8	
Septicæmia	...	...	...	1	
Abscess of breast	...	...	...	1	
(d) For infant	...	...	...	...	14
Circumcision	...	...	...	4	
Cyanosis	...	...	...	3	
Collapse	...	...	...	1	
Feebleness	...	...	...	1	
Melena	...	...	...	1	
Premature	...	...	...	1	
Atelectasis	...	...	...	1	
Deformity	...	...	...	1	
Hare lip	...	...	...	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	...	...	...	...	15
7. No. of cases of pemphigus neonatorum	...	...	...	...	Nil
8. No. of cases notified as ophthalmia neonatorum, with result of treatment in each case	...	...	...	...	Nil
9. No. of "Inflammation of eyes" however slight	...	...	...	...	3



10. No. of infants not entirely breast fed whilst in the institution					
with reasons why not breast fed	...	...	...	...	16
Milk insufficient	...	...	...	...	10
Mothers' condition not suitable	...	...	...	...	6
11. No. of maternal deaths, with causes	...	...	...	...	1
Influenza and pneumonia	...	...	...	...	1
12. No. of foetal deaths (Stillborn or within 10 days of birth) and their causes and the results of the post mortem examinations, if obtainable	...	...	...	...	16
(a) Stillbirths	...	...	...	...	11
(b) Deaths within 10 days of birth	...	...	...	...	5
No post-mortem examinations were made.					

I am very grateful to the Matron and to the whole of the Staff for their able and loyal co-operation in conducting the Home.

### BOLTON DAY NURSERY.

This institution is located in Nuttall House, Merehall Street. It is administered by a voluntary Committee, but it receives a grant of £300 a year from the Bolton Corporation and it receives financial support from the Ministry of Health. It is under the general supervision of the Medical Officer of Health, but children and staff are under the medical care of Dr. Falconer.

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.

During 1925 the children admitted to the Day Nursery made a number of attendances amounting to a total of 6848. Attendance at the Day Nursery was much interfered with by measles of which there was a great deal of a mild form in 1925, and also by whooping cough which was also very prevalent in 1925.

The Nursery is very much appreciated by the parents and there is no doubt that to the children entrusted to its care, it is a very great boon.

### CONTROL OF MIDWIVES.

#### LECTURES TO MIDWIVES.

As in previous years a course of lectures to midwives was arranged during the winter session 1924-1925. The following lectures were delivered :



LECTURER.			SUBJECT.
Dr. R. Cranna	...	...	The third stage of labour.
Dr. D. Gray	...	...	Some points in pre-natal care.
Dr. W. Rolland	...	...	Abortion, miscarriage and premature labour.
Dr. H. M. Coope	...	...	The prevention of puerperal sepsis.

The lectures were greatly appreciated and were very well attended.

83 notifications of their intention to practise within the Borough were received from midwives during the year, of these, 9 were from midwives engaged at the Haslam Maternity Home.

	Trained.	Untrained.	Total.
No of midwives ... ..	74	9	83
No. of cases delivered ... ..	2334	197	2531
Av. no. of cases per midwife ...	31	22	30
No. of calls for medical aid ...	380	23	403
Per cent. of cases in which medical aid was sought ...	16%	11%	16%
No. on the Register at the beginning of the year		...	81
No. who ceased to practise in Bolton ...	...	...	7
No. who notified their intention to practise in Bolton for the first time ...	...	...	8
No. on the Register at the end of the year		...	82
Names voluntarily removed from Roll ...	...	...	—

The following 543 notifications were received from midwives in accordance with the regulations of the Central Midwives' Board:—

Medical assistance ... ..	403
---------------------------	-----

#### CONDITIONS FOR WHICH DOCTORS WERE SUMMONED IN AN EMERGENCY BY MIDWIVES.

PREGNANCY ... ..	39
Abortion or threatened abortion...	7
Ill-health .. ...	13
Ante-partum Hæmorrhage ...	5
Deformity or stunted growth ...	5
Alarming prostration ...	6
Excessive sickness ...	3

LABOUR ... ..	246
Delayed, complicated or obstructed labour ... ..	90
Ruptured perineum ... ..	93
Malpresentation ... ..	30
Retained placenta ... ..	14
Placenta prævia ... ..	6
Excessive bleeding ... ..	2
Albuminuria ... ..	6
Other conditions ... ..	5
PUERPERIUM ... ..	17
Rise of temperature ... ..	14
Post-partum hæmorrhage ... ..	2
Abscess of breast ... ..	1
INFANTS ... ..	101
Feebleness, etc. ... ..	40
Inflammation of eyes ... ..	18
Prematurity ... ..	13
Malformation ... ..	14
Convulsions ... ..	4
Circumcision ... ..	6
Other conditions ... ..	6
	<hr/>
	403
Stillbirths ... ..	106
Artificial feeding ... ..	24
Death of mother or child ... ..	6
Laying out of dead body ... ..	4
Liability to be a source of infection ... ..	—

2531 cases out of a total of 2949 births registered were attended by midwives.

The Local Authority neither employs nor subsidizes any practising midwives.





SECTION X.



Miscellaneous.

SECTION 2

Miscellaneous

**Queen's Park Observatory, Bolton.****WEATHER SUMMARY FOR 1925.**

The chief weather factors of the year—Air Pressure, Temperatures, Rainfall and Sunshine were normal, in all cases the yearly averages varying little from those of the past 39 years. There were however, rather unusual variations of these averages in different periods of the year. Shade temperatures were in excess of the long period averages in each month until September, when the mean temperature was  $2^{\circ}$  below normal. October was about the same amount above; November nearly  $5^{\circ}$  and December  $3^{\circ}$  below their respective normals. The extreme cold of these months was more than balanced by the excess warmth of the other nine months; the mean temperature for the year,  $47.4^{\circ}$  being  $.3^{\circ}$  above the 39 year average. Rainfall was much in excess during February, May and September, whilst in the whole of June there was only .1 inch, the total time of rainfall in the month being four hours. Rain fell during 816 hours on 207 days, the long period averages being 213 days and 920 hours. Sunshine was 50 hours above normal, February and May being the only months with a marked deficiency, whilst the record of 234 hours was registered for June. Sunshine was recorded on 268 days, 15 days more than the average. Winds were unusually light in force, the heaviest gusts being 58 miles per hour on the night of December 30th. An unusual feature was the marked prevalence of northerly and northeasterly winds during March, May, June and November. Frost was recorded in the shade on 21 days, 14 of these being in December.

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



## Meteorological Summary for 1925.

1925	Mean Pressure of Barometer at Sea Level	Mean Relative Humidity	Mean of Maximum and Minimum Temperature.	Absolute extremes of Temperature.				Sunshine.			Total Rainfall
				Highest	Date	Lowest	Date	Total Amount in one day	Maximum in one day	Date	
January	30.139	90.3	40.81	51.4	2 & 30	29.8	16	18.6	5.4	6	3.123
February	29.557	87.1	40.13	52.6	10	27.5	22	22.8	3.4	13	7.049
March	30.184	85.0	40.52	51.5	17	26.5	13	71.6	8.9	27	1.997
April	29.862	78.3	44.10	60.0	8	31.5	4	124.5	9.7	24	2.379
May	29.756	78.3	51.05	71.5	16	32.3	1	96.8	8.5	6	5.777
June	30.211	69.6	57.63	82.8	10	41.0	2	234.2	13.9	9	0.102
July	29.923	73.5	61.04	84.9	22	48.2	8 & 27	149.2	11.3	25	2.359
August	29.940	81.1	57.30	71.5	17	47.1	7	122.1	11.1	11	4.281
September	29.940	80.2	52.00	63.9	15	38.7	13	111.4	8.9	3	5.214
October	29.883	88.6	49.66	67.2	5	41.4	14	44.7	6.8	9	5.132
November	29.963	90.1	37.61	56.1	2	24.6	14	46.5	6.2	8	3.883
December	29.734	88.8	36.90	54.9	29	21.8	25	20.7	4.8	11	3.308
Total	359.192	990.9	568.75					1063.1			45.002
Averages	29.933	82.6	47.40					88.6			3.750

**Bridgeman Street Baths.      Number and Class of Bathers, 1925.**

Month.	No. of Weeks.	Mixed Bathing	Swimming Baths.			Slipper Baths		Vapour Baths	Contracts	Total Bathers	Corres- ponding period last year
			4d.	3d.	2d.	8d.	6d.				
January	4	...	189	29	290	406	240	29	274	1457	2362
February	4	...	271	32	334	423	267	28	282	1637	3082
March...	5	...	519	33	722	546	377	42	395	2634	4129
April ...	4	...	744	55	961	504	344	5	362	2975	4157
May ...	4	647	1942	146	2755	611	472	...	1042	7615	8488
June ...	5	708	3256	214	5097	913	723	14	1030	11955	13423
July ...	4	654	3063	222	5687	739	576	32	1007	11980	11022
August	4	584	2553	222	4593	517	311	28	883	9691	10555
September	5	389	1607	170	2843	528	317	38	928	6820	10357
October	4	88	728	89	907	369	257	33	484	2955	4611
November	4	90	301	41	367	288	222	28	231	1568	2074
December	5	59	199	11	152	393	260	34	177	1285	2073
	52	3219	15372	1264	24708	6237	4366	311	7095	62572	76333

# High Street Baths.      Number and Class of Bathers, 1925.

Month.	No. of Weeks	Swimming Baths.			Slipper Baths		Needle Baths		Con- tracts	Total Bathers	Corres- ponding period last year.
		4d.	3d.	2d.	8d.	6d.	9d.	9d.			
January	4	239	84	326	196	230	3	15	367	1460	835
February	4	208	82	419	212	269	5	16	337	1638	1662
March...	5	589	119	725	309	410	4	15	417	2588	3105
April ...	4	523	72	924	253	319	6	27	327	2451	2669
May ...	4	1154	112	1368	259	461	10	29	366	3864	4211
June ...	5	1557	167	2337	501	773	6	30	537	6157	7100
July ...	4	955	97	1579	247	319	6	10	630	3984	5686
August	4	1152	158	2454	262	394	4	23	740	5430	5168
September	5	813	186	1505	230	468	10	17	733	4082	5352
October	4	486	120	631	168	338	7	13	582	2393	2528
November	4	359	109	453	126	297	5	9	395	1791	1784
December	5	220	76	310	205	352	6	16	429	1643	1818
	52	8345	1382	13031	3008	4630	72	220	5860	37481	42008



Moss Street Baths and Wash-houses, 1925.

Month,	No. of Weeks.	Swimming Baths				Slipper Baths		Con- tracts	Total Bathers	Corres- ponding period last year	No. using Wash- houses	Corres- ponding period last year
		Mixed Bathing.				4d.	3d.	2d.	8d.	6d.		
January	4	606	40	731	283	279	257	2296	1807	...	...	...
February	4	744	70	915	329	433	325	2819	2049	...	...	...
March...	5	1059	116	1397	475	544	604	4195	2680	...	...	...
April ...	4	1041	74	1333	368	579	591	3986	1798	...	...	...
May ...	4	2496	195	2747	515	744	1701	8492	1876	...	...	...
June ...	5	641	283	5610	948	1507	2034	15798	2130	...	...	...
July ...	4	634	327	5962	481	800	2181	14196	1741	...	...	...
August	4	630	365	6318	405	609	2192	14460	1867	...	...	...
September	5	425	362	4368	375	643	1596	10366	2505	...	...	...
October	4	247	265	1006	294	589	964	5491	2307	1227	9	9
November	4	170	187	1020	233	484	755	3932	2481	4765	1003	1003
December	5	52	158	605	275	636	752	3190	2801	3702	1913	1913
	52	2893	2442	32605	4981	8047	13952	89221	26102	9694	2925	2925

**Turkish Baths.      Number and Class of Bathers, 1925.**

Month.	No. of Weeks.	CASH TICKETS						BOOKS OF TICKETS			Total Bathers	Corres- ponding period last year
		Turkish Baths		Slipper Baths		Medi- cated Baths	Massage	Turkish Baths		Massage		
		1st Class	2nd Class	1st Class	2nd Class			1st Class	2nd Class			
January	4	122	114	42	41	25	10	69	17	1	441	444
February	4	115	111	48	46	19	3	55	13	6	416	450
March...	5	155	165	55	59	25	5	69	17	...	550	554
April ...	4	114	138	47	44	31	14	45	12	9	454	465
May ...	4	168	173	68	56	52	10	49	17	12	605	488
June ...	5	174	167	66	61	50	6	42	28	24	620	588
July ...	4	131	113	60	58	29	2	53	16	17	479	392
August	4	118	123	46	39	37	5	60	25	10	463	456
September	5	166	146	54	45	26	2	71	21	3	534	471
October	4	154	123	45	44	27	2	46	19	1	461	324
November	4	121	99	35	33	22	5	47	19	6	387	482
December	5	131	98	51	47	23	6	60	28	4	448	507
	52	1669	1570	619	573	366	70	666	232	93	5858	5621

**THE FOLLOWING NOTICES, ETC., WERE SENT OUT DURING 1925**

- 5/3/25      Circular letter together with a copy of the Public Health (Meat) Regulations, 1925, sent to all butchers, etc.
- 19/6/25      Circular to farmers, cowkeepers, butchers, etc., directing their attention to the requirements of the Anthrax Order of 1910 and the precautionary measures to be taken.
- 25/6/25      Memorandum of the Ministry of Health on Phemphigus Neonatorum sent to all local medical practitioners.
- 29/7/25      Copy of the Tuberculosis Order of 1925 sent to all farmers, cowkeepers, butchers, etc.
- 30/10/25      Circular letter to local farmers, cornmillers, etc., re National Rat Week.
- 27/11/25      Leaflet on Phemphigus Neonatorum issued by the Central Midwives Board sent to all midwives practising in the area.
- 3/12/25      Notice of the Ministry of Agriculture and Fisheries sent to all stock owners cautioning them against the cutting of carcasses of animals affected with, or suspected of Anthrax.
- 3/12/25      Notice of the Ministry of Agriculture and Fisheries sent to all butchers, slaughterers and knackers, warning them against shedding the blood of animals affected with, or suspected of Anthrax.



THE FOLLOWING NOTICE IS HEREBY GIVEN THAT

ALL THE LANDS AND INTERESTS IN THE SAME

OF THE DISTRICT OF COLUMBIA, AND THE DISTRICT OF

THE DISTRICT OF COLUMBIA, AND THE DISTRICT OF

THE DISTRICT OF COLUMBIA, AND THE DISTRICT OF

THE DISTRICT OF COLUMBIA, AND THE DISTRICT OF

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SECTION XI.

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Appendix.





[illegible]



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	
42	Other infectious diseases...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1-42	Epidemic, Endemic and Infectious diseases ...	371	205	166	35	25	8	6	6	8	10	30	22	20	29	18	5
43-49	Cancer, Malignant disease ...	240	108	132	...	...	...	...	...	...	...	...	...	1	3	...	...
43	Buccal cavity ...	20	19	1	...	...	...	...	...	...	...	...	...	...	1	...	...
44	Pharynx, œsophagus, stomach, liver and annexa ...	85	41	44	...	...	...	...	...	...	...	...	...	...	...	3	...
45	Peritoneum, intestines and rectum ...	35	18	17	...	...	...	...	...	...	...	...	...	1	...	...	...
46	Female genital organs ...	27	...	27	...	...	...	...	...	...	...	...	...	...	1	1	...
47	Breast ...	24	...	24	...	...	...	...	...	...	...	...	...	...	...	...	...
48	Skin ...	9	3	6	...	...	...	...	...	...	...	...	...	...	...	...	...
49	Other or unspecified organs ...	40	27	13	...	...	...	...	...	...	...	...	...	...	1	1	...
50	Tumours, not returned as malignant (brain and female genital organs excepted) ...	7	4	3	...	...	...	...	...	...	...	...	...	...	1	1	...
51	Rheumatic fever ...	15	10	5	...	...	...	...	...	1	2	1	3	2	1	...	...
52	Chronic rheumatism, osteoarthritis, gout ...	15	5	10	...	...	...	...	...	...	...	...	...	...	...	...	...
	1. Chronic rheumatism, chronic arthritis ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Rheumatoid and osteoarthritis ...	12	3	9	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Gout ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
53	Scurvy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
54	Pellagra ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
55	Beri-beri ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
56	Rickets ...	2	...	2	1	...	...	...	...	1	...	...	...	...	...	...	...
57	Diabetes ...	26	9	17	...	...	...	...	...	...	1	...	1	...	1	1	...
58	Anæmia, chlorosis ...	24	11	13	...	...	...	...	...	...	...	...	1	...	...	2	...
	(a) Pernicious anæmia ...	22	11	11	...	...	...	...	...	...	...	...	...	...	...	2	...
	(b) Other anæmias and chlorosis ...	2	...	2	...	...	...	...	...	...	...	...	1	...	...	...	...
59	Diseases of the pituitary gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60	Diseases of the thyroid gland ...	4	1	3	...	...	...	...	...	...	...	...	...	...	1	...	...
	(a) Exophthalmic goitre ...	2	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...
	1. Myxœdema ...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Cretinism ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases of the thyroid gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
61	Diseases of the parathyroid glands ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
62	Diseases of the thymus ...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
63	Diseases of the adrenals ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
64	Diseases of the spleen ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
65	Leukæmia, lymphadenoma ...	3	...	3	...	...	...	...	...	...	...	...	...	...	1	1	...
	(a) Leukæmia ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	(b) Lymphadenoma (Hodgkin's disease) ...	2	...	2	...	...	...	...	...	...	...	...	...	...	1	1	...
66	Alcoholism (acute or chronic) ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
67	Chronic poisoning by mineral substances ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1. Occupational lead poisoning ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Other chronic poisoning by mineral substances ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
68	Chronic poisoning by organic substances ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
69	Other general diseases ...	5	1	4	2	...	...	...	...	...	1	...	...	...	...	...	...
	1. Purpura ...	3	1	2	1	...	...	...	...	...	1	...	...	...	...	...	...
	2. Hæmophilia ...	2	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...
	3. Other diseases included under 69 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total General Diseases ..	716	357	359	38	25	8	6	6	10	15	31	27	23	37	24	13



1925.

...5...

[illegible]







								WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	3	4	...	...	1	...	...	1	...	...	...	2	...	...	2	1	...	...	...
2	...	1	1	...	...	...	9	1	...	1	1	...	1	...	1	...	...	...	...	...	2	...	1	2
20	28	21	19	3	3	...	131	4	6	18	12	2	9	5	8	7	14	3	2	4	17	5	7	8
18	22	14	17	1	2	...	104	3	5	13	9	1	8	4	7	7	13	2	1	4	14	4	4	5
...	2	4	2	1	1	...	12	1	...	2	1	...	1	...	1	...	...	...	...	...	2	1	2	1
...	4	1	...	1	...	...	6	...	...	...	2	...	...	1	...	...	...	...	...	...	1	...	...	2
2	...	2	...	...	...	...	9	...	1	3	...	1	...	...	...	...	1	1	1	...	...	...	1	...
1	3	3	3	3	...	1	14	...	2	...	1	1	1	...	...	...	4	2	1	2	...	...	...	1
1	3	3	3	3	...	1	13	...	2	...	...	1	1	...	...	...	4	2	1	2	...	...	...	1
...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	10	1	...	1	2	1	2	...	...	...	2	...	...	...	...	...	1	...
2	1	2	...	...	...	...	7	...	...	1	...	1	2	...	1	...	1	1	...	...	...	...	...	...
1	...	2	...	...	...	...	10	...	...	1	...	...	1	1	1	...	2	...	...	1	3	...	...	...
...	...	...	...	...	...	18	1	1	2	6	...	...	1	1	1	1	1	...	...	1	4	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	1	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	1	1	1	...	...	1	11	...	1	2	...	2	3	1	...	...	1	1	...	...	1	...	...	...
...	...	...	...	...	...	1	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	4	...	1	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...
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1	...	1	1	...	...	...	3	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	...
...	1	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
...	2	...	...	...	...	1	9	1	...	2	1	1	...	...	1	...	...	...	1	...	...	1	2	...
...	1	...	...	...	...	...	4	1	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	1	5	...	...	1	1	...	...	...	...	...	...	...	1	...	...	1	2	...
31	37	30	24	6	3	24	214	9	12	35	17	9	20	9	12	8	28	7	4	12	28	6	11	11
49	48	52	21	15	6	1	322	10	21	44	14	13	41	19	30	12	25	8	8	12	39	5	14	8
...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
...	1	...	...	...	...	...	3	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1
...	1	...	...	...	...	...	3	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	1	1	...	...	...	...	11	...	...	...	...	2	1	...	...	1	...	1	1	1	2	1	1	...
48	45	51	21	15	6	1	307	10	21	44	13	11	39	19	30	11	25	7	7	11	36	4	13	7
1	2	4	1	...	1	1	19	3	4	2	...	...	4	2	1	...	...	1	...	1	1	...	...	1
7	8	8	1	...	1	...	65	4	3	9	3	2	12	3	7	...	3	1	1	4	8	1	1	3
...	1	1	...	1	1	...	6	...	...	1	...	1	...	3	...	...	...	...	...	...	1	...	...	...
13	4	7	2	3	1	...	66	1	...	16	1	1	4	5	7	4	9	2	...	...	6	2	7	1
4	2	1	...	...	...	...	15	...	...	1	2	1	2	1	...	1	2	...	...	...	2	...	2	1
...	1	...	...	...	...	...	3	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
21	26	27	17	11	2	...	126	1	11	13	6	6	17	5	15	5	11	3	6	6	16	1	3	1
1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
1	1	3	...	...	...	...	6	1	1	2	1	...	...	...	...	1	...	...	...	...	...	...	...	...



List No.	CAUSES OF DEATH.	Total	SEX.		AGE.													
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	
91	Diseases of the arteries ... ..	115	60	55	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	(a) Aneurism ... ..	6	3	3	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	(b) Arterio-sclerosis ... ..	109	57	52	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(1) With record of cerebral vascular lesion ... ..	22	13	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(2) Without record of cerebral vascular lesion ... ..	87	44	43	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(c) Other diseases of the arteries ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
92	Embolism and thrombosis (not cerebral) ... ..	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
93	Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.) ... ..	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
94	Diseases of the lymphatic system (lymphangitis, etc.) ... ..	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
95	Hæmorrhage without stated cause ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
96	Other diseases of the circulatory system ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of the Circulatory System ... ..	443	201	242	...	...	1	...	...	3	5	3	2	6	4	7	17	...
	<b>Diseases of the Respiratory System.</b>																	
97	Diseases of the nasal fossæ and annexa ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
98	Diseases of the larynx ... ..	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	(1) Laryngismus stridulus ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(2) Laryngitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(3) Other diseases ... ..	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
99	Bronchitis ... ..	275	126	149	26	13	2	...	...	...	...	1	...	...	3	5	3	...
	(a) Acute... ..	77	29	48	17	5	1	...	...	...	...	...	...	...	2	2	1	...
	(b) Chronic ... ..	79	43	36	...	...	...	...	...	...	...	1	...	...	...	2	1	...
	(c) Not stated whether acute or chronic ... ..	119	54	65	9	8	1	...	...	...	...	...	...	...	1	1	1	...
100, 101	Pneumonia (all forms) ... ..	175	118	57	37	27	3	3	2	8	2	5	3	...	8	7	10	...
100	Broncho-pneumonia ... ..	87	55	32	34	21	2	3	1	2	1	...	1	...	1	2	1	...
101	Pneumonia (lobar and not otherwise defined) ... ..	88	63	25	3	6	1	...	1	6	1	5	2	...	7	5	9	...
	(a) Lobar ... ..	61	44	17	2	2	1	...	...	4	1	4	...	...	5	3	6	...
	(b) Not otherwise defined ... ..	27	19	8	1	4	...	...	1	2	...	1	2	...	2	2	3	...
102	Pleurisy ... ..	4	4	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
	(1) Empyema ... ..	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
	(2) Other pleurisy ... ..	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
103	Congestion and hæmorrhagic infarct of lung ... ..	4	1	3	1	1	...	...	...	...	...	...	...	...	...	...	...	...
104	Gangrene of the lung ... ..	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
105	Asthma ... ..	5	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
106	Pulmonary emphysema ... ..	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
107	Other diseases of the respiratory system ... ..	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(a) Chronic interstitial pneumonia ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(b) Diseases of the mediastinum ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(c) Other diseases included under 107 ... ..	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of the Respiratory System ... ..	468	256	212	65	41	5	4	2	8	2	7	3	...	11	12	13	...



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'htmet	Derby	Hulton	Deane-c-Loctock	Runworth	Halliwell	Heaton	Smithills	Astley Bridge	
10	14	23	33	17	9	...	115	5	13	22	2	5	11	4	4	...	14	1	2	3	19	3	1	6	
1	2	1	...	...	...	...	6	...	1	1	1	...	1	...	...	...	1	...	...	...	1	...	...	...	
9	12	22	33	17	9	...	109	5	12	21	1	5	10	4	4	...	13	1	2	3	18	3	1	6	
4	3	2	8	2	...	...	22	...	1	7	...	1	2	1	...	...	2	...	...	2	3	...	...	3	
5	9	20	25	15	9	...	87	5	11	14	1	4	8	...	4	...	11	1	2	1	15	3	1	3	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	1	...	...	3	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
59	62	75	54	33	15	1	442	15	34	68	16	18	52	25	34	12	39	9	10	16	58	8	15	14	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
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33	42	42	36	12	3	41	234	10	28	57	12	11	38	7	14	4	35	4	4	9	27	1	4	10	
8	12	6	9	3	1	23	54	5	3	15	3	4	14	3	4	...	8	1	1	1	11	...	2	2	
14	16	16	10	2	...	...	79	1	8	11	4	2	14	4	5	1	11	2	1	3	8	...	...	4	
11	14	20	17	7	2	18	101	4	17	31	5	5	10	...	5	3	16	1	2	5	8	1	2	4	
10	10	12	8	2	1	72	103	5	25	20	9	7	16	5	13	1	27	4	2	7	18	3	7	6	
3	2	4	3	2	1	61	26	2	15	8	7	3	10	2	3	...	15	1	2	5	7	1	4	2	
7	8	8	5	...	...	11	77	3	10	12	2	4	6	3	10	1	12	3	...	2	11	2	3	4	
7	6	5	3	...	...	5	56	3	9	8	2	3	5	1	6	1	9	2	...	...	6	1	1	4	
...	2	3	2	...	...	6	21	...	1	4	...	1	1	2	4	...	3	1	...	2	5	1	2	...	
...	...	...	2	...	...	1	3	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	1	
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...	...	...	2	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	
...	...	...	...	1	...	2	2	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	
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1	1	...	...	...	...	...	5	...	...	...	...	1	...	...	1	...	1	...	1	...	1	...	...	...	
1	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	
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...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	
37	5	53	54	46	15	4	117	351	15	53	79	22	19	56	14	28	6	64	8	8	17	46	4	12	17



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	
	<b>Diseases of the Digestive System.</b>															
108	Diseases of the buccal cavity and annexa ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	Diseases of the pharynx and tonsils ... ..	5	3	2	...	...	...	...	2	...	...	...	2	1	...	...
	(1) Tonsillitis, etc., adenoid vegetations ... ..	5	3	2	...	...	...	...	2	...	...	...	2	1	...	...
	(2) Other diseases included under 109 ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
110	Diseases of the œsophagus ... ..	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
111	Ulcer of the stomach or duodenum ... ..	15	10	5	...	...	...	...	...	...	...	...	...	...	...	...
	(a) Ulcer of the stomach ... ..	8	5	3	...	...	...	...	...	...	...	...	...	...	...	...
	(b) Ulcer of the duodenum ... ..	7	5	2	...	...	...	...	...	...	...	...	...	...	...	...
112	Other diseases of the stomach ... ..	10	5	5	2	2	...	...	...	...	...	...	...	...	...	...
	(1) Inflammation of the stomach ... ..	10	5	5	2	2	...	...	...	...	...	...	...	...	...	...
	(2) Other diseases included under 112... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
113, 114	Diarrhœa and enteritis ... ..	55	33	22	38	6	...	3	1	1	...	...	...	...	...	...
	(1) Ulceration of the intestines ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(2) Colitis ... ..	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...
	(3) Other diseases included under 113, 114 ... ..	53	32	21	38	6	...	3	1	1	...	...	...	...	...	...
115	Ankylostomiasis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
116	Diseases due to other intestinal parasites ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
117	Appendicitis and typhlitis ... ..	14	8	6	...	...	...	...	1	3	1	...	2	1	...	...
118	Hernia, intestinal obstruction ... ..	33	13	20	3	...	...	...	...	...	...	...	...	...	...	...
	(a) Hernia ... ..	21	9	12	1	...	...	...	...	...	...	...	...	...	...	...
	(b) Intestinal obstruction ... ..	12	4	8	2	...	...	...	...	...	...	...	...	...	...	...
119	Other diseases of the intestines... ..	5	2	3	...	...	...	...	...	...	...	2	...	...	...	...
120	Acute yellow atrophy of the liver ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
121	Hydatid tumour of the liver ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
122	Cirrhosis of the liver ... ..	14	10	4	...	...	...	...	...	...	1	...	...	...	...	...
	(a) Returned as alcoholic ... ..	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	(b) Not returned as alcoholic ... ..	13	9	4	...	...	...	...	...	...	1	...	...	...	...	...
123	Biliary calculi ... ..	6	1	5	...	...	...	...	...	...	...	...	...	...	...	...
124	Other diseases of the liver ... ..	9	...	9	2	...	...	...	...	...	...	...	...	...	1	...
125	Diseases of the pancreas... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
126	Peritonitis of unstated origin ... ..	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...
127	Other diseases of the digestive system ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of the Digestive system ... ..	169	86	83	45	8	...	3	4	4	2	2	4	2	1	...
	<b>Non-puerperal Diseases of the Genito-urinary System.</b>															
128	Acute nephritis (including unspecified under 10 years of age)	10	4	6	...	1	...	1	...	...	2	...	...	1	1	...
129	Chronic nephritis (including unspecified under 10 years of age)	84	42	42	...	...	...	...	...	1	2	1	2	2	3	...
130	Chyluria ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
131	Other diseases of the kidney and annexa ... ..	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
132	Calculi of the urinary passages ... ..	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
133	Diseases of the bladder ... ..	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...
	(1) Cystitis ... ..	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...
	(2) Other diseases ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...



[illegible]





								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'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
1	3	3	2	1	2		12			2	1		1	1	1					1	3		1	1
							1										1							
							1										1							
							1																1	
							1	1																
							1	1																
						1				1														
8	23	15	9	2	2	3	112	3	5	20	5	3	7	6	2	6	18	5	5	6	9	1	4	10
							1		1															
							2				1						1							
							8			1			2		1		2	1			1			
							2	1							1									
							1								1									
							1	1																
							1										1							
							14	1	1	1	1		2		2		4	1			1			
		1	1				2							1							1			
		1	1				2							1							1			
		1					1														1			
							2			2											1	1		
							4															1		
							1																	
								1																
							1		1															
1	1	1	1			3	7	1		2				2				1		1	3			

[illegible]



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 hmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...	...	...	...	I	...	I	2	...	...	...	...	...	I	...	...	...	I	...	...	...	...	I	...	...
...	...	...	...	I	...	I	2	...	...	...	...	...	I	...	...	...	I	...	...	...	...	I	...	...
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...	...	...	...	I	...	I	4	...	...	...	...	I	I	...	...	...	2	...	...	...	...	I	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	2	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	I
...	...	...	...	...	...	6	...	I	...	I	I	...	...	...	I	...	I	...	...	I	...	...	...	...
...	...	...	...	...	...	8	I	...	...	I	I	...	...	...	I	I	I	I	...	...	2	...	I	...
...	...	...	...	...	...	16	I	I	...	2	2	...	I	...	2	I	2	I	...	I	2	...	I	I
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	25	...	2	I	2	I	2	7	...	...	...	4	...	...	...	5	I	...	...
...	...	...	...	...	...	22	...	2	I	2	...	2	5	...	...	...	4	...	...	...	5	I	...	...
...	...	...	...	...	...	3	...	...	...	...	I	...	2	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	38	...	2	2	9	...	...	4	I	2	I	3	...	3	...	7	...	2	2
...	...	...	...	...	...	34	...	2	I	9	...	...	4	I	2	...	3	...	3	...	6	...	I	2
...	...	...	...	...	...	4	...	...	I	...	...	...	...	...	...	I	...	...	...	...	I	...	I	...
...	...	...	...	...	...	8	...	I	2	3	...	...	I	...	...	...	...	...	...	...	...	I	...	...
...	...	...	...	...	...	2	...	...	I	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	6	...	I	I	2	...	...	I	...	...	...	...	...	...	...	...	I	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	71	...	5	5	14	I	2	12	I	2	I	7	...	3	...	12	2	2	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	4	3	8	4	2	...	23	...	2	3	...	...	I	3	2	...	3	I	I	I	3	...	I	2
...	12	14	24	23	3	...	76	5	6	9	5	2	3	3	3	2	4	4	I	11	7	2	4	5
2	16	17	32	27	5	...	99	5	8	12	5	2	4	6	5	2	7	5	2	12	10	2	5	7

[illegible]



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, 1925.

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															WARD.									
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	5 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Runworth	Halliwell	Heaton	Smithills	Astley Bridge
3	2	1	...	...	...	...	23	...	3	5	...	1	2	1	4	...	2	2	...	1	1	...	1	...
...	...	...	...	...	...	...	4	...	...	2	...	...	...	...	1	...	...	...	...	...	1	...	...	...
...	1	...	...	...	...	...	4	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	1	...
1	1	1	...	...	...	...	7	...	1	...	...	1	2	...	1	...	1	1	...	...	...	...	...	...
1	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	4	...	1	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	2	2	6	1	...	9	51	2	4	14	2	1	6	6	1	4	7	3	...	4	3	...	1	2
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	1	...	...	4	3	...	3	1	...	...	...	...	...	...	2	1	...	...	...	...	...	...
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	6	...	...	...	1	...	...	1	...	1	...	...	1	...	2	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	2	3	1	...	14	...	...	...	4	...	...	2	1	...	2	1	1	...	1	2	...	...	...
...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	6	1	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
...	1	...	2	...	...	2	17	1	1	2	1	1	2	5	...	2	1	...	...	1	1	...	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	4	3	6	1	...	9	75	2	7	19	2	2	8	7	5	4	9	5	...	5	4	...	3	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	1	...	...	...	...	...	6	...	...	1	1	1	...	...	...	...	...	...	...	...	2	...	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	1	...	...	...	...	...	6	...	...	1	1	1	...	...	...	...	...	...	...	...	2	...	1	...

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 ... ..	716	357	359	38	25	8	6	6	10	15	31	27	23	37	24	
70-86	Nervous System. etc. ... ..	238	106	132	20	3	1	...	...	6	5	4	...	2	2	2	
87-96	Circulatory System ... ..	443	201	242	...	...	1	...	...	3	5	3	2	6	4	7	
97-107	Respiratory System ... ..	468	256	212	65	41	5	4	2	8	2	7	3	...	11	12	
108-127	Digestive System ... ..	169	86	83	45	8	...	3	4	4	2	2	4	2	1	3	
128-142	Genito urinary System, etc. (Non-puerperal) ... ..	115	62	53	1	1	...	1	...	1	4	1	2	4	4	4	
143-150	The Puerperal State ... ..	14	...	14	...	...	...	...	...	...	...	1	...	5	4	3	
151-154	Skin and Cellular Tissue ... ..	10	8	2	3	...	...	...	...	...	...	...	...	...	...	...	
155-158	Locomotor System, etc. ... ..	5	2	3	1	...	...	...	...	...	1	...	1	...	1	...	
159	Malformations ... ..	17	5	12	13	1	...	1	1	...	...	...	...	...	...	...	
160-163	Diseases of Early Infancy ... ..	71	38	33	71	...	...	...	...	...	...	...	...	...	...	...	
164	Old Age ... ..	99	48	51	...	...	...	...	...	...	...	...	...	...	...	...	
165-203	External Causes ... ..	84	62	22	2	1	5	...	1	9	1	4	4	2	6	4	
204-205	Ill-defined Diseases ... ..	6	4	2	...	...	...	...	...	...	...	...	...	...	...	1	
	GRAND TOTAL ... ..	2455	1235	1220	259	80	20	15	14	41	35	53	43	44	70	60	



tinued.

1925.

...19...

								WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	5 to 10	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar Lever- c-Br'htmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
36	71	37	26	14	4	83	633	30	61	122	33	15	72	35	44	18	75	17	12	41	86	6	19	30
31	37	30	24	6	3	24	214	9	12	35	17	9	20	9	12	8	28	7	4	12	28	6	11	11
59	62	75	54	33	15	1	442	15	34	68	16	18	52	25	34	12	39	9	10	16	58	8	15	14
45	53	54	46	15	4	117	351	15	53	79	22	19	56	14	28	6	64	8	8	17	46	4	12	17
14	18	10	3	6	1	60	109	6	19	29	5	7	18	6	6	2	14	6	6	13	21	1	6	4
8	23	15	9	2	2	3	112	3	5	20	5	3	7	6	2	6	18	5	5	6	9	1	4	10
...	...	...	...	...	...	...	14	1	1	1	1	...	2	...	2	...	4	1	...	...	1	...	...	...
1	1	1	1	...	...	3	7	1	...	2	...	...	...	2	...	...	...	1	...	1	3	...	...	...
...	...	...	...	1	...	1	4	...	...	...	...	1	1	...	...	...	2	...	...	...	...	1	...	...
...	...	...	...	...	...	16	1	1	...	2	2	...	1	...	2	1	2	1	...	1	2	...	1	1
...	...	...	...	...	...	71	...	5	5	14	1	2	12	1	2	1	7	...	3	...	12	2	2	2
2	16	17	32	27	5	...	99	5	8	12	5	2	4	6	5	2	7	5	2	12	10	2	5	7
8	4	3	6	1	...	9	75	2	7	19	2	2	8	7	5	4	9	5	...	5	4	...	3	2
1	1	...	...	...	...	...	6	...	...	1	1	1	...	...	...	...	...	...	...	...	2	...	1	...
55	286	242	201	105	34	388	2067	93	205	404	110	79	253	111	142	60	269	65	50	124	282	31	79	98

## POPULATION, BIRTHS AND DEATHS, 1913-1925.

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.				of Non-residents Registered in the District.	of Residents not Registered in the District.	Under 1 year of Age.		At all ages.	
			Number.	Rate.	Number	Rate per 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	2804	17·4
1919	177462	3032	3052	16·5	2380	13·4	64	336	263	86	2652	14·9
1920	184533	4182	4209	22·8	2277	12·3	74	325	416	98	2528	13·6
1921	182200	3815	3831	21·0	2038	11·1	81	392	370	96	2349	12·8
1922	182700	3384	3414	18·6	2140	11·7	81	439	319	93	2498	13·6
1923	182200	3154	3189	17·5	1996	10·9	76	423	273	85	2343	12·8
1924	181100	3157	3203	17·6	2017	11·1	74	508	295	92	2541	14·0
1925	180400	2927	2949	16·3	1994	11·0	88	549	259	87	2455	13·6

## CENSUS, 1921.

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



## CAUSES OF, AND AGES AT—DEATH, 1925.

Cause of death	Net Deaths at the subjoined Ages of "Residents" whether occurring within or without the District.								Deaths of "Residents" and "Non-residents" in Institutions in Bolton.	
	All Ages.	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65		65 and upwards
All causes } Certified ... } Uncertified ...	2447 8	254 5	80 ...	49 ...	76 ...	96 ...	265 ...	760 2	867 1	269 ...
Enteric Fever ...	1	...	...	...	...	...	1	...	...	...
Small-pox ...	...	...	...	...	...	...	...	...	...	...
Measles ...	18	8	9	1	...	...	...	...	...	1
Scarlet Fever ...	3	...	...	...	3	...	...	...	...	2
Whooping Cough ...	32	16	8	8	...	...	...	...	...	1
Diphtheria and Croup ...	3	...	1	...	2	...	...	...	...	5
Influenza ...	98	4	2	2	5	9	21	30	25	4
Erysipelas ...	9	1	...	...	...	...	3	2	3	3
Encephalitis Lethargica ...	13	...	2	...	1	1	2	6	1	1
Phthisis (Pulmonary Tuberculosis)...	151	...	...	3	3	34	53	48	10	12
Tuberculous Meningitis ...	9	1	1	4	2	1	...	...	...	2
Other Tuberculous Diseases ...	25	...	1	2	2	7	5	6	2	4
Cancer, Malignant Disease ...	240	...	...	...	...	...	19	138	83	28
Rheumatic Fever ...	15	...	...	...	3	4	4	4	...	1
Meningitis ...	7	3	...	...	3	1	...	...	...	3
Organic Heart Disease ...	308	...	...	1	7	4	32	126	138	6
Bronchitis ...	275	26	13	2	...	1	11	87	135	2
Pneumonia (all forms) ...	175	37	27	8	10	8	25	27	33	3
Other Diseases of Respiratory Organs ...	18	2	1	1	...	1	...	9	4	3
Diarrhoea and Enteritis ...	55	38	6	4	1	...	1	1	4	...
Appendicitis and Typhlitis ...	14	...	...	1	4	2	1	5	1	20
Cirrhosis of Liver ...	14	...	...	...	1	...	1	9	3	...
Alcoholism ...	1	...	...	...	...	...	...	1	...	...
Nephritis and Bright's Disease ...	94	...	1	1	5	3	16	31	37	5
Puerperal Fever ...	8	...	...	...	...	...	8	...	...	...
Other accidents and diseases of Pregnancy and Parturition ...	6	...	...	...	...	1	5	...	...	2
Congenital Debility and Malformation including Premature Birth...	73	69	1	2	...	...	...	1	...	5
Violent Deaths, excluding Suicide	61	2	1	6	10	8	11	12	11	48
Suicides ...	23	...	...	...	...	...	9	11	3	5
Other defined Diseases ...	700	52	6	3	14	11	36	204	374	103
Diseases ill-defined or unknown ...	6	...	...	...	...	...	1	4	1	...
Totals ...	2455	259	80	49	76	96	265	762	868	269
Sub-entries included in above figure	2	...	...	...	2	...	...	...	...	2
Cerebro-spinal Meningitis...	...	...	...	...	...	...	...	...	...	...
Poliomyelitis ...	61	2	2	1	5	4	14	19	14	1
Lobar Pneumonia ...	27	1	4	1	2	3	7	2	7	...

.. 21...

# INFANT MORTALITY DURING THE YEAR 1925.

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

Causes of Deaths.										
All Causes { Certified Uncertified	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
	49 5	21 ...	13 ...	9 ...	92 5	40 ...	50 ...	36 ...	36 ...	254 5
Small-pox	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	2	6	5
Scarlet Fever	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	1	4	5	6	16
Diphtheria and Croup	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	1	...	1	...	...	1	...	1
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...
Abdominal Tuberculosis	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	...
Meningitis ( <i>not tuberculous</i> )	...	...	...	...	...	...	2	1	...	3
Convulsions	2	1	1	...	4	4	1	2	5	16
Laryngitis	...	...	...	...	...	...	...	...	...	...
Bronchitis	...	1	2	...	3	5	8	6	4	26
Pneumonia (all forms)	1	1	1	1	3	4	13	8	9	37
Diarrhoea	...	...	1	...	1	2	...	2	...	5
Enteritis	...	1	...	2	3	11	13	4	2	33
Gastritis	...	...	1	...	1	1	...	...	...	2
Syphilis	1	...	1	1	3	2	...	...	...	5
Rickets	...	...	...	...	...	...	...	1	...	1
Suffocation	...	...	...	...	...	...	...	...	...	...
Injury at Birth	3	1	...	...	4	...	...	...	...	4
Atelectasis	5	1	...	...	6	...	...	...	...	6
Congenital Malformations	...	...	3	...	11	1	1	...	...	13
Premature Birth	27	4	...	1	32	1	1	...	...	34
Atrophy, Debility and Marasmus	5	6	...	2	16	4	2	...	...	22
Other Causes	3	2	2	2	9	4	5	4	4	26
Totals	54	21	13	9	97	40	50	36	36	259

Nett Births Registered during the year—Legitimate, 2,817; Illegitimate, 132.  
Nett Deaths Registered during the year—Legitimate Infants, 233; Illegitimate Infants, 26.



## POPULATIONS, BIRTH-RATES, DEATH-RATES, &amp;C., IN WARDS, 1925.

WARD	Est. Popula- tion, 1925.	Birth-rate		Death-rate		Pul. Tub. Death rate		Infantile Mortality	
		1925	Ave. 1915- 1924	1925	Ave. 1915- 1924	1925	Aver. 1915- 1924	1925	Ave. 1915- 1924
West ... ..	25791	19·9	19·7	15·6	15·6	1·1	·9	79	102
Halliwell ... ..	21643	14·7	17·7	13·0	13·3	·5	·7	109	97
Derby ... ..	18401	18·8	20·9	14·6	15·4	·9	1·0	97	110
Bradford ... ..	18205	18·6	19·2	13·8	16·1	·8	1·1	100	114
Rumworth ... ..	9915	14·3	21·0	12·5	13·9	·8	1·0	98	97
East ... ..	8887	21·7	20·9	23·0	20·8	2·0	1·8	129	137
Church ... ..	8012	11·9	12·9	13·8	14·3	·9	1·0	72	90
North ... ..	7042	15·9	17·6	13·2	13·0	·7	·7	133	90
Exchange ... ..	3446	22·6	16·6	22·9	19·3	1·7	1·8	115	142
Old Borough ...	121342	17·6	19·0	14·9	15·3	·9	1·0	100	107
Great Lever ... ..	12950	14·2	14·6	10·9	11·7	·9	·4	38	82
Tonge ... ..	10943	16·1	17·3	10·0	12·7	·2	·6	56	76
Astley Bridge ...	8575	10·2	15·6	11·4	14·1	·9	1·0	34	76
Smithhills ... ..	7564	13·2	14·6	10·4	12·3	·1	·6	90	66
Hulton ... ..	6617	11·6	17·8	9·8	11·9	·6	·4	51	92
Deane-cum-Lostock	5188	11·9	15·5	9·6	10·4	·1	·4	96	68
Darcy Lever-cum- Brightmet	4064	20·1	18·9	14·7	14·2	·7	·6	48	83
Heaton ... ..	3157	12·3	11·7	9·8	12·7	...	·7	51	56
Added Area ...	59058	13·6	15·9	10·7	13·2	·5	·6	55	77
Extended Borough	180400	16·3	18·0	13·6	15·3	·83	·96	87	98

## DISTRIBUTION OF NOTIFIED DISEASES IN WARDS, 1925.

WARDS.	Scarlet Fever.	Diphtheria and Membr. Croup.	Enteric Fever.	Puerperal Fever	Erysipelas.	Total.	Pulmonary Tuberculosis.	Non-pul. Tuberculosis.	Ophthalmia Neonatorum.	Pneumonia.	Encephalitis Lethargica.	Dysentery.
West ... ..	15	3	...	2	8	28	26	9	2	24	4	...
Halliwell ... ..	24	4	...	...	6	34	17	5	2	14	4	2
Bradford ... ..	18	2	2	1	4	27	10	6	1	8	2	...
Derby ... ..	10	2	...	1	6	19	13	6	3	19	1	...
East ... ..	18	4	...	...	1	23	18	4	1	13	2	...
Rumworth ... ..	19	2	...	...	2	23	5	3	...	14	3	...
Church ... ..	15	...	1	...	4	20	12	...	2	7	...	...
North ... ..	14	3	...	1	1	19	6	1	...	4	...	...
Exchange ... ..	...	...	...	...	...	...	4	2	1	5	...	...
Old Borough ... ..	133	20	3	5	32	193	111	36	12	108	16	2
Great Lever ... ..	19	...	...	2	5	26	8	2	...	5	...	...
Tonge ... ..	13	5	...	...	4	22	6	5	2	2	1	...
Astley Bridge ... ..	16	4	...	...	4	24	13	3	...	21	...	...
Smithills ... ..	10	2	1	...	2	15	3	5	...	7	4	...
Hulton ... ..	6	...	...	1	6	13	7	2	1	16	1	...
Deane-cum-Lostock ... ..	9	...	...	...	...	9	1	1	...	3	1	...
Darcy Lever-c-Brightmet ... ..	15	1	1	...	1	18	2	2	...	5	...	...
Heaton ... ..	11	1	...	...	1	13	3	...	...	1	...	...
Added Area ... ..	99	13	2	3	23	140	43	20	3	60	7	...
Extended Borough ... ..	232	33	5	8	55	333	154	56	15	168	23	2



## OCCUPATIONS—CENSUS 1921.

The chief occupations engaged in by the inhabitants of Bolton and the number engaged in each such occupation are as follows :

Occupation.	Males.	Females.
Agricultural Occupations ... ..	816	91
Mining and Quarrying ... ..	3863	8
Makers of Bricks, Pottery and Glass ... ..	216	9
Workers in Chemical Processes ... ..	195	27
Metal Workers ... ..	11026	174
Electrical Apparatus Makers and Electricians ...	554	9
Workers in Skins and Leather (not boots or shoes)	495	243
Textile Workers ... ..	13668	19807
Makers of Textile Goods and Articles of Dress...	928	1622
Makers of Foods, Drinks and Tobacco ... ..	682	514
Workers in Wood and Furniture... ..	2085	127
Makers of, and Workers in Paper (Printers, Bookbinders, etc.) ... ..	545	359
Builders, Bricklayers, Contractors ... ..	2059	21
Painters and Decorators ... ..	789	4
Workers in other Materials (Rubber, Bone, Celluloid, etc.) ... ..	81	25
Workers in undefined materials ... ..	206	43
Persons employed in Gas, Water and Electricity Undertakings ... ..	280	2
Persons employed in Transport and Commun- ication ... ..	4420	201
Commercial, Finance and Insurance Occupations, (excluding Clerks) ... ..	4860	2449
Persons employed in Public Administration and Defence (excluding Professional Men and Typists) ... ..	996	198
Professional Occupations (excluding Clerical Staff)	1062	1221
Persons employed in Entertainments and Sport	230	96
Persons engaged in Personal Service (including Institutions, Clubs, Hotels, etc.) ... ..	1202	3638
Clerks and Draughtsmen (not Civil Service or Local Authority); Typists ... ..	2105	1246
Warehousemen, Storekeepers and Packers ...	1781	1102
Stationary Engine Drivers, Dynamo and Motor Attendants ... ..	868	—
Other and Undefined Workers ... ..	4552	305
Retired or not gainfully occupied... ..	5105	43567







