County

Borough  of Bolton.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR

1938

BOLTON:
RICHARD WHEWELL (BOLTON) LIMITED, FOLDS ROAD.
1939.

County

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PUBLIC HEALTH DEPARTMENT,

CIVIC CENTRE,

BOLTON.

28th June, 1939.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have the honour to submit the Report for 1938, the Sixty-seventh Annual Report on the Health of Bolton.

The health of the town has, in the main, been satisfactory during the year under review. Compared with last year the death-rate is lower and the birth-rate higher. The infantile mortality rate of 44 infant deaths per 1,000 births is the lowest that has ever been recorded in Bolton, and is 7 infant deaths per 1,000 births lower than the average for England and Wales. During the year under review there were more births than deaths, with a natural increase in the population of 54. Last year there was a natural decrease of 254 in the population.

The epidemic of diphtheria, which commenced in the last quarter of 1937, continued throughout 1938 with a higher incidence than in any previous recorded year. 481 cases of diphtheria were notified and 22 deaths occurred, giving a case mortality of approximately 4·4%. The incidence of other forms of infectious disease was relatively low. Only one death was attributed to whooping cough.

The incidence of cancer was slightly lower than in the preceding year, but it still remains approximately twice as prevalent as it was thirty years ago. Recent legislation imposes an obligation on local authorities to make arrangements to secure that the facilities for the treatment of persons suffering from cancer are adequate for the needs of the Borough. It will be necessary in the near future to give the most careful consideration to the whole matter to ensure that all possible means are available for the diagnosis and treatment of cancer.

The Public Health Committee continued to administer Townleys Hospital on behalf of the Public Assistance Committee. Complete appropriation was not effected until April 1st, 1939. The provision made for maternity cases in Townleys Hospital has been brought to the notice of the Committee on several occasions. It is now manifest

that most mothers choose a hospital or a maternity home rather than their own home for confinement. The demand for hospital accommodation in Bolton has increased annually during the last twenty years. During the year under review the available beds have been taxed to the utmost of their capacity. The Public Health Committee have decided, in principle, that all maternity work should ultimately be concentrated in Townleys Hospital. It is apparent that the available accommodation must be greatly increased if the present number of mothers are to be accommodated without overcrowding and under conditions of safety. The present intention of the Public Health Committee and the Public Assistance Committee is to transfer at least 100 aged and infirm persons from Townleys Hospital to new accommodation in Fishpool Institution. It must inevitably take a considerable time to erect the new buildings in Fishpool. In the meantime, the Committee will have no choice but to restrict the number of mothers admitted to Townleys Hospital. It is hoped, however, that immediate action will be taken to provide more adequate accommodation for the ante-natal clinics which are associated with the maternity department. The present arrangements are quite unsuitable and are recognised by the Committee as calling for immediate remedy.

The foundation stone of the new extensions at the Borough Isolation Hospitals was laid on August 24th, 1938, by Alderman T. Halstead, J.P., in the dual capacity of Mayor of Bolton and Chairman of the Public Health Committee. At the time of writing the work of reconstruction is rapidly proceeding. Dr. R. C. Webster was appointed as first Resident Medical Officer of the Hospital in July, 1938.

The new offices of the Public Health Department in the Crescent of the Civic Centre were opened for use on June 13th, 1938. The excellence of the new quarters provides the public of Bolton with a suite of health clinics and offices which are not excelled in the country. They have been visited by representatives of many local authorities who are considering the provision of new clinics and offices.

The work of the X-ray and ultra-violet light department in the new buildings has commenced under the general supervision of Dr. Alan Richardson, Radiologist to the Bolton Royal Infirmary. Although work is not yet proceeding at full capacity, in future years the X-ray department will prove of great value in furthering the work of the tuberculosis and the ante-natal departments, and the ultra-violet light section will help in the work amongst young children.

The latter half of the year under review was overshadowed by the threat of war. Local authorities played a large part in the emergency measures which were taken in the organisation of the country for defence. The duty of arranging for the individual and collective

training of the volunteers in the casualties services was placed on the Medical Officer of Health. As a result, the staff of the Public Health Department has had to undertake work of an exceptional character. Although a large amount of the work has been done voluntarily outside office hours, it has also been necessary to encroach heavily on the time of the staff during the day to the detriment of the ordinary duties of the Department. It appears desirable to mention briefly the task which has been delegated to the staff of the Public Health Department to carry out on behalf of the Air Raid Precautions Committee.

During the early part of September the major portion of the staff was devoting all its time to the work of improvising skeleton services for dealing with casualties. Four first aid posts were actually made ready for use and in the event of hostilities having broken out they would have been manned by available volunteers, together with trained nurses from the staff of the Department. First aid parties and ambulances in limited numbers were also available. Throughout the last quarter of the year the work of organising and training personnel for the casualties services continued to occupy the staff both as part of their day-time duty and as voluntary service in their off-duty time. The immediate problem in the casualties services is the training of the volunteers to fit them for their particular tasks. All the volunteers require training in anti-gas measures as in other air raid precautions services. Most of the volunteers require training in first aid. In this connection recognition ought to be made of the invaluable help rendered by the St. John Ambulance Association. They have placed willingly all their resources of instructors and experience at the disposal of the local authority in the training of volunteers in first aid. Up to the end of the year under review eleven classes were conducted by the St. John Ambulance Association on behalf of the local authority. At the time of writing the work of instruction in first aid is proceeding at a greatly accelerated rate. Particular mention must be made of the constructive help which has been given to the casualties services by three men who have devoted their time and ability freely to the organisation of the administration of the first aid posts, the first aid parties and the ambulance services. Councillor Tankard has worked unsparingly in the organisation and allocation of staffs of first aid posts. Councillor Higginson has created an organisation of ambulances and ambulance drivers which is already in a developed stage. Mr. Stanley Haywood has worked in a similar way in the organisation of the first aid parties. Whilst many have contributed to the cause of air raid precautions in Bolton, it seems fitting to record here the outstanding help which has been given by these three gentlemen in the building-up of the casualties services in Bolton.

Mr. J. Parkinson, a Sanitary Inspector, was seconded for whole-time air raid precautions work in December, 1938, and two temporary

clerks in the sanitary section of the Department were transferred to assist him. Mr. Parkinson has given excellent service both as an instructor in anti-gas measures, and in the general administration of the casualties services. To the whole staff of the Department thanks are due for the large amount of service given voluntarily in their own time to furthering the efficiency of the casualties services.

Dr. Isabella Sim left the Department in April, 1938. Although mainly concerned with the work of the school medical department, she was closely associated with all Public Health activities, and worked loyally for nine years. She was succeeded by Dr. Vida J. M. Stark. Mr. H. V. Cass, Chief Sanitary Inspector, resigned in September, 1938, to take up a similar position in Oldham. He was succeeded by Mr. A. C. Saword, formerly Housing Inspector in Coventry.

I would again acknowledge the loyal service and willing co-operation of the staff of the Public Health Department during a year of exceptional difficulty.

To you, Mr. Chairman, Ladies and Gentlemen, I would express my thanks for the courtesy and consideration I have always experienced at your hands.

I am, Ladies and Gentlemen,

Your obedient Servant,

R. M. GALLOWAY,

Medical Officer of Health and School Medical Officer.

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COUNTY BOROUGH OF BOLTON.

Public Health Committee.

THE MAYOR, ALD. J. ENTWISTLE, J.P.

Chairman—ALD. T. HALSTEAD, J.P.

Vice-Chairman—COUNC. H. D. SCOWCROFT, J.P.

ALD. MRS. A. E. DOWLING, J.P.

,, DR. E. MONKS, J.P.

COUNC. MRS. E. A. ASHMORE.

,, R. ASPINALL.

,, H. CROMPTON.

, MRS. A. GLAISTER.

,, J. GRIMSHAW.

,, J. S. LOMAX.

,, DR. JEAN M. F. MARSHALL.

,, DR. R. D. MOTHERSOLE.

,, DR. H. N. SAVAGE.

,, J. SHUTTLEWORTH (Died 1st May, 1939.)

,, R. TANKARD.

,, W. W. TONG, M.SC.TECH., J.P.

,, J. S. WALMSLEY.

,, MRS. H. WRIGHT.

Public Health and Medical Inspection Staff.

Whole-Time Officers.

Medical Officer of Health and School Medical Officer:
R. M. GALLOWAY, M.D., D.P.H.

Deputy Medical Officer of Health and Tuberculosis Officer:
D. A. WOODESON, M.B., Ch.B., D.P.H.

Maternity and Child Welfare Officer and Assistant Medical Officer of Health:
MARY E. BOULLEN, M.B., Ch.B., D.P.H.

Assistant School Medical Officers and Assistant Medical Officers of Health:
J. LITT, M.B., Ch.B., D.P.H., M.R.C.V.S.
VIDA J. M. STARK, M.D., D.P.H.

Public Analyst and Bacteriologist: H. HURST, B.Sc., F.I.C.

School Dental Surgeons:
S. J. BRAY, L.D.S.
R. B. KEIGHLEY, L.D.S.
BESSIE WIGNALL, L.D.S.

Chief Clerk: H. DANIELS, Cert. R.S.I.

Chief Sanitary Inspector: A. C. SAWORD (*a b c d*).

Vaccination Officer: P. H. TAYLOR.

Sanitary Inspectors:

E. SUMNER (*a b d*)
T. ORMROD (*a*)
H. WHITAKER (*a b*) Food Inspector.
J. H. WILLETT (*a*)
R. PASHLEY (*a b*) Food Inspector
J. PARKINSON (*a*)
L. C. BRYAN (*a b*)
R. BAIN (*a*)
W. L. WARDLE (*a*)
R. V. WATKIN (*a b*)
J. CLARK (*a*) (Temporary)
L. W. ORMROD (*a*) (Temporary)
N. RYCE (*a*) (Temporary)

(*a*)—Sanitary Inspector's Certificate of the Royal Sanitary Institute or of the Joint Board.
(*b*)—Certificate for Food Inspection of the Royal Sanitary Institute.
(*c*)—Certificate for Smoke Inspection of the Royal Sanitary Institute.
(*d*)—Certificate for Sanitary Science as applied to Buildings and Public Works of the Royal Sanitary Institute.

Public Health and Medical Inspection Staff—*Continued.*

Health Visitors:

Miss E. A. Aspinall * †	Miss F. G. Leech * †
Miss E. E. Barrett * † §	Miss A. Marsh *
Miss A. L. Birtwistle * † §	Mrs. J. Martin * † ‡
Mrs. E. Blackburn *	Miss F. E. McNally * †
Miss L. W. Booth * † §	Miss A. C. Power * † §
Miss E. Bracegirdle * † §	Miss J. Robbins *
Mrs. C. M. Dunlop *	Miss J. Southworth * †
Miss W. M. Holden * † §	Miss E. Tanner *

Orthopædic Nurse: Miss E. Eastwood, C.S.M.M.G.

Municipal Midwives:

Mrs. A. Hulme †	Mrs. E. Kirkman †
Mrs. A. Leece †	Miss E. A. Lowe †
Mrs. C. Makin †	Miss W. Owen * †
Mrs. E. Perrins †	Mrs. O. Smith * †

*—Trained Nurse.
†—Certificate of the Central Midwives Board.
‡—Certificate for Health Visitors prescribed by Regulations of the Board of Education.
§—New Health Visitor's Certificate of the Royal Sanitary Institute.

Townleys Hospital.

Medical Superintendent:

E. S. Gawne, F.R.C.S. (Edin.), D.P.H., D.M.R.E.

Deputy Medical Superintendent:

J. Marinan, M.B., F.R.C.S. (Edin.)

Resident Medical Officers:

T. Hart, M.R.C.S., L.R.C.P., M.C.O.G.
J. E. Glasgow, M.B., Ch.B.
R. J. Mitchell, M.B., Ch.B.

Matron: Miss M. J. Holland.

Steward: J. J. Farrell.

Borough Isolation Hospital.

Resident Medical Officer: R. C. WEBSTER, B.Sc., M.D., D.P.H.
Matron: MISS A. M. HOWITT.

Haslam Maternity Home.

Matron: MISS L. E. EVANS.

Arkwright Street Day Nursery.

Matron: MISS D. M. JONES.

Part-Time Officers.

Public Vaccinators and District Medical Officers:

Public Vaccinators	District (Wards) and Estimated Population	
Dr. L. F. EVANS ..	Bradford, Exchange, Derby, Rumworth and Deane-cum-Lostock (50,067)	District M.O. for Bradford and Exchange
Dr. A. B. PLATT ..	West and Heaton (28,499)	Also District M.O.
Dr. H. SPINKS ..	Astley Bridge, East and North (22,846)	do.
Dr. H. W. BOWYER ..	Halliwell and Smithills (29,645)	do.
Dr. A. W. SMITH ..	Darcy Lever and Great Lever (15,379)	do.
Dr. H. SPINKS ..	Breightmet, Church and Tonge (24,358)	
Dr. J. H. MARSH ..	Hulton (6,456)	

Dr. W. R. HILL is the District Medical Officer for Derby and Rumworth Wards.

Dr. R. W. HIGSON is the District Medical Officer for Deane-cum-Lostock and Hulton Wards.

Dr. J. G. WALSH is the District Medical Officer for Breightmet, Church and Tonge Wards.

Medical Officers: Child Welfare Centres—
MADGE E. JOHNSON, M.B., Ch.B.
JESSIE R. H. O'SULLIVAN, M.B., Ch.B.

Orthopædic Surgeon: S. M. MILNER, M.A., M.B., F.R.C.S.

Ophthalmic Surgeon: J. RATCLIFFE, M.B., Ch.B.

Gynecologist: J. SCOTT, M.B., Ch.B.

Radiologist: A. RICHARDSON, M.R.C.S., L.R.C.P.

SECTION I.

Statistics and Social Conditions.

SUMMARY OF STATISTICS.

1938.

COUNTY BOROUGH OF BOLTON.

Position	Lat. 53° 35′ N., Lon. 2° 27′ W.
Elevation above sea level	230-ft. to 1,450-ft.
Geological Formation : Boulder Clay and Sand over Coal Measures.	
Rainfall (Av. 1887-1938, 42·434″)	53·104″
Area in Acres (Land and Inland Water)	15,280
Population (Census 1921)	178,683
,, (Census 1931)	177,250
,, (Mid-yearly estimated population 1938)	169,400
Density	11·0
Inhabited Houses (Census 1921)	41,825
,, ,, (Census 1931)	46,618
Private Families or Separate Occupiers (Census 1921) ..	42,635
,, ,, ,, ,, (Census 1931) ..	47,706
New Houses Certified 1938	1,005
Estimated No. of Houses in the Borough at 31st December 1938	53,067
No. of inhabited Houses according to the Rate Books at the end of 1938	51,953
Rateable Value at 31st March, 1939	£1,074,285
Sum represented by a Penny Rate (1938-1939) ..	£4,209 8s. 4d.
Births	2,289
Birth-rate (per 1,000 of population)	13·5
Deaths	2,235
Death-rate (Crude) (per 1,000 of population)	13·1
Death-rate (Registrar-General's)	13·2
Average Death-rate (1929-1938)	13·4

SUMMARY—Continued.

Heart and Circulation Death-rate	4·0
Cancer Death-rate	1·6
Respiratory Death-rate	1·1
Phthisis Death-rate	·44
Epidemic Death-rate (seven chief diseases)	·23
Infantile Mortality (Deaths under one year per 1,000 live births)	44
Diarrhœa Death-rate (deaths under 2 years per 1,000 live births)	1·3
Puerperal Death-rate (per 1,000 total births)	6·2

126 COUNTY BOROUGHS AND GREAT TOWNS—

Birth-rate (per 1,000 of population)	15·0
Death-rate (per 1,000 of population)	11·7
Infantile Mortality (deaths under one year per 1,000 live births)	57
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 live births	7·8

ENGLAND AND WALES—

Birth-rate (per 1,000 of population)	15·1
Death-rate (per 1,000 of population)	11·6
Infantile Mortality (deaths under one year per 1,000 live births)	53
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 live births	5·5

LEGISLATION IN FORCE.

Local Acts, General Adoptive Acts, Byelaws and Regulations in Force in Bolton.

LOCAL ACTS.

Bolton Improvement Act, 1854.

Bolton Improvement Act, 1865.

Bolton Corporation Act, 1872.

Bolton Improvement Act, 1877.

Local Government Board's Provisional Orders Confirmation (Abergavenny Union, etc.) 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.

GENERAL ADOPTIVE ACTS.

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

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

BYELAWS AND REGULATIONS.	DATE MADE.
Slaughter-houses	13th Feb., 1867.
Common Lodging Houses	2nd Feb., 1898.
Management, etc., of High Street Baths ..	4th Feb., 1903.
Means of Escape in Case of Fire	10th Sept., 1908.
Tents, Vans, Sheds and similar Structures ..	21st Jan., 1926.
Nursing Homes	20th Mar., 1930.
Houses Let in Lodgings	25th Apl., 1932

Chief Industries and the Extent of Unemployment.

The chief industry in the town is the manufacture of cotton goods; sixty per cent. of all juveniles first entering employment in Bolton go into the various branches of the cotton trade. Other important industries are iron and brass foundries, the manufacture of machinery, tanneries and the manufacture of electrical apparatus. The Manager of the Bolton Employment Exchange has kindly furnished the following table showing the number of boys, girls, men and women employed in the principal industries. For comparative purposes the total juvenile figures for a year ago are also given, together with the total numbers (men, women, boys and girls) for the year 1938.

Industry	1938			1937 Juvenile Total	1938 Grand Total M.W.B.G.
	Boys	Girls	Total		
Building	282	7	289	417	2,780
Engineering	517	77	594	611	4,067
Leather	107	70	177	302	1,279
Printing and Paper Manufacture.. ..	75	109	184	186	1,080
Cotton Spinning ..	1,509	2,951	4,460	5,029	25,806
Cotton Weaving ..	205	454	659	755	5,753
Textile Bleaching, Dyeing and Finishing ..	187	92	279	253	2,483
Distributive Trades ..	680	447	1,127	1,294	7,251
Silk and Art. Silk ..	19	109	128	263	740
Hosiery	31	384	415	336	1,363

The extent of unemployment remains high and shows an increase compared with the previous year. At the end of 1938, the total number of men, women and juveniles unemployed was 12,544. The corresponding figure for the previous year was 10,758.

Births.

There were 2,289 live births to Bolton residents in 1938. 2,218 of these births were legitimate and 71 illegitimate. The birth-rate per 1,000 of the population was 13·5. 771 births occurred to Bolton residents in Townleys Hospital, and 366 in Haslam Maternity Home.

The following table gives the birth-rate for the last ten years for England and Wales and for Bolton.

Year.	Birth-rate.	
	England & Wales.	Bolton.
1929	16·3	14·2
1930	16·3	13·8
1931	15·8	13·7
1932	15·3	13·2
1933	14·4	11·9
1934	14·8	12·5
1935	14·7	12·7
1936	14·8	12·4
1937	14·9	12·7
1938	15·1	13·5

Fifty years ago the Bolton birth-rate was 34 per 1,000 of the population. A continuance of the fall in the birth-rate must result in a tremendous reduction in the population of our town and country generally, in the next fifty years. There will be a tendency in future years for the death-rate to increase because of the increased age of the population. The natural decrease in the population will be accelerated, and will have to be seriously considered in all our planning for future social developments.

Stillbirths.

A stillbirth, by which is meant the dead birth of a child born at any period after the 28th week of pregnancy, must be registered. The number of stillbirths in Bolton in 1938 was 129, giving a stillbirth-rate of 53·3 per 1,000 total births. The number of stillbirths per 1,000 total births in the County Boroughs of England and Wales has varied between

41 and 43 since 1931. Bolton has had a rate persistently higher than the average of the county boroughs.

Deaths.

Bolton had 2,235 deaths in 1938 giving a death-rate of 13·1 per 1,000 of the population.

During the year, 673 persons, whose usual place of residence was in the area of this county borough, died outside the borough ; of these, 577 died in Townleys Hospital or Fishpool Institution and 42 died in Mental Hospitals.

Non-residents who died in the area numbered 127, of whom 104 died in Bolton Royal Infirmary.

215 Bolton residents died in Bolton Royal Infirmary.

SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1938.

	No. of Deaths	Per cent. of total Deaths
INFECTIOUS AND PARASITIC DISEASES	**169**	**7·56**
Measles	10	·44
Diphtheria	22	·98
Influenza	24	1·07
Encephalitis lethargica	7	·31
Pulmonary tuberculosis	75	3·35
Other forms of tuberculosis	17	·76
Syphilis	5	·22
Other infectious and parasitic diseases ..	9	·40
CANCER AND OTHER TUMOURS	**293**	**13·10**
Cancer	280	12·52
Tumours	13	·58

RHEUMATISM, DISEASES OF NUTRITION, ETC. ..	**69**	**3·08**
Rheumatic fever	10	·44
Chronic rheumatism, osteo-arthritis ..	18	·80
Diabetes	25	1·11
Exophthalmic goitre..	8	·35
Other diseases	8	·35
DISEASES OF THE BLOOD & BLOOD FORMING ORGANS	**23**	**1·02**
Anæmia, chlorosis	15	·67
Leukæmia, aleukæmia	3	·13
Other diseases	5	·22
DISEASES OF THE NERVOUS SYSTEM & SENSE ORGANS	**206**	**9·21**
Meningitis	5	·22
Cerebral hæmorrhage	93	4·16
Cerebral thrombosis	44	1·96
Hemiplegia	7	·31
General paralysis of the insane	5	·22
Epilepsy	7	·31
Infantile convulsions	5	·22
Paralysis agitans	5	·22
Other diseases	35	1·56
DISEASES OF THE CIRCULATORY SYSTEM ..	**683**	**30·55**
Heart diseases	508	22·72
Aneurysm	7	·31
Arterio-sclerosis	127	5·68
Abnormalities of blood pressure	35	1·56
Other diseases	6	·26
DISEASES OF THE RESPIRATORY SYSTEM ..	**196**	**8·76**
Bronchitis	78	3·49
Pneumonia	102	4·56
Congestion of lungs, etc.	8	·35
Other diseases	8	·35
DISEASES OF THE DIGESTIVE SYSTEM	**101**	**4·51**
Ulcer of the stomach or duodenum ..	11	·49
Diarrhœa and enteritis	7	·31
Appendicitis	16	·71
Hernia and intestinal obstruction	20	·89
Cirrhosis of the liver	6	·26
Diseases of the gall bladder and ducts ..	20	·89
Other diseases	21	·93

DISEASES OF THE GENITO-URINARY SYSTEM ..	**116**	**5·19**
Nephritis	88	3·93
Other diseases of the kidney and annexa ..	6	·26
Diseases of the prostate	12	·53
Other diseases	10	·44
THE PUERPERAL STATE	**15**	**·67**
CONGENITAL MALFORMATIONS	**23**	**1·02**
DISEASES OF EARLY INFANCY	**49**	**2·19**
Congenital debility	5	·22
Premature birth	33	1·47
Injury at birth	6	·26
Other diseases	5	·22
OLD AGE	**181**	**8·09**
DEATHS FROM VIOLENCE	95	4·25
Suicide	27	1·20
Accidents	64	2·86
Other violent deaths..	4	·17
MISCELLANEOUS CAUSES	16	·71

The six principal certified causes of death were :

		Proportion per 1,000 deaths
1.	Diseases of the Heart and Circulatory System	305
2.	Cancer and other Tumours	131
3.	Diseases of the Nervous System	92
4.	Bronchitis, Pneumonia and other Respiratory Diseases (excluding tuberculosis)	87
5.	Old Age	80
6.	Infectious and Parasitic Diseases	75

Deaths from Puerperal Causes.

Maternal mortality is the number of deaths of women classed to pregnancy and child-bearing. It is expressed as the rate per 1,000 births (live and still), and is sub-divided into the deaths due to puerperal sepsis, and the deaths due to all other puerperal causes.

There were 15 deaths from puerperal causes in 1938, giving a maternal mortality-rate of 6·20. The rate for England and Wales was 2·97.

	Bolton Deaths	Bolton Rate per 1000 total births	England & Wales Rate per 1000 total births
Puerperal sepsis	4	1·65	·86
Other puerperal causes ..	11	4·55	2·11
Total	15	6·20	2·97

In addition to the 15 deaths directly due to pregnancy and child-bearing there were 4 deaths where childbirth was a contributory cause. The deaths in these cases were assigned as follows :—

Two to violence.
One to mitral stenosis.
One to homicide.

The maternal mortality-rates for England and Wales and for Bolton for the past ten years per 1,000 live births are as follows :—

Year.	Puerperal Mortality.	
	England & Wales.	Bolton.
1929	4·3	8·5
1930	4·4	6·7
1931	4·1	8·1
1932	4·2	6·7
1933	4·5	8·4
1934	4·6	3·6
1935	4·1	6·7
1936	3·8	4·6
1937	3·2	6·4
1938	3·0	6·5
Average 1929—1938	4·0	6·6

Death-Rate of Infants under One Year of Age.

The death-rate of infants is expressed as the number of deaths under one year per 1,000 live births and is called the Infantile Mortality-rate.

Bolton's infantile mortality-rate for 1938 was 44, the lowest rate which has ever been recorded in our town. The figure for England and Wales was 53.

Of Bolton's 2,289 births, 2,218 were legitimate and 71 illegitimate.

The infantile mortality amongst the legitimate children was 43, and amongst the illegitimate 84.

In the following table is given the average infantile mortality for five year periods from 1876 to 1930, and for each year from 1931 to 1938.

Quinquennium		Average rate	Year		Rate
1876-1880	..	171	1931	..	78
1881-1885	..	169	1932	..	71
1886-1890	..	173	1933	..	78
1891-1895	..	185	1934	..	53
1896-1900	..	173	1935	..	64
1901-1905	..	157	1936	..	58
1906-1910	..	134	1937	..	61
1911-1915	..	128	1938	..	44
1916-1920	..	100			
1921-1925	..	91			
1926-1930	..	82			

The part of the infantile mortality which occurs in the first four weeks of life is called the neo-natal mortality. It is mainly due to causes which have been at work before birth.

The following table gives the neo-natal mortality-rate for Bolton since 1905. It will be noted that nearly 60 per cent. of the total deaths of infants under one year occur in the first four weeks of life.

The causes of premature birth and of death in the first four weeks of life have not been influenced for the better in the last thirty years to the same extent as the causes of death in the later stages of infancy.

BOLTON'S NEO-NATAL MORTALITY-RATE PER 1,000 LIVE BIRTHS.

Year	Rate	Year	Rate
1905	46·8	1922	43·0
1906	36·7	1923	37·6
1907	44·6	1924	35·5
1908	37·3	1925	32·8
1909	45·4	1926	43·7
1910	36·7	1927	36·2
1911	43·2	1928	25·8
1912	38·7	1929	38·3
1913	41·7	1930	34·6
1914	45·8	1931	34·1
1915	37·8	1932	38·5
1916	40·1	1933	32·9
1917	49·8	1934	37·0
1918	38·9	1935	32·6
1919	40·3	1936	33·8
1920	38·9	1937	30·0
1921	41·2	1938	26·2

The causes of death during the first four weeks of life were as follows :—

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
Hæmophilia	1	–	–	–	1
Hæmorrhage	1	–	–	–	1
Ante-natal Toxæmia	1	–	–	–	1
Pneumonia (all forms)	1	–	–	–	1
Diarrhœa and Enteritis	1	–	–	–	1
Injury at Birth	5	–	–	–	5
Atelectasis	1	–	–	–	1
Congenital Malformations	7	2	3	2	14
Premature Births	26	3	2	–	31
Congenital Debility	2	–	1	1	4
Totals	46	5	6	3	60

Deaths from Cancer.

The number of deaths ascribed to cancer during the year was 280, of which 146 occurred in males and 134 in females. The cancer death-rate was 1·65 deaths per 1,000 of the population. The corresponding figure for England and Wales was 1·66.

Deaths from Measles.

Ten deaths occurred in 1938, as compared with 4 in 1937.

Deaths from Whooping Cough.

Only one death was due, in Bolton in 1938, to whooping cough. In 1937 the number was 14.

Deaths from Violence.

During the year, 96 deaths occurred from violence. Suicide accounted for 27 of these deaths. Amongst the 65 accidental deaths which occurred, 18 were the result of street accidents. Last year, street accidents accounted for 24 deaths.

SECTION II.

General Provision of Health Services.

GENERAL PROVISION OF HEALTH SERVICES IN BOLTON.

Laboratory Facilities.

The local authority employs a whole-time Public Analyst. His report on the work of the department is to be found on page 107.

Routine bacteriological work in relation to infectious diseases is also carried out in the Public Analyst's laboratory. The Bolton Royal Infirmary is provided with a laboratory which is modern and well equipped. The honorary pathologist (Dr. W. Rolland) is assisted by a whole-time pathologist and a staff of laboratory assistants. The Infirmary laboratory is primarily for the pathological and bacteriological work of the hospital. It has no licence for the use of live animals for inoculation purposes. Bolton is dependent on the Public Health Laboratory, Manchester, for pathological services involving inoculation and for certain pathological work in relation to venereal diseases.

The examinations made in the Public Analyst's laboratory during 1938 were as follows :—

	Total	Positive	Negative	Doubtful
Sputum for B. tuberculosis	314	25	289	—
Diphtheria (Throat swabs)	1,578	281	1,267	30
Fever B. typhosus	10	1	9	—
Paratyphoid A	10	—	10	—
Paratyphoid B	10	2	8	—

The examinations made in the Public Health Laboratory, Manchester, were as follows :—

	Total	Positive	Negative
Milk (Inoculation test for B. tuberculosis)	238	17	221
Nose and throat swabs for hæmolytic streptococci	6	—	6
Diphtheria (Throat swabs)	5	1	4
Widal reaction	21	—	21
Wassermann reaction :			
Blood	1,089		
Cerebro-spinal fluid	34		
Kahn test	8		
Gonorrhœa :			
Microscopical test	29		
Complement fixation test	320		

Medical Officers of the Department examined 262 sputum specimens for B. tuberculosis, 969 slides for the gonococcus and 5,018 cultures for the diphtheria bacillus, in the course of routine clinical work.

Ambulance Facilities.

For non-infectious and accident cases, the County Borough of Bolton has provided five motor 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.

The Public Assistance Committee has three motor ambulances which deal with all cases needing removal to or from their institutions.

One motor ambulance is kept at the Borough Isolation Hospital and is available for all infectious cases.

In addition to the above the Bolton Royal Infirmary has a motor ambulance for the removal of cases from the Infirmary to its Auxiliary Hospitals, and for the removal of cases to addresses outside the area of the County Borough.

Professional Nursing in the Home.

The Bolton District Nursing Association provides nursing in the home for all cases of illness other than certain infectious diseases and maternity nursing. There is a scale of charges, but necessitous cases are nursed free.

The District Nursing Association co-operates with the Bolton Royal Infirmary in the Bolton Hospital Saturday Scheme organised amongst workpeople in Bolton and district. A contributor is eligible for free home nursing (midwifery and certain infectious diseases excepted) for himself and his wife and for children residing with him who are not following any employment. The operation of the scheme has greatly increased the work of the Association. During the year 2,037 cases were nursed, and these received a total of 95,806 visits. In addition to the general nursing, the staff gave 3,207 treatments to 1,302 first aid cases in factories and workshops. The nurses were also present at 90 operations. A recent addition to the Nurses' Home has been necessary. The nursing staff now consists of a superintendent, two assistant superintendents and twenty-two nurses.

The Bolton Corporation makes an annual grant of £200 to the funds of the Association. The Public Health Committee pays for any home nursing of the following diseases : puerperal pyrexia, measles, whooping cough, epidemic diarrhœa, ophthalmia neonatorum, tuberculosis and influenzal pneumonia.

CLINICS, TREATMENT CENTRES, ETC.

The following table gives particulars of all clinics and treatment centres administered by the Council of the County Borough of Bolton.

Name of Clinic or Centre.	Situation.	Day and Time.	By whom provided.
Infant Welfare Centres.			
1. Civic Centre, No. 1.	Public Health Offices, Civic Centre.	Monday, 3-0 p.m.	Grant to the Mother and Child Welfare Association by the Bolton Public Health Committee. The Association provides voluntary workers and some of the accommodation. Medical supervision, Health Visitors, Drugs, etc., are provided by the Public Health Committee.
2. Chalfont Street.	Chalfont Street Methodist School.	Monday, 3-0 p.m.	
3. Halliwell.	Halliwell Road Free Church, Halliwell Road.	Tuesday, 3-0 p.m.	
4. Grecian Crescent.	Victoria Methodist School, Grecian Crescent.	Tuesday, 3-0 p.m.	
5. Civic Centre, No. 2.	Public Health Offices, Civic Centre.	Wednesday, 3-0 p.m.	
6. St. Chad's.	St. Chad's School, Belvoir Street.	Wednesday, 3-0 p.m.	
7. Deane.	Deane Congregational School, Wigan Road.	Thursday, 3-0 p.m.	
8. Daubhill.	Daubhill Methodist School, Derby Street.	Thursday, 3-0 p.m.	
9. Delph Hill.	Delph Hill Methodist School.	Friday, 3-0 p.m.	
10. Tonge Moor.	Tonge Moor Congregational School.	Friday, 3-0 p.m.	
Ante-natal Clinics.			
1. Civic Centre.	Public Health Offices, Civic Centre.	Tuesday, 3-0 p.m., and Thursday, 10-30 a.m.	Do. do.
2. Townleys Hospital. (For booked cases only.)	1. Townleys Hospital, Farnworth, near Bolton. 2. Public Health Offices, Civic Centre.	Monday., Wed. and Thurs., 2-30 p.m. Friday, 2-30 p.m.	Bolton Public Assistance Committee.
3. Haslam Maternity Home. (For booked cases only.)	"Ravenswood", Chorley New Road.	Wednesday, 10-30 a.m. Friday, 10-30 a.m. and 2-0 p.m.	Bolton Public Health Committee.
4. Dental Clinic for expectant mothers.	School Clinic, Charles Street.	By arrangement (Evening).	Do. do.
5. Do. do.	School Clinic, Flash Street.	Do. do.	Do. do.
Artificial Sunlight Clinics.	Public Health Offices, Civic Centre.	Mond., Wed. and Fri., 10-30 a.m.	Bolton Public Health Committee.
Massage Clinic.	Public Health Offices, Civic Centre.	Mon., Wed. and Fri., 10-0 a.m. and 2-0 p.m.	Bolton Public Health Committee.
School Clinic.			
1. Charles Street.	Charles Street.	**Minor Ailment Clinic.** Mon. to Fri., 9-0 a.m. and 2-0 p.m. Saturday, 9-0 a.m. **Dental Clinic.** Mon. to Fri., 9-30 a.m. and 2-0 p.m. Saturday, 9-30 a.m. **Ophthalmic Clinic.** Mon., 2-30 p.m., Wed. and Fri., 9-30 a.m.	Bolton Education Committee.
2. Flash Street.	Special School, Flash Street.	**Minor Ailment Clinic, Dental Clinic.** The same as Charles Street Clinic.	Bolton Education Committee.
Orthopædic Clinic.	Bolton Royal Infirmary.	1st and 2nd Wednesday in month. (By arrangement.)	Bolton Public Health Committee. Bolton Education Committee.
Tuberculosis Dispensary.	Public Health Offices, Civic Centre.	Every week-day except Saturday, 9-30 a.m. Friday, 2-0 p.m. (By arrangement.)	Bolton Public Health Committee.
Venereal Diseases Clinic.	Public Health Offices, Civic Centre.	**For Males.** Monday, 11-0 a.m. and 6-30 p.m. Tuesday, 7-0 p.m. Wednesday, 11-0 a.m. and 6-30 p.m. Thursday, 11-0 a.m. Friday, 11-0 a.m. and 6-30 p.m. **For Females.** Monday, 2-30 p.m. Tuesday, 11-0 a.m. Wednesday, 2-30 p.m. Thursday, 6-0 p.m. Friday, 2-30 p.m. Saturday, 10-0 a.m.	Bolton Public Health Committee.
Day Nursery.	41, Arkwright Street.	Mon. to Fri., 7-0 a.m. to 5-30 p.m. Saturday, 7-0 a.m. to 1-0 p.m.	Bolton Public Health Committee.

Hospitals.

The Bolton Royal Infirmary.

The Bolton Royal Infirmary is a voluntary hospital and was established in 1814. It moved to its present site in 1883 and has served the hospital needs of Bolton and district for many generations. It has continually developed its resources in accordance with the demands of modern medical practice for increased hospital treatment and investigation of patients. During 1938 extensions have been made to the Ophthalmic Department, making accommodation for 23 in-patients. Increased equipment has been purchased for the X-ray Department at a cost of approximately £2,000. The Royal Infirmary has 237 beds, of which 160 are used for surgical work, 28 for medical work, and 49 for diseases of children. There is a fully equipped pathological laboratory staffed by an honorary pathologist, a whole-time assistant pathologist and laboratory assistants. The special services include X-ray, ophthalmic, gynæcological, aural, diseases of the skin, functional nervous diseases, and radium departments.

The hospital is staffed by honorary physicians and surgeons and a resident surgical officer and five house physicians and surgeons.

During the year under review the number of cases admitted was 5,926, of whom approximately 28 per cent. were from outside the Borough of Bolton. In addition, 14,007 cases were dealt with as out-patients and 12,462 cases were received into the casualty department. At the end of the year there were 455 patients on the waiting list for admission.

The Royal Infirmary has a contributory scheme whereby weekly contributions of 2d. for persons over 21 and 1d. for persons under 21 entitle the contributors and their families to advice and medical and surgical treatment. The District Nursing Association co-operates in the scheme and free home nursing is also provided.

The Edmund Potter Hospital is an auxiliary to the Bolton Royal Infirmary for female patients. It is pleasantly situated in a residential part of the town. There are 43 beds and all the patients who are admitted are sent from the Bolton Royal Infirmary for convalescence. 1,002 patients were admitted during the year.

The Blair Convalescent Hospital, Bromley Cross, is a voluntary institution with 49 beds for male patients only. Fifteen of these beds are appropriated by the Bolton Royal Infirmary for the use of convalescent patients. The hospital also admits a limited number of paying patients. 637 cases were admitted in 1938.

TOWNLEYS HOSPITAL.

Townleys Hospital is a general hospital situated in Farnworth just outside the Borough boundary and serves Bolton and the townships of Farnworth, Kearsley, Little Hulton, Little Lever, Horwich, Westhoughton and Turton. These districts constituted the old Bolton Union area. Their total population is approximately 272,067. The hospital is staffed by a medical superintendent and four resident medical officers. The hospital, which has 530 beds, is provided with dental, X-ray and massage departments, and with the specialist services of aural and ophthalmic surgeons. Approximately 30 per cent. of the patients are from districts outside the Borough.

The administration of the Townleys Hospital continued to be delegated from the Public Assistance Committee to the Public Health Committee during the period under review, prior to its appropriation for use under the Public Health Acts on April 1st, 1939.

The following statistical return relates to the year ending 31st December, 1938.

Total No. of admissions (including infants born in hospital)	5,562
No. of women confined in hospital	1,304
No. of live births	1,214
No. of still births	99
No of deaths among children under 4 weeks of age (born in hospital)	26
Total No. of deaths among children under 1 year ..	60
No. of maternal deaths among women admitted to hospital for confinement	13
Total No. of deaths	702
Total No. of discharges (including infants born in hospital)	4,854
No. of cases whose total stay was for the following periods :—	
(*a*) Under 4 weeks	4,391
(*b*) 4 weeks and under 13 weeks	908
(*c*) 13 weeks or more	257
No. of beds occupied (excluding cots in maternity wards)	
(*a*) Average during year	452
(*b*) Highest (13th January, 1938)	523
(*c*) Lowest (15th October, 1938)	405
No. of operations under general anæsthetic	321
Ante-natal Clinic :—	
Total No. of expectant mothers seen	1,513
No. of attendances	5,345

Classification of In-Patients who were Discharged from or who Died in Townleys Hospital during the year.

	DISEASE GROUPS	Children (under 16 years of age)		Men and Women	
		Dis-charged	Died	Dis-charged	Died
A.	Acute infectious disease (1)	18	5	26	26
B.	Influenza (2)	4	1	32	—
C.	Tuberculosis				
	Pulmonary	—	1	19	30
	Non-pulmonary	—	3	1	4
D.	Malignant disease	—	—	37	80
E.	Rheumatism				
	(1) Acute rheumatism (rheumatic fever) together with sub-acute rheumatism and chorea	18	—	19	1
	(2) Non-articular manifestations of so-called "rheumatism" (muscular rheumatism, fibrositis, lumbago and sciatica)	7	—	40	1
	(3) Chronic arthritis	—	—	10	1
F.	Venereal disease	2	—	21	2
G.	Puerperal pyrexia				
	(*a*) Women confined in the hospital	—	—	8	—
	(*b*) Other cases	—	—	20	—
H.	Other diseases and accidents connected with pregnancy and childbirth	—	—	96	13
I.	Mental diseases (*a*) Senile Dementia	—	—	—	—
	(*b*) Other	—	—	17	—
J.	Senile decay (3)	—	—	97	126
K.	Accidental injury and Violence (4)	13	—	71	13
	In respect of cases not included above:				
L.	Disease of the Nervous System and Sense Organs	123	19	204	82
M.	,, ,, Respiratory System	93	29	228	46
N.	,, ,, Circulatory ,,	46	5	198	144
O.	,, ,, Digestive ,,	66	10	239	20
P.	,, ,, Genito-urinary ,,	50	5	343	15
Q.	,, ,, Skin	49	—	100	—
R.	Other diseases	6	2	3	—
S.	Mothers and infants discharged from Maternity Wards and not included in above figures — Mothers	—	—	1291	—
	Infants	1177	—	—	—
T.	Any persons not falling under any of the above headings	33	18	29	—
	TOTALS	1705	98	3149	604

(1) Includes—with the exception of Acute Primary and Influenzal Pneumonia, Tuberculosis, Puerperal Pyrexia—all generally notifiable diseases, together with Measles, German Measles, Chickenpox, Whooping Cough and Mumps. Cases of Influenzal Pneumonia, Tuberculosis, Puerperal Pyrexia, and Acute Primary Pneumonia are recorded respectively under Groups B. C. G. & M. Cases of Encephalitis Lethargica are entered under Group A. if acute and under Group L. if chronic.

(2) Includes Acute Influenzal Pneumonia.

(3) Confined to cases and deaths in which no more specific diagnosis was practicable.

(4) Includes suicides, attempted suicides and poisoning cases.

Borough Hospital, Hulton Lane.

The Borough Hospital, Hulton Lane, is a hospital for infectious diseases and for certain forms of pulmonary tuberculosis, and is administered by the Public Health Committee of the Corporation. It takes cases from the County Borough of Bolton only. It has 120 beds but not more than 100 can be regarded as effective at present. The hospital is old but extensive rebuilding and reconstruction is now in progress to bring it up to the standards of modern requirements.

There is a resident medical officer. Owing to the changing incidence of epidemic disease, the number of cases admitted varies very greatly from year to year. During the year under review the number of cases admitted to the hospital was 810.

Haslam Maternity Home.

Haslam Maternity Home is administered by the Public Health Committee of the Bolton Corporation and is used solely for maternity cases. Patients book their admission in advance of confinement and as a rule emergency cases from the district are not admitted. There is no resident medical officer. Cases are attended to by their own private practitioner or by the midwives of the home. There are seventeen beds and one isolation bed. During the year under review the total number of cases admitted was 419 and 419 infants were born in the home.

Wilkinson Sanatorium.

Bolton Convalescent Home was founded and endowed by T. Wilkinson, J.P., and was opened by him in 1910. It is used for the treatment of pulmonary tuberculosis. There are 54 beds which are available for the treatment of patients from the area of the old Bolton Union. Thirty-five beds are used for Bolton residents. Dr. Rolland, honorary physician of the Bolton Royal Infirmary, is in clinical charge of the patients. The sanatorium is equipped with a modern X-ray apparatus. During the year under review 69 patients were admitted from Bolton, and 14 patients were admitted from outside the Borough.

Medical Services transferred from the Late Board of Guardians.

Townleys Hospital. (See pages 20, 21.)

Poor Law Medical Out-Relief.

Medical out-relief continues to be provided in the same way as before the abolition of the Board of Guardians. In view of the increased work done by the District Medical Officers, their salaries have been increased, but no change has been made in the system in operation.

INSTITUTIONAL PROVISION FOR THE CARE OF MENTAL DEFECTIVES.

This provision is made by the Lancashire Mental Hospitals Board, which has five representatives from Bolton. A Committee of the Board deals with the institutional care of mental defectives and with the domiciliary care of all defectives who are not capable of instruction in the Flash Street Special School of the Education Committee. The Institutional provision is inadequate in quantity. There are many defectives requiring institutional treatment who have to remain at home for long periods until accommodation is available. Because of this shortage of accommodation, defectives have occasionally to be admitted to Townleys Hospital where no special provisions have been made for them and where conditions are not suitable for any prolonged detention.

MATERNITY AND CHILD WELFARE.

Midwifery and Ante-Natal Work.

1—DOMICILIARY.

Domiciliary midwifery work is carried out by the general practitioners of the town with the aid of maternity nurses and by the practising midwives. If the practising midwife in the course of her work finds that she requires the advice or aid of a medical practitioner it becomes her duty to send for her patient's doctor. The local authority pays his fee in accordance with a scale drawn up by the Ministry of Health. The midwife also has a duty to supervise her patients carefully during the ante-natal period. In order to assist the midwife in this work the Corporation have established, in conjunction with the Mother and Child Welfare Association, ante-natal clinics at the Public Health Department, Civic Centre. They are conducted by Dr. Mary E. Boullen, the Maternity and Child Welfare Officer.

The following figures give a statistical summary of the work in relation to domiciliary midwifery for the year.

(*a*) Ante-natal clinics—Public Health Department (2 weekly).
523 expectant mothers attended and made 1,194 attendances.

(*b*) Confinements conducted by midwives.
1,021 confinements were conducted by midwives.
In 318 cases they found it necessary to call in medical aid.

(*c*) Confinements conducted by medical practitioners.
In addition to the 318 cases where practitioners were called in by the midwives, the doctors conducted approximately 200 confinements.

The following table gives particulars of the domiciliary midwives' work during the year :—

No. of midwives who have practised	44
No. of cases attended	1,021
Average No. of cases per midwife	23
No. of calls for medical aid	318
Per cent. of cases in which medical aid was sought ..	31%
No. on the register at the beginning of the year ..	42
No. who ceased to practise in Bolton	2
No. on the register at the end of the year	42

In addition to the above, the midwives attended 157 cases as maternity nurses.

Altogether 44 domiciliary midwives notified their intention of practising in the area during the year, or an average of one midwife for every 23 deliveries.

The following 404 notifications were received from domiciliary midwives in accordance with the regulations of the Central Midwives Board :—

Medical assistance..	318

Notifications received from midwives regarding matters other than the summoning of medical aid :—

Stillbirths	59
Artificial feeding	21
Death of mother or child	2
Laying out of dead body	2
Liable to be a source of infection	2

When a family is not eligible for maternity benefit under the National Health Insurance Acts and the family income falls below a scale approved by the Council, the Public Health Committee pay the midwife's fee for her work at a confinement. Last year 85 such fees were paid.

The Public Health Committee provide home helps for mothers who are unable to pay for assistance in the home during confinement. Home helps were provided in 90 instances. In 33 cases part of the fees were recovered.

Sterilized maternity outfits are now supplied free for every domiciliary confinement. Each outfit contains sufficient surgical dressings for the reasonable requirements of a normal delivery.

The Maternity and Child Welfare Officer (Dr. Mary E. Boullen) continues the general supervision and control of the midwives. She is assisted in this work by Mrs. J. Martin, one of the Health Visitors.

During the year, two lectures, arranged by the Public Health Committee for the midwives, were well attended.

Midwives Act, 1936.

Surrender of Certificates.

During the year, two of the midwives practising in Bolton voluntarily surrendered their certificates under the provisions of Section 5 (1) of the Midwives Act, 1936, and their names were duly removed from the Roll of Midwives. Compensation amounting to £355 2s. 0d. was paid to the two midwives, making a total of £2,059 12s. 3d. paid by the Council to midwives who have surrendered their certificates since the Act became operative. Of this amount, £43 0s. 2d. has been recovered from other authorities.

Altogether the names of eighteen midwives have now been removed from this authority's register. Nine of these midwives were directed to surrender their certificates as they were considered incapable of carrying out the duties by reason of old age or infirmity of the body. The other nine surrendered their certificates voluntarily.

The number of Bolton cases attended by the midwives during the three years prior to the date of the surrender of their certificates was :—

	No. of Bolton cases.
3rd year before surrender ..	454
2nd ,, ,, ,, ..	310
Last ,, ,, ,, ..	307
Total ..	1,071

The amounts of compensation paid varied as follows :—

No. of Midwives.	Amount of Compensation.
1	Under £25
2	£25 – £50
4	£50 – £100
3	£100 – £150
1	£150 – £200
1	£200 – £250
2	£250 – £300
1	Over £300

Prohibition of Unqualified Persons.

On the 4th January, 1939, the Minister of Health, in exercise of his powers under Section 6 (2) of the Midwives Act, 1936, made an Order which prohibits unqualified persons in this Area acting as maternity nurses for gain.

Municipal Midwives.

It is now possible to review the first year's working of the municipal midwifery service.

During the year, the eight midwives appointed booked 551 cases, 507 as midwifery cases and 44 as maternity cases, and they made 534 deliveries, or an average of 67 cases per midwife. The average figure is 13 short of the number of cases that is considered reasonable for a domiciliary midwife to attend in a year, either as a midwife or as a maternity nurse.

The midwives paid 11,940 ante-natal and post-natal visits to their patients during the year.

The fees payable for the attendance of a municipal midwife on any expectant mother residing in Bolton are as follows :—

	£	s.	d.	
Attendance as a midwife	2	0	0	
Attendance as a maternity nurse (i.e. with a medical practitioner in attendance) ..	1	15	0	
Attendance for miscarriage	1	0	0	
Delivery fee only	0	10	0	
Daily visits after delivery .. .. .. (this only applies to cases subsequently removed to hospital before the 14th day.)	0	2	0	per day

A booking fee of 5/- must be paid in advance. The balance is due on confinement and must be paid before the midwife ceases attendance. Fees either wholly or in part are remitted in necessitous cases.

The services provided by the municipal midwives include preparation for confinement, attendance during confinement, and daily visiting for 14 days after confinement. The Corporation does not undertake to provide the services of a particular midwife, although all reasonable efforts are made to supply the expectant mother with the midwife of her choice. The fees charged do not allow for the services of a medical practitioner nor for any hospital treatment which may be necessary.

2—Institutional Midwifery.

(a) Townleys Hospital.

There has been a rapid and progressive increase in the number of confinements in Townleys Hospital in the last ten years. The hospital has a modern and efficient maternity unit of 28 beds. It has been necessary to appropriate an additional 54 beds for maternity and ante-natal cases. This accommodation was not designed for maternity work and the encroachment on the ordinary hospital beds has reduced the available accommodation for general medical and surgical work. Two ante-natal clinics are held weekly. During the year 1,513 patients made 5,345 attendances. Of the patients attending, 1,048 were Bolton cases, making 3,836 attendances. More accommodation is required to allow of further clinics. The rooms at present used for this purpose are fully occupied during the rest of the week for other purposes. The ante-natal clinics are conducted by the medical officers of the hospital. The maternity unit admits both "booked" cases and emergency cases from the district. It serves the area of the old Bolton Union. All the cases in the hospital are delivered under the supervision of the medical staff.

The following particulars relate to the cases admitted during 1938 from Bolton and from the county areas served. Approximately 70 per cent. of the cases were from Bolton.

No. of beds used for maternity cases	82
No. of cases admitted	1,418
Average duration of stay in days	13
No. of cases notified as *Puerperal pyrexia .. .. *i.e., rise of temperature to 100·4°F. for 24 hours, or recurrence within that period.	24
No. of cases of pemphigus neonatorum	Nil
No. of infants not entirely breast fed whilst in hospital ..	192
No. of cases of ophthalmia neonatorum	2
No. of maternal deaths (including one transfer from Haslam Maternity Home)	13
No. of infant deaths	125
(*a*) Stillborn	99
(*b*) Within 10 days of birth	26

(b) Haslam Maternity Home.

The Maternity Home continues to serve its useful function in the town. It is available for all Bolton mothers. The fees charged vary according to the patient's ability to pay. Deliveries may be conducted either by the midwives of the Home, with medical attendance from a rota of practitioners when necessary ; or patients may make their own arrangements with their doctor to attend them. As in previous years most of the deliveries were conducted by the staff of midwives in the Home.

The following table gives particulars of all cases admitted to the Home in 1938.

Statistics, 1938.

No. of beds in the Home		17
No. of cases admitted		419
Average duration of stay in days		13·5
No. of cases delivered by :—		
(*a*) Midwives		338
(*b*) Doctors		76
No. of cases in which medical assistance was sought by the midwife :—		93
(*a*) Ante-natal	19	
(*b*) During labour	49	
(*c*) After labour	9	
(*d*) For infant	16	
No. of cases notified as :—		
*Puerperal pyrexia	2	
*i.e., rise of temperature to 100·4°F. for 24 hours, or its recurrence within that period.		
No. of cases of pemphigus neonatorum		Nil
No. of infants not entirely breast fed whilst in the Home		16
No. of cases notified as ophthalmia neonatorum		Nil
No. of maternal deaths, with causes (one transfer died in Townleys)		Nil
No. of infant deaths :—		22
(*a*) Stillborn	19	
(*b*) Within 10 days of birth	3	

Post-natal Clinic.

Dr. J. Scott, gynæcologist to the Bolton Royal Infirmary, conducts a post-natal clinic at monthly intervals in the Public Health Department. There were eleven clinics held during the year. Twenty-eight women made a total of 29 attendances. Full use is not being made of the clinic at present and the question of the need for its continuance in its existing form will have to be seriously considered.

Dental Treatment for Expectant Mothers.

Dental treatment is provided for expectant mothers whose financial circumstances prevent them from paying a private dental practitioner for necessary treatment. The work is carried out, by arrangement with the Education Committee, in the school dental clinics at evening sessions. During the year, 108 expectant mothers made 608 attendances. The scope of the work has been extended in certain cases to the provision of dentures. Forty-three mothers were provided with dentures. The charge made varies in accordance with the financial circumstances of the patient.

Institutional Provision for Mothers or Children.

There are no special institutions in Bolton for the care of the unmarried mother and her child. Religious organisations have homes in Manchester, Bury and Prestwich to which Bolton girls are admitted before the birth of the baby and where they may remain some time after confinement.

The Bolton Association for the Welfare of Women and Girls does valuable work in various unobtrusive ways. Its activities for the social welfare of young women and girls have a bearing on many public health activities. The headquarters of the association in Westbrook Street are used as a temporary home for young women and girls in difficulty or danger pending restoration to their friends. Through its executive officer, Miss Marion Howard, the association accomplishes important social work of various kinds contributing to the well-being of women and girls in need of assistance and guidance.

The Public Assistance Committee make provision for homeless children in the nursery in Fishpool Institution and later in the Hollins Cottage Home.

Eden's Orphanage is an endowed institution which was opened in 1879. It is intended for the reception, support and education of orphan destitute children. Priority is given to children of parents who resided in the Astley Bridge district of Bolton. There are about 40 children in residence.

The Chadwick Orphanage is situated in the Haulgh district of Bolton. Girls only are admitted who are deprived of one or both parents. There are 17 children in residence.

The Manchester Diocesan Branch of the Church of England Incorporated Society for Providing Homes for Waifs and Strays maintains a home in Radcliffe Road, Bolton, where accommodation is provided for 40 girls. The object of the Society is to rescue girls, aged 3 to 16 years, who are in evil surroundings, and to educate and train them for domestic service.

Health Visitors.

On the receipt of a notification of a birth it is the duty of the health visitor to visit and to give advice and help as to the care of the child. In practice it has been found necessary to associate their work with child welfare centres with a medical officer in attendance. The Public Health Committee have continued this work during the year in partnership with the Mother and Child Welfare Association.

The Association was the Bolton pioneer in organizing educational work amongst mothers, and commenced its activities in 1908. In 1916 an obligation was placed on the local authority to participate in the work. The Bolton Health Authority was fortunate in being able to co-operate with the Association and a partnership commenced which has been of inestimable value to the mothers and children of Bolton.

There has been no work in a health department which has been so fruitful in its results as that of the health visitors. Their duties are growing more important each year and they continue to demonstrate the essential value of real preventive medicine.

The following table shows the work done by the health visitors :—

Visits by Health Visitors.

Primary birth enquiries	2,167
Visits to children, 1—5 years	5,209
Primary visits to expectant mothers	327
Revisits to infants under 1 year	5,133
Revisits to expectant mothers	232
Visits to puerperal fever cases	5
Visits to ophthalmia cases	35
Stillbirth enquiries	127
Death enquiries made (under one year of age)	93
,, ,, ,, (maternal)	15
Visits to midwives' houses	120
Visits—Children Act	81
Miscellaneous visits	663
Total visits..	14,207

The following centres are conducted under the auspices of the Mother and Child Welfare Association. The medical officers are provided by the Public Health Committee.

Address of Centre.	Day and Time of Meeting.
Public Health Offices, Civic Centre	Monday 3 p.m.
Chalfont Street Methodist School	Monday 3 p.m.
Halliwell Road Free Church	Tuesday 3 p.m.
Victoria Methodist School, Grecian Crescent ..	Tuesday 3 p.m.
Public Health Offices, Civic Centre	Wednesday 3 p.m.
St. Chad's School, Belvoir Street	Wednesday 3 p.m.
Deane Congregational School, Wigan Road ..	Thursday 3 p.m.
Daubhill Methodist School, Derby Street	Thursday 3 p.m.
Delph Hill Methodist School	Friday 3 p.m.
Tonge Moor Congregational School	Friday 3 p.m.

The new Public Health Department became available for use in July, 1938. The Tipping Street and the Victoria Hall Centres were transferred to the Civic Centre and the Saviour's Church House Centre to Deane Congregational School.

STATISTICS FOR THE YEAR ENDED 31st DECEMBER, 1938. INFANT CLINICS.

Clinic	Average attendance per session	Number who attended for the first time — Children		Total attendances by Children		Number of meetings during the year
		Under 1 yr. of age	Between the ages of 1 and 5 yrs.	Under 1 yr. of age	Between the ages of 1 and 5 yrs.	
1. Civic Centre No. 1.	47·4	97	29	1079	1008	44
2. Daubhill	55·6	120	33	1473	975	44
3. Halliwell	76·5	188	23	2059	1337	45
4. Grecian Crescent ..	65·3	162	21	1994	1011	46
5. Civic Centre No. 2.	65·8	176	42	1749	1213	45
6. Deane	49·0	148	20	1369	790	44
7. Chalfont Street ..	57·2	120	18	1732	885	44
8. St. Chad's.. ..	52·1	111	15	1271	1077	45
9. Delph Hill ..	84·2	140	12	2088	1618	44
10. Tonge Moor ..	60·1	139	24	1669	857	42
	613·2	1401	237	16482	10771	443

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

127,627 quarts of new milk were given.

15,062 lbs. of dried milk were given.

2,528 lbs. of malt and oil or malt and iron were given.

All cases receiving assistance are kept under observation and unless under treatment by a doctor, attend the infant clinics or the ante-natal centres.

Day Nursery.

The first Day Nursery in Bolton was opened in June, 1918, by a voluntary association known as the Bolton Day Nursery Association. Nuttall House, Wentworth Street, was leased and occupied until February, 1931, when more suitable premises at 41, Arkwright Street, in a populous working class district, were acquired at a cost of £700. The extension, adaptation and equipment of the new premises cost approximately £1,900, towards which the Bolton Corporation contributed £500 in addition to the annual grant of £575.

The premises were adapted for the reception of 30 children, and contain an office, reception room, babies' room, toddlers' room, staff rooms, kitchen, verandah, bathrooms, staff bedrooms and the usual offices.

Children are received between the ages of three months and five years. Mothers who go out to work may leave their children at the Nursery from 7-0 a.m. to 5-30 p.m. on Monday to Friday, and from 7-0 a.m. to 1-0 p.m. on Saturday. For this service a charge of 9d. per day and 6d. for half a day is made, but where there is more than one child in the family the charge is 9d. per day for the first child and 6d. per day for the others.

The staff consists of the following: Matron, staff nurse, four probationers, two maids, a part-time sewing maid and a part-time cleaner.

On the 12th August, 1936, the Bolton Day Nursery Association offered the Day Nursery and the assets of the Association both real and personal as a free gift to the Corporation. The Corporation accepted the gift and took over complete control on the 1st April, 1937.

The following are the statistics for the year ended 31st December, 1938:—

Total number of attendances of children :—

Whole day under 3 years	5,334
Whole day 3 years and over	1,036
Total whole day	6,370
Half day under 3 years	593
Half day 3 years and over	94
Total half day	687
Average for year (whole day)	25·1
,, ,, ,, (half day)	14·6
No. of days open during the year :—	
Whole day	253
Half day	47
Actual No. of children who have attended	40
Average No. of attendances per child	176

Massage and Artificial Sunlight Treatment for Infants.

Treatment is provided for any debilitated and rickety children who are in attendance at the Child Welfare Centres. The treatments are given in the Massage Clinic in the Public Health Department.

The Massage Clinic was held as follows :—

Monday, Tuesday, Wednesday, Thursday and Friday, 10 a.m. to noon and 2 p.m. to 5 p.m.

The number of cases treated in 1938 was 107, and these received a total of 2,553 treatments.

Most of the cases benefited very much by the treatment.

The treatment is given by Miss M. L. Bruckshaw, C.S.M.M.G., who is a part-time employee of the Public Health Committee.

The Artificial Sunlight Clinic, of which the Medical Officer is Dr. Mary E. Boullen, and the operator Miss Charnock, C.S.M.M.G., meets three times a week at the Public Health Department.

The number of cases treated in 1938 was 69, and these received a total of 2,166 treatments. There has been no change in the routine of the clinic.

Infant Life Protection.

The duty of supervising children who are nursed and maintained for reward was transferred from the late Board of Guardians to the local authority by the Local Government Act of 1929. The Children and Young Persons Act, 1932, amended the law relating to infant life protection. Any persons intending to receive children under 9 years of age for reward must notify the local authority not less than seven days before the first child's reception. Infant protection visitors must be appointed by the local authority to supervise the nursing and general well-being of the children and to ascertain the suitability of the foster parents and their homes for the care of young children.

All the health visitors have been appointed infant protection visitors. There were 10 children on the register at the end of the year. All these children are visited frequently by the health visitors in order to satisfy themselves that they are receiving proper care.

Orthopædic Treatment.

The scheme described in the report for 1936 continues to operate successfully.

Maternity and Nursing Homes.

Nursing Homes Registration Act, 1927.

	Maternity Homes and Nursing Homes	Maternity Homes only	Nursing Homes only
No. of Homes on the register when the Act came into operation ..	–	3	1 –
No. of applications for registration	3	1	2
No. of Homes registered	3	1	2
No. of Homes on the register on 31st December, 1938	1	–	1

No orders have been made refusing or cancelling registration.

No applications have been made for exemption from registration.

Since the Act became operative seven homes have been closed voluntarily and the registrations cancelled.

The two homes on the register at the end of the year provided accommodation for patients as follows :—

Maternity patients	4
Other patients	32

Byelaws made under the Act of 1927 were approved and adopted by the Council on the 5th February, 1930, and these were allowed by the Ministry of Health on the 20th March, 1930.

SECTION III.

Sanitary Circumstances.

WATER.

The Public Analyst and Bacteriologist reports : "The water supply of the Borough is derived from moorland drainage grounds which have been cleared of farms, and with one or two exceptions, of public footpaths.

The collected water is stored in reservoirs and purification effected by lime treatment followed by sand or mechanical pressure filtration.

Bacteriological examination of the whole of the supply is made weekly, and a chemical examination monthly. The water being of an acid nature before treatment, a careful watch is kept on reaction and plumbo-solvency.

The quality of the water during 1938 has been quite good and suitable as a domestic supply."

Bacteriological Examination of Filtered Water.

The Public Analyst reports as follows on the bacteriological examination of the water supply during 1938 :—

Number of samples examined..	230
Average Agar Count per 1 ml.	7

TYPICAL B. COLI.

Positive in 10 ml.	9 or 3·91%
Positive in 50 ml. Negative in 10 ml. ..	14 or 6·09%
Positive in 100 ml. Negative in 50 ml. ..	12 or 5·22%
Negative in 100 ml.	195 or 84·78%

B. WELCHII.

Positive in 50 ml.	4 or 1·73%
Negative in 50 ml.	226 or 98·27%

The Waterworks Engineer reports that 3 miles, 253 yards of water mains, varying from 3 in. to 6 in. in diameter, and 2 miles, 1,189 yards of water mains varying from 8 in. to 24 in. in diameter, were laid within the Borough, and 1 mile, 910 yards of mains were re-laid with mains of equal or larger diameter. The new and relaid mains comprised manufacture of spun iron (concrete lined) and steel.

DRAINAGE AND SEWERAGE.

The Borough Engineer reports :—

"During the past year a considerable length of the Croal Intercepting Sewer has been completed and work is still in progress.

The sewer is 5½ miles in length and varies in diameter from 6 ft. at the outlet end to 12 inches diameter at the higher end. The construction in the larger diameter, and in tunnels, is of brickwork, and concrete tubes and glazed earthenware pipes were laid in trenches.

Several old sewers have been reconstructed in glazed earthenware pipes and 29 additional manholes have been constructed on the old sewers for more efficient ventilation and control.

Where possible, surface water sewers are laid in front streets, which discharge into the various watercourses flowing through the district or into mill reservoirs for industrial purposes."

The Sewage Works Manager reports :—

"During the year under review a further three 90 ft. diameter × 6 ft. deep nitrifying filters were installed to complete the scheme carried out by arrangement with the Rivers Board. Two acres of nitrifying filters to give further treatment to the effluent from the activated sludge plant, are now in operation. Six million gallons per day of activated sludge effluent can now be given still more purification."

CLOSET ACCOMMODATION.

The position of Bolton as regards closet accommodation at the close of 1920 and the close of 1938 is shown in the following table.

	Dec. 31st, 1920	Dec. 31st, 1938
Fresh-water closets	11,062	41,094
Waste-water closets	15,219	13,808
Pail closets	6,302	409
Privy middens	10,540	586

Two privy middens, 6 pail closets and 875 waste-water closets were replaced by fresh-water closets in 1938. In addition, 14 privy middens, 2 pail closets and 66 waste-water closets were abolished as a result of slum clearance.

There are still 586 privy middens and 409 pail closets existing where the absence of sewer, the possession of an indoor fresh water closet, or the proposed demolition of the property as insanitary or for street or town improvements make conversion impossible or unnecessary.

Where there is a fresh-water closet indoor, and a privy midden outside, every effort is made to induce the owner of the property to provide a dustbin of approved size and construction in lieu of the privy.

PUBLIC CLEANSING.

The work of street cleansing and watering, gully cleansing, snow removal, refuse collection and disposal is carried out by the Corporation Cleansing Department's own staff.

The Cleansing Superintendent has furnished me with the following information.

Street Cleansing.

Total mileage of streets cleansed .. 265·37.

1·49	miles	are	cleansed	three times daily.
2·19	,,	,,	,,	twice daily.
6·56	,,	,,	,,	daily.
1·99	,,	,,	,,	three or four times per week.
10·00	,,	,,	,,	twice weekly.
178·96	,,	,,	,,	weekly.
64·18	,,	,,	,,	less than once weekly.

During the summer-time the streets are watered and washed as and when required.

Gully Cleansing.

About 90% of the street gullies are cleansed mechanically by vacuum gully-emptiers.

Refuse Collection.

House refuse is collected by motor and horse-drawn wagons, all of which are fitted with covers.

Bins in the centre of the town are emptied daily.
Bins from dwelling-houses are emptied weekly.
Dry ashpits, once every 2 to 3 weeks.
Privies, from 6 to 8 weeks.
Pails, once to three times a week.

Refuse Disposal.

The disposal of refuse is by means of incineration, salvage, tipping and rail for agricultural purposes.

Incineration	45·80%
Salvage and Incineration	8·51%
Tipping	41·56%
Agricultural Purposes	4·13%

Dry house refuse is disposed of either by means of incineration, where all the refuse is reduced to clinker which is afterwards used for mortar making or for clinker asphalt for road making, or by means of

salvage and incineration. The refuse is separated by a Petrie and McNaught salvage plant which screens the refuse. The cinders from this are sold to be burned again, mostly for greenhouse fires. The fine dust is used as a covering for our tips or as a top dressing. Tins, etc., are picked out, pressed and sold along with dry non-ferrous metal, clean paper, etc.

Cleansing of Cesspools.

The method of emptying cesspools varies according to conditions and situations, but they are mostly emptied by means of buckets direct into a motor or horse-drawn tank. The refuse is either taken to the depot to be treated for agricultural purposes or, in some cases, is discharged into the sewers.

SANITARY INSPECTION.

The nature and extent of the work done by the Sanitary Inspectors is shown in the following statement :—

INSPECTIONS.

Complaints Investigated :	
From Public	406
From Factory Inspector	27
Houses Inspected	1,063
,, Revisited	6,029
Newly-infected houses	932
Schools	33
Common lodging-houses	362
Houses let in lodgings	65
Factories with mechanical power	207
Factories without mechanical power	175
Other premises under the Factories Act	9
Workplaces	43
Bakehouses	159
Offensive Trades	31
Smoke Observations	166
Dairies, Cowsheds and Milk Shops	614
Markets	530
Slaughterhouses	2,386
Premises where food is prepared, stored or sold	7,923
Conversion of closets	850
Drains	726
Miscellaneous	4,516

ACTION TAKEN.

Letters written	440
Informal notices served	651
Verbal notices	156
Legal notices served	261

Result of Action.

DWELLINGS.

Floors re-laid or repaired	365
Walls and ceilings repaired	1,399
Dampness of walls remedied	348
Roofs repaired	224
Spouting repaired	208
Additional windows provided	4
Windows repaired or made to open	775
Pantries provided	5
Sinks provided	160
Houses re-decorated	313
Houses disinfected after disease	593
Verminous houses disinfested	46
Overcrowding abated	306

DRAINAGE, CLOSETS, ASHPITS, ETC.

Drains cleansed from obstruction	83
Drains and intercepting chambers provided	2
Drains re-laid, repaired or trapped	704
Drains disconnected from sewer	209
Yards drained, paved or repaired	524
Additional W.C.'s provided	4
W.C.'s re-constructed or repaired	174
New pedestals provided	862
Flushing cisterns provided or repaired	834
Privies and pail closets converted	11
Waste-water closets converted	853
Ashpits abolished	467
Dustbins provided	975

VARIOUS.

Smoke nuisances abated	1
Nuisances from animals abated	11
Offensive accumulations removed	23
Sheds, tents and vans removed	1
Cowsheds improved	16
Dairies improved	4
Improvements in factories, shops and food premises	32
Miscellaneous	178
TOTAL	10,714

In addition, the following were abolished as the result of demolitions under the Housing Act.

Fourteen privy middens, 2 pail closets, 66 waste-water closets, 76 ashpits.

DISINFECTIONS.

Houses disinfected	593
Articles disinfected	5,707
Articles destroyed	189

PLACES UNDER INSPECTION.

Common lodging-houses	22
Houses let in lodgings	115
Factories without mechanical power	246
Factories with mechanical power	736
Factory Chimneys	259
Bakehouses	477
Outworkers' Premises	8
Offensive trades	29
Slaughterhouses	32
Cowsheds	271
Milk-shops	559
Public Sanitary Conveniences	29
Travelling Vans	58

Common Lodging-houses.

During the year, 5 lodging-houses were closed voluntarily, and the number of registered common lodging-houses in Bolton at the end of the year was 22.

The ward distribution of these, and the accommodation they afford is as follows :—

Ward.	Houses.	Rooms.	Beds.
Exchange	5	31	127
East	14	87	511
Church	2	15	145
West	1	17	84

ACCOMMODATION FOR THE SEXES.

Description.	Houses.	Males.	Females.	Couples.
Males only	18	724	—	—
Females only	1	—	56	—
Males and Females	1	27	8	—
Females and Couples	1	—	16	15
Males, Females and Couples	1	10	6	5
	22	761	86	20

The demand for common lodging-house accommodation has greatly diminished in the past few years and is still steadily falling.

The Inspectors report that of the accommodation available in the common lodging-houses the average amount occupied is about 62% at the present time.

Prices for beds vary to the following extent :—

Single beds from 7d. to 1/2, the latter price being for cubicles. Double beds 1/2 and 1/4.

During the year, 6 of the 14 common lodging-houses in East Ward were included in Clearance Orders submitted to the Minister of Health. The Minister modified one of the Orders by the exclusion of 1 common lodging-house in Brown Street. The 5 lodging-houses which will now be demolished under the Orders, as confirmed by the Minister, were registered for a total of 133 beds.

Houses Let in Lodgings.

Byelaws relating to houses let in lodgings or occupied by members of more than one family, made in 1898, were repealed in 1932. These byelaws had become obsolete, mainly on account of the exemption clauses in the matter of rateable value and rent payable, placing the houses let in lodgings outside their scope.

The Council have approved and adopted new byelaws containing no exemption clauses as regards rateable value or rent, and these have been approved by the Ministry of Health. Details of these byelaws, together with notes on their enforcement, were included in the report for 1936.

Vans.

The number of living vans in Bolton at the close of 1938 was 6, one less than last year. The procedure for the demolition of the remaining vans has been commenced.

Particulars of the location and occupation of the vans are set forth below :—

Situation.	No. of Vans.	Occupants.	
		Adults	Children
31, Bridgeman Street	2	1	–
Cheetham Court	1	3	–
Field adjoining Withins Lane	1	2	–
Land at top of Blake Street, Halliwell ..	1	2	–
Land belonging to Bleachworks, Barrow Bridge	1	2	–
	6	10	–

Camping Sites.

There are no regular camping sites in the Borough.

Offensive Trades.

Offensive trades are being carried on in 29 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
Blood boiler	1	–	–	–	–	–	–	–	–	–	1
Bone boiler	1	–	–	–	–	–	–	–	–	–	1
Fat extractor	1	–	–	–	–	–	–	–	–	–	1
Fat melter	1	–	–	–	–	–	–	–	–	–	1
Fellmonger	2	2	–	1	–	–	–	–	–	1	6
Glue maker	–	–	–	–	–	1	–	–	–	–	1
Gut scraper	–	–	–	1	–	–	–	–	–	1	2
Rag and bone dealer ..	–	1	–	1	–	2	–	4	–	–	8
Size maker	–	–	–	–	–	1	–	–	–	–	1
Soap boiler	1	1	–	–	–	–	–	–	–	–	2
Tallow melter	–	1	–	–	–	–	–	–	–	–	1
Tripe boiler	1	–	–	2	–	–	1	–	–	–	4
Total Offensive Trades ..	8	5	–	5	–	4	1	4	–	2	29

Two nuisances arose in connection with the aforesaid trades. These were immediately remedied.

FACTORIES.

In accordance with the provisions of Section 128 of the Factories Act, 1937, 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.

Inspections

for purposes of provision as to health, including inspections made by Sanitary Inspectors.

Premises	Inspections	No. of Written Notices	Occupiers Prosecuted
Factories with mechanical power ..	207	8	–
Factories without mechanical power	175	2	–
Other premises under the Act (including works of building and engineering construction but not including outworkers' premises)	9	–	–
Total	391	10	–

Defects Found.

Particulars.	Number of Defects			Number of defects in respect of which prosecutions were instituted.
	Found	Remedied	Referred to H.M. Inspector	
Want of cleanliness (S.1)	4	4	–	–
Overcrowding (S.2)	–	–	–	–
Unreasonable temperature (S.3) ..	–	–	–	–
Inadequate ventilation (S.4) ..	2	1	–	–
Ineffective drainage of floors (S.6) ..	–	–	–	–
Sanitary Conveniences (S.7): Insufficient ..	–	–	–	–
Sanitary Conveniences (S.7): Unsuitable or defective ..	17	10	–	–
Sanitary Conveniences (S.7): Not separate for sexes	1	–	–	–
Other Offences (not including offences relating to Home Work or offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921, and re-enacted in the Third Schedule to the F.A., 1937)	5	4	–	–
Total	29	19*	–	–

* The work required in connection with the 10 outstanding defects was well in hand at the close of the year.

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

SHOPS, WAREHOUSES AND OFFICES.

The Shops Act, 1934, came into operation on December 30th, 1934. The sections of the Act which deal with the arrangement for the health and comfort of shop workers are administered by the Public Health Department. The requirements of the Act provide for adequate ventilation, reasonable heating and sufficient lighting. Suitable and sufficient sanitary conveniences and washing facilities must be provided. It is further laid down that where persons take their meals in a shop they must be provided with facilities for taking them in reasonable comfort. Powers to control the sanitation of offices are given in the Public Health Act, 1936.

In previous reports, reference has been made to the fact that no additional inspector was appointed to cope with this important increase of work and, consequently, the enforcement of the Acts leave much to be desired.

SMOKE ABATEMENT.

During the year, 166 smoke observations were made, with the following results.

No. of Observations	Result
110	No black smoke
6	¼ min. black smoke
1	⅓ ,, ,, ,,
15	½ ,, ,, ,,
2	¾ ,, ,, ,,
11	1 ,, ,, ,,
2	1¼ mins. ,, ,,
6	1½ ,, ,, ,,
5	1¾ ,, ,, ,,
1	2 ,, ,, ,,
2	2¼ ,, ,, ,,
1	2½ ,, ,, ,,
1	2¾ ,, ,, ,,
1	3 ,, ,, ,,
1	4 ,, ,, ,,
1	9 ,, ,, ,,

Preliminary notices served	8
Cases reported to Public Health Committee	2
Warnings given	13
Statutory notices served	2
Nuisances abated	1

The Bolton Technical College has made provision for the instruction of stokers and others in methods of smoke prevention.

Swimming Baths and Pools.

The local authority provides swimming pools in three establishments in the town. The High Street Baths were the first owned by the Corporation. They were built in 1902. The building contains a plunge bath, 75 feet long by 25 feet wide, and slipper baths. In 1920 the Corporation purchased and modernised the Bridgeman Street Baths which previously had been privately owned. There are two plunge baths, the larger being 75 feet by 25 feet, and the smaller 43 feet by 19 feet, in addition to slipper baths. In 1924, the Moss Street buildings were erected containing a plunge 75 feet by 30 feet and a smaller plunge 60 feet by 21 feet. Slipper baths and a public wash-house were included in the same buildings.

The Corporation also owns Turkish Baths situated in Great Moor Street.

In all the Corporation swimming baths the water is cleansed by continuous filtration and controlled chlorination. Regular examination of the waters by the Borough Analyst shows the purification systems to be highly efficient.

Swimming baths are also provided in three schools in the area. The Bolton School has a plunge bath with modern continuous filtration and chlorination plant. Two schools of the local education authority have swimming pools. Whitecroft Road School bath is modern in its filtration and chlorination plant. The Lostock Open Air School bath is of the "fill and empty" type, but having regard to the small number of users it is satisfactory.

There are no privately-owned swimming pools open to the public in this area.

ERADICATION OF BED BUGS.

In 1937, the Housing Department opened a new disinfestation and disinfecting station.

The station is situate in Bridgeman Street, adjacent to the Maintenance and Repairs Depot.

The buildings and apparatus include :—

(1) Brockhouse Self Stoke Heater Unit.
(2) Manlove Elliott Steam Disinfector.
(3) Fordson Motor Tractor with Trailer Van Container.

Briefly, the method adopted is as follows :—

After the furniture of usually three families has been collected in the Department's van, it is run into a gas chamber. The doors of the van are opened and the chamber is then sealed. The contents are dis-

infested by hydrogen cyanide (Zyklon B form). The van remains under full gas for two hours, and it is possible, under suitable conditions, to carry out gassing three times per day.

Whilst gassing is proceeding, beds and soft furnishings are dealt with in the steam disinfector and the two processes take the same time. Fuller details, and a description of the plant, were given in the report for 1937.

Slum tenants are encouraged to have destroyed any old effects, and in certain cases the Housing Department arrange to supply new items of furniture on the hire purchase system, repayments being spread over a period of three years.

During the year, the Housing Department carried out 447 removals from slum clearance and other areas to new estates.

Bug Infestation of Corporation Houses.

During the year it was deemed necessary to fumigate 196 Corporation houses. The fumigation was carried out by a private firm of fumigation experts. In certain cases, where bug infestation was suspected, spraying with an insecticide was adopted as a precautionary treatment.

In the fumigation of estate houses, the tenants concerned are required to remain away from their homes overnight. In certain cases families have been unable to arrange temporary alternative accommodation, and in this event, vacant houses on the same or nearest estate are used for their temporary accommodation, the Department supplying such items of furniture and bedding as will meet the temporary need.

Bug Infestation in Houses other than Corporation Houses.

During the year a total of 503 houses were examined in Clearance Areas, and it was found that 173 of these were infested with bugs.

SECTION IV.

Housing.

HOUSING.

During the year, Inspectors from the Ministry of Health held public inquiries with respect to 12 Clearance Orders and 2 Compulsory Purchase Orders to which objection had been made by the owners. All these Orders were confirmed, with slight modifications in four instances.

The areas concerned were :—

Clearance Areas.

Area	No. of Houses	Persons to be displaced
Dawson Lane	10	33
Delph Hill	14	45
Peggy Lane	26	67
Chorley Street No. 1	31	112
Back Lane	8	26
Radcliffe Road No. 2	13	33
Maze Street	53	158
Brown Street	31	161
Bury Old Road No. 1	9	10
Bury Old Road No. 2	13	38
Folds Road No. 1	12	25
Greenwood Vale	14	29

Compulsory Purchase Orders.

Area	No. of Houses	Persons to be displaced
Pilkington Street No. 1	37	117
Pilkington Street No. 2	7	23

The following Clearance Order was confirmed without Inquiry, the owners raising no objections.

Area	No. of Houses	Persons to be displaced
Soho Street No. 1	8	14

A number of Clearance Areas and Compulsory Purchase Orders are now in the hands of the Minister of Health and further areas are in course of preparation.

The provisions of the Housing Acts in relation to insanitary property have been carried out in co-operation with the Borough Engineer's Department and the Housing Department.

Progress of Five-Years' Programme.

In August, 1933, the Council adopted a Five-Year Programme of slum clearance which provided for the demolition of 1,526 houses before the end of 1938.

On the 31st December, 1938, the actual position in relation to this programme was as follows :—

Number of houses dealt with on Five-Year Programme	1,202
Number of houses dealt with which were not on the original Five-Year Programme but had been added to it since 1933	665
Total	1,867

It will, therefore, be observed that the number of houses dealt with exceeds the number given in the programme by 341. Of the 1,867 houses dealt with, 112 were at various stages between representation and vacation, and the remainder were either demolished or in course of demolition at the end of the year.

It will also be noticed that not all the 1,526 houses on the original programme have been dealt with, but the deficiency has been more than counterbalanced by the addition of 665 houses which were not on the programme.

Future Programme.

As a result of experience gained in the carrying out of the last programme, and in view of the standards that have now been established in practice, the Council have decided to deal with a further 2,222 houses within the next seven years. As there are still 324 houses left over from the original programme, the total number of houses to be dealt with in the next seven years is 2,546, which gives an average of approximately 364 houses to be dealt with each year.

Repairs and Re-conditioning of Houses.

During the year, 383 houses were thoroughly re-conditioned as the result of informal or legal action by the Department.

This work takes up a good deal of the Sanitary Inspectors' time, in supervision and re-visiting, in order to ensure that the work is properly carried out.

There are a large number of houses in the Borough which require a systematic house-to-house inspection and the service of notices to prevent them coming within the scope of the Clearance and Demolition Sections of the Housing Acts. This cannot be done by the existing staff whilst the work on the Slum Clearance Programme is proceeding.

New Houses.

The number of new houses completed in 1938 was 1,005 as compared with 769 in 1937. 560 of these new houses were erected by the local authority and 445 by other bodies or persons.

The number of new houses completed in Bolton in each year since 1921 is as follows :—

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
1926	610	251	861
1927	571	510	1,081
1928	319	160	479
1929	551	228	779
1930	204	492	696
1931	213	465	678
1932	240	511	751
1933	479	539	1,018
1934	616	442	1,058
1935	508	136	644
1936	439	324	763
1937	503	266	769
1938	445	560	1,005

The following table shows the number of houses and the number of inhabitants per house in Bolton in certain years since 1901.

		Houses	Inhabitants per House.
Census	1901	36,177	4·64
,,	1911	41,585	4·34
,,	1921	42,475	4·28
,,	1931	47,433	3·73
Estimated	1932	48,589	3·65
,,	1933	49,607	3·56
,,	1934	50,615	3·48
,,	1935	51,402	3·40
,,	1936	52,118	3·31
,,	1937	52,500	3·24
,,	1938	53,067	3·19

Housing Acts, 1930, 1935 and 1936.

The following figures show the progress that has been made from the date on which the Housing Act, 1930, became operative to the 31st December, 1938.

Unfit houses demolished in clearance areas	540
Number of persons displaced from such houses ..	1,785
Individual unfit houses (Sec. 11) demolished	593
Number of persons displaced from such houses ..	1,833
Number of houses made fit as a result of statutory notice	1,813
Insanitary houses demolished in anticipation of formal procedure	77
Insanitary houses closed (but not demolished) on an undertaking of the owner not to use for habitation	102
Number of houses made fit as a result of informal notice preliminary to formal notice	5,688

Housing Statistics, 1938.

1. Inspection of Dwelling-houses during the year.

(1)	(*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	2,645
	(*b*) Number of inspections made for the purpose ..	3,968
(2)	(*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 and 1932	1,034
	(*b*) Number of inspections made for the purpose ..	2,585
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	589
(4)	Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	863

2. Remedy of Defects during the year without Service of Formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the local authority or their officers	689

3. Action under Statutory Powers during the year.

A. *Proceedings under Sections 9, 10, and 16 of the Housing Act, 1936.*

(1)	Number of dwelling-houses in respect of which notices were served requiring repairs.. ..	41
(2)	Number of dwelling-houses which were rendered fit after service of formal notices :	
	(*a*) by owners	*61
	(*b*) by local authority in default of owners ..	13

B. *Proceedings under Public Health Acts.*

(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	12
(2)	Number of dwelling-houses in which defects were remedied after service of formal notices :	
(*a*)	by owners	12
(*b*)	by local authority in default of owners ..	—

C. *Proceedings under Sections 11 and 13 of the Housing Act, 1936.*

(1)	Number of dwelling-houses in respect of which Demolition Orders were made	23
(2)	Number of dwelling-houses demolished in pursuance of Demolition Orders	*40

* These figures include houses made fit and houses demolished as a result of notices and Orders served last year.

D. *Proceedings under Section 12 of the Housing Act, 1936.*

(1)	Number of separate tenements or underground rooms in respect of which Closing Orders were made	—
(2)	Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	—

4. NUMBER OF HOUSES OWNED BY THE LOCAL AUTHORITY UNDER THE HOUSING ACTS 5,588

Housing Act, 1936, Part IV.—Overcrowding.

A.	(i)	Number of dwellings overcrowded at the end of the year	501
	(ii)	Number of families dwelling therein	501
	(iii)	Number of persons dwelling therein	3,510

B.	(i)	Number of new cases of overcrowding reported during the year	32
	(ii)	Number of persons concerned in such cases ..	216
C.	(i)	Number of cases of overcrowding relieved during the year	306
	(ii)	Number of persons concerned in such cases ..	2,072

D. During the year, four houses which had been decrowded were subsequently found to have again become overcrowded, due to the owners neglecting to insert the permitted numbers in the rent books and re-letting the houses to large families. As soon as the offences were discovered, the tenants removed.

E. It is still quite common to find rent books which do not contain the prescribed summary of the Act or the permitted number. As regards the number of cases of overcrowding relieved during the year, it should be mentioned that a large proportion of these families moved into other privately-owned houses and may possibly have created fresh overcrowding, but it is frequently impossible to trace the families to their new addresses.

SECTION V.

Inspection and Supervision of Food.

MILK.

The Milk and Dairies Order, 1926.

COWKEEPERS, DAIRYMEN AND PURVEYORS OF MILK.

Cowkeepers on register, December, 1937	120
,, added to register during 1938	—
,, discontinued during 1938	5
,, on register, December, 1938	115
Cowsheds on register, December, 1937	276
,, added to register during 1938	2
,, discontinued during 1938	13
,, on register, December, 1938	265
Number of cows provided for in the cowsheds	3,165
Average number of cows kept during the year	2,590
Number of dairies and premises of milk purveyors	785

On the 1st April, 1938, the Ministry of Agriculture and Fisheries took over the duty of carrying out the routine inspection of all dairy herds in the Borough, and since that date 3,210 examinations of cows have been made by the Ministry's inspectors.

The local authorities will continue to enforce all the other provisions of the Milk and Dairies Acts and Orders, and during the year periodical inspections of all farms and dairies were carried out by one of the sanitary inspectors. A considerable number of improvements were effected at a total cost of more than £3,000. These improvements included the erection of two new cowsheds and the reconstruction of three others ; improved means of light and ventilation in five cowsheds and floors re-laid in six cases ; and the erection of four new dairies in place of existing buildings which were unsatisfactory.

The general standard of the cowsheds in the Borough is very good, compared with other districts, but much remains to be done.

One farmer was prosecuted for contravening article 31(2) of the Order by bottling milk otherwise than on registered premises, and he was fined 10/-.

Milk (Special Designations) Order, 1936 and 1938.

The following licences were granted under this Order during 1938 :—

Producer's licence to use the designation "Tuberculin Tested"	2
Supplementary licence to use the designation "Tuberculin Tested"	1
Dealer's licence to use the designation "Tuberculin Tested"	1
Producer's licence to use the designation "Accredited" ..	12
Supplementary licence to use the designation "Accredited"	2
Dealer's licence to use the designation "Pasteurised" .. (Licence in respect of a Pasteurising establishment.)	1
Supplementary licence to use the designation "Pasteurised"..	1

"Tuberculin Tested" Milk.

Licences to produce "Tuberculin Tested" milk have been granted by the Council to two dairy farmers in the Borough. The total number of animals in the two herds is 215, and they have all been submitted to a veterinary examination and the prescribed tuberculin test twice during the year. Twenty-two samples of milk were taken from these herds and submitted to bacteriological examination and two samples (one from each herd) were reported as unsatisfactory. Both these samples were taken during August and, in view of the fact that all the remaining samples complied with the requirements of the Order, the unusual heat may have contributed to the temporary lapse.

"Accredited" Milk.

Twelve dairy farmers in the Borough have been granted licences to produce "Accredited" milk, and the total number of cows in these herds is 426. These animals were all examined four times during the year, in accordance with the terms of the Order, and, in addition, mixed samples of milk taken from each herd have been examined by the biological test for the presence of tubercle bacilli. Other samples were submitted to the special tests prescribed by the Order and of the 128 samples so tested, 3 failed to pass the methylene blue test, 2 contained coliform bacilli, and 1 was unsatisfactory in both respects. The six samples which failed to pass the tests were obtained from five different farms and, in the case of the only farm where the lapse was repeated, the two unsatisfactory samples were taken as far apart as January and November, and all other samples were of good quality. In addition, 11 samples were taken from dairymen retailing "Accredited" milk in the Borough under supplementary licences, and one of these contained coliform bacilli.

"Pasteurised" Milk.

There is one licensed Pasteurising establishment in the Borough, and this deals with about 1,313,420 gallons per annum. During the year, 11 samples of Pasteurised milk from this dairy were examined bacteriologically and found to comply with the requirements of the Order.

Other Samples.

One hundred and fifty-six samples of milk were taken from farms within the Borough and tested for tubercle bacilli, and of these, 11 were reported as positive. Sixty-eight samples of milk produced outside the district but retailed within the Borough were also tested, and 4 of these samples were found to contain tubercle bacilli.

In all cases where tubercle bacilli are found in milk, immediate action is taken with a view to securing the slaughter of the infected animal. Unfortunately, the biological test, as at present carried out, takes 4 weeks to complete, so that every infected animal is giving tuberculous milk for a considerable period before it is eventually tracked down and dealt with. Moreover, the initial samples are usually "bulk" samples taken from the milk of the whole herd and, when a positive result is obtained, it is still necessary to detect the individual cow. This may involve the taking of further samples from suspected animals, and more delay. In the meantime, some cows may have been sold and others may have gone dry.

In addition, 275 samples of milk were taken under the Food and Drugs (Adulteration) Act and submitted to the Public Analyst. The results of these analyses, together with a statement of legal proceedings taken under the Food and Drugs Act during the year, are included in Section VII of this Report (Annual Report of the Public Analyst).

The supervision of farms and dairies, and the taking of samples for bacteriological examination and chemical analysis, occupy the whole time of one of the sanitary inspectors.

MEAT.

Public Health (Meat) Regulations, 1924.

These Regulations are comprehensive and are of great value in enforcing the cleanly handling of meat. They require notification to the local authority, of the day, time and place of any slaughtering. When written notice is given of fixed times of regular slaughtering throughout the year, no further notice is required. Wherever disease is found or suspected to exist in the carcase or internal organs of any animal during the course of slaughtering, notification of disease is required to be given to the local authority. Shops and stalls, and

the transport and handling of meat, are also controlled by the provisions of these Regulations. Visits (numbering 3,969) were made to meat and provision shops, stalls and vehicles, etc., in accordance with the Regulations. The chief delinquents in this respect were found to be guilty of conveying meat in unclean vehicles, and not keeping their shops or stalls in a cleanly condition. Verbal warnings were given in these cases and marked improvement was observed on re-visiting. None of the cases was sufficiently bad to warrant legal action being taken.

The following notices of slaughtering and of disease were received during 1938 :—

Written notice of regular slaughtering on fixed days ..	11
Notification of slaughtering on other than fixed days ..	129
Notification of suspected disease :—	
Relating to Cattle	162
Do. Sheep	9
Do. Pigs	77
Do. Calves	5
Total	253

The following table shows the number of animals slaughtered and inspected at the public abattoirs and private slaughterhouses in the Borough, with the diseased conditions grouped under two heads: (1) Carcases affected with disease *other than* tuberculosis; and (2) carcases found to be affected with tuberculosis *only*.

Carcases Inspected and Condemned.

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Total number killed and inspected	6,920	4,280	1,100	55,000	12,750
All diseases except Tuberculosis					
Whole carcases condemned	4	18	11	28	7
Carcases of which some part or organ was condemned	161	375	–	634	42
Percentage of the number inspected affected with disease other than tuberculosis	2·38	9·18	1·00	1·20	·38
Tuberculosis only					
Whole carcases condemned	6	112	–	–	9
Carcases of which some part or organ was condemned	86	661	–	–	426
Percentage of the number inspected affected with tuberculosis	1·36	18·06	–	–	3·41

Carcases Found to be Affected with Disease

Disease or Defect.	Examined				Action taken		Examined	Action taken		Examined	Action taken		Examined	Action taken	
	Cows	Bullocks	Heifers	Bulls	Whole carcase destroyed	Parts and Organs destroyed	Calves	Whole carcase destroyed	Parts and Organs destroyed	Sheep	Whole carcase destroyed	Parts and Organs destroyed	Pigs	Whole carcase destroyed	Parts and Organs
Tuberculosis	773	56	15	21	118	747							435	9	426
Pneumonia	1	1				2							1		1
Pleurisy	4	1	1			6				1		1	9		9
Mastitis	23					23									
Nephritis	3					3									
Pericarditis	1	1				2									
Abscess	11	9	1			21							1		1
Bacterial Necrosis	6	1				7									
Actinomycosis	1	2				3									
Echinococcus	55	7				62									
Distomatosis	160	122	8	1		291				613		613			
Decomposition	1		1		2					27	27		1	1	
Angioma	101					101									
Emaciation										1	1		3	3	
Johne's Disease	4				3	1									
Traumatism	2				1	1									
Œdema	4			1	5										
Fevered	6	1			7										
Cirrhosis	7	3	3			13							22		22
Cysticercus Tenuicollis										19		19	9		9
Immaturity							10	10							
Septicæmia	2				2								1	1	
Septic Metritis	1				1										
Arthritis										1		1			
Jaundice													1	1	
Joint ill							1	1							
Peritonitis													1	1	
Anæmia			1		1										
Totals	1166	204	30	23	140	1283	11	11	—	662	28	634	484	16	468

Agriculture Act, 1937.

This Act, which came into operation on the 1st April, 1938, provided for the establishment of a centralised State Veterinary Service, under which certain animal diseases came under the central control of the Minister of Agriculture and Fisheries.

Local authorities still, however, retain certain important powers and duties under the Diseases of Animals Acts, amongst which are the following :—

1. Notification of disease to the proper authority.
2. Service and enforcement of notices defining Infected Places and requiring detention and isolation of animals.
3. Supervision of the cleansing and disinfecting of infected premises in certain cases.
4. Arranging for disposal of carcases of diseased or suspected animals.
5. Issuing of licences for the movement of animals in infected, controlled or scheduled areas under conditions prescribed in the Ministry's Orders.
6. Control of the movement of imported animals.
7. Paving, cleansing and disinfecting of live stock markets and lairs.
8. Cleansing and disinfecting of rail and road vehicles.
9. Records of movements of stock.
10. Authority for the holding of live-stock markets in declared infected areas, or for the exposure of imported animals.
11. Local authorities also retain all their functions under the Milk and Dairies Acts and Orders relating to milk, except only in relation to the veterinary inspection and tuberculin testing of animals. Their functions in relation to meat inspection are likewise unaffected by the new arrangements under the Agriculture Act, 1937.

Diseases of Animals Acts and Orders, 1894 to 1935.
Tuberculosis Order, 1938.

The Tuberculosis Order provides for the notification and slaughter of every bovine animal found to be affected with any of the forms of the disease specified, viz. :—

1. Tuberculosis of the udder, indurated udder, or other chronic disease of the udder.
2. Animals giving tuberculous milk.
3. Tuberculous emaciation.

4. Chronic cough and showing definite clinical signs of tuberculosis.

Compensation is paid to the owner after post-mortem examination, at which he may be present.

The decision as to the fitness of the carcase for human consumption rests with the officers of the local authority.

The following table shows the number of animals slaughtered during the year, and the form in which they were diseased.

Total No. of animals slaughtered	No. with Tuberculosis of the udder but not giving T.B. milk	No. giving tuberculous milk	No. with tuberculous emaciation	No. with chronic cough or showing clinical signs of tuberculosis
30	8	8	9	5

Anthrax Order, 1938.

During the year, five suspected cases of anthrax were reported to this Department, and the appropriate action taken. In each case the premises were visited and the Ministry of Agriculture and Fisheries notified. On microscopical examination two cases were found to be positive and three negative. All the carcases were burnt at Wellington Yard and the premises and vehicles cleansed and disinfected.

Number of Organs Destroyed for Tuberculosis and Other Conditions in the Different Classes of Animals during 1938.

	Cattle	Calves	Sheep	Pigs	Total
LUNGS :					
Tuberculosis ..	758	1	—	96	855
Other conditions ..	81	11	31	13	136
HEARTS :					
Tuberculosis ..	231	—	—	64	295
Other conditions ..	24	11	31	12	78
BOWELS :					
Tuberculosis ..	329	—	—	66	395
Other conditions ..	23	11	31	7	72
STOMACHS :					
Tuberculosis ..	243	—	—	65	308
Other conditions ..	22	11	33	7	73
SPLEENS :					
Tuberculosis ..	231	—	—	64	295
Other conditions ..	21	11	31	7	70
LIVERS :					
Tuberculosis ..	383	1	—	81	465
Other conditions ..	511	11	657	32	1,211
KIDNEYS :					
Tuberculosis ..	242	—	—	10	252
Other conditions ..	48	—	—	2	50
HEADS :					
Tuberculosis ..	447	—	—	415	862
Other conditions ..	26	11	29	2	68
TOTALS	3,620	79	843	943	5,485

Weight of Unsound Meat Destroyed.

	Number	tons	cwts.	qrs.	lbs.
Beef carcases	140	32	8	2	23
,, fore-quarters ..	12	—	15	—	—
,, hind-quarters ..	2	—	2	2	—
,, offals	—	21	18	1	13
Mutton carcases.. ..	28	—	11	—	19
,, offals	—	—	8	—	20
Pork carcases	16	—	17	1	7
,, offals	—	2	18	1	19
Veal carcases	11	—	3	1	17
,, offals	—	—	—	3	24
Imported meat	—	—	7	—	12
Total weight ..	209	60	11	—	14

Disposal of Unsound Meat Voluntarily Surrendered.

All unsound meat is disposed of in the Corporation destructor. The Public Health Department pays £4 per ton by way of compensation.

OTHER FOOD STUFFS.

The following food stuffs and provisions were destroyed as unsound.

	tons	cwts.	qrs.	lbs.
Fish	—	16	2	—
Poultry and Rabbits	—	5	2	14
Fruit and Vegetables	3	8	1	7
Canned foods and provisions ..	—	1	3	13
Total weight	4	12	1	6

Swine Fever Order, 1938.

One suspected outbreak of swine fever was reported during the year. The outbreak concerned the death of three pigs. The premises were visited and the Ministry of Agriculture and Fisheries notified.

After due enquiry the Veterinary Officers of the Ministry reported that in their opinion swine fever existed on the premises.

The remaining two pigs which had been in contact were slaughtered and the carcases disposed of in accordance with the provisions of the Order.

Regulation of Movement of Swine (Amendment) Order of 1936 (No. 3).

This Order controls the movement of swine from markets and pig dealers' premises, and no movements are allowed from such premises except on licence granted by an inspector of the local authority.

For this purpose 9 licences authorising the movement of 82 pigs were granted by this Department during the year.

Rabies Order, 1938.

There have been no cases of rabies reported during the year.

Foot and Mouth Disease Order, 1938.

No outbreaks of this disease within the Borough have been reported during the year. From April 5th to April 16th, 1938, however, Bolton came within a Foot and Mouth Disease Infected Area, when a Standstill Order, covering practically the whole of England, was in force.

During this period, 240 licences authorising the movement of 509 cattle, 1,659 sheep, 88 calves and 378 pigs were issued, and permission was given to the Bolton Auction Mart to hold their weekly market for fat stock only.

During the year under review a considerable number of visits have been made to premises concerned with the Foot and Mouth Disease Orders relating to the boiling of animal food-stuffs and to packing materials.

Poultry Diseases.

During the year under review no new Orders relating to poultry have been issued. Periodical inspections have been made to premises where live poultry are kept, and weekly visits are made to markets and shops where poultry is exposed for sale. From observation it would appear that poultry offered for sale is of a fairly high standard.

Warble Fly (Dressing of Cattle) Order, 1936.

This Order provides for the dressing of cattle infected with the maggots of the warble fly at monthly intervals from March to June

each year. Farmers are constantly advised of the necessity for carrying out the dressing when the maggots make their appearance. Leaflets, explaining the life history and methods of eradication of these pests, can be obtained from this Department.

Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1933.

In accordance with the provisions of this Order, all movements of animals from the above-named Islands to a destination in Great Britain are controlled by licences issued by Inspectors of the Ministry of Agriculture and Fisheries.

Under the Order the following imported animals were received on licence in the Borough during 1938 :—

Cattle	4,489
Sheep	11,441
Pigs	1,813
Total	17,743

On arrival at the premises to which they are licensed the Order requires the animals to be detained there for a period of 6 days. During the detention period the animals may be moved from the premises to a slaughterhouse under a further licence granted by an inspector of the local authority. For this purpose, 81 licences authorising the movement of 721 cattle, 1,656 sheep, and 4 pigs were granted by this Department.

Inspection of Cattle Markets.

The Cattle Market and Authorised Market for the reception and sale of local and imported animals have been visited each week in company with a veterinary inspector for the purpose of inspecting all live stock, and afterwards, in order to supervise the cleansing and disinfecting of the premises and vehicles.

The following table shows the number of animals examined during 1938. The figures for the previous year are given for comparison :—

Year	Number of visits	Authorised Market	Cattle Market				
		Irish Cattle	Cattle	Calves	Sheep	Pigs	Total
1938	110	—	1,237	1,593	—	62	2,892
1937	107	10	1,425	1,812	39	68	3,354

Rats and Mice (Destruction) Act, 1919.

During the year 1938, 75 complaints were received and investigations proved that most of these complaints were due to defective drains.

In order to draw the attention of all concerned to the need for the destruction of rats and mice, this subject was specially stressed during the Centenary Exhibition held in Bolton during the period 21st to 26th September, 1938. Over 400 advisory leaflets were distributed and suitable advice given.

During National Rat Week many complaints were received of rat infestation, and in every case the premises were completely disinfested after action by this Department.

Throughout the year, the Public Health Department maintained a persistent effort to secure the extermination of rats and mice, and every encouragement was given to the general public to report the slightest sign of rat infestation. The various departments of the Corporation, particularly the Refuse Destructor Works, Markets and Abattoirs, carry out continuously all possible measures for the destruction of rats.

Slaughterhouses.

Accommodation for the slaughter of animals in the Borough remains unaltered. About 80% of the slaughtering is carried out in private slaughterhouses, of which there are 16, the remainder of the killing being dealt with at the Public Abattoir.

Two of the 16 privately-owned slaughterhouses have, however, not been in use during the year.

The 16 private slaughterhouses are used as follows :—

For cattle, sheep and pigs	8 slaughterhouses.
For cattle and pigs	1 slaughterhouse.
For cattle only	1 slaughterhouse.
For pigs only	6 slaughterhouses.

During the year, 2,386 visits were paid by the meat inspectors to the abattoir and private slaughterhouses.

Slaughter of Animals Act, 1933.

This Act provides, amongst other things, that no animal shall be slaughtered in a slaughterhouse or knacker's yard by any person who is not the holder of a licence granted by the local authority. During the year, 8 licences and 84 renewal licences were granted to slaughtermen. All applications for these licences were submitted to, and approved by, the Public Health Committee. Throughout the year the provisions of the Act have been well observed. Regular visits have been made to the knacker's yard, and it has always been found in a clean and orderly condition.

Merchandise Marks Act, 1926.

Under this Act, a number of Merchandise Marks (Imported Goods) Orders have been made. The object of the enforcement of these Orders is to ensure that the origin of the foodstuffs can readily be seen when exposed for sale. The mark applied to these goods must definitely indicate the country of origin or, alternatively, bear the word "Foreign" in reference to goods imported from a foreign country, or the word "Empire" if imported from any part of the Dominions.

Regular visits have been paid to the various food shops and stores and the provisions of the Orders have generally been found to be observed. There have been several minor breaches but none of sufficient importance as to warrant legal action.

The following imported goods are required to bear an indication of origin :— honey, fresh apples, currants, sultanas, raisins, eggs in shell, dried eggs, oats, oat products, raw tomatoes, chilled salmon, butter, poultry, bacon, hams, and chilled and frozen meat.

Fertilizers and Feeding Stuffs Act, 1926.

During the year, 5 samples were taken under the above Act, which on analysis, were found to comply with the warranty.

General Food Inspections.

The following table shows the number of visits paid to shops, stalls and stores :—

Beef Butchers	1,587	Provision Dealers ..	1,571
Pork Butchers	811	Fruiterers	1,405
Wholesale Meat Stores ..	287	Fishmongers	964
Food Preparation Premises	384	Street Hawkers	464
Markets	530	Meat Carriers' Vehicles ..	450

SECTION VI.

Prevalence of and Control over Infectious and other Diseases.

NOTIFIABLE INFECTIOUS DISEASES.

Prevalence and Mortality.

Below are shown the number of cases of notifiable diseases notified in Bolton in 1938 and the number of deaths resulting from each of these notifiable diseases.

Notifiable Diseases (other than Tuberculosis) during the year 1938.

Disease.	Total Cases Notified.	Total Deaths.
Smallpox	—	—
Scarlet Fever	511	3
Diphtheria	481	22
Enteric Fever (including Paratyphoid)	1	1
*Pneumonia	124	102
Puerperal Pyrexia	13	4
Cerebro-spinal Fever ..	4	1
Acute Poliomyelitis	1	—
Acute Polio-encephalitis ..	1	—
Encephalitis Lethargica ..	2	7
Dysentery	2	—
Ophthalmia Neonatorum ..	11	—
Erysipelas	76	1
Malaria	—	—

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

Under the provisions of the Public Health Act, 1936, the designation "Puerperal Fever" has been discarded for notification purposes. Since October 1st, 1937, all cases of "Puerperal Fever" have to be notified as "Puerperal Pyrexia".

The following table asked for by the Ministry of Health gives detailed information regarding all cases of notifiable infectious diseases in Bolton during 1938.

NOTIFIABLE DISEASES DURING THE YEAR 1938.

Disease.	Cases Notified.													Cases admitted to Borough and other 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	..	4	25	35	53	225	75	36	48	6	4	..	511	308	..	..	..	..	..	1	..	1	1	..	..	..	3
Diphtheria	1	11	19	23	35	227	89	29	37	6	4	..	481	439	1	1	1	3	2	11	2	..	1	..	..	..	22
Typhoid Fever	..	..	..	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	1
* Pneumonia	7	7	5	1	4	13	5	9	18	22	20	13	124	..	17	5	..	1	1	2	3	3	11	17	20	22	102
Puerperal Pyrexia ..	..	..	..	..	..	..	..	1	11	1	..	..	13	9	..	..	..	..	..	..	..	..	2	2	..	..	4
Cerebro-spinal Fever ..	..	..	..	..	..	..	..	..	2	..	2	..	4	5	..	..	..	..	..	1	..	..	..	..	..	..	1
Acute Poliomyelitis ..	..	1	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute Polio-encephalitis	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis Lethargica	..	..	..	..	..	..	..	1	..	..	1	..	2	1	..	..	..	..	..	..	..	..	1	2	3	1	7
Ophthalmia Neonatorum	11	..	..	..	..	..	..	..	..	..	..	..	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	1	..	..	..	..	2	1	3	12	12	35	10	76	15	..	..	..	..	..	..	..	..	..	..	..	1	1
Dysentery	..	..	..	..	1	1	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis :																											
a. Pulmonary ..	1	..	..	..	..	2	2	21	31	14	22	4	97	83	1	..	1	..	..	..	..	5	22	14	28	4	75
b. Non-pulmonary ..	..	..	2	1	3	6	6	7	5	1	3	1	35	27	1	..	1	..	..	1	..	6	3	..	3	2	17

* The cases notified are acute primary and acute influenzal, but the deaths include all forms of Pneumonia.

The notification-rate of any disease means the number of cases notified per 1,000 inhabitants.

NOTIFICATION-RATES IN 1938.

	Bolton.	England and Wales.
Smallpox	—	0·00
Scarlet Fever	3·01	2·41
Diphtheria	2·83	1·58
Enteric Fever	0·00	0·03
Erysipelas	0·44	0·40
Pneumonia	0·73	1·10

It is again possible to report that no case of smallpox has occurred. The town has been free of smallpox since 1933, when one case, contracted outside of Bolton, was notified.

The incidence of scarlet fever has again been low, 511 cases being notified. This figure is 163 below the average number notified during the last 10 years. A relative freedom from scarlet fever can be anticipated in the next few years. The disease has been mild in type and has had no important bearing on the well-being of the patients apart from the possibility of deafness following ear complications. Uncomplicated cases have been discharged from hospital four weeks after the commencement of the disease. Cases have been nursed at home and not removed to hospital where home circumstances have permitted.

Diphtheria was epidemic during the year under review. There were 481 cases notified and the deaths numbered 22, giving a mortality-rate of 4·3%. The average mortality-rate for England and Wales is between 5% and 6%. Never before has there been so many cases of diphtheria notified in a year. The previous highest number was 259 in 1919. The highest number of cases notified in any one week was 26, during the week ended 9th April, 1938. The cases were not confined to any particular area of the town, but were widely distributed. Four hundred and thirty-nine of the 481 cases were isolated in hospital. More hospital accommodation had to be provided by discharging the tuberculosis patients from the isolation hospital and using the ward for the treatment of diphtheria cases.

Two new cases of encephalitis lethargica were notified. There were seven deaths. One case of acute poliomyelitis (infantile paralysis) was notified.

INFECTIOUS DISEASES NOT NOTIFIABLE.

The total number of influenza deaths during the year was 24. The average number for the last 10 years, which includes the big epidemic year of 1929, is 81·6.

Amongst the 24 deaths attributed to influenza, pneumonia and other respiratory diseases complicated 13 cases. In 8 cases other complications occurred. Three deaths were attributed to influenza alone.

Bolton's influenza deaths from 1926 to 1938 are shown below :—

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Deaths	68	147	55	208	42	110	46	165	27	55	35	104	24

No accurate information can be obtained concerning the incidence of measles, whooping cough, chicken-pox and mumps. The school teachers and the school attendance officers receive information concerning school children, but there is no information concerning pre-school children in whom the incidence of the disease is high. During the year there were epidemics of whooping cough, chicken-pox and mumps among school children. The number of measles cases was lower than usual.

Deaths from Infectious Diseases.

The deaths in Bolton attributed to the various epidemic diseases are shown in the following table for the years 1929 to 1938.

CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Smallpox	–	–	–	–	–	–	–	–	–	–
Scarlet Fever	4	3	2	1	10	2	3	1	–	3
Diphtheria and Memb. Croup	8	3	2	3	6	11	5	4	23	22
Enteric and Continued Fever	1	1	–	–	–	–	–	–	1	1
Measles	11	4	24	9	14	12	6	9	4	10
Whooping Cough	85	8	14	11	9	2	13	8	14	1
Diarrhœa and Enteritis under 2 years of age	18	27	17	12	17	10	9	8	4	3
Erysipelas	5	14	7	3	7	10	5	6	5	1
Puerperal Sepsis	6	6	3	3	5	1	7	1	2	4
Cerebro-spinal Fever ..	–	2	7	5	3	2	1	2	2	1
Encephalitis Lethargica ..	5	4	6	3	2	5	5	7	4	7
Influenza	208	42	110	46	165	27	55	35	104	24

A consideration of the above table shows that during the last ten years influenza, whooping cough and measles have been the chief causes of death from infectious disease, and that smallpox, scarlet fever and enteric fever are no longer the formidable foes they were in the past. The decline in the mortality from infectious disease in the last fifty years has been very remarkable. The greatest advances have been made in the control of diseases due to environmental conditions. Thus enteric fever and cholera have declined in this country because of the improvements in our water supplies. Plague and typhus have disappeared because of changed environmental conditions. The epidemic diseases which are spread by more "personal" infection raise a different set of problems. Improved conditions of living with a reduction in overcrowding, and increased physical efficiency of the population as a fortification against infection, the isolation of avowed cases of the disease and the immunization of individuals against specific infections by such means as are at our disposal, all help towards the reduction of infectious disease. It is important to realize that although whooping cough, measles and influenza are not notifiable infectious diseases, they nevertheless call for adequate hospital accommodation for the treatment of severe and complicated cases whose home environment is unsatisfactory. It is the wise practice to make provision for these cases in an isolation hospital. The present accommodation in Hulton Lane Hospital does not allow of any general admission of non-notifiable infectious diseases. It is anticipated that the completion of the new cubicle isolation wards will allow of acceptance of a much more varied group of diseases than at present.

WORK OF THE BOROUGH ISOLATION HOSPITAL, HULTON LANE.

The incidence of infectious disease was relatively high during the first half of the year, when an epidemic of diphtheria filled the hospital.

No serious illness occurred amongst the nursing staff. One probationer nurse developed diphtheria shortly after her entry into hospital and before she had been given her immunizing inoculation against the disease.

Seven nurses sat for State examinations. Four entered for the preliminary State examination, and three for the final examination for the fever nurses supplementary section of the State register. Six of the nurses passed their examinations.

Admissions.

(*a*) Scarlet Fever.

Three hundred and twenty-one cases were admitted to the wards of the hospital as scarlet fever. Two deaths occurred. Three hundred and two of the patients admitted had pure scarlet fever. In 6 cases

the scarlet fever was accompanied by measles. Thirteen of the patients admitted as suffering from scarlet fever were suffering from another disease.

The following complications occurred :—

12 cases had adenitis.
20 ,, ,, otorrhœa.
12 ,, ,, rhinitis.
8 ,, ,, albuminuria.
8 ,, ,, arthritis.
7 ,, ,, tonsillitis.
13 ,, ,, various complications.

(*b*) DIPHTHERIA.

Four hundred and fifty-seven cases sent in as diphtheria were admitted to the diphtheria wards. Eighteen of the cases were found not to be suffering from diphtheria.

14 had tonsillitis.
1 had peritonsillar abscess.
2 had pharyngitis.
1 had catarrhal laryngitis.
Five patients required tracheotomy.
Seventeen of the diphtheria cases admitted, died.

It has already been stated that never before has there been more diphtheria in Bolton.

(*c*) ERYSIPELAS.
Fifteen cases were admitted. No deaths occurred.

(*d*) CEREBRO-SPINAL FEVER.
Five cases were admitted. The diagnosis was confirmed in each case. One of the cases of cerebro-spinal fever died.

(*e*) PARATYPHOID FEVER.
Three cases were admitted, the diagnosis being confirmed in only one of the cases.

(*f*) OTHER DISEASES.
Eight cases of various other diseases were admitted. The diseases included measles, acute poliomyelitis, undulant fever, congenital syphilis and enteritis.

(*g*) PULMONARY TUBERCULOSIS.
Only one case was admitted during the year to the Consumption Pavilion, the wards having to be used for the reception of diphtheria cases

BOROUGH ISOLATION HOSPITAL—ADMISSIONS AND DISCHARGES.

No. of Patients.	No. of Patients suffering from the following Diseases.					Total.
	Scarlet Fever.	Diph-theria.	Pul-monary Tuber-culosis.	Other Tuber-culous Diseases.	Other Diseases.	
Remaining, Dec. 31st, 1937	43	41	6	—	2	92
Admitted in 1938 ..	308	439	1	—	62	810
Total No. treated, 1938 ..	351	480	7	—	64	902
Discharged in 1938 ..	325	418	5	—	60	808
Died in 1938	2	17	2	—	1	22
Remaining, Dec. 31st, 1938	24	45	—	—	3	72

VACCINATION.

The following is a summary of the return for 1937 made to the Registrar-General by the Vaccination Officer respecting the vaccination of children whose births were registered in the County Borough of Bolton from 1st January, 1937, to the 31st December, 1937, inclusive.

No. of Births registered 1,529

On the 31st January, 1938, of the above children :—

221 or 14·45% were successfully vaccinated,
7 or ·45% were insusceptible of vaccination,
None had had smallpox,
1,186 or 77·56% of their parents made the statutory declaration of conscientious objection,
84 or 5·49% died unvaccinated,
4 or ·26% were temporarily unfit to be vaccinated,
18 or 1·17% had removed out of Bolton,
4 or ·26% could not be traced,
and 5 or ·32% had not been duly vaccinated or otherwise accounted for.

The total number of certificates of successful primary vaccination of children under 14 received during the calendar year 1938 was 300, and the number of statutory declarations of conscientious objection received during the same period was 1,269.

The number of persons successfully vaccinated and re-vaccinated at the cost of the Bolton rates by the local Public Vaccinators during the year ended 30th September, 1938, was as follows :—

No. of successful primary vaccinations :—	
Under one year of age	241
One year and upwards	32
	273
No. of successful re-vaccinations of persons who had been successfully vaccinated at some previous time	14
Total vaccinations by Public Vaccinators ..	287

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 1938 the following work was done by the disinfecting station :—

Houses disinfected	593
Articles of clothing, bedding, etc., disinfected	5,707
Articles of clothing, bedding, etc., destroyed	189

Terminal disinfection after infectious disease is only carried out at the special request of the householder. A thorough cleansing with soap and water is generally recommended as the most effective method.

CANCER.

The number of deaths from cancer during the year was 280, 134 females and 146 males. This figure is the third highest number ever recorded in a year in Bolton.

The deaths ascribed to cancer have doubled in numbers in the last 30 years. This increase is recognised throughout the country as being due in a large measure to the increased proportion of older people in the population. Cancer is, in the main, a disease of the later years of life, and an increase in the average age of the population in itself accounts for an increase in the number of cases of cancer.

Research and investigation have not yet yielded results leading to any diminution in the total number of deaths from cancer. Valuable means for the successful treatment of the disease in its earlier stages are available. Unfortunately, many cases of cancer do not come under medical supervision until the disease is too far advanced for successful cure. Some cases do not come under medical supervision until they are

beyond even ameliorative treatment. It appears probable that better use might be made of the existing means of treatment. The Cancer Act of 1939 places on County and County Borough Councils the duty of making arrangements to secure that the facilities for the diagnosis and treatment of cancer are adequate. The local authority's arrangements must be finally submitted for approval by the Ministry of Health before March 29th, 1940. It is hoped that it will be possible to discuss the matter fully in next year's report.

Bolton residents suffering from cancer are treated in the Bolton Royal Infirmary and Townleys Hospital. A number are also treated in the Manchester Hospitals. One hundred and seven patients were admitted to Townleys Hospital during the year. Twenty-six of the cases were treated after previous advice or treatment at another hospital, and 81 were admitted without such previous advice or treatment. A few patients were treated in St. Mary's Hospital for Women and other Manchester Hospitals.

Exact figures of Bolton residents treated in the Bolton Royal Infirmary in 1938 are not available.

The value of radium in the treatment of cancer is well known. Its use is limited by reason of the amount available and its cost. The best use can be made of the supplies of radium available in this country by concentrating them in certain centres. The National Radium Trust has centred the radium supplies for this part of Lancashire in the Christie Hospital, Manchester. The Bolton Royal Infirmary has made arrangements whereby facilities of the Christie Hospital are available for local patients. A Medical Officer of the Christie Hospital attends the Bolton Royal Infirmary weekly and sees patients suffering from cancer. He advises on the procedure to be followed and carries out any radio-therapeutic treatment necessary. Any radium required is brought to Bolton from Manchester. Some patients requiring special applications of radium are taken by ambulance to the Christie Hospital for necessary "moulds" and brought back to Bolton next day. Townleys Hospital has an arrangement with the Christie Hospital by which suitable patients are sent to Manchester and retained as patients there. Eight patients were sent from Townleys to Christie Hospital last year, the Public Assistance Committee paying for the cost of the maintenance and treatment.

In addition to the payments made by the Bolton Royal Infirmary and the Public Assistance Committee for the services rendered to them by the Christie Hospital, the Public Health Committee makes an annual grant of £50 to the general work of the Hospital.

The following table shows the number of deaths from cancer, and the cancer death-rate in Bolton for the years 1902 to 1938.

Deaths from Cancer in Bolton in the years 1902-1938.

Year.	No. of deaths. Males.	Females.	Total.	Cancer Death-rate.
1902	51	73	124	·73
1903	32	72	104	·60
1904	45	88	133	·77
1905	57	76	133	·76
1906	40	74	114	·65
1907	45	75	120	·68
1908	53	69	122	·80
1909	90	84	144	·83
1910	58	92	150	·83
1911	67	84	151	·83
1912	80	88	168	·82
1913	72	110	182	·98
1914	77	96	173	·93
1915	78	103	181	1·04
1916	60	100	160	·94
1917	73	93	166	1·01
1918	85	102	187	1·16
1919	72	104	176	·99
1920	96	107	203	1·10
1921	86	128	214	1·17
1922	88	104	192	1·05
1923	101	113	214	1·17
1924	123	121	244	1·34
1925	108	132	240	1·33
1926	109	127	236	1·33
1927	116	116	232	1·30
1928	119	126	245	1·35
1929	113	91	204	1·12
1930	107	133	240	1·32
1931	109	144	253	1·41
1932	105	126	231	1·29
1933	116	119	235	1·32
1934	127	130	257	1·45
1935	126	168	294	1·68
1936	124	151	275	1·59
1937	115	175	290	1·70
1938	146	134	280	1·65

The above death-rates are crude death-rates. This means that they are not corrected for the changes in the age and sex distribution of the population.

The following table shows the age and sex distribution of all persons who were certified as having died of cancer in Bolton in 1938. The table shows also the localization of the disease.

DEATHS FROM CANCER, 1938.

Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																	
	M.	F.	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwds
ccal Cavity	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
aw	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mouth	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Pharynx	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Tongue	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Palate	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lip	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Buccal Cavity	10	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	2	2	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..
estive Organs																				
all Bladder	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..
ntestines	20	..	..	..	..	..	..	..	..	..	..	2	..	3	5	3	5	2	..	..
	..	18	..	..	..	..	..	1	..	..	..	..	3	2	1	1	2	7	1	..
iver	11	..	..	..	..	..	..	..	..	..	1	..	1	..	2	3	2	1	1	..
	..	8	..	..	..	..	..	..	..	..	..	..	..	..	2	2	2	1	..	1
Esophagus..	7	..	..	..	..	..	..	..	..	..	..	..	..	2	2	1	1	..	1	..
	..	4	..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..
ancreas	4	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	..	1	..
	..	4	..	..	..	..	..	..	..	..	..	1	..	2	..	1	..	..	..	..
ectum	14	..	..	..	..	..	..	..	..	..	1	3	..	1	2	3	4	..	..	..
	..	5	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	1	..	..
tomach	31	..	..	..	..	..	..	..	..	..	2	1	3	4	7	6	5	2	1	..
	..	28	..	..	..	1	..	..	..	1	1	2	1	4	4	3	7	1	3	..
otal Digestive Organs	88	..	..	..	..	..	..	..	..	..	4	7	4	10	19	19	16	5	4	..
	..	69	..	..	..	1	..	1	..	1	1	3	6	11	10	7	13	10	4	1

DEATHS FROM CANCER, 1938.—*continued.*

Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																
	M.	F.	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85
RESPIRATORY ORGANS																			
Bronchus	4	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Larynx	3	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Lungs	7	..	..	..	..	..	..	..	..	..	..	2	1	2	1	1	..	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
Mediastinum	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Sites	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..
	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
TOTAL RESPIRATORY ORGANS	17	..	..	..	..	..	..	..	..	..	1	3	2	6	2	1	..	1	..
	..	4	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2	..	..
FEMALE GENITAL ORGANS																			
Uterus	..	19	..	..	..	..	..	..	..	1	..	3	7	1	2	3	1	..	1
Ovary	..	5	..	..	..	..	..	1	..	..	..	1	..	2	..	1	..	..	..
Other Sites	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
TOTAL FEMALE GENITAL ORGANS	..	26	..	..	..	..	..	1	..	2	..	4	7	3	2	4	1	..	2
BREAST	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	..	22	..	..	..	..	..	..	..	..	4	..	3	5	4	1	3	1	..
MALE GENITO-URINARY ORGANS																			
Bladder	6	..	..	..	..	..	..	..	..	..	..	..	1	1	1	2	..	1	..
Kidney	2	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..
Prostate	9	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	3	2	..
Other Sites	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..
TOTAL MALE GENITO-URINARY ORGANS	20	..	..	..	..	..	..	..	..	1	..	..	2	4	2	4	4	3	..
SKIN	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..
	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
OTHER OR UNSPECIFIED ORGANS	5	..	..	..	..	..	..	..	..	..	..	..	..	3	1	1	..	..	..
	..	9	..	..	..	..	..	..	..	..	..	..	2	..	2	2	2	..	1
TOTAL MALES	146	..	..	..	..	..	..	..	..	1	6	10	9	22	26	31	25	11	4
TOTAL FEMALES	..	134	..	..	..	1	..	2	..	3	5	7	18	21	18	15	22	11	9
TOTAL BOTH SEXES ..	280		..	..	..	1	..	2	..	4	11	17	27	43	44	46	47	22	13

DIABETES.

The local authority makes no special provision for the treatment of diabetes. The physician to the Bolton Royal Infirmary has special clinics for the supervision of the treatment of patients at the hospital.

Since the 16th of 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 1938, 2,472 bottles of insulin each containing 100 units, and 242 bottles each containing 200 units were supplied free, and 1,163 bottles of 100 units and 579 bottles of 200 units were supplied at a cheap rate.

PREVENTION OF BLINDNESS.

The main preventable cause of blindness is ophthalmia in the newly born. The Council has made arrangements whereby any medical practitioner dealing with a case of ophthalmia may have the advice and assistance of an ophthalmic specialist. The local authority also pays for any necessary treatment in hospital and for the regular attendance of a district nurse for any of the cases kept at home. The results of prompt and skilled treatment have been very satisfactory.

The number of cases notified during the year was 10, being five more than last year.

In no case was there impairment of vision.

Cases not treated in hospital are visited daily by one of the health visitors, and seven of the cases were also visited by a district nurse.

Particulars of the cases notified in 1938 are as follows :—

Cases.			Vision.			Deaths
Notified	Treated		Unimpaired	Impaired	Total Blindness	
	At Home	In Hospital				
10	10	—	10	—	—	—

TUBERCULOSIS.

The death-rate from all forms of tuberculosis in Bolton during 1938 was ·54. The corresponding rate for England and Wales was ·63.

The total number of new cases notified in 1938 was 132 as compared with 174 in 1937. Ninety-seven of the new cases were pulmonary tuberculosis and 35 were non-pulmonary tuberculosis.

The death-rate from tuberculosis of all forms during 1938 in certain Lancashire County Boroughs was as follows :—

Bury	·51	Oldham	·75
Rochdale	·53	Preston	·78
BOLTON	·54	Burnley	·81
St. Helens	·65	Blackburn	·83
Warrington	·72	Manchester	·97
Wigan	·74	Salford	1·04

Bolton has the third lowest death-rate from tuberculosis amongst the Lancashire manufacturing towns.

Deaths from Tuberculosis.

Ninety-two Bolton residents were certified as having died of tuberculosis during 1938. This compares with 110 in 1937.

Fifty-two of these deaths took place in institutions as follows :—

2 died in the Bolton Borough Hospital.
30 died in Townleys Hospital.
6 died in the Bolton Royal Infirmary.
11 died in Wilkinson Sanatorium.
2 died in the County Mental Hospital, Whittingham.
1 died in St. Mary's Hospital, Manchester.

The age and sex distribution of those who died from tuberculosis are given in these tables :—

PULMONARY TUBERCULOSIS DEATHS.

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 upw'rds
Males	41	–	–	–	2	8	5	13	11	2
Females	34	2	–	–	3	14	9	1	3	2
Total ..	75	2	–	–	5	22	14	14	14	4

NON-PULMONARY TUBERCULOSIS DEATHS.

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 upw'rds
Males	7	1	–	–	2	2	–	–	2	–
Females	10	1	1	–	4	1	–	1	–	2
Total ..	17	2	1	–	6	3	–	1	2	2

In 10 cases the disease had not been notified during life. Six of these cases died in institutions, and the diagnosis was made after death.

ANNUAL DEATH-RATE FROM TUBERCULOSIS (ALL FORMS).

BOLTON AND ENGLAND AND WALES, 1926-1938.

Rate per 1,000 living

Year.	Bolton.	England and Wales.
1926	·92	·96
1927	1·02	·97
1928	·77	·93
1929	·79	·96
1930	·82	·89
1931	·77	·89
1932	·75	·83
1933	·64	·82
1934	·63	·76
1935	·55	·71
1936	·68	·69
1937	·64	·69
1938	·54	·63

For the past eleven years the Bolton tuberculosis death-rate has been lower than that for England and Wales.

Age and sex distribution of cases of tuberculosis notified in Bolton in 1938.

PULMONARY TUBERCULOSIS NOTIFICATIONS.

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.. ..	–	–	1	1	10	6	8	7	8	8	3	52
Females ..	1	–	1	1	11	7	10	7	4	2	1	45

NON-PULMONARY TUBERCULOSIS NOTIFICATIONS.

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.. ..	–	3	2	5	4	1	2	–	–	–	1	18
Females ..	–	3	4	1	3	–	2	1	2	1	–	17

Action Under Legal Enactments.

No action was necessary during the year under the Public Health (Prevention of Tuberculosis) Regulations, 1925, relating to tuberculous employees in the milk trade, nor was Section 172 of the Public Health Act, 1936, employed to remove any patient compulsorily to a sanatorium.

Tuberculosis Dispensary.

The work of the dispensary continues as in previous years. It acts as a clearing-house for all forms of tuberculosis. Cases are referred here by the practitioners of the town. The Tuberculosis Officer examines the patients and advises the general practitioner as to diagnosis and future treatment—whether it should be provided in a sanatorium, at home by the family doctor, or through the medium of the dispensary.

The dispensary is open every week-day (except Saturday) from 9 a.m. to 12 noon and on Monday and Friday from 2 p.m. to 5 p.m. The work done at the dispensary is shown by the following figures :—

Total attendances	2,714
Total number of patients sent for consultation ..	345
The results of these consultations were as follows :—	
Number found to have pulmonary tuberculosis ..	68
Number found to have non-pulmonary tuberculosis..	32
Number of cases kept under observation for suspected pulmonary tuberculosis	3
Number of cases kept under observation for suspected non-pulmonary tuberculosis	—
Number in whom no evidence of tuberculosis was found	242
Visits by tuberculosis nurse	1,314
Number of specimens of sputum examined	262
Total number of cases on the dispensary register :—	
Pulmonary tuberculosis	316
Non-pulmonary tuberculosis	141
Total	457
X-ray examinations made in connection with dispensary work	222
Total number of cases on the notification register :—	
Pulmonary tuberculosis	358
Non-pulmonary tuberculosis	162
Total	520

Treatment of Tuberculosis.

In Bolton, institutional treatment for tuberculosis is given very promptly to all patients desiring it and who are deemed suitable cases for such treatment. It is rare for a patient to wait more than a week.

Two hundred and seventy persons applied for treatment in 1938. Two hundred and fourteen of these were cases of pulmonary tuberculosis and 56 of non-pulmonary tuberculosis. Two cases were admitted to hospital for observation.

The treatment given was as follows :—

Residential treatment	110
Domiciliary treatment	128
Out-patient treatment	29
Declined residential treatment ..	1
On waiting list at close of 1938 ..	–
Application withdrawn	–
Application cancelled	1
Died before admission	1

No patient requiring residential treatment was refused such treatment.

Pulmonary.

Pulmonary cases requiring institutional treatment are provided for as follows :—

30 beds (and more if needed) at the Wilkinson Sanatorium.

24 beds at the Borough Hospital.

In addition, many cases enter Townleys Hospital, or are first diagnosed while in-patients there, and some degree of co-ordination is obtained by visits of the Tuberculosis Officer to these cases, and the transference of those suitable to sanatorium.

During the year 1936, two cases of pulmonary tuberculosis in children were sent to the Eastby Sanatorium, near Skipton, where, in addition to sanatorium life, they are enabled to receive education, the School being recognised by the Board of Education. One of these cases is still in residence there, showing steady improvement ; the other returned home during 1937, the disease being arrested.

Non-Pulmonary.

Cases of non-pulmonary tuberculosis in children requiring institutional treatment are sent to the Royal Liverpool Children's Hospital at Heswall, Cheshire, where we have a call on six beds, or to the Children's Orthopædic Hospital, Marple.

Adult cases of non-pulmonary tuberculosis are sent to the Robert Jones & Agnes Hunt Orthopædic Hospital, Oswestry, and to various other hospitals according to the nature of the disease.

The Bolton Public Health Committee pays for the treatment of all these cases that are sent through the department, and in many cases the fares of those not transferred by ambulance also. Occasionally, in necessitous cases, the fares are paid for a relative to visit the patient.

Many of these cases are diagnosed at Bolton Royal Infirmary and Townleys Hospital, and subsequently transferred to these other hospitals with the approval of the Tuberculosis Officer.

The following table summarizes the residential treatment given during 1938.

Accommodation Provided by Local Authority with Number of Persons Admitted for Treatment During the Year 1938.

Institution.	Beds	Admitted during the year			Under Treatment 31st Dec. 1938.
		Total	Insured	Uninsu'd	
Wilkinson Sanatorium	30	69	52	17	22
Borough Hospital	24	1	1	—	—
*Heswall	6	1	—	1	4
*Bolton Royal Infirmary	—	10	6	4	—
*Robert Jones and Agnes Hunt Orthopædic Hospital, Oswestry	—	7	3	4	2
*Eastby Sanatorium Nr. Skipton ..	—	—	—	—	1
*Manchester Royal Infirmary ..	—	3	3	—	—
*Manchester and Salford Hospital for Skin Diseases..	—	1	1	—	—
*Liverpool Sanatorium, Delamere Forest	—	8	7	1	7
*East Lancashire T.B. Colony, Barrowmore Hall	—	1	1	—	1
*Derwen Cripples Training College, Oswestry	—	1	1	—	1
*Liverpool Open-Air Hospital, Leasowe	—	3	1	2	2
*Children's Orthopædic Hospital, Marple	—	3	—	3	3
*Royal Infirmary, Shrewsbury ..	—	1	1	—	1
*Salford Royal Hospital	—	1	—	1	—

* Paid for per user.

Five patients suffering from tuberculosis of the skin were referred for advice and treatment to the Manchester and Salford Hospital for Skin Diseases. The total number of attendances made by the out-patients was 33.

Several cases of tuberculosis of the skin have been referred to the newly opened Skin Department of the Bolton Royal Infirmary, where Dr. Somerford, of Manchester, attends.

Ultra-Violet Ray Treatment.

During the year, 14 cases were referred to the Bolton Royal Infirmary for ultra-violet ray treatment, the majority of these cases being of gland tuberculosis. An average of 34 treatments was given to each case.

With the opening of the new Civic Centre in June, a new ultra-violet ray department became available for cases of non-pulmonary tuberculosis on three sessions per week. This department comprises two Sollux mercury vapour lamps, two radiant heat lamps, and one Kromayer water-cooled lamp for local application.

The new X-ray installation also became available ; this is a Newton & Wright shock-proof plant, and is in the hands of Dr. Richardson, Radiologist to the Bolton Royal Infirmary. This greatly facilitates the work of the department, as new cases can usually be X-rayed on their first visit. Better X-ray control of pneumothorax treatment can also be obtained, as these patients can be screened frequently before or after their treatments. The installation is also used for patients referred from other departments, such as the Mother and Child Welfare Clinics and the Dental Clinics.

Artificial Pneumothorax.

The number of attendances for this form of treatment has again increased this year. Twenty patients attended the dispensary at intervals varying from two to four weeks, and a second afternoon session has been devoted to the work during the year. Only a small percentage of patients are suitable for the treatment, as it depends on the resting of the diseased lung by collapsing it, and is therefore only applicable to patients with the other lung healthy, but the results again encourage its use wherever possible.

Much attention has been paid of recent years to the surgical treatment of chest conditions, and many surprising results achieved by operations closely related to artificial pneumothorax. It was felt, therefore, that those methods of treatment now firmly established as of value should not be withheld from any suitable case : a start was accordingly made in 1937, and several cases have been seen and operated upon by a surgeon specialising in chest surgery. It is hoped to continue and expand this work.

Examination of Contacts.

By the systematic examination of house contacts of known, particularly infectious, cases, many early or unsuspected cases of tuberculosis are detected. Although new methods of treatment are continually being devised, it still remains true that the most important function of the dispensary is to diagnose cases in the early stages, when complete cure can be attained.

During the year, 89 contacts were examined at the dispensary or in the home ; of these, 11 proved to be tuberculous. It is felt that by an extension of this work the aim and duty of the dispensary will be more fully discharged.

Care Work.

The dispensary undertakes a considerable amount of care work. A pint of milk is issued daily to necessitous patients, and malt and oil where necessary.

ASSISTANCE GIVEN TO NECESSITOUS TUBERCULOUS PATIENTS.

1.	Total number of patients assisted	148
2.	Average time receiving assistance ..	7 months
3.	Amount of milk given	30,408 pints
4.	Malt and oil given	177 lbs.

Recommendations are frequently given to the Public Assistance Department and the Unemployment Assistance Board for extra assistance as regards food, etc., and also to the Guild of Help and the British Legion as regards clothing, and this co-operation with other organisations assists the patients to maintain their health.

A considerable number of patients living in insanitary property or overcrowded conditions have, on representations to the Housing Committee, been promptly rehoused in Corporation Housing Schemes or otherwise.

This helpful co-ordination is greatly appreciated as being one of the most practical ways of permanently improving the well-being of these patients.

VENEREAL DISEASES.

The work of the venereal diseases clinics was transferred to the new department in the Civic Centre on June 13th, 1938. The new clinics follow the general layout of the clinic at St. Thomas' Hospital, London, and are admirably fitted and equipped. Additional services of orderlies and nurses are still necessary to provide fuller facilities for more constant intermediate treatment of patients.

Clinics are held at the following times :—

Monday	11-0 a.m. and 6-30 p.m.	Males.
Wednesday	11-0 a.m. and 6-30 p.m.	Males.
Friday	11-0 a.m. and 6-30 p.m.	Males.
Tuesday	9-30 a.m.	Females.
Thursday	6-0 p.m.	Females.
Saturday	10-0 a.m.	Females.

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

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

FOR MALES.

Monday	11-0 a.m. and 6-30 p.m.
Tuesday	7-0 p.m.
Wednesday..	11-0 a.m. and 6-30 p.m.
Thursday	11-0 a.m.
Friday	11-0 a.m. and 6-30 p.m.

FOR FEMALES.

Monday	2-30 p.m.
Tuesday	11-0 a.m.
Wednesday..	2-30 p.m.
Friday	2-30 p.m.

Statistics of Number of Patients and Number of Attendances at the Venereal Diseases Clinics in 1938.

The number of patients who attended the clinics in 1938 was :—

Men .. 798 Women .. 387

The diseases from which they suffered were :—

	Men	Women	Total
Syphilis	184	188	372
Soft Chancre	—	—	—
Gonorrhœa	469	104	573
Non-venereal	145	95	240
	798	387	1,185

The above figures give the total number of patients who attended the clinics during 1938. The numbers of new patients who came under treatment for the first time in 1938 were as follows :—

	Men	Women
Syphilis	33	24
Soft Chancre	—	—
Gonorrhœa	169	25
Non-venereal	123	86
	325	135

Attendances.

The total number of attendances made by patients at the clinics was :—

Men—9,572. Women—6,576. Total—16,148.

The following specimens were sent from the clinics to the Public Health Laboratory, Manchester, for examination :—

Wassermann reaction—Serum	725
Kahn test—Serum	8
Gonorrhœa complement fixation test—Serum	315

Patients received 1,568 intravenous injections of salvarsan substitutes, 3,123 intramuscular injections of bismuth, and 100 mercury injections.

The following table shows the attendances and treatment received by Bolton patients at Treatment Centres in other towns.

	Treatment Centre			
	Manchester	Bury	Salford	Liverpool
No. of cases dealt with for the first time during 1938 :—	11	2	18	1
(*a*) Syphilis	5	1	1	–
(*b*) Soft Chancre	–	–	1	–
(*c*) Gonorrhœa	4	1	5	1
(*d*) Conditions other than Venereal	2	1	11	–
Attendances of all patients ..	413	40	453	69
Doses of salvarsan substitutes given	9	–	–	–
Tests :—				
Wassermann	33	–	–	–
Gonorrhœa	–	–	–	–
In-patient days	17	–	–	–

The tables on pages 103 and 104 show the work carried out at the Bolton Treatment Centre.

Nine medical men applied during 1938 for arsenobenzene compounds, and 159 doses were supplied to them for use in their private practices.

The following examinations were carried out at the Public Health Laboratory, Manchester, for private medical practitioners or institutions.

Wassermann Reaction—Blood ..	364
—C. S. Fluid ..	34
Gonorrhœa—Microscopical tests ..	29
Complement fixation tests	5

RETURN RELATING TO ALL PERSONS WHO WERE TREATED AT THE TREATMENT CENTRE AT BOLTON PUBLIC HEALTH OFFICES DURING THE YEAR ENDED THE 31ST DECEMBER, 1938.

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than Venereal		TOTALS		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
Number of cases on 1st January under treatment or observation	141	152	..	..	279	78	21	9	441	239	680
Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	8	9	..	..	10	1	..	..	18	10	28
Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	9	..	..	..	..	..	..	..	9	..	9
,, secondary	4	4	..	..	..	..	..	..	4	4	8
,, latent in first year of infection ..	..	..	..	..	..	..	..	..	..	..	..
,, all later stages	17	12	..	..	..	..	..	..	17	12	29
,, congenital	3	8	..	..	..	..	..	..	3	8	11
Soft Chancre	..	..	..	..	..	..	..	..	..	..	..
Gonorrhœa, 1st year of infection	..	..	..	..	168	22	..	..	168	22	190
,, later	..	..	..	..	1	3	..	..	1	3	4
Conditions other than venereal	..	..	..	..	..	..	123	86	123	86	209
Number of cases dealt with for the first time during the year under report known to have received treatment for the same infection, or to have been under observation, at other Centres	2	3	..	..	11	..	1	..	14	3	17
TOTALS OF ITEMS 1, 2, 3 AND 4	184	188	..	..	469	104	145	95	798	387	1185
Number of cases discharged after completion of treatment and final tests of cure or after diagnosis as non-venereal	12	3	..	..	89	30	124	82	225	115	340
Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	12	3	..	..	..	..	..	..	12	3	15
,, secondary	4	6	..	..	..	..	..	..	4	6	10
,, latent in 1st year of infection ..	..	..	..	..	..	..	..	..	..	..	..
,, all later stages	15	15	..	..	..	..	..	..	15	15	30
,, congenital	4	10	..	..	..	..	..	..	4	10	14
Soft Chancre	..	..	..	..	..	..	..	..	..	..	..
Gonorrhœa, 1st year of infection	..	..	..	..	143	11	..	..	143	11	154
,, later	..	..	..	..	..	1	..	..	..	1	1
Number of cases which ceased to attend after completion of treatment but before final tests of cure ..	..	..	..	..	..	1	..	..	..	1	1
Number of cases transferred to other Centres or to institutions, or to care of private practitioners ..	5	3	..	..	5	3	..	..	10	6	16
Number of cases remaining under treatment or observation on 31st December	132	148	..	..	232	58	21	13	385	219	604
TOTALS OF ITEMS 5, 6, 7, 8 AND 9 .. .. (These totals should agree with those of Items 1, 2, 3, and 4.)	184	188	..	..	469	104	145	95	798	387	1185
Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—											
Syphilis, primary	..	..	..	..	..	..	..	..	..	..	..
,, secondary	..	..	..	..	..	..	..	..	..	..	..
,, latent in 1st year of infection ..	..	..	..	..	..	..	..	..	..	..	..
,, all later stages	1	1	..	..	..	..	..	..	1	1	2
,, congenital	1	3	..	..	..	..	..	..	1	3	4

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than Venereal		TOTALS		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Tots
11. Number of attendances :—											
(a) for individual attention of the medical officers	2337	3001	..	..	4086	1884	293	347	6716	5232	11
(b) for intermediate treatment, e.g., irrigation, dressing..	30	43	..	..	2568	1236	258	65	2856	1344	4
TOTAL ATTENDANCES	2367	3044	..	..	6654	3120	551	412	9572	6576	16
12. In-patients :—											
(a) Total number of persons admitted for treatment during the year	..	1	..	..	..	..	..	..	..	1	
(b) Aggregate number of "in-patient days" of treatment given	..	19	..	..	..	..	..	..	..	19	

	Under 1 year		1 & under 5 years		5 and under 15 years		15 years and over		TOTALS	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods :—	..	1	..	1	2	3	1	3	3	8

	Arsenical		Mercury	Bismuth
	Approved Arsenobenzene Compounds	Others		
14. (a) Names of chief preparations used in the treatment of syphilis	Stabilarsan, Sulfarsenol, Sulphostab.	Tryparsamide.	Colloidal Mercury Sulphide	Bismostab Bivatol
(b) Total number of injections given (out-patients and in-patients)	1548	20	100	3123

	Microscopical		Cultural	Serum		Cerebro-spinal fluid	Others diagnosi Vener Disea
	for Syphilis	for Gonorrhœa	for Gonorrhœa	for Syphilis	for Gonorrhœa		
15. PATHOLOGICAL WORK :—							
(a) Number of specimens examined at, and by the medical officer of, the Treatment Centre ..	..	969	..	..	..	..	..
(b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory	..	..	..	* 733	315	..	..

* Wasserman specimens, 725; Kahn specimens, 8.

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 (or Country in the case of persons residing elsewhere than in England and Wales)	Bolton	Lancs. C.C.	Manchester	Leeds	Salford	Blackburn	Oldham	Wallasey	Blackpool	Southport	Wigan	Bury	Ashton-u-Lyne	Weymouth	Tot
A. Number of cases from each area included under the following headings in Item 3 :—															
Syphilis	41	15	..	..	..	..	1	..	..	..	..	..	..	..	7
Soft Chancre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Gonorrhœa	114	77	..	..	1	..	..	..	..	..	..	2	..	..	4
Conditions other than Venereal	147	51	4	2	..	..	..	1	1	..	..	1	1	1	9
TOTAL	302	143	4	2	1	..	1	1	1	..	..	3	1	1	9
B. Total number of attendances of all patients residing in each area	11281	4747	9	2	8	30	3	1	2	9	3	47	2	4	16
C. Aggregate number of "in-patient days" of all patients residing in each area	19	..	..	..	..	..	..	..	..	..	..	..	..	..	9

SECTION VII.

Annual Report of the Public Analyst.

Annual Report of the Public Analyst and Bacteriologist

for the year ended December 31st, 1938.

The following is the report on the work carried out in the Borough Laboratory during 1938.

Summary.	Number of Samples.
Food and Drugs	549
Bacteriological Examinations for the Public Health Department	1,902
Bacteriological Examinations of Milk	244
Analyses for the Water Committee	736
Gas Examinations	144
Fertilizers and Feeding Stuffs	7
Examinations for the Public Assistance Committee ..	54
Miscellaneous Analyses	112
	3,748

Public Health Committee.

Food and Drugs.

	Total	Genuine	Adulterated	Per cent. Adulterated
Milk	275	272	3	1·09
Butter	24	24	–	–
Margarine	18	18	–	–
Cheese	22	20	2	9·09
Lard	18	18	–	–
Tea	1	1	–	–
Coffee	8	8	–	–
Cocoa	4	4	–	–
Jam	10	10	–	–
Meat Products	27	27	–	–
Shredded Suet	4	4	–	–
Cereals	31	31	–	–
Condiments and Spices ..	29	29	–	–
Cakes	4	4	–	–
Sweets	20	20	–	–
Drugs	28	24	4	14·29
Dried Fruits	16	16	–	–
Baking Powders	10	9	1	10·00
	549	539	10	1·82

MILK.

Total examined	Genuine	Adulterated
275	272	3

All the samples were examined for preservatives and colouring matter. In no case was any found.

The satisfactory quality has been maintained, the average being (exclusive of skimmed milk) for the year :—

Milk fat	Non-fatty solids	Water
3·79%	8·83%	87·38%

Minimum limits : Milk fat, 3·00% ; Non-fatty solids, 8·50%.

The following table shows the monthly variation :—

Month	No. of samples	Milk fat		Non-fatty solids	
January	26	3·82	3·83%	8·88	8·81%
February	29	3·80		8·81	
March	30	3·86		8·75	
April	20	3·35	3·55%	8·85	8·86%
May	15	3·55		8·75	
June	22	3·74		8·93	
July	20	4·13	3·94%	8·89	8·82%
August	37	3·83		8·78	
September	7	3·92		8·85	
October	29	3·89	3·83%	8·83	8·81%
November	24	3·89		8·69	
December	16	3·66		8·95	

BUTTER.

Twenty-four samples have been examined. All were genuine and of good quality. In no case was the maximum legal limit for water (16%) exceeded, and in no case was preservative found.

MARGARINE.

Eighteen samples have been examined. All were sweet and wholesome, whether of vegetable or animal origin. All were examined for preservative but in no case was any found.

CHEESE.

Twenty-two samples have been examined. With the exception of two samples these were of satisfactory quality.

Average milk fat on dried sample for full meat cheese was 52·44%.

The unsatisfactory samples were 7·77% and 19·07% deficient in milk fat respectively.

Two samples of half meat cheese gave an average milk fat content of 28·92%.

Meat Products.

Twenty-seven samples have been examined with special regard to preservatives. Where no declaration was made, these were proved to be absent in every case.

Lard.

Eighteen samples have been examined. These were derived wholly from the fat of the hog.

Sweets.

Twenty samples have been examined. These were specially examined for arsenic and deleterious ingredients. In no case did the arsenic exceed 1/200th of a grain per pound and in no case was any injurious substance detected.

Condiments and Spices.

Twenty-nine samples have been examined.

Drugs.

Twenty-eight samples have been examined. Of these, the following were adulterated :—

1 camphorated oil—9·2% deficient in camphor.
1 ammoniated tincture of quinine—56·6% deficient in dilute solution of ammonia.
1 boracic ointment—17·8% deficient in boracic acid.
1 sulphur ointment—45% deficient in sulphur.

Jam.

Ten samples have been examined. These agreed with declaration of fruit standard on labels.

Baking Powder.

Ten samples have been examined. One of these was deficient in available carbon dioxide to the extent of 28·2%.

Preservatives.

All samples were examined for preservatives where such might reasonably be expected to be present.

In 3 of the 27 meat products examined, 70, 82, and 45 parts of sulphur dioxide per million were found. (Declared on label in each case.)

In no other samples were preservatives found.

Colouring Matter.

In the 275 milks examined, no colouring matter was found, and in other foodstuffs no prohibited dyes.

Bacteriological Examinations.

(Public Health Department.)

	Total.	Positive.	Negative.	Doubtful.
Tuberculosis	314	25	289	—
Diphtheria	1,578	281	1,267	30
Fever B. Typhosus	10	1	9	—
Paratyphoid A	10	—	10	—
Paratyphoid B	10	2	8	—

Bacteriological Examination of Milk.

Pasteurized Milk.

Ministry of Health Standard : The milk must not contain more than 100,000 bacteria per millilitre.

No. of samples examined	11
Average agar count per 1 ml.	7,073

Tuberculin Tested Milk.

Ministry of Health Standard : The milk must not decolourise methylene blue within 4½ hours if the sample is taken at any time from 1st May to 31st October ; or within 5½ hours if the sample is taken at any time from 1st November to 30th April. The milk also must not contain coliform bacillus in 1/100th ml.

No. of samples examined	22
No. of samples which satisfied methylene blue test	22
No. of samples containing B. coli in 1/100th ml...	3

Accredited Milk.

Ministry of Health Standard : The milk must not decolourise methylene blue within 4½ hours if the sample is taken at any time from 1st May to 31st October ; or within 5½ hours if the sample is taken at any time from 1st November to 30th April. The milk must also not contain coliform bacillus in 1/100th ml.

No. of samples examined	145
No. of samples which satisfied methylene blue test	141
No. of samples containing B. coli in 1/100th ml...	6

The 4 samples which did not satisfy the methylene blue test decolourised the methylene blue in 4, 4, 5, 2½, hours respectively.

Vended Milk (Bottled).

No Ministry of Health Standard of Purity.

No. of samples examined	5
No. of samples satisfying methylene blue test	5
No. of samples containing B. coli in 1/100th ml...	0

Miscellaneous Examinations.

5 Fertilizers and Feeding Stuffs.
16 Urines.
8 Waters.
12 Pathogenic specimens other than those previously tabulated.
7 Coals.
1 Human Milk.
57 Bath Waters.
1 Hair brush.
1 Shaving brush.
1 Ice cream.
1 Rag flock.
1 Effluent.
1 Soap.

Bath Waters. (Monthly Examinations.)

Average Agar Counts and B. coli Contents.

	High Street	Moss Street Ladies	Moss Street Gents	Bridgeman Street Ladies	Bridgeman Street Gents	Bolton School
Agar Count per 1 ml.	119	213	22	156	129	144
B. Coli.						
—in 10 ml.	90·91	87·50	100·00	90·91	81·82	85·71%
+in 10–in 5 ml. ..	0	0	0	0	9·09	14·29%
+in 5–in 2 ml. ..	9·09	0	0	0	0	0 %
+in 2–in 1 ml. ..	0	12·50	0	0	0	0 %
+in 1–in ½ ml. ..	0	0	0	9·09	9·09	0 %
+in ½–in 1/10ml. ..	0	0	0	0	0	0 %
+in 1/10–in 1/100ml.	0	0	0	0	0	0 %
+in 1/100ml. ..	0	0	0	0	0	0 %

The pH value and free chlorine content have also been determined. With the exception of a few instances, these figures have fallen within the accepted limits.

Fertilizers and Feeding Stuffs.

Five samples have been examined. These agreed with warranty.

Waterworks Committee.

The water comprising the town's supply is examined bacteriologically weekly, and chemically monthly. The water being of an acid nature before treatment, a careful watch is kept on reaction and plumbo-solvency.

The quality of the water during 1938 has been excellent as a domestic supply. For details of the water examination see Water Survey Report.

Routine water examinations	730
Solder	1
Chalk	1
Paints	3
Deposit	1

GAS COMMITTEE.

The gas was examined regularly for total sulphur, ammonia, and sulphuretted hydrogen until the end of June, when the examinations were discontinued.

WATCH COMMITTEE.

Samples in connection with :—
1 case of suspected abortion.
1 case of murder.

BOROUGH CORONER.

Examination of stomach contents to determine cause of death.

PUBLIC ASSISTANCE COMMITTEE.

50 Milks.
4 Margarines.

The average composition of the above milks was :—

Milk Fat	3·70%
Non-fatty Solids	8·83%
Water	87·47%

The margarines satisfied the Committee's requirements.

ROYAL INFIRMARY.

Sixty-one milks for chemical and bacteriological examination.

ELECTRICITY COMMITTEE.

1 Kettle.

CLEANSING COMMITTEE.

1 Fish Meal.
1 Fish Manure.

Sale of Food and Drugs Acts.

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

Article.	Result of Analysis.	Action taken.
Milk	18·66% deficient in fat ..	Appeal to cow sample.
Milk	8·7% ,, ,, ..	Fined £3 and 10/6 costs.
Milk	8·33% ,, ,, ..	No action as a result of appeal to cow.
Cheese	19·07% deficient in milk fat..	Summons withdrawn.
Cheese	7·71% ,, ,, ..	Warning given.
Camphorated Oil ..	9·2% deficient in camphor ..	Warning given.
Baking Powder ..	28·2% deficient in available carbon dioxide	Warning given.
Boracic Ointment ..	17·8% deficient in boracic acid	Fined 50/- and 10/6 costs.
Sulphur Ointment ..	45·0% deficient in sulphur ..	Fined 50/- and 10/6 costs.
Ammoniated tincture of quinine	56·6% deficient in dilute solution of ammonia (B.P.) ..	Warning given.

Offences other than adulteration—Nil.

SECTION VIII.

Miscellaneous.

Queen's Park Observatory, Bolton.

METEOROLOGICAL SUMMARY, 1938.

The average daily barometer reading for the year (29·984″) was slightly above the long period average of 29·937″. This was due mainly to the high monthly averages for February (30·279″ against 29·960″) and April (30·350″ against 29·945″). The highest reading for the year was 30·797″ (April 11th) and the lowest, 28·480″ (November 23rd).

Out of the twelve months, only May, June and July showed average temperatures below normal. The mean for the year (48·75°) was 1·41° above the long period average. January, March and November showed means 3°, 6° and 5° respectively above normal. August 10th was the hottest day (77·1°) and December 21st the coldest (22·1°).

Despite the drought in the early months of the year, the annual amount of rainfall (53·104″) was 10·67″ above the long period average. The falls in May (5·277″ compared with 3·435″) and June (4·411″ compared with 2·932″) helped to make up the deficiency and October's rain (10·409″) was more than twice the normal amount (5·027″). In April, however, the fall was only 0·595″ compared with the normal average of 2·566″. The greatest daily fall was 1·721″ on May 29th. Rain fell on 235 days and snow on seven days.

June, July and September with deficiencies of 17, 27 and 13 hours respectively, were the only months showing fewer hours of sunshine than normal. February, March, April and May showed more than average sunshine and May 5th with 13·6 hours was the sunniest day of the year. Sunshine was recorded on 277 days.

The wind was mainly westerly during the year and the daily average (93 miles) was very much below the long period average (162 miles). The maximum velocity was 34 m.p.h. on January 15th and 31st and February 9th and 26th.

There were ten thunderstorms during the year.

E. HENDY, F.R.MET.S.,

Borough Meteorologist.

Meteorological Summary, 1938

1938	Barometer	Mean Relative Humidity	Mean of Maximum and Minimum Temperature	Absolute extremes of Temperature				Sunshine			Total Rainfall
				Highest	Date	Lowest	Date	Total Amount	Maximum in one day	Date	
								hours	hours		
January	29·778″	86·8%	41·74°	52·1°	16	29·8°	11	33·8	5·4	21	5·691″
February	30·279	79·4	40·96	52·5	25	30·5	11,24	65·3	6·8	11	1·981
March	30·196	84·4	46·82	60·0	31	32·0	3	84·9	8·3	13	1·977
April	30·350	69·5	45·25	64·1	12	28·4	18	134·5	9·6	3,17	0·595
May	29·956	69·9	49·44	67·6	11	30·8	8	162·5	13·6	5	5·277
June	29·974	74·9	54·31	72·8	17	42·3	1	143·3	12·3	13	4·411
July	29·898	79·5	56·16	72·1	22	43·5	13	121·3	12·6	18	4·320
August	29·986	79·6	58·76	77·1	10	39·4	31	146·8	10·9	29	4·730
September ..	30·002	83·0	55·26	67·8	8	36·0	15	82·2	10·8	2	2·709
October	29·808	84·2	49·39	64·8	13	36·4	26,28	74·6	6·4	14	10·409
November.. ..	29·736	83·9	47·42	63·2	5	32·0	22,26	36·7	6·1	1	5·301
December	29·847	88·3	39·57	52·5	11	22·1	21	25·6	3·4	21	5·703
Totals	359·810	963·4	585·08					1111·5			53·104
Averages	29·984	80·3	48·75					92·6			4·425

Rainfall. Average 1887—1938 = 42·434″

Baths and Wash-houses. 12 months ended 31st March, 1939.

	Mixed Bathing	Swimming Baths				Slipper Baths					Vapour and Needle Baths	Contracts	Total Bathers	Corresponding period last year	No. using Wash-houses	Corresponding period last year
	6d.	4d.	3d.	2d.	1d.	8d.	6d.	4d.	2d.	1d.	9d.					
Moss St. Baths and Wash-houses (2 plunges) ..	5659	15082	1341	29310	707	1128	6245	4068	..	2214	..	44000	109754	111154	21299	20738
Bridgeman St. Baths .. (2 plunges)	5368	10635	811	22154	586	2573	2131	1435	..	956	251	28178	75078	93694	..	..
High St. Baths.. .. (1 plunge)	5838	9956	748	18576	1174	467	3086	1556	..	1315	73	24402	67191	*35096	..	..
Rothwell St. Baths and Wash-houses (no plunge) ..	..	..	..	..	..	..	1308	968	3731	306	..	..	6313	7289	43347	44108
Total ..	16865	35673	2900	70040	2467	4168	12770	8027	3731	4791	324	96580	258336	*247233	64646	64846

* High Street Baths were closed from 11th February, 1937, until 16th August, 1937, for reconditioning.

Turkish Baths. 12 Months ended 31st March, 1939.

	Turkish Baths		Slipper Baths		Foam Baths	Pine Aeration Baths	Massage	Medicated Baths	Total Bathers	Corresponding period last year
	1st Class	2nd Class	1st Class	2nd Class						
Turkish Baths	1512	1667	96	87	166	19	157	86	3790	4312

There are no privately owned swimming pools in the Borough.

Pharmacy and Poisons Act, 1933.

This Act, which replaces all the existing legislation in relation to the sale, distribution, etc., of poisons and poisonous substances, together with the Poisons List and Rules made by the Secretary of State, came into full operation on the 1st May, 1936.

The Act requires, *inter alia*, the local authority to keep a list of persons who, not being authorised sellers of poisons (pharmaceutical chemists), are entitled to sell poisons included in part II of the Poisons List, and to appoint inspectors to secure compliance, by means of inspection and otherwise, with the provisions of the Act by such persons.

Part II of the Poisons List comprises such commonly used substances as ammonia, carbolic disinfectants, sulphuric and nitric acid, caustic potash, spirits of salt and salts of lemon, arsenical and mercurial substances used as sheep dip, insecticides, etc.

During the year under review five certificates were issued to new applicants and 156 persons had their names retained on the list for another year.

Eleven of the sanitary inspectors are inspectors under the Act, and they have made numerous visits for the purpose of giving advice on packing, storage, labelling, bottling, transport and the "breaking" of bulk supplies of poisons.

SECTION IX.

Appendix.

TABLE

CAUSES OF

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45
	I. Infectious and Parasitic Diseases																
1-2	Typhoid and paratyphoid fevers	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	Relapsing fever ("Spirillum obermeieri")	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	Undulant fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	Measles	10	5	5	..	3	3	..	1	3	..	..	..	..	..	..	..
8	Scarlet fever	3	2	1	..	..	..	..	..	1	..	1	..	1	..	..	..
9	Whooping cough	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
10	Diphtheria	22	11	11	1	1	1	3	2	11	2	..	..	..	1	..	..
11	Influenza	24	13	11	1	..	..	..	..	1	..	2	..	1	1	..	1
12	Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	Erysipelas	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	Acute poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	Encephalitis lethargica	7	4	3	..	..	..	..	..	..	..	..	..	1	..	2	..
18	Cerebro-spinal fever	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..
19	Glanders	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	Rabies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23-32	Tuberculosis (all forms) :—	92	49	43	2	..	2	..	..	1	..	11	8	9	8	5	9
23	Respiratory system	75	41	34	1	..	1	..	..	..	..	5	6	9	7	5	9
24	Central nervous system ..	5	2	3	1	..	1	..	..	1	..	2	..	..	..	..	..
25	Intestines and peritoneum ..	3	2	1	..	..	..	..	..	..	..	1	..	..	..	..	..
26	Vertebral column	4	3	1	..	..	..	..	..	..	..	..	1	..	1	..	..
27	Other bones and joints.. ..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..
28	Skin and subcutaneous tissues	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	Lymphatic system (abdominal and bronchial glands excepted)	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
30	Genito-urinary system	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
31	Other organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
32	Disseminated tuberculosis ..	3	..	3	..	..	..	..	..	..	..	2	1	..	..	..	..
33	Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34	Syphilis	5	4	1	..	..	..	..	..	..	..	..	..	..	..	1	..
35	Other venereal diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36	Purulent infection, Septicæmia ..	2	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..
37	Yellow fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
38	Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39	Other diseases due to protozoa ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	Ankylostomiasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	Hydatid cysts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42	Other diseases due to helminths..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
43	Mycoses	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
44	Other infectious or parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Infectious and Parasitic Diseases	169	92	77	5	4	6	3	3	18	2	15	8	12	10	8	10
	II. Cancer and other Tumours																
45-53	Cancer, malignant disease:—	280	146	134	..	..	..	..	..	..	..	1	..	2	..	4	11
45	Buccal cavity and pharynx ..	12	10	2	..	..	..	..	..	..	..	..	..	..	..	..	..
46	Digestive organs and peritoneum	157	88	69	..	..	..	..	..	..	..	1	..	1	..	1	5
47	Respiratory organs	21	17	4	..	..	..	..	..	..	..	..	..	..	..	..	1
48	Uterus	19	..	19	..	..	..	..	..	..	..	..	..	..	..	1	..
49	Other female genital organs ..	7	..	7	..	..	..	..	..	..	..	..	..	1	..	1	..
50	Breast	23	1	22	..	..	..	..	..	..	..	..	..	..	..	..	5
51	Male genito-urinary organs ..	20	20	..	..	..	..	..	..	..	..	..	..	..	..	1	..
52	Skin	7	5	2	..	..	..	..	..	..	..	..	..	..	..	..	..
53	Other or unspecified organs ..	14	5	9	..	..	..	..	..	..	..	..	..	..	..	..	..
54	Non-malignant tumours	3	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..
55	Tumours of undetermined nature	10	6	4	..	..	..	..	..	..	..	1	2	..	..	..	2
	Total Cancer and Other Tumours	293	153	140	..	..	..	..	..	..	..	2	2	2	..	4	13

									WARD																
55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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..	..	..	..	..	..	..	10	..	..	..	2	2	..	..	..	1	..	2	..	..	..	..	..	2	1
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3	4	2	3	1	1	..	1	23	1	1	4	..	..	2	1	1	1	4	2	..	..	3	1	2	1
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8	8	2	3	..	1	..	4	88	1	9	9	14	1	10	8	4	4	5	5	..	7	6	1	3	5
7	7	2	2	..	..	..	2	73	1	8	7	12	1	9	7	4	2	5	3	..	5	3	1	3	4
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11	14	5	9	1	2	..	27	142	3	15	21	20	1	13	11	9	7	15	10	..	10	10	2	13	9
43	44	46	47	22	13	3	..	280	8	12	33	25	4	23	13	19	13	26	9	8	20	21	7	19	20
..	2	4	3	2	..	..	..	12	..	2	1	1	..	2	..	..	..	1	1	..	1	..	..	2	1
21	29	25	30	15	8	1	..	157	5	5	19	15	2	11	7	11	8	15	6	3	14	12	5	7	12
7	2	2	2	1	..	1	..	21	..	1	4	..	1	3	2	..	1	3	1	3	..	..	..	..	2
1	2	3	1	..	1	..	..	19	1	..	2	3	..	4	1	3	..	..	1	..	1	1	1	1	..
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5	4	1	3	1	..	1	..	23	..	1	2	2	..	1	2	2	..	2	..	..	2	4	..	3	2
4	2	4	4	3	..	..	..	20	2	..	1	2	1	1	1	1	2	1	..	1	1	1	..	3	2
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3	3	3	2	..	1	..	..	14	..	1	2	..	..	1	..	1	1	1	..	1	1	2	1	2	..
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2	1	1	1	..	..	..	..	10	..	1	1	1	..	1	..	..	..	..	..	..	2	1	1	1	1
45	45	47	49	23	13	3	..	293	8	13	34	26	4	24	13	19	13	27	11	8	22	22	8	20	21

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45
	III. Rheumatism, Diseases of Nutrition and of Endocrine Glands, and other General Diseases.																
56	Rheumatic fever	10	5	5	..	..	..	..	..	..	3	1	1	..	1	..	..
57	Chronic rheumatism, Osteo-arthritis	18	6	12	..	..	..	..	..	..	..	..	..	..	..	..	..
58	Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59	Diabetes	25	5	20	..	..	..	..	..	..	..	..	1	..	1	1	..
60	Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
61	Beri-beri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
62	Pellagra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
63	Rickets	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..
64	Osteomalacia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65	Diseases of the pituitary gland ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
66	Diseases of the thyroid and parathyroid glands	13	..	13	..	..	..	..	..	..	..	..	..	3	1	..	..
67	Diseases of the thymus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
68	Diseases of the adrenals	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
69	Other general diseases	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Rheumatism, Diseases of Nutrition and of Endocrine Glands, and Other General Diseases	69	16	53	..	..	1	..	..	..	3	1	2	3	3	1	..
	IV. Diseases of the Blood and Blood-forming Organs.																
70	Hæmorrhagic conditions	3	2	1	1	..	..	..	..	..	1	..	..	..	..	..	..
71	Anæmia, chlorosis	15	5	10	..	..	..	..	..	..	1	..	1	..	..	..	1
72	Leukæmia, aleukæmia	3	1	2	..	..	..	..	..	..	..	..	..	..	1	1	..
73	Diseases of the spleen	2	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..
74	Other diseases of the blood and blood-forming organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Diseases of the Blood and Blood-forming Organs ..	23	9	14	1	..	..	..	..	..	2	..	1	..	1	2	1
	V. Chronic Poisoning.																
75	Alcoholism (acute or chronic) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
76	Chronic poisoning by other organic substances	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
77	Chronic poisoning by mineral substances	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Chronic Poisoning ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	VI. Diseases of the Nervous System and Sense Organs.																
78	Encephalitis	3	2	1	..	..	..	..	..	..	..	..	..	..	1	..	..
79	Meningitis	5	2	3	1	1	..	2	..	..	..	..	..	..	..	..	..
80	Tabes dorsalis (locomotor ataxy) ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
81	Other diseases of the spinal cord ..	6	3	3	..	..	..	..	..	..	..	..	..	2	..	1	..
82	Cerebral hæmorrhage, apoplexy, etc.	151	73	78	..	1	..	..	..	1	..	..	..	..	..	..	1
83	General paralysis of the insane ..	5	4	1	..	..	..	..	..	..	..	..	..	..	..	..	2
84	Other forms of insanity	2	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..
85	Epilepsy	7	5	2	..	..	..	..	..	..	..	..	1	..	..	..	1
86	Infantile convulsions (age under five years)	5	3	2	2	1	..	2	..	..	..	..	..	..	..	..	..
87	Other diseases of the nervous system	19	14	5	..	..	..	..	..	..	..	..	1	..	1	2	1

I.—*Continued*

DEATH, 1938.

0 to 5	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
										WARD																
.	..	2	..	..	..	..	..	..	10	1	..	1	..	1	..	..	..	..	3	..	..	..	1	..	1	2
1	1	5	3	3	4	..	..	..	18	1	..	3	2	..	3	..	..	..	3	..	..	..	4	..	2	..
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.	4	3	4	7	2	1	..	..	25	2	2	4	..	..	3	2	2	1	3	2	1	2	..	1	..	..
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3	6	13	8	10	6	2	..	1	68	4	3	9	4	1	7	2	3	3	10	3	3	2	6	1	4	4
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	11	19	37	28	27	12	5	1	150	7	4	28	13	1	9	4	6	5	17	6	4	7	15	2	11	12
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	..	3	1	2	3	..	..	..	19	1	..	4	1	1	3	..	1	..	5	..	..	..	2	..	1	..

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	4 t 5
88	Diseases of the eye and annexa ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
89	Diseases of the ear and mastoid sinus	2	1	1	..	..	..	..	..	1	..	..	1	..	..	..	..	
	Total Diseases of the Nervous System and Sense Organs ..	206	108	98	3	3	..	4	..	2	..	..	3	2	3	3	5	
	VII. Diseases of the Circulatory System.																	
90-95	Heart diseases :	508	275	233	..	..	..	..	..	1	1	5	1	10	5	11	19	
90	Pericarditis..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
91	Acute endocarditis	4	2	2	..	..	..	..	..	..	..	1	..	..	..	..	1	
92	Chronic endocarditis, valvular disease	105	49	56	..	..	..	..	..	..	1	4	1	9	3	5	6	
93	Diseases of the myocardium ..	314	163	151	..	..	..	..	..	..	..	..	..	..	1	3	8	
94	Diseases of the coronary arteries, Angina pectoris	67	51	16	..	..	..	..	..	..	..	..	..	..	..	2	4	
95	Other diseases of the heart ..	17	9	8	..	..	..	..	..	1	..	..	..	1	1	1	..	
96	Aneurysm	7	3	4	..	..	..	..	..	..	..	..	..	..	..	..	1	
97	Arterio-sclerosis	127	56	71	..	..	..	..	..	..	..	..	..	..	..	..	1	
98	Gangrene	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
99	Other diseases of the arteries ..	3	1	2	..	..	..	..	..	..	..	..	..	1	..	..	..	
100	Diseases of the veins (varix, hæmorrhoids, phlebitis, etc.)	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
101	Diseases of the lymphatic system (lymphangitis, etc.)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
102	Abnormalities of blood pressure ..	35	15	20	..	..	..	..	..	..	..	..	..	..	..	..	1	
103	Other diseases of the circulatory system	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Total Diseases of the Circulatory System	683	351	332	..	..	..	..	..	1	1	5	1	11	5	11	22	
	VIII. Diseases of the Respiratory System.																	
104	Diseases of nasal fossæ and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
105	Diseases of the larynx	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
106	Bronchitis	78	42	36	1	2	..	..	..	..	..	..	..	..	..	1	2	
107-109	Pneumonia (all forms) :	102	58	44	17	5	..	1	1	2	3	3	2	4	5	11	6	
107	Broncho-pneumonia	32	16	16	14	3	..	..	1	..	..	..	..	..	..	2	..	
108	Lobar pneumonia	56	32	24	..	1	..	1	..	1	3	3	2	4	4	8	4	
109	Pneumonia (not otherwise defined)	14	10	4	3	1	..	..	..	1	..	..	..	..	1	1	2	
110	Pleurisy	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
111	Congestion and hæmorrhagic infarct of lung, etc.	8	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	
112	Asthma	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
113	Pulmonary emphysema	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
114	Other diseases of the respiratory system	3	2	1	1	..	..	..	..	..	1	..	..	..	1	..	..	
	Total Diseases of the Respiratory System	196	108	88	19	7	..	1	1	2	4	3	2	4	6	12	8	
	IX. Diseases of the Digestive System.																	
115	Diseases of the buccal cavity, pharynx, etc.	4	2	2	..	1	..	..	1	..	..	..	..	..	1	..	..	
116	Diseases of the œsophagus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
117	Ulcer of the stomach or duodenum	11	9	2	..	..	..	..	..	..	..	..	..	..	2	..	..	
118	Other diseases of the stomach ..	8	3	5	2	..	..	..	..	1	..	..	..	..	..	..	..	
119-120	Diarrhœa and enteritis	7	4	3	3	..	..	1	..	..	1	..	..	..	..	..	..	

55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD: North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..
14	24	39	31	30	12	5	10	196	10	5	41	16	2	17	6	11	5	25	7	5	9	19	3	13	12
43	55	79	95	75	39	11	..	508	17	25	56	43	6	27	17	53	21	43	27	15	29	58	18	31	22
..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
..	..	1	..	..	..	..	..	4	..	..	1	..	..	..	..	..	..	2	..	..	1	..	..	..	..
9	10	12	16	10	..	1	..	105	..	4	14	11	1	13	3	11	4	8	3	3	8	11	2	3	6
22	35	52	67	58	37	10	..	314	16	16	29	27	5	13	9	35	14	28	19	7	17	38	7	23	11
9	9	12	8	7	1	..	..	67	1	3	8	4	..	1	4	5	3	5	5	3	2	6	9	3	5
3	1	2	3	..	1	..	..	17	..	2	4	1	..	..	1	2	..	..	..	1	1	3	..	2	..
2	..	2	..	..	1	..	..	7	..	..	2	1	..	..	1	..	..	1	..	..	..	1	1	..	..
8	12	27	26	36	8	6	..	127	7	5	19	12	..	14	14	8	4	11	3	4	6	13	..	3	4
..	..	..	2	..	..	..	..	2	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
..	..	1	..	..	1	..	..	3	..	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..
..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	8	7	5	5	1	..	..	35	..	1	3	3	2	3	..	5	2	4	1	1	2	3	1	3	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
57	75	116	129	116	50	17	..	683	24	32	81	60	8	46	32	66	27	59	31	20	38	75	20	37	27
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	8	8	14	8	13	5	3	75	2	5	13	8	..	13	2	7	6	3	2	5	2	7	..	1	2
..	7	8	9	3	2	..	24	78	5	6	13	12	1	11	3	6	3	8	7	2	4	12	3	4	2
..	2	3	4	2	1	..	18	14	..	2	6	4	..	4	2	4	1	3	2	..	1	2	..	1	..
..	5	5	2	1	..	..	2	54	4	2	6	8	1	6	..	2	2	3	3	1	2	8	3	3	2
..	..	..	3	..	1	..	4	10	1	2	1	..	..	1	1	..	..	2	2	1	1	2	..	..	..
..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
2	..	1	1	1	2	..	..	8	..	1	2	..	..	1	..	..	..	1	..	..	..	2	..	1	..
1	1	..	..	..	..	..	..	3	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..
1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	1	2	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	16	17	24	12	17	6	28	168	7	12	31	20	1	26	6	13	9	12	9	7	8	22	3	6	4
..	..	..	..	..	..	..	2	2	..	..	1	1	..	1	..	..	..	1	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	1	1	1	1	..	..	..	11	1	..	1	1	..	1	2	1	..	2	..	..	..	1	..	1	..
..	..	2	..	2	1	..	2	6	..	..	1	1	..	..	..	..	1	1	..	1	2	..	..	1	..
..	..	1	..	..	..	..	4	3	..	..	2	2	..	..	..	..	..	2	..	..	..	1	..	..	..

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	4 t 5
121	Appendicitis	16	8	8	..	..	..	1	..	1	..	1	2	1	..	1	3	
122	Hernia, intestinal obstruction ..	20	8	12	..	1	..	..	..	..	..	..	1	..	..	..	1	
123	Other diseases of the intestines ..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
124	Cirrhosis of the liver	6	5	1	..	..	..	..	..	..	..	..	..	1	..	..	1	
125	Other diseases of the liver ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	
126	Biliary calculi	3	1	2	..	..	..	..	..	..	..	..	..	..	1	..	..	
127	Other diseases of the gall bladder and ducts	17	4	13	..	..	..	..	..	..	..	..	..	..	1	1	..	
128	Diseases of the pancreas ..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
129	Peritonitis without stated cause ..	4	3	1	1	1	..	..	..	1	..	..	..	..	..	..	..	
	Total Diseases of the Digestive System	101	49	52	6	3	..	2	1	3	1	1	3	2	5	2	6	
	X. Non-Venereal Diseases of the Genito-Urinary System and Annexa.																	
130-132	Nephritis :	88	50	38	..	..	..	..	..	1	..	..	4	3	..	3	5	
130	Acute nephritis	6	5	1	..	..	..	..	..	..	..	..	1	..	..	..	..	
131	Chronic nephritis	64	35	29	..	..	..	..	..	1	..	..	3	3	..	3	5	
132	Nephritis, not stated to be acute or chronic	18	10	8	..	..	..	..	..	..	..	..	..	..	..	..	..	
133	Other diseases of the kidney and annexa	6	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	
134	Calculi of the urinary passages ..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
135	Diseases of the bladder	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
136	Diseases of the urethra, urinary abscess, etc.	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
137	Diseases of the prostate	12	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
138	Diseases of the male genital organs	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
139	Diseases of the female genital organs	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	1	
	Total Non-Venereal Diseases of the Genito-Urinary System and Annexa	116	71	45	..	..	..	..	..	1	..	..	4	3	..	3	6	1
	XI. Diseases of Pregnancy, Childbirth and the Puerperal State.																	
140	Post-abortive sepsis	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	
141	Abortion not returned as septic ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
142	Ectopic gestation	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	
143	Other accidents of pregnancy ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
144	Puerperal hæmorrhage	2	..	2	..	..	..	..	..	..	..	..	..	1	..	..	1	
145	Puerperal sepsis not returned as post-abortion	3	..	3	..	..	..	..	..	..	..	..	..	1	..	2	..	
146	Puerperal albuminuria and convulsions	2	..	2	..	..	..	..	..	..	..	..	..	1	..	1	..	
147	Other toxæmias of pregnancy ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
148	Puerperal phlegmasia alba dolens, embolism, and sudden death ..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	
149	Other accidents of childbirth ..	4	..	4	..	..	..	..	..	..	..	..	..	1	2	1	..	
150	Other or unspecified conditions of the puerperal state	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	
	Total Diseases of Pregnancy, Childbirth and the Puerperal State	15	..	15	..	..	..	..	..	..	..	..	1	5	3	5	1	
	XII. Diseases of the Skin and Cellular Tissue.																	
151	Carbuncle, boil	5	4	1	..	..	..	..	..	..	..	..	..	..	..	1	..	
152	Cellulitis, acute abscess	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
153	Other diseases of the skin and its annexa	5	3	2	..	..	1	..	..	..	..	..	..	..	..	..	..	
	Total Diseases of the Skin and Cellular Tissue	11	8	3	..	..	1	..	..	..	..	..	..	..	..	1	..	

55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD: North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	2	1	..	..	..	..	1	15	..	1	2	1	..	3	..	1	1	..	..	..	3	2	..	1	1
..	3	4	2	3	2	1	1	19	1	2	3	1	..	2	2	2	..	2	1	..	..	2	..	1	1
..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..
1	1	2	..	..	..	..	..	6	..	..	1	..	..	..	..	..	2	..	..	..	1	1	1	..	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
..	..	2	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..
2	1	1	2	4	..	1	..	17	1	..	..	2	..	1	2	2	2	1	1	..	..	1	3	1	..
1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
..	1	..	..	..	..	..	2	2	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..
5	11	15	5	10	3	2	12	89	3	5	11	9	..	8	7	7	6	9	5	3	6	9	4	7	2
9	9	9	14	6	5	2	..	88	5	2	11	5	1	3	2	4	3	11	2	6	5	14	7	2	5
1	1	1	..	..	..	..	..	6	..	..	..	..	..	..	..	..	1	..	..	3	..	..	1	..	1
8	6	7	8	4	3	1	..	64	2	2	10	5	1	2	2	3	2	6	1	2	4	13	5	..	4
..	2	1	6	2	2	1	..	18	3	..	1	..	..	1	..	1	..	5	1	1	1	1	1	2	..
1	1	1	..	1	..	..	..	6	..	..	1	..	..	..	2	..	..	..	..	..	..	1	1	1	..
..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
1	..	1	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..
..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	1	3	4	2	2	..	..	12	..	..	..	..	..	1	1	..	1	..	..	2	3	2	..	1	1
..	..	..	1	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	1	..	..	..	4	1	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
12	11	15	19	11	7	2	..	116	6	2	14	6	2	5	5	4	4	11	2	8	10	17	8	5	7
..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..
..	..	..	..	..	..	..	..	3	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	2	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
..	..	..	..	..	..	..	..	4	..	..	1	..	..	..	..	..	..	..	..	1	..	1	1	..	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	15	..	1	2	2	..	2	1	..	..	1	..	1	2	1	1	..	1
..	2	1	1	..	..	..	..	5	..	1	1	..	..	..	..	..	..	1	..	..	1	1	..	..	..
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	1	3	..	..	1	4	..	1	1	1	..	1	..	..	..	1	..	..	..	..	..	..	..
..	2	1	2	3	..	..	1	10	..	2	2	1	..	1	..	..	..	2	..	..	1	1	..	1	..

TABLE
CAUSES OF

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	4 t 5
	XIII. Diseases of the Bones and Organs of Locomotion.																	
154	Acute infective osteomyelitis and periostitis	2	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	
155	Other diseases of the bones ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
156	Diseases of the joints and other organs of locomotion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Total Diseases of the Bones and Organs of Locomotion ..	2	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	
157	**XIV. Congenital Malformations.**	23	18	5	20	1	..	1	..	..	..	1	..	..	..	..	..	
	XV. Diseases of Early Infancy.																	
158	Congenital debility	5	3	2	5	..	..	..	..	..	..	..	..	..	..	..	..	
159	Premature birth	33	18	15	33	..	..	..	..	..	..	..	..	..	..	..	..	
160	Injury at birth	6	4	2	6	..	..	..	..	..	..	..	..	..	..	..	..	
161	Other diseases peculiar to early infancy	5	5	..	4	..	..	1	..	..	..	..	..	..	..	..	..	
	Total Diseases of Early Infancy	49	30	19	48	..	..	1	..	..	..	..	..	..	..	..	..	
162	**XVI. Old Age.**	181	83	98	..	..	..	..	..	..	..	..	..	..	..	..	..	
	XVII. Deaths from Violence.																	
163-171	Suicide:	27	18	9	..	..	..	..	..	..	..	..	1	2	1	3	3	
163	By solid or liquid poisons and corrosive substances	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	
164	By poisonous gas	8	6	2	..	..	..	..	..	..	..	..	1	..	..	1	2	
165	By hanging or strangulation ..	6	6	..	..	..	..	..	..	..	..	..	..	2	..	..	..	
166	By drowning	8	4	4	..	..	..	..	..	..	..	..	..	..	1	2	1	
167	By firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
168	By cutting or piercing instruments	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	
169	By jumping from high places ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
170	By crushing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
171	By other means	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
172-175	Homicide :	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	
172	Infanticide (under one year) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
173	Homicide by firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
174	Homicide by cutting or piercing instruments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
175	Homicide by other means ..	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	
176-194	Accidental deaths :	64	39	25	..	..	1	1	..	4	1	3	2	..	3	4	3	2
176	Attack by venomous animals ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
177	Food poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
178	Accidental absorption of irrespirable or poisonous gas ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
179	Other acute accidental poisoning (not by gas)	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
180	Conflagration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
181	Accidental burns (conflagration excepted)	7	4	3	..	..	1	..	..	1	..	1	..	..	..	..	..	
182	Accidental mechanical suffocation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
183	Accidental drowning	3	3	..	..	..	..	..	..	..	1	..	1	..	..	1	..	
184	Accidental injury by firearms ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
185	Accidental injury by cutting or piercing instruments.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
186	Accidental injury by fall, crushing etc.	46	26	20	..	..	..	1	..	2	..	1	1	..	2	3	3	2
187	Cataclysm	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
188	Injury by animals (poisoning by venomous animals excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
189	Hunger or thirst	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
..	..	..	..	..	..	..	..	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
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..	..	..	..	..	..	..	22	1	..	..	3	1	..	3	2	5	2	..	1	..	1	3	1	1	..
..	..	..	..	..	..	..	5	..	1	..	..	1	..	1	..	..	..	..	..	1	..	..	..	..	1
..	..	..	..	..	..	..	33	..	..	4	9	3	..	4	1	..	2	1	2	..	2	1	..	..	..
..	..	..	..	..	..	..	6	..	..	1	1	..	..	..	..	..	1	1	..	..	..	..	1	1	..
..	..	..	..	..	..	..	5	..	..	1	..	..	..	..	1	..	..	1	1	..	..	..	..	1	..
..	..	..	..	..	..	..	49	..	1	6	10	4	..	5	2	4	3	3	3	1	2	1	1	2	1
..	6	16	36	51	41	31	..	181	4	8	27	11	5	21	13	10	6	18	4	3	15	26	2	4	6
4	3	2	2	..	..	1	..	27	2	..	6	1	..	..	1	1	2	6	1	1	1	2	..	2	1
..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..
2	..	..	1	..	..	..	..	8	..	..	2	..	..	..	..	..	1	2	..	..	1	..	..	2	..
1	1	..	..	..	..	1	..	6	1	..	2	..	..	..	..	..	..	1	1	..	..	1	..	..	..
1	1	..	1	..	..	..	..	8	1	..	..	1	..	..	..	1	1	2	..	..	..	1	..	..	1
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2	7	9	6	7	4	2	2	62	4	3	10	5	2	9	2	5	..	3	..	1	3	4	2	5	6
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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2	5	8	4	5	4	1	1	45	2	3	8	4	2	5	..	5	..	2	..	1	1	4	1	4	4
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45
190	Excessive cold	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
191	Excessive heat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
192	Lightning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
193	Electricity (lightning excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
194	Other and unstated forms of accidental violence	6	4	2	..	..	..	..	..	1	..	1	..	..	1	..	..
195	Violent deaths of unstated nature (*i.e.*, accidental, suicidal, etc.) ..	3	1	2	..	..	..	..	..	..	..	..	..	..	..	1	..
196	Wounds of war	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
197	Execution of civilians by belligerent armies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
198	Execution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Deaths from Violence ..	95	58	37	..	..	1	1	..	4	1	3	4	2	4	8	6
	XVIII. Ill-defined Diseases.																
199	Sudden death	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
200	Cause of death unstated or ill-defined	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Total Ill-defined Deaths ..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1

I.—*Continued.*

DEATH, 1938.

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										WARD																
0 o 5	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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.	..	2	1	..	..	..	..	..	6	..	..	1	..	..	3	..	..	..	..	..	..	1	..	..	1	..
.	..	1	..	..	..	..	..	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	2	..	..	..
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5	6	11	11	8	7	4	3	2	93	6	3	17	6	2	9	3	6	2	9	1	2	4	8	2	8	7
	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	1	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..
	1	1	..	..	..	..	..	..	3	..	..	..	..	..	1	..	..	..	1	..	..	1	..	..	..	..

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SUMMARY OF CAUSE

List No.	Causes of Death	Total	SEX M.	SEX F.	AGE 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	4 t 5
1-44	Infectious and Parasitic Diseases	169	92	77	5	4	6	3	3	1	2	15	8	12	10	8	10	1
45-55	Cancer and other Tumours ..	293	153	140	..	..	..	..	..	..	..	2	2	2	..	4	13	1
56-69	Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases ..	69	16	53	..	..	1	..	..	..	3	1	2	3	3	1	..	
70-74	Diseases of the Blood and Blood-forming Organs	23	9	14	1	..	..	..	..	..	2	..	1	..	1	2	1	
75-77	Chronic Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
78-89	Diseases of the Nervous System and Sense Organs	206	108	98	3	3	..	4	..	2	..	..	3	2	3	3	5	
90-103	Diseases of the Circulatory System	683	351	332	..	..	..	..	..	1	1	5	1	11	5	11	22	
104-114	Diseases of the Respiratory System	196	108	88	19	7	..	1	1	2	4	3	2	4	6	12	8	
115-129	Diseases of the Digestive System	101	49	52	6	3	..	2	1	3	1	1	3	2	5	2	6	
130-139	Non-Venereal Diseases of the Genito-Urinary System and Annexa	116	71	45	..	..	..	..	..	1	..	..	4	3	..	3	6	
140-150	Diseases of Pregnancy, Childbirth and the Puerperal State ..	15	..	15	..	..	..	..	..	..	..	..	1	5	3	5	1	
151-153	Diseases of the Skin and Cellular Tissue	11	8	3	..	..	1	..	..	..	..	..	..	..	..	1	..	
154-156	Diseases of the Bones and Organs of Locomotion	2	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	
157	Congenital Malformations ..	23	18	5	20	1	..	1	..	..	..	1	..	..	..	..	..	
158-161	Diseases of Early Infancy ..	49	30	19	48	..	..	1	..	..	..	..	..	..	..	..	..	
162	Old Age	181	83	98	..	..	..	..	..	..	..	..	..	..	..	..	..	
163-198	Deaths from Violence	95	58	37	..	..	1	1	..	4	1	3	4	2	4	8	6	
199-200	Ill-defined Diseases	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
	GRAND TOTAL	2235	1157	1078	102	18	9	13	5	31	15	31	31	46	40	60	79	18

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55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD: North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
11	14	5	9	1	2	..	27	142	3	15	21	20	1	13	11	9	7	15	10	..	10	10	2	13	9
45	45	47	49	23	13	3	..	293	8	13	34	26	4	24	13	19	13	27	11	8	22	22	8	20	21
6	13	8	10	6	2	..	1	68	4	3	9	4	1	7	2	3	3	10	3	3	2	6	1	4	4
1	2	5	..	2	1	1	1	22	1	..	4	4	..	..	..	..	1	2	2	2	2	1	..	2	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	24	39	31	30	12	5	10	196	10	5	41	16	2	17	6	11	5	25	7	5	9	19	3	13	12
57	75	116	129	116	50	17	..	683	24	32	81	60	8	46	32	66	27	59	31	20	38	75	20	37	27
9	16	17	24	12	17	6	28	168	7	12	31	20	1	26	6	13	9	12	9	7	8	22	3	6	4
5	11	15	5	10	3	2	12	89	3	5	11	9	..	8	7	7	6	9	5	3	6	9	4	7	2
12	11	15	19	11	7	2	..	116	6	2	14	6	2	5	5	4	4	11	2	8	10	17	8	5	7
..	..	..	..	..	..	..	..	15	..	1	2	2	..	2	1	..	..	1	..	1	2	1	1	..	1
..	2	1	2	3	..	..	1	10	..	2	2	1	..	1	..	..	..	2	..	..	1	1	..	1	..
..	..	..	..	..	..	..	..	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	22	1	..	..	3	1	..	3	2	5	2	..	1	..	1	3	1	1	..
..	..	..	..	..	..	..	49	..	1	6	10	4	..	5	2	4	3	3	3	1	2	1	1	2	1
..	6	16	36	51	41	31	..	181	4	8	27	10	5	21	12	10	6	18	4	3	15	26	2	4	6
6	11	11	8	7	4	3	2	93	6	3	17	6	2	9	3	6	2	9	1	2	4	8	2	8	7
1	1	..	..	..	..	..	..	3	..	..	..	..	..	1	..	..	..	1	..	..	1	..	..	..	..
167	231	295	322	272	152	70	153	2082	77	107	308	189	26	189	102	157	88	204	89	63	133	221	56	123	103

TABLE II.

Causes of Death at Different Periods of Life in the County Borough of Bolton—1938.

(Statistics supplied by the Registrar-General.)

Causes of Death	Sex	All Ages	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—
All Causes	M	1151	60	9	11	27	35	37	70	141	215	336	210
	F	1086	43	9	15	18	28	50	69	103	181	286	283
Typhoid and paratyphoid fevers	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	1	..	..	..	..	..	..	..	1	..	..	..
Measles	M	5	..	1	2	2	..	..	..	..	..	..	..
	F	5	..	2	2	1	..	..	..	..	..	..	..
Scarlet fever	M	2	..	..	..	1	1	..	..	..	..	..	..
	F	1	..	..	..	..	..	1	..	..	..	..	..
Whooping cough	M	1	1	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	M	11	1	1	1	7	..	1	..	..	..	..	..
	F	11	..	..	5	6	..	..	..	..	..	..	..
Influenza	M	13	..	..	..	1	1	1	1	2	3	3	1
	F	12	1	..	..	..	1	1	..	1	4	3	1
Encephalitis lethargica	M	5	..	..	..	..	..	1	..	2	1	1	..
	F	4	..	..	..	..	..	1	2	1	..	..	..
Cerebro-spinal fever	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	1	..	..	..	1	..	..	..	..	..	..	..
Tuberculosis of respiratory system	M	41	..	..	..	1	4	6	4	13	11	2	..
	F	34	1	..	1	..	7	10	9	1	3	2	..
Other tuberculous diseases	M	7	..	..	1	..	3	1	..	..	2	..	..
	F	10	1	..	..	1	5	..	..	1	..	1	1
Syphilis	M	5	..	..	..	..	..	..	1	2	1	1	..
	F	1	..	..	..	..	..	..	..	1	..	..	..
General paralysis of the insane, tabes dorsalis	M	5	..	..	..	..	..	..	2	1	2	..	..
	F	2	..	..	..	..	..	..	1	1	..	..	..
Cancer, malignant disease	M	149	..	..	..	..	..	..	7	18	49	56	19
	F	135	..	..	..	..	1	2	8	26	39	39	20
Diabetes	M	4	..	..	..	..	1	..	..	..	1	1	1
	F	20	..	..	..	..	..	1	1	1	5	10	2
Cerebral hæmorrhage, etc.	M	77	..	..	..	1	..	..	..	6	14	29	27
	F	90	..	..	..	..	..	..	..	3	25	41	21
Heart disease	M	303	..	..	..	1	4	7	20	36	59	116	60
	F	272	..	..	..	3	2	9	12	26	47	92	81
Aneurysm	M	4	..	..	..	..	..	..	1	1	..	2	..
	F	5	..	..	..	..	..	..	1	1	2	..	1
Other circulatory diseases	M	45	..	..	..	..	..	1	1	..	5	20	18
	F	54	..	..	..	..	..	..	..	2	9	21	22
Bronchitis	M	42	..	1	..	..	..	..	1	10	10	9	11
	F	34	1	1	..	..	..	1	2	2	4	10	13
Pneumonia (all forms)	M	56	9	2	2	1	4	6	11	8	6	4	3
	F	43	8	4	..	4	1	4	3	4	2	12	1
Other respiratory diseases	M	3	..	..	..	..	..	..	..	1	1	1	..
	F	7	..	..	..	..	..	..	..	..	2	2	3
Peptic ulcer	M	12	..	..	..	..	..	1	..	5	3	2	1
	F	2	..	..	..	..	..	1	..	..	1	..	..
Diarrhœa, etc.	M	6	1	..	1	1	..	..	..	1	..	2	..
	F	3	2	..	1	..	..	..	..	..	..	..	..
Appendicitis	M	7	..	..	..	..	2	1	3	..	1	..	..
	F	9	..	..	1	1	1	..	1	3	1	1	..
Cirrhosis of liver	M	6	..	..	..	..	..	2	1	..	2	1	..
	F	1	..	..	..	..	..	..	..	..	..	1	..
Other diseases of liver, etc.	M	5	..	..	..	..	..	1	1	1	1	1	..
	F	14	..	..	..	..	..	1	1	3	2	2	5
Other digestive diseases	M	16	2	1	..	1	1	..	..	1	5	3	2
	F	23	..	..	1	1	..	1	3	1	3	7	6
Acute and chronic nephritis	M	44	..	..	..	1	2	2	3	13	10	10	3
	F	36	..	..	..	..	2	1	5	7	7	7	7
Puerperal sepsis	F	5	..	..	..	..	1	1	3	..	..	..	..
Other puerperal causes	F	13	..	..	..	..	1	8	4	..	..	..	..
Congenital debility; premature births, malformations, etc.	M	44	43	1	..	..	..	..	..	..	..	..	..
	F	26	26	..	..	..	..	..	..	..	..	..	..
Senility	M	79	..	..	..	..	..	..	..	..	4	32	43
	F	95	..	..	..	..	..	..	..	..	2	18	75
Suicide	M	18	..	..	..	..	1	2	4	2	4	4	1
	F	8	..	..	..	..	..	..	2	3	3	..	..
Other violence	M	44	1	..	..	5	3	2	5	7	5	10	6
	F	31	..	..	2	..	1	1	2	..	5	8	12
Other defined diseases	M	92	2	2	4	4	8	2	4	11	15	26	14
	F	76	3	2	2	..	5	6	8	15	15	9	11
Causes ill-defined or unknown	M	..	..	..	..	..	..	..	..	..	..	..	..
	F	1	..	..	..	..	..	..	..	..	..	..	1