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County

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of Bolton.

ANNUAL REPORT

OF THE

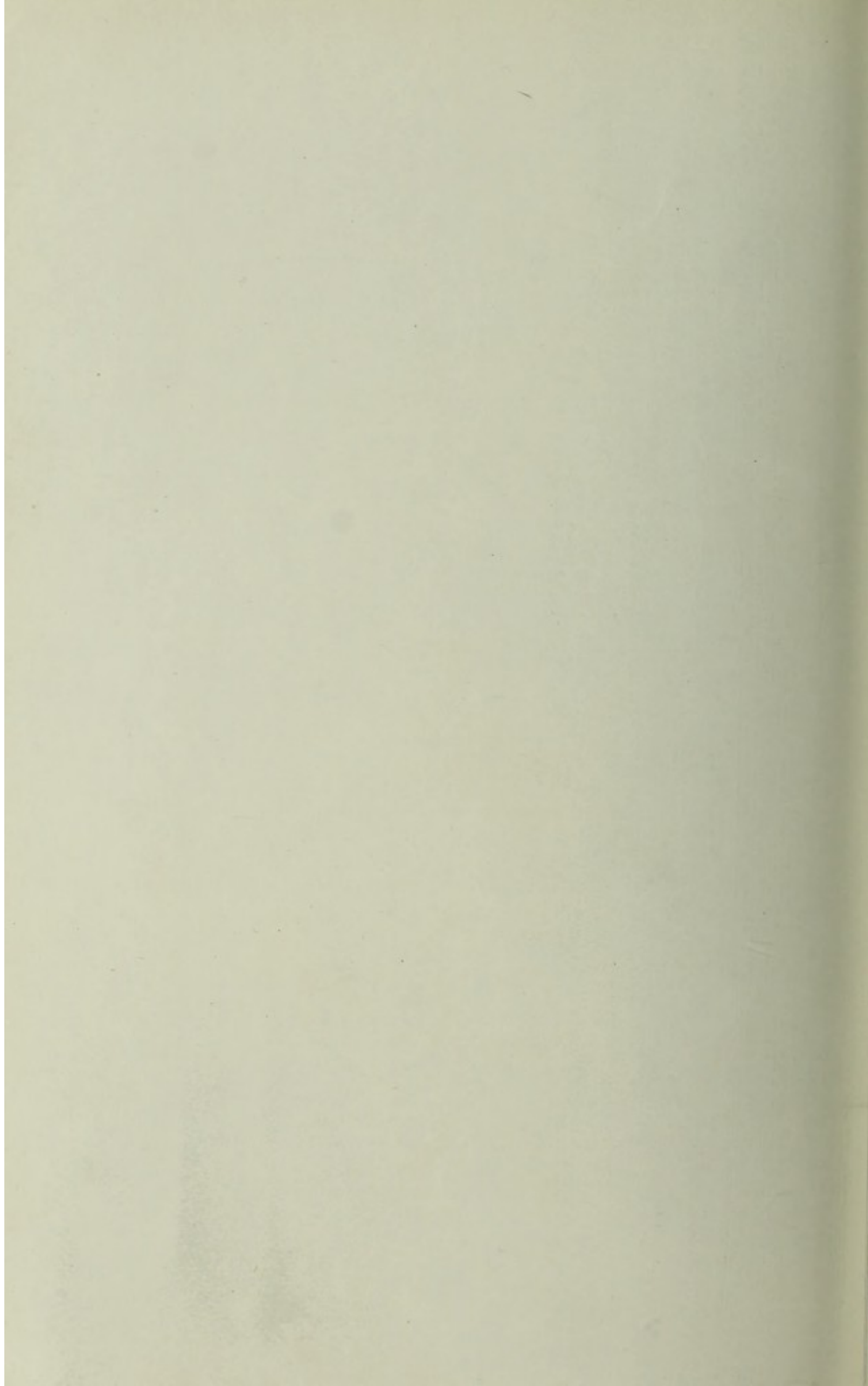
Medical Officer of Health

FOR

1936.

BOLTON :
ROBT. WHEWELL & SON, LTD., 5-13, FOLDS ROAD.

1937.



County

Borough



of Bolton.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR

1936.

1911

W. H. C. Bullen



1911

ANNUAL REPORT

Medical Officer of Health

1911

PUBLIC HEALTH DEPARTMENT,

BOLTON.

May, 1937.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have the honour to submit the report for 1936, the Sixty-fifth Annual Report on the Health of Bolton.

The form of the report has been altered to comply with the Ministry of Health's recommendations as to contents and arrangement.

The health of the town was satisfactory during the year under review. The death-rate, and the infantile mortality-rate, both showed an increase on the record low levels of two years ago, but they demonstrate that Bolton still compares favourably with similar urban areas in the country.

There were no epidemics of serious infectious disease.

During the year there were 2,375 deaths and 2,158 births, giving a natural decrease in the population of 217. The implications of this natural decrease in the population are important. In the five year period, 1931—1935, there were 213 more deaths than births in Bolton. Thirty years ago, in the comparable period, 1901—1905, there were 8,490 more births than deaths. The birth-rate has fallen more than the death-rate has fallen. No material fall in the death-rate can be anticipated in the next thirty years; in fact, there is a possibility of the death-rate increasing. A large proportion of the saving of life in the last thirty years has been in infancy and childhood and any further reduction in infantile mortality on the same scale is impossible. The proportion of older people in the population has increased as a result of the remarkable fall in the birth-rate (1901—1905 it averaged 26·8 compared with 12·8 for the period 1931—1935). This fact coupled with the improbability of any further big fall in the death-rate in early life suggests that there will be an increased death-rate in the general population in the next thirty years. Bolton along with the rest of England and Wales must anticipate a big fall in the population if the birth-rate remains at its present low level.

During the year the Council settled the question of the unification of their Health Services by deciding to administer Townleys Hospital under the Public Health Acts. They resolved, in the first instance, that there should be a period of transition during which the administration of the Hospital would be delegated to the Public Health Committee but remain

under the general control of the Public Assistance Committee. The period of delegation to the Public Health Committee commenced on April 1st, 1937.

The survey carried out under the provision of the Housing Act, 1935, to determine the amount of overcrowding in the town is discussed in the report. It was found that 3.03% of families were living under conditions which constituted overcrowding as defined in the Act. The percentage of overcrowded dwellings in the country generally was 3.8%.

The Council adopted proposals for carrying out their duties under the Midwives Act, 1936. Eight whole-time salaried midwives are to be appointed. Provision has been made for increasing this number to 15 if necessary. The future of maternity services is a matter which calls for consideration. The local authority administers a maternity unit in Townleys Hospital and the Haslam Maternity Home in Chorley New Road, and it will shortly employ whole-time salaried midwives. The independent midwives will continue to practise in Bolton. The general practitioner has his important part in the work of the municipal and independent midwives and of the Haslam Maternity Home. The first question for consideration is the need for maintaining two institutions for the reception of maternity cases. The second question for consideration is the claim of institutional care for maternity cases as opposed to care in the home. Arising out of both of these questions is the need to co-ordinate home and institutional facilities so that the most economical and efficient service is given to the town.

During the year under review, several changes have been made in the staff of the department. Mr. H. V. Cass was appointed Chief Sanitary Inspector in June. At the end of the year, three additional temporary sanitary inspectors were appointed to assist in the housing work of the department. It had become obvious that additional staff was necessary to complete the programme of clearance of insanitary property before the date fixed for the termination of the government subsidy for the rehousing of the displaced tenants. Miss R. Boddington, a school nurse, retired after 20 years' service.

During the year, arrangements were made with the Education Committee for the unification of the staff of school nurses and health visitors. In future the same nurses will act both as school nurses and health visitors. A resident medical officer at the Isolation Hospital and a Superintendent Health Visitor have not yet been appointed. With the completion of the new Public Health Buildings it will be possible to make these appointments, as office accommodation will then be available for the Superintendent Health Visitor, and the new venereal diseases clinics will be completed, in which, the Medical Officer is to have additional duties.

..v..

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

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.*

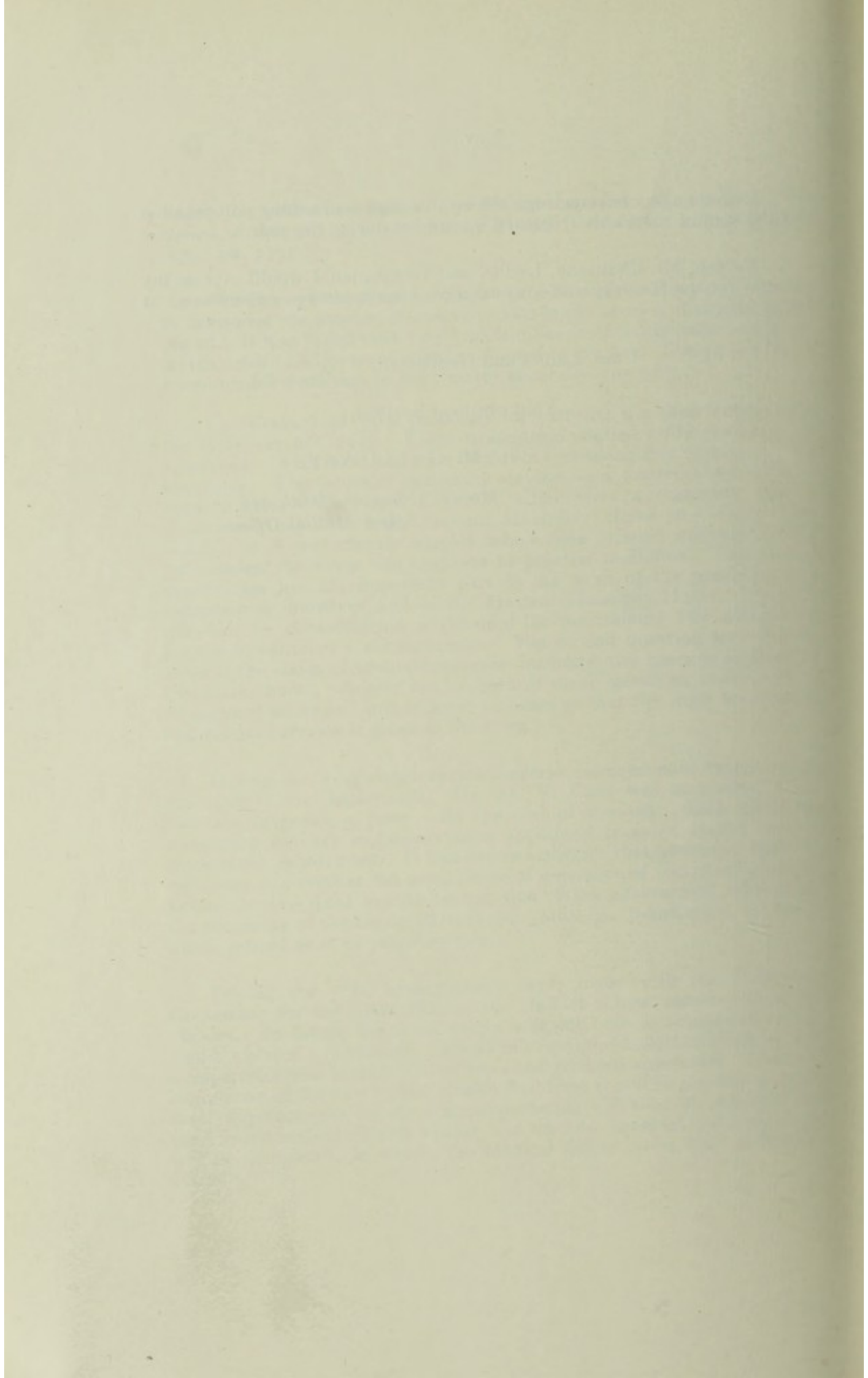


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COUNTY BOROUGH OF BOLTON.

Public Health Committee.

THE MAYOR, ALD. J. A. RUSSELL, J.P.

Chairman—ALD. T. HALSTEAD, J.P.

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

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

„ SIR T. E. FLITCROFT, J.P.

„ B. KIRKMAN, J.P.

„ DR. E. MONKS, J.P.

COUNC. H. CROMPTON.

„ W. M. FARRINGTON.

„ DR. E. P. JOHNSON.

„ T. H. LEE.

„ J. S. LOMAX.

„ DR. JEAN M. F. MARSHALL.

„ DR. R. D. MOTHERSOLE.

„ J. SHUTTLEWORTH.

„ R. TANKARD.

„ DR. H. W. TAYLOR.

„ W. W. TONG, M.Sc.TECH., J.P.

„ MRS. H. WRIGHT.

Public Health and Medical Inspection Staff.

WHOLE-TIME OFFICERS.

- Health Visitors*—
1. Miss E.A. ASPINALL, Cert. Midwife and 3 years' Cert.
 2. Mrs. E. BLACKBURN, 3 years' Cert.
 3. Miss L. W. BOOTH, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.
 4. Miss D. HIGHAM, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.
 5. Miss F. G. LEECH, Cert. Midwife and 3 years' Cert.
 6. Miss A. MARSH, 3 years' Cert.
 7. Mrs. J. MARTIN, Cert. Midwife, 3 years' Cert. and Cert. for Health Visitors (Board of Education).
 8. Miss F. E. McNALLY, Cert. Midwife and 3 years' Cert.
 9. Miss L. MILNER, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.
 10. Miss J. ROBBINS, 3 years' Cert.
 11. Miss E. TANNER, 3 years' Cert.
 12. Miss D. WALMSLEY, Cert. Midwife and 3 years' Cert.

Matron : Haslam Maternity Home—Miss L. E. EVANS.

Matron : Borough Fever Hospital—Miss A. M. HOWITT.

Chief Sanitary Inspector—H. V. CASS, Cert. R.S.I.

- Sanitary Inspectors*—
1. E. SUMNER, Cert. R.S.I.
 2. T. ORMROD, Cert. R.S.I.
 3. H. WHITAKER, Cert. R.S.I. (Food Inspector).
 4. J. H. WILLETT, Cert. R.S.I.
 5. R. PASHLEY, Cert. S.I.B.
 6. J. PARKINSON, Cert. S.I.B.
 7. A. E. SNODGRASS, Cert. S.I.B.
 8. L. C. BRYAN, Cert. S.I.B.
 9. H. W. NOWELL, Cert. S.I.B.
 10. R. BAIN, Cert. S.I.B. (Temporary).
 11. W. L. WARDLE, Cert. S.I.B. (Temporary).
 12. S. HESKETH, Cert. S.I.B. (Temporary).

Vaccination Officer—P. H. TAYLOR.

Chief Clerk—H. DANIELS, Cert. R.S.I.

Veterinary and Chief Meat Inspector—R. P. HOLMES, F.R.C.V.S.

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

Assistant Medical Officers of Health and Assistant School Medical Officers—
ISABELLA SIM, M.B., Ch.B., D.P.H.
J. LITT, M.B., Ch.B., D.P.H., M.R.C.V.S.

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

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

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

Public Health and Medical Inspection Staff—Continued.

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. T. CHADDERTON ..	Brightmet, 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 Brightmet 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.

*Artificial Sunlight Operator—*Miss M. CHARNOCK, C.S.M.M.G.

*Masseuse—*Miss M. L. BRUCKSHAW, C.S.M.M.G.

STATISTICAL SUMMARY

1935

COUNTY CONDITIONS BY DIVISION

General	1
Subdivisions	1
Geographical Features, Soils, Climate and Forests	1
Population (Census 1930)	1
Population (Census 1920)	1
Population (Census 1910)	1
Population (Census 1900)	1
Population (Census 1890)	1
Population (Census 1880)	1
Population (Census 1870)	1
Population (Census 1860)	1
Population (Census 1850)	1
Population (Census 1840)	1
Population (Census 1830)	1
Population (Census 1820)	1
Population (Census 1810)	1
Population (Census 1800)	1

SECTION I.

Statistics and Social Conditions.

Area of County	1
Area of Townships	1
Area of Precincts	1
Area of Farms	1
Area of Farms (1930)	1
Area of Farms (1920)	1
Area of Farms (1910)	1
Area of Farms (1900)	1
Area of Farms (1890)	1
Area of Farms (1880)	1
Area of Farms (1870)	1
Area of Farms (1860)	1
Area of Farms (1850)	1
Area of Farms (1840)	1
Area of Farms (1830)	1
Area of Farms (1820)	1
Area of Farms (1810)	1
Area of Farms (1800)	1
Area of Farms (1790)	1
Area of Farms (1780)	1
Area of Farms (1770)	1
Area of Farms (1760)	1
Area of Farms (1750)	1
Area of Farms (1740)	1
Area of Farms (1730)	1
Area of Farms (1720)	1
Area of Farms (1710)	1
Area of Farms (1700)	1
Area of Farms (1690)	1
Area of Farms (1680)	1
Area of Farms (1670)	1
Area of Farms (1660)	1
Area of Farms (1650)	1
Area of Farms (1640)	1
Area of Farms (1630)	1
Area of Farms (1620)	1
Area of Farms (1610)	1
Area of Farms (1600)	1
Area of Farms (1590)	1
Area of Farms (1580)	1
Area of Farms (1570)	1
Area of Farms (1560)	1
Area of Farms (1550)	1
Area of Farms (1540)	1
Area of Farms (1530)	1
Area of Farms (1520)	1
Area of Farms (1510)	1
Area of Farms (1500)	1
Area of Farms (1490)	1
Area of Farms (1480)	1
Area of Farms (1470)	1
Area of Farms (1460)	1
Area of Farms (1450)	1
Area of Farms (1440)	1
Area of Farms (1430)	1
Area of Farms (1420)	1
Area of Farms (1410)	1
Area of Farms (1400)	1
Area of Farms (1390)	1
Area of Farms (1380)	1
Area of Farms (1370)	1
Area of Farms (1360)	1
Area of Farms (1350)	1
Area of Farms (1340)	1
Area of Farms (1330)	1
Area of Farms (1320)	1
Area of Farms (1310)	1
Area of Farms (1300)	1
Area of Farms (1290)	1
Area of Farms (1280)	1
Area of Farms (1270)	1
Area of Farms (1260)	1
Area of Farms (1250)	1
Area of Farms (1240)	1
Area of Farms (1230)	1
Area of Farms (1220)	1
Area of Farms (1210)	1
Area of Farms (1200)	1
Area of Farms (1190)	1
Area of Farms (1180)	1
Area of Farms (1170)	1
Area of Farms (1160)	1
Area of Farms (1150)	1
Area of Farms (1140)	1
Area of Farms (1130)	1
Area of Farms (1120)	1
Area of Farms (1110)	1
Area of Farms (1100)	1
Area of Farms (1090)	1
Area of Farms (1080)	1
Area of Farms (1070)	1
Area of Farms (1060)	1
Area of Farms (1050)	1
Area of Farms (1040)	1
Area of Farms (1030)	1
Area of Farms (1020)	1
Area of Farms (1010)	1
Area of Farms (1000)	1
Area of Farms (990)	1
Area of Farms (980)	1
Area of Farms (970)	1
Area of Farms (960)	1
Area of Farms (950)	1
Area of Farms (940)	1
Area of Farms (930)	1
Area of Farms (920)	1
Area of Farms (910)	1
Area of Farms (900)	1
Area of Farms (890)	1
Area of Farms (880)	1
Area of Farms (870)	1
Area of Farms (860)	1
Area of Farms (850)	1
Area of Farms (840)	1
Area of Farms (830)	1
Area of Farms (820)	1
Area of Farms (810)	1
Area of Farms (800)	1
Area of Farms (790)	1
Area of Farms (780)	1
Area of Farms (770)	1
Area of Farms (760)	1
Area of Farms (750)	1
Area of Farms (740)	1
Area of Farms (730)	1
Area of Farms (720)	1
Area of Farms (710)	1
Area of Farms (700)	1
Area of Farms (690)	1
Area of Farms (680)	1
Area of Farms (670)	1
Area of Farms (660)	1
Area of Farms (650)	1
Area of Farms (640)	1
Area of Farms (630)	1
Area of Farms (620)	1
Area of Farms (610)	1
Area of Farms (600)	1
Area of Farms (590)	1
Area of Farms (580)	1
Area of Farms (570)	1
Area of Farms (560)	1
Area of Farms (550)	1
Area of Farms (540)	1
Area of Farms (530)	1
Area of Farms (520)	1
Area of Farms (510)	1
Area of Farms (500)	1
Area of Farms (490)	1
Area of Farms (480)	1
Area of Farms (470)	1
Area of Farms (460)	1
Area of Farms (450)	1
Area of Farms (440)	1
Area of Farms (430)	1
Area of Farms (420)	1
Area of Farms (410)	1
Area of Farms (400)	1
Area of Farms (390)	1
Area of Farms (380)	1
Area of Farms (370)	1
Area of Farms (360)	1
Area of Farms (350)	1
Area of Farms (340)	1
Area of Farms (330)	1
Area of Farms (320)	1
Area of Farms (310)	1
Area of Farms (300)	1
Area of Farms (290)	1
Area of Farms (280)	1
Area of Farms (270)	1
Area of Farms (260)	1
Area of Farms (250)	1
Area of Farms (240)	1
Area of Farms (230)	1
Area of Farms (220)	1
Area of Farms (210)	1
Area of Farms (200)	1
Area of Farms (190)	1
Area of Farms (180)	1
Area of Farms (170)	1
Area of Farms (160)	1
Area of Farms (150)	1
Area of Farms (140)	1
Area of Farms (130)	1
Area of Farms (120)	1
Area of Farms (110)	1
Area of Farms (100)	1
Area of Farms (90)	1
Area of Farms (80)	1
Area of Farms (70)	1
Area of Farms (60)	1
Area of Farms (50)	1
Area of Farms (40)	1
Area of Farms (30)	1
Area of Farms (20)	1
Area of Farms (10)	1
Area of Farms (0)	1

SECTION I

Statistics and Social Conditions

SUMMARY OF STATISTICS.

1936.

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. 1887-1936, 42·351")	47·478"
Area in Acres (Land and Inland Water)	15,280
Population (Census 1921)	178,683
" (Census 1931)	177,250
" (Mid-yearly estimated population 1936)	172,900
Density	11·3
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 1936	763
Estimated No. of Houses in the Borough at 31st December 1936	52,118
No. of inhabited Houses according to the Rate Books	50,909
Rateable Value at 31st March, 1937	£1,065,251
Sum represented by a Penny Rate (1936-1937)	£4,127-7s. 0d.
Births	2,158
Birth-rate (per 1000 of population)	12·4
Deaths	2,375
Death-rate (Crude) (per 1000 of population)	13·7
Death-rate (Registrar General's)	13·5
Average Death-rate (1927-1936)	13·3

SUMMARY—Continued.

Heart and Circulation Death-rate	...	...	...	...	3·9
Cancer Death-rate	...	...	...	...	1·5
Respiratory Death-rate	...	...	...	...	1·2
Phthisis Death-rate	...	...	...	...	·56
Epidemic Death-rate (seven chief diseases)	...	...	...	...	·17
Infantile Mortality (Deaths under one year per 1,000 live births)	...	...	...	...	58
Diarrhœa Death-rate (deaths under 2 years per 1,000 live births)					3·7
Puerperal Death-rate (per 1,000 total births)	...	...			4·3
122 COUNTY BOROUGHs AND GREAT TOWNS—					
Birth-rate (per 1,000 of population)	...	...	...		14·9
Death-rate (per 1,000 of population)	...	...	...		12·3
Infantile Mortality (deaths under one year per 1,000 live births)	...	...	...	...	63
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	...	...	...	...	8·2
ENGLAND AND WALES—					
Birth-rate (per 1,000 of population)	...	...	...		14·8
Death-rate (per 1,000 of population)	...	...	...		12·1
Infantile Mortality (deaths under one year per 1,000 live births)	...	...	...	...	59
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 live births	...	...	...	...	5·9

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, &c.) Act, 1879.
- Bolton Improvement Act, 1882.
- Local Government Board's Provisional Orders Confirmation (No. 15) Act, 1893.
- Bolton Tramways and Improvement Act, 1897.
- Bolton Corporation Act, 1901.
- Bolton Corporation Act, 1905.
- Bolton Corporation Act, 1922.
- Bolton Corporation Act, 1925.

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.
Dairies, Cowsheds and Milkshops ...	5th July, 1899.
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 following table, extracted from the Census returns for 1931, shows the occupations of certain groups of operatives aged 14 years and over, including persons "out of work."

	Males.	Females.	Total.
Total number of persons (14 years and over) occupied and "out of work" ...	60,590	35,976	96,566
Textile Workers	11,579	18,638	30,217
Metal Workers	7,779	72	7,851
Persons engaged in Personal Service ...	1,623	4,666	6,289
Transport and Communication	4,573	137	4,710
Builders, Bricklayers, Stone and Slate Workers	2,593	5	2,598
Makers of Textile Goods	776	1,504	2,280
Coal and Shale Mines	2,067	4	2,071
Workers in Wood and Furniture	1,808	66	1,874
Agricultural Occupations... ..	851	64	915
Workers in Skin and Leather	513	243	756
Electrical Apparatus Makers and Fitters	629	17	646
Labourers and General Labourers	4,125	13	4,138
Other Unskilled Workers	4,057	2,418	6,475

The extent of unemployment remains high in spite of an improvement compared with the previous year. At the end of 1936, the total number of men, women and juveniles wholly unemployed and temporarily stopped was 9,079, of whom, 1,926 were temporarily stopped. The corresponding figure for the previous year was 11,503, of whom, 3,229 were temporarily stopped. In December, 1935, there were 4,347 men and women unemployed and temporarily stopped in the bleaching and cotton trades. In December, 1936, this number had fallen to 3,085. During the year there were also noticeable reductions in unemployment in the engineering and building trades.

Births.

There were 2,158 live births to Bolton residents in 1936. 2,088 of these births were legitimate and 70 illegitimate. The birth-rate per 1,000 of the population was 12.4. 661 births occurred to Bolton residents in Townleys Hospital, and 307 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.
1927	16·6	15·1
1928	16·7	14·3
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

The fall in Bolton's birth-rate follows the fall in the birth-rate for England and Wales. Fifty years ago the Bolton birth-rate was 34 per 1,000 of the population, and continuance of the fall in the birth-rate must result in a tremendous reduction in the population of our town and the 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 1936 was 130, giving a stillbirth-rate of 0·75 per 1,000 of the population. The rate for England and Wales was ·61.

Deaths.

Bolton had 2,375 deaths in 1936 giving a death-rate of 13·7 per 1,000 of the population.

During the year 669 persons whose usual place of residence was in the area of this county borough died outside the borough; of these, 585 died in Townleys Hospital or Fishpool Institution and 46 died in Mental Hospitals.

Non-residents who died in the area numbered 128, of whom 108 died in Bolton Royal Infirmary.

204 Bolton residents died in Bolton Royal Infirmary.

SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1936.

	No. of Deaths.	Per cent. of total Deaths.
INFECTIOUS AND PARASITIC DISEASES	198	8·33
Measles	9	·37
Whooping Cough	8	·33
Diphtheria	4	·16
Erysipelas	6	·25
Influenza	35	1·47
Encephalitis lethargica	7	·29
Pulmonary tuberculosis	98	4·12
Other forms of tuberculosis	21	·88
Other infectious and parasitic diseases	10	·42
CANCER AND OTHER TUMOURS	287	12·08
Cancer	275	11·57
Tumours... ..	12	·50
RHEUMATISM, DISEASES OF NUTRITION, ETC.	88	3·70
Rheumatic fever	24	1·01
Chronic rheumatism, osteo-arthritis	11	·46
Diabetes	35	1·47
Exophthalmic goitre	14	·58
Other general diseases	4	·16
DISEASES OF THE BLOOD & BLOOD FORMING ORGANS	32	1·34
Anæmia, chlorosis	24	1·01
Leukæmia, aleukæmia	7	·29
Diseases of the Spleen	1	·04

DISEASES OF THE NERVOUS SYSTEM & SENSE ORGANS				229	9'64
Meningitis	..	...	...	4	'16
Cerebral hæmorrhage		...	...	114	4'80
Cerebral thrombosis...		...	...	27	1'13
Hemiplegia	...	...	...	13	'54
General paralysis of the insane	...	...	...	6	'25
Epilepsy...	...	...	...	10	'42
Infantile convulsions...	...	...	...	9	'37
Disseminated sclerosis	...	...	...	7	'29
Other diseases	...	...	...	39	1'64
DISEASES OF THE CIRCULATORY SYSTEM				688	28'96
Heart diseases	...	...	...	516	21'72
Arterio-sclerosis	...	...	...	147	6'18
Gangrene	...	...	...	7	'29
Abnormalities of blood pressure	...	...	...	15	'63
Other diseases	...	...	...	3	'12
DISEASES OF THE RESPIRATORY SYSTEM				209	8'80
Bronchitis	...	...	...	80	3'36
Pneumonia	...	...	...	106	4'46
Congestion of lungs, etc.	...	...	...	7	'29
Asthma	...	...	...	8	'33
Other diseases	...	...	...	8	'33
DISEASES OF THE DIGESTIVE SYSTEM				111	4'67
Diseases of the buccal cavity, etc.	...	...	...	8	'33
Ulcer of the stomach or duodenum	...	...	...	26	1'09
Diarrhœa and enteritis	...	...	...	12	'50
Appendicitis	...	...	...	15	'63
Hernia and intestinal obstruction	...	...	...	14	'58
Cirrhosis of the liver	...	...	...	5	'21
Diseases of the gall bladder and ducts	...	...	...	14	'58
Other diseases	...	...	...	17	'71
DISEASES OF THE GENITO-URINARY SYSTEM				92	3'87
Nephritis	...	...	...	73	3'07
Diseases of the prostate	...	...	...	12	'50
Other diseases	...	...	...	7	'29
THE PUERPERAL STATE				10	'42

CONGENITAL MALFORMATIONS	25	1'05
DISEASES OF EARLY INFANCY	49	2'06
Congenital debility	8	'33
Premature birth	32	1'34
Other diseases	9	'37
OLD AGE	242	10'18
DEATHS FROM VIOLENCE	96	4'04
Suicide	30	1'26
Accidents	63	2'65
Other violent deaths... ..	3	'12
MISCELLANEOUS CAUSES	19	'80

The six principal certified causes of death were:

	Proportion per 1000 deaths
1. Diseases of the Heart and Circulatory System	289
2. Cancer and other Tumours	120
3. Old Age	101
4. Diseases of the Nervous System	96
5. Bronchitis, Pneumonia and other Respiratory Diseases (excluding tuberculosis)	88
6. Infectious and Parasitic Diseases	83

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 10 deaths from puerperal causes in 1936, giving a maternal mortality-rate of 4'37. The rate for England and Wales was 3'65.

	Deaths	BOLTON Rate per 1000 total births	ENGLAND & WALES Rate per 1000 total births
Puerperal sepsis	1	'43	1'34
Other puerperal causes	9	3'93	2'31
Total	10	4'37	3'65

In addition to the 10 deaths directly due to pregnancy and child-bearing there were 3 deaths where childbirth was a contributory cause. The deaths in these cases were assigned as follows:—

Two to lobar pneumonia,
One to acute yellow atrophy.

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.
1927	4·1	4·4
1928	4·4	3·0
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
Average 1927—1936	4·2	6·0

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 1936 was 58. The figure for England and Wales was 59.

Of Bolton's 2,158 births, 2,088 were legitimate and 70 illegitimate.

The infantile mortality amongst the legitimate children was 56, and amongst the illegitimate 114.

In the following table is given the average infantile mortality for five year periods from 1876 to 1925, and for each year from 1926 to 1936.

Quinquennium	Average rate	Year	Rate
1876-1880	... 171	1926	... 101
1881-1885	... 169	1927	... 75
1886-1890	... 173	1928	... 64
1891-1895	... 185	1929	... 103
1896-1900	... 173	1930	... 69
1901-1905	... 157	1931	... 78
1906-1910	... 134	1932	... 71
1911-1915	... 128	1933	... 78
1916-1920	... 100	1934	... 53
1921-1925	... 91	1935	... 64
		1936	... 58

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 more than half the total deaths of infants under one year now occur in the first four weeks of life.

It is also obvious that the causes which give rise to premature birth and other causes of death in the first four weeks of life have not been appreciably influenced for the better in the last thirty years.

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

Year.	Rate.	Year.	Rate.
1905	... 46.8	1921	... 41.2
1906	... 36.7	1922	... 43.0
1907	... 44.6	1923	... 37.6
1908	... 37.3	1924	... 35.5
1909	... 45.4	1925	... 32.8
1910	... 36.7	1926	... 43.7
1911	... 43.2	1927	... 36.2
1912	... 38.7	1928	... 25.8
1913	... 41.7	1929	... 38.3
1914	... 45.8	1930	... 34.6
1915	... 37.8	1931	... 34.1
1916	... 40.1	1932	... 38.5
1917	... 49.8	1933	... 32.9
1918	... 38.9	1934	... 37.0
1919	... 40.3	1935	... 32.6
1920	... 38.9	1936	... 33.8

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
Icterus Neonatorum					
Convulsions	2			2	4
Bronchitis					
Pneumonia (all forms)		1			1
Diarrhoea and Enteritis			1		1
Syphilis		1			1
Suffocation... ..					
Injury at Birth	1				1
Atelectasis	3				3
Congenital Malformations	12	4		1	17
Premature Birth	22	4	4		30
Congenital Debility	1			1	2
Other Causes	9	4			13
Totals	50	14	5	4	73

Deaths from Cancer.

The number of deaths ascribed to cancer during the year was 275, of which, 124 occurred in males and 151 in females. The cancer death-rate was 1.59 deaths per 1,000 of the population. The corresponding figure for England and Wales was 1.62.

Deaths from Measles.

Nine deaths occurred in 1936, as compared with 6 in 1935.

The table below shows the death-rate for measles for Bolton and for England and Wales since 1926:—

Year.	Bolton.		England & Wales.
	No. of Deaths	Rate per 1,000	Rate per 1,000
1926	16	·09	·09
1927	21	·11	·09
1928	17	·09	·11
1929	11	·06	·08
1930	4	·02	·10
1931	24	·13	·08
1932	9	·05	·08
1933	14	·07	·05
1934	12	·06	·09
1935	6	·03	·03
1936	9	·05	·07

Deaths from Whooping Cough.

Eight deaths were due, in Bolton, in 1936 to whooping cough. In 1935 the number was thirteen.

The mortality from whooping cough in Bolton and in England and Wales is shown below :—

Year.	Bolton.		England & Wales.
	No. of Deaths	Rate per 1,000	Rate per 1,000
1926	37	·20	·10
1927	1	·00	·09
1928	9	·04	·07
1929	85	·46	·15
1930	8	·04	·05
1931	14	·07	·06
1932	11	·06	·07
1933	9	·05	·05
1934	2	·01	·05
1935	13	·07	·04
1936	8	·04	·05

Deaths from Violence.

During the year 96 deaths occurred from violence. Suicide accounted for 30 of these deaths. Amongst the 63 accidental deaths which occurred, 20 were the result of street accidents.

There were 21 fatal street accidents in the Borough, and these resulted in the death of 21 persons, including Boltonians and non-residents of Bolton, which figures, are identical with those for 1935.

**Birth-rate, Death-rate and Infantile Mortality in Chief
Lancashire Manufacturing Towns.**

(Figures taken from the Summaries of the Registrar-General)
1935 and 1936.

	Birth-rate.		Death-rate.		Infantile Mortality.	
	1935	1936	1935	1936	1935	1936
England and Wales	14·7	14·8	11·7	12·1	57	59
County Boroughs and Great Towns, including London ...	14·8	14·9	11·8	12·3	62	63
St. Helens... ..	18·7	18·3	12·2	12·1	94	56
Warrington	16·7	16·1	12·0	12·5	65	90
Barrow-in-Furness	14·2	14·8	13·1	12·7	67	74
Wigan	16·9	17·2	13·9	12·9	98	82
Liverpool	20·3	20·6	13·4	13·2	84	76
Bolton	12·8	12·5	13·5	13·5	65	57
Bury	11·9	13·4	15·0	13·6	66	59
Bootle	21·4	22·2	12·8	13·6	92	69
Manchester	15·2	15·1	13·5	13·7	71	77
Salford	15·3	14·9	13·0	14·0	76	90
Burnley	11·7	12·2	14·7	14·1	65	64
Preston	15·0	14·4	13·6	14·1	81	82
Blackburn... ..	12·0	11·7	14·6	14·4	63	65
Oldham	12·6	12·9	14·7	14·9	64	70
Rochdale	11·6	11·8	13·9	15·1	85	69

In 1936, of the above 15 towns, Bolton had the fourth lowest birth-rate, the sixth lowest death-rate, and the second lowest infantile mortality-rate.

SECTION II.

General Provision of Health
Services.

THE FEDERAL BUREAU OF INVESTIGATION
DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535

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 117.

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 1936 were as follows:—

	Total	Positive	Negative	Doubtful
Sputum (for <i>B. tuberculosis</i>) ...	502	167	334	1
Diphtheria (Throat swabs) ...	482	60	416	6
Enteric Fever (Agglutination test)	4	—	4	—

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

	Total	Positive	Negative	Doubtful
Milk (Inoculation test for <i>B. tuberculosis</i>)	127	11	115	1
Blood for Undulant Fever ...	3	3	—	—
Fæces for Typhoid-Dysentery groups ...	1	—	1	—
Cerebro-spinal fluid for gold curve ...	1	—	—	—
Wasserman reaction				
Blood	1,251			
Cerebro-spinal fluid	33			
Gonorrhœa				
Microscopic tests	55			
Complement fixation tests	139			

Medical Officers of our own department examined 255 sputum specimens for *B. tuberculosis*, 927 slides for the gonococcus and 127 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 four 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.

Two motor ambulances are kept at the Borough Isolation Hospital and are 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 organized 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. Last year, 99,992 visits were paid to 2,467 cases. A recent addition to the Nurses' Home has been necessary. The nursing staff now consists of a superintendent, two assistant superintendents and twenty-one 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, puerperal fever, measles, whooping cough, epidemic diarrhoea, 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. Tipping Street.	The Friends' School Room, Tipping Street.	Monday, 3-0 p.m.	Grant to the Mother and Child Welfare Association by the Bolton Public Health Committee. The Mother and Child Welfare Association provides 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. Victoria Hall.	Knowsley Street.	Wednesday, 3-0 p.m.	
6. St. Chad's.	St. Chad's School, Belvoir Street.	Wednesday, 3-0 p.m.	
7. Saviour's.	Saviour's Church House, Deane 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.	
Ante-natal Clinics.			
1. St. George's Road.	Mother and Child Welfare Association, 70, St. George's Road.	Tuesday, 3-0 p.m., and Thursday 10-30 a.m.	Do. do.
2. Townleys Hospital.	Townleys Hospital, Farnworth, near Bolton.	Wednesday and Thursday, 2-0 p.m.	Public Assistance Committee.
3. Haslam Maternity Home.	"Ravenswood," Chorley New Road.	Wednesday, 10-30 a.m.	Bolton Public Health Committee.
4. Dental Clinic for expectant mothers.	School Clinic, Charles Street.	Friday, 10-30 a.m. and 2-0 p.m.	Do. do.
5. Do. do.	School Clinic, Flash Street.	By arrangement (Evening).	Do. do.
Artificial Sunlight Clinic.	Mother and Child Welfare Association, 70, St. George's Road.	Mon., Wed. and Fri., 10-30 a.m.	Premises—The Mother and Child Welfare Association. Medical supervision and operator—Bolton Public Health Committee.
Massage Clinic.	Mother and Child Welfare Association, 70, St. George's Road.	Mon., to Fri., 10-0 a.m. and 2-0 p.m.	Premises—The Mother and Child Welfare Association. Masseur—Bolton Public Health Committee.
School Clinics.	Charles Street.	Minor Ailment Clinic. Mon. to Fri., 9-0 a.m. and 2-0 p.m. Saturday, 9-0 a.m.	Bolton Education Committee.
		Dental Clinic. Mon. to Fri., 9-30 a.m. and 2-30 p.m. Saturday, 9-30 a.m.	
		Ophthalmic Clinic. Monday and Friday, 9-30 a.m.	
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.	2nd Wednesday in month (By arrangement.)	Bolton Education Committee.
Tuberculosis Dispensary.	Public Health Offices, Howell Croft, North.	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, Howell Croft, North.	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, 9-30 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 Day Nursery Association. Grant of £575 per annum by Bolton Public Health Committee, and £10 10s. 0d. by the Public Assistance Committee.

CLINICAL TREATMENT CENTERS

The following table lists the names and addresses of the clinical treatment centers...

Name of Clinic	Address	City and State
St. Vincent's Hospital	1000 Broadway	New York, N.Y.
St. Elizabeth's Hospital	1000 Broadway	New York, N.Y.
St. Joseph's Hospital	1000 Broadway	New York, N.Y.
St. Peter's Hospital	1000 Broadway	New York, N.Y.
St. Paul's Hospital	1000 Broadway	New York, N.Y.
St. Luke's Hospital	1000 Broadway	New York, N.Y.
St. Andrew's Hospital	1000 Broadway	New York, N.Y.
St. George's Hospital	1000 Broadway	New York, N.Y.
St. Francis Hospital	1000 Broadway	New York, N.Y.
St. James Hospital	1000 Broadway	New York, N.Y.
St. John's Hospital	1000 Broadway	New York, N.Y.
St. Mary's Hospital	1000 Broadway	New York, N.Y.
St. Ann's Hospital	1000 Broadway	New York, N.Y.
St. Rose Hospital	1000 Broadway	New York, N.Y.
St. Anthony's Hospital	1000 Broadway	New York, N.Y.
St. Ignace Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Nicholas Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
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St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.
St. Basil's Hospital	1000 Broadway	New York, N.Y.

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. The Royal Infirmary has 235 beds, of which, 158 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 by laboratory assistants. The special services include X-ray, ophthalmic, gynecological, 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 5,394, of whom, approximately 20% were from outside the Borough of Bolton. In addition, 12,847 cases were dealt with as out-patients and 8,635 cases were received into the casualty department. At the end of the year there were 418 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 entitles 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.

The Blair Convalescent Hospital, Bromley Cross, is a voluntary institution with 47 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.

TOWNLEYS HOSPITAL.

Townleys Hospital is a general hospital administered by the Bolton Public Assistance Committee. It is situated in Farnworth just outside the Borough boundary and serves Bolton and the township of Farnworth, Kearsley, Little Hulton, Little Lever, Horwich, Westhoughton and Turton. These districts constituted the old Bolton Union area. Their total population is approximately 272,000. The hospital is staffed by a medical superintendent and four resident medical officers. The hospital is provided with 550 beds. The total number of admissions during the year (including infants born in the hospital) was 5,389, of whom approximately 25% were from districts outside the Borough. 1,077

women were confined in the hospital and there were 1,020 live births. The average number of beds occupied (excluding cots in the maternity ward) was 439. The highest number of beds occupied during the year was 533 and the lowest number was 379. The hospital is provided with dental, X-ray and massage departments and with the specialist services of aural and ophthalmic surgeons.

The council decided during the year under review to appropriate the hospital for administration under the Public Health Acts.

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 because the shortage of room in the nurses' home limits the number of staff who can be employed. The hospital is old and is in need of modernization to bring it up to the standards of modern requirements. Plans have been approved for its reconstruction and preparatory work is being done by the architectural staff of the Corporation at the present time.

There is no resident medical officer and the clinical work is carried out by the medical officers of the Public Health Department. Owing to the changing incidence of epidemic disease, the number of cases admitted vary very greatly from year to year. During the year under review the incidence of infectious disease was small and the number of cases admitted to the hospital was 471.

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 eighteen beds and one isolation bed. During the year under review the total number of cases admitted was 345 and 331 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 fifty 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 68 patients were admitted from Bolton.

MEDICAL SERVICES TRANSFERRED FROM THE LATE BOARD OF GUARDIANS.

INSTITUTIONAL MEDICAL SERVICES.

No material changes have occurred in the institutional medical services transferred from the late Board of Guardians. During the year under review, however, the Council decided to appropriate Townleys, the hospital transferred from the late Board of Guardians, for administration under the Public Health Acts. The actual appropriation is being preceded by a twelve months' period of delegation from April 1st, 1937. The transitional period will allow the Public Health Committee to become familiar with the administration of the hospital before they assume full responsibility and will facilitate the transfer of officers from the Public Assistance to the Public Health Department.

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 & 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, an ante-natal clinic at 70, St. George's Road. It is 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—St. George's Road (2 weekly).
417 expectant mothers attended and made 1,115 attendances
- (b) Confinements conducted by midwives.
1,048 confinements were conducted by midwives.
In 282 cases they found it necessary to call in medical aid.
- (c) Confinements conducted by medical practitioners.
In addition to the 282 cases where practitioners were called in by the midwives, the doctors conducted approximately 175 confinements.

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

No. of midwives	...	...	...	...	...	61
No. of cases attended	...	...	...	...	...	1,048
Average No. of cases per midwife	...	...	...	...	...	17
No. of calls for medical aid	...	...	...	...	...	282
Per cent. of cases in which medical aid was sought	...	...	...	...	...	26%
No. on the Register at the beginning of the year...	...	...	...	...	...	55
No. who ceased to practise in Bolton	...	...	...	...	...	3
No. who notified their intention to practise in Bolton for the first time	...	...	...	...	...	4
No. on the Register at the end of the year	...	...	...	...	...	56
Names voluntarily removed from the Roll	...	...	...	...	...	Nil

In addition to the above, the midwives attended 160 cases as maternity nurses.

The following 373 notifications were received from midwives in accordance with the regulations of the Central Midwives Board:—

Medical assistance	282
--------------------	-----	-----	-----	-----	-----	-----

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

Stillbirths	...	...	...	...	...	57
Artificial feeding	...	...	...	...	...	29
Death of mother or child	...	...	...	...	...	4
Laying out of dead body	...	...	...	...	...	-
Liable to be a source of infection	...	...	...	...	...	1

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 124 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 11 instances.

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 four lectures have been arranged by the Public Health Committee for the midwives. They were given by various specialists and were well attended.

MIDWIVES ACT, 1936.

The above Act came into force during the year. The Council considered the means they should adopt for carrying out their duties under the Act for securing the employment of certified midwives as whole-time servants. It is expected that the salaried midwives will commence their duties on August 1st, 1937. The following proposals were adopted by the Council.

Proposals for carrying out the Council's duties under the Midwives Act, 1936.

In the first place there are certain facts which are presented for consideration.

THE NUMBER OF BIRTHS TO BOLTON RESIDENTS.

Figures are given for the three years 1933, 1934, 1935. It should be pointed out that these figures are only approximate, for several reasons. Firstly, the births registered in a year may not have occurred in that year, as there is a period of six weeks allowed for registration, whilst the returns from the midwives relate to births in the actual calendar year. Secondly, there is reason to think the institutional returns may not be quite accurate in their division into Bolton and non-Bolton cases. There are other less important reasons. The figures given are, however, sufficiently accurate for practical purposes.

	1933	1934	1935
Births registered	2123	2212	2236
No. born in institutions (Haslams and Townleys)	782	876	1014
No. born at home	1340	1336	1222
Attended by midwives	1146	1161	1020
Attended by doctors... ..	194	175	202

It will be observed that for the three years quoted the average number of confinements occurring in the homes of the people is about 1,300. An average of 1,109 cases was attended by midwives. Excluding medical assistance called in by midwives, an average of 190 cases was attended by doctors. In approximately 100 of these cases they were assisted by midwives acting as maternity nurses.

The Local Authority, for the purpose of this Act, is concerned with domiciliary cases attended by midwives and with cases attended by visiting maternity nurses working under a doctor. It is not concerned with "monthly nurses." It is estimated that there are about 1,200 domiciliary cases annually for which the Local Authority may have to make provision.

THE NUMBER OF MIDWIVES IN BOLTON (EXCLUDING THOSE ON THE STAFF OF THE HASLAM MATERNITY HOME).

Sixty midwives have notified their intention to practise in the area of Bolton since January, 1936. Nine of these midwives live outside Bolton. Thirteen of the sixty midwives did not in fact attend any cases as midwives or visiting maternity nurses in 1935.

THE NUMBER OF CASES ONE MIDWIFE CAN DEAL WITH ADEQUATELY PER ANNUM.

The maximum number of cases dealt with by one midwife in Bolton in 1935 was 108. It has been calculated that on an average one case means 30 hours' work for a midwife. The amount of time devoted to a

case is very much the same whether the midwife is working independently or whether she is attending the case as a maternity nurse under the supervision of a medical practitioner. The Ministry of Health Circular suggests that in populous districts each midwife should usually be capable of attendance on 70 cases as a midwife and 30 cases as a maternity nurse during the year. Working 52 weeks a year this amounts to about 58 hours work per week per midwife. As the working hours are irregular this is as much as can be considered desirable for efficient service.

THE FOLLOWING SPECIFIC PROPOSALS ARE MADE IN RELATION TO BOLTON.

(a) The cases for which the Local Authority may have to provide a domiciliary service of midwives to be regarded as numbering 1,200.

(b) Taking into consideration the questions of holidays, sickness, post-certificate courses, and the occasional need for suspending midwives, the number of cases to be allowed to one midwife either as midwife or maternity nurse in Bolton to be 80.

(c) Practising midwives 65 years of age or over to be required to surrender their certificates under the provisions of Sec. 5 (2) of the Act.

(d) The number of established posts for midwives to be 15.

(e) The midwives to be paid a wage comparable with the Health Visitors. As the salary paid to Bolton Health Visitors is comparatively low, it is suggested that the midwives should in the first instance be paid the same maximum salary as the Health Visitors—£180 rising by increments of £10 to £200, in addition to travelling and certain laundry expenses and uniform allowance.

(f) The midwives appointed should provisionally be allowed, within limits of their allotted part of Bolton, to choose their own houses, but after consideration of the applications received, the Committee should reconsider this point, and if necessary, direct a midwife to live in a particular house. It is recommended that all midwives should be provided with a telephone in their houses.

(g) A charge of 40/- to be made for the services of a midwife and 35/- for a maternity nurse during pregnancy, labour, and the lying-in period, a deposit of 5/- being paid on booking the midwife.

(h) The scale, which is at present in operation for determining the payment of midwives' fees in necessitous cases where no maternity benefit is payable, should continue to be used. It is suggested that where a maternity benefit is payable the midwife's fee should be recovered.

(i) There are several matters relating to the booking of the midwives and the collection of fees, on which the Town Clerk and the Borough Treasurer will have to advise. It is suggested that these are administrative arrangements which should be worked out by the officials concerned.

(j) In the first instance it is recommended that eight midwives should be appointed, and that further midwives should be appointed as the need arises. It is difficult to conjecture the full effect of the Act, and only experience will show the number of independent midwives who will continue in practice, and the number of cases which they will conduct. Whilst it is anticipated that practically all the domiciliary midwifery in the town will eventually be in the hands of the municipal midwives, it appears the wiser course to make the appointments after there is proof of the demand. The first appointments will have to be made after advertisement in the town by selecting the eight most suitable of the practising midwives who make application. They should all be appointed at a salary of £180 per annum, and increments should be dependent on the amount and the satisfactory nature of the service given.

(k) There are other matters which ought to be mentioned in relation to the proposals, but which do not allow of definite suggestions at the present time. The first is the provision of courses of instruction by Local Authorities for midwives practising in its area. These revision courses are to be governed by rules to be framed by the Central Midwives Board. These rules have not yet been published by the Central Midwives Board. The second matter is the co-ordination of the work of domiciliary midwives with the work of Maternity Hospitals. This appears to be a matter which might be deferred until the Public Health Department are administering Townleys Hospital.

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 56 beds. A further 20 beds are available if required for ante-natal cases. Two ante-natal clinics are held weekly. During the year 1,229 patients made 4,099 attendances. Of the patients attending, 861 were Bolton cases making 2,999 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 1936 from Bolton and from the county areas served. Approximately 75% of the cases were from Bolton.

No. of beds used for maternity cases	...	...	...	...	76
No. of cases admitted	...	...	...	...	1,116
Average duration of stay in days	...	...	...	...	13
No. of cases notified as—					
(a) Puerperal fever	...	...	...	...	12
(b) *Puerperal pyrexia	...	...	...	...	1
*i.e. rise of temperature to 100.4°F for 24 hours, or recurrence within that period.					
No. of cases of pemphigus neonatorum	...	...	...	...	Nil
No. of infants not entirely breast fed whilst in hospital	...	...	...	...	105
No. of cases of ophthalmia neonatorum	...	...	...	...	Nil
No. of maternal deaths	...	...	...	...	11
No. of infant deaths	...	...	...	...	100
(a) Stillborn	...	...	...	...	66
(b) Within 10 days of birth	...	...	...	...	34

(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.

I append full particulars of all cases admitted to the Home in 1936.

STATISTICS, 1936.

No. of beds in the Home	...	...	...	...	...	18
No. of cases admitted	...	...	...	...	...	345
Average duration of stay in days	...	...	...	...	...	14.0
No. of cases delivered by -						
(a) Midwives	...	...	...	...	...	253
(b) Doctors	...	...	...	...	...	92
No. of cases in which medical assistance was sought by the midwife...						
(a) Ante-natal	...	...	...	...	...	30
(b) During labour	...	...	...	...	...	33
(c) After labour	...	...	...	...	...	7
(d) For infant	...	...	...	...	...	21
No. of cases notified as—						
(a) Puerperal fever	...	...	...	...	...	Nil
(b)*Puerperal pyrexia	...	...	...	...	...	Nil
*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	...	...	...	...	...	7

No. of cases notified as ophthalmia neonatorum	...	...	Nil
No. of maternal deaths, with causes	...	...	Nil
No. of infant deaths	...	...	21
(a) Stillborn	...	...	14
(b) Within 10 days of birth	...	...	7

POST-NATAL CLINIC.

During the year a post-natal clinic was inaugurated under the clinical charge of Dr. J. Scott, gynecologist to the Bolton Royal Infirmary. The purpose of the clinic is to deal with disabilities after childbirth before they develop into major troubles. It is held at monthly intervals in the premises of the Mother and Child Welfare Association, 70, St. George's Road. The clinic has not yet been in operation long enough to assess its value.

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 81 expectant mothers made 524 attendances. The scope of the work has been extended in certain cases to the provision of dentures. 34 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 1915 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 preventative medicine. During the year under review it was decided to appropriate the two nurses employed by the Mother and Child Welfare Association for service with the health visitors employed by the Public Health Committee. The Corporation will now assume responsibility for all nursing services at the Child Welfare Centres. It is anticipated that the unification of staff will result in increased efficiency of work.

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

VISITS BY HEALTH VISITORS.

Primary birth enquiries	...	...	...	...	2,097
Visits to children, 1—5 years	...	...	...	...	5,401
Primary visits to expectant mothers	...	...	...	...	305
Revisits to infants under 1 year	...	...	...	...	4,827

Revisits to expectant mothers	...	...	...	...	317
Visits to puerperal fever cases	...	...	...	...	—
Visits to ophthalmia cases	...	...	...	...	40
Stillbirth enquiries	...	...	...	...	122
Death enquiries made (under one year of age)	...	...	...	...	102
" " (maternal)	...	...	...	...	10
Visits to midwives' houses	...	...	...	...	190
Visits—Children Act	...	...	...	...	100
Miscellaneous visits	...	...	...	...	252
Total visits					13,763

As a result of their visits the health visitors reported 40 nuisances to the Medical Officer of Health, and referred six cases to the N.S.P.C.C.

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.

NAME AND ADDRESS OF CENTRE.	DAY AND TIME OF MEETING.	
The Friends' School Room, Tipping Street	...	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.
Victoria Hall, Knowsley Street	...	Wednesday 3 p.m.
St. Chad's School, Belvoir Street	...	Wednesday 3 p.m.
The Saviour's Church House, Deane Road...	...	Thursday 3 p.m.
Daubhill Methodist School, Derby Street	...	Thursday 3 p.m.
Delph Hill Methodist School	...	Friday 3 p.m.

STATISTICS FOR THE YEAR ENDED 31st DECEMBER, 1936. INFANT CLINICS.

Clinic	Average attendance per session	Number who attended for the first time		Total attendances by Children		Number of meetings during the year
		Children		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. Tipping Street ...	40.5	83	20	1098	721	45
2. Daubhill ...	46.4	101	13	1324	764	45
3. Halliwell ...	54.7	154	16	1766	699	45
4. Grecian Crescent ...	72.2	180	16	2282	1040	46
5. Victoria Hall ..	56.6	171	21	1506	930	43
6. Saviour's ...	48.5	136	24	1527	658	45
7. Chalfont Street ...	51.4	133	16	1505	809	45
8. St. Chad's ...	59.8	173	21	1709	985	45
9. Delph Hill ...	65.2	111	18	1643	1161	43
	495.3	1242	165	14360	7767	402

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

105,110 quarts of new milk were given to 1,596 persons.

13,100 lbs. of dried milk were given for the use of 448 infants.

1,906 lbs. of malt and oil were given to 783 children.

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

MESSAGE 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 premises of the Mother and Child Welfare Association in St. George's Road.

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 1936 was 103, and these received a total of 1,909 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 Department.

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 premises of the Mother and Child Welfare Association in St. George's Road.

The number of cases treated in 1936 was 89, and these received a total of 1,706 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 13 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.

During the year a scheme was commenced for the orthopædic treatment of children under five. The scheme is similar to that already in operation for school children. A monthly clinic is held by Mr. S. M. Milner, orthopædic surgeon to the hospital, in the Bolton Royal Infirmary. Cases are referred to him by the practitioners of the town or from Child Welfare Centres. Short stay hospital treatment is provided in the Bolton Royal Infirmary. Long stay cases are sent to the Ethel Hedley Hospital for Crippled Children, Windermere, the Royal Liverpool Children's Hospital, Heswall, or to the Robert Jones and Agnes Hunt Orthopædic Hospital, Oswestry. After-care and intermediate treatment is provided by an orthopædic nurse of the Bolton Royal Infirmary staff.

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	—
No. of applications for registration	3	1	2
No. of Homes registered	3	1	2
No. of Homes on the register on 31st December, 1936	1	1	1

No orders have been made refusing or cancelling registration.

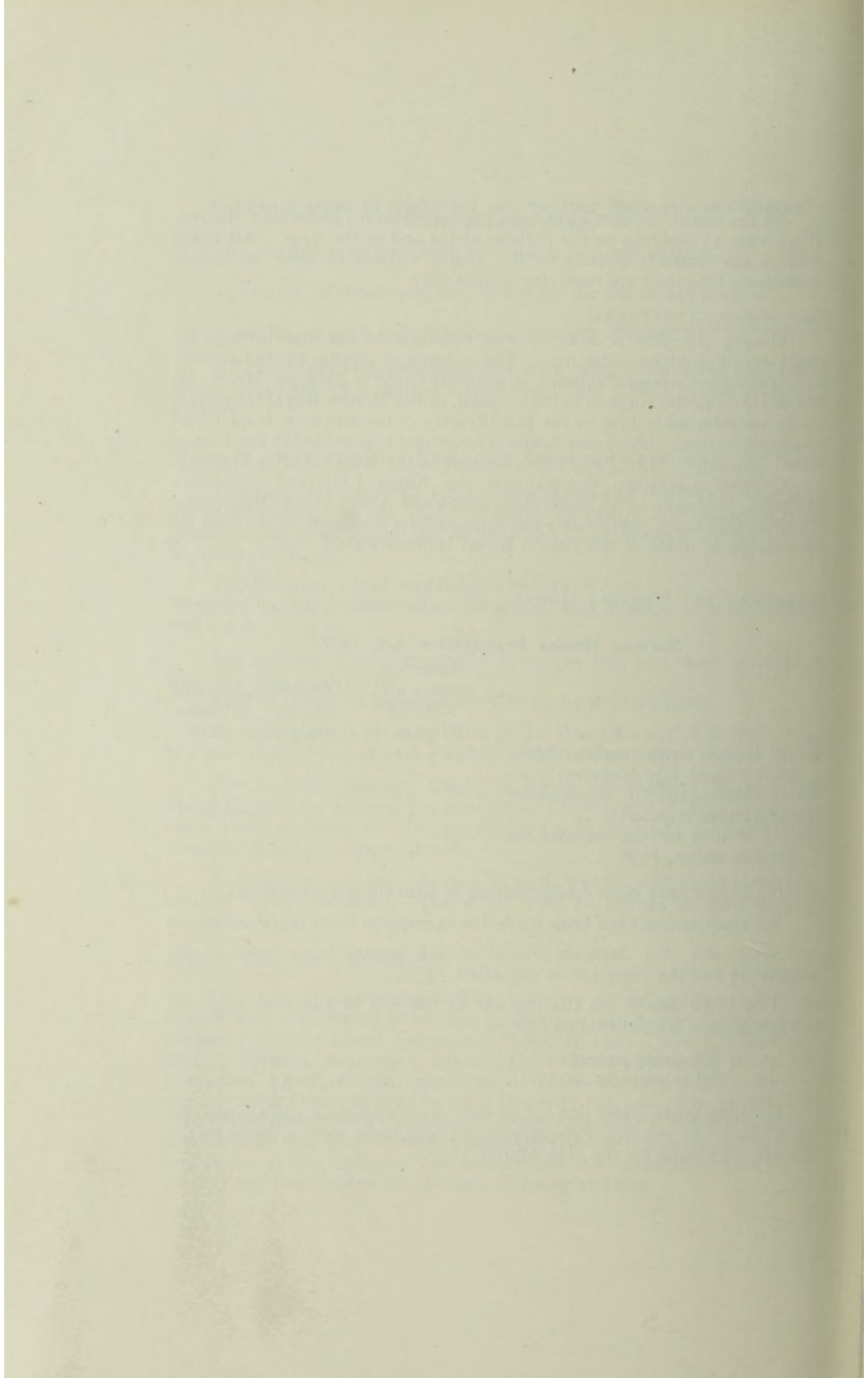
No applications have been made for exemption from registration.

Since the Act became operative six homes have been closed voluntarily and the registration cancelled.

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

Maternity patients	6
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.

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 1936 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 1936:—

Number of samples examined	...	...	...	245
Average Agar Count per 1 ml.	...	...	...	4

TYPICAL B. COLI.

Positive in 10 ml.	...	...	...	7 or 2.86%
Positive in 50 ml. Negative in 10 ml.	...	...	...	45 or 18.37%
Positive in 100 ml. Negative in 50 ml.	...	...	...	62 or 25.30%
Negative in 100 ml.	...	...	...	131 or 53.47%

B. WELCHII.

Positive in 50 ml.	...	...	...	4 or 1.6%
Negative in 50 ml.	...	...	...	241 or 98.4%

The Waterworks Engineer reports that 5 miles, 338 yards of water mains (comprising cast iron, steel and asbestos) varying from 3" to 6" in diameter, were laid within the Borough, and 1 mile, 1,579 yards of mains were re-laid with mains of equal or larger diameter.

DRAINAGE AND SEWERAGE.

The Borough Engineer reports:—"During the year a scheme has been prepared for the Croal intercepting sewer which has been submitted to and received the approval of the Ministry of Health. This is the main intercepting sewer of the town, the length being $5\frac{1}{2}$ miles and varies in diameter from 6 ft. to 12 ins. Work on this sewer will be commenced at an early date.

Several old sewers have been taken up and relaid in earthenware pipes with cement joints and the necessary manholes and 21 additional manholes have been constructed on the old sewers for their efficient ventilation and control.

Where possible, surface water sewers are laid in front streets and 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 three 90 ft. diameter x 6 ft. deep nitrifying filters were brought into use for the further treatment of the effluent.

This is part of a scheme which is being carried out by arrangement with the Rivers Board, by which the Sewage Department has agreed to equip about 2 acres of old filters with revolving distributors during the next three years."

CLOSET ACCOMMODATION.

The position of Bolton as regards closet accommodation at the close of 1920 and the close of 1936 is shown in the following table.

	Dec. 31st, 1920.		Dec. 31st, 1936.
Fresh-water closets ...	11,062	...	38,552
Waste-water closets ...	15,219	...	14,800
Pail closets ...	6,302	...	441
Privy Middens ...	10,540	...	624

Five privy middens and 8 pail closets were replaced by fresh-water closets in 1936.

There are still 622 privy middens and 432 pail closets existing where the absence of sewer, the possession of a fresh-water closet indoor, or being in scheduled clearance areas and projected street and town improvement schemes prevent or obstruct their conversion.

Where there is a fresh-water closet indoor, and a privy midden or pail closet 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 or pail closet.

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.....	259.03
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.	
57.84 " " " 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 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	44.29%
Salvage and Incineration	11.58%
Tipping	39.82%
Agricultural Purposes	4.31%

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 & 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 for a covering for our tips or as a top dressing. Tins, &c., 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 depôt 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:—

GENERAL INSPECTIONS.

Houses	10806
Newly-infected houses	476
Schools	10
Common lodging-houses	194
Houses let in lodgings	570
Factories	63
Workshops	24
Workplaces	32
Bakehouses	324
Offensive trades	11
Dairies, Cowsheds, and Milk-shops	469
Conversion of Closets	57
Drains... ..	380
Miscellaneous... ..	1911

NUISANCES FOUND.

Houses, workshops, cowsheds, etc., needing limewashing	420
House roofs, walls, floors, etc., in bad repair	1111
Insan. or insufficient closet accommodation	63
Ashpits or pails in bad repair	41
Defective or choked drains	155
Yards in bad repair	171
Animals kept as a nuisance... ..	7
Miscellaneous	302

ACTION TAKEN.

Letters written	489
Informal notices served	812
Verbal notices	112
Legal notices served	166

DISINFECTIONS.

Houses disinfected	674
Articles disinfected	2866
Articles destroyed	142

COMPLAINTS.

From Public	307
From Factory Inspector	20
Reports on complaints to Factory Inspector	20

PLACES UNDER INSPECTION.

Common lodging-houses	34
Houses let in lodgings	170
Factories	355
Factory Chimneys	259
Workshops and Workplaces	812
Bakehouses	311
Outworkers' Premises	6
Offensive trades	23
Slaughterhouses	32
Cowsheds	283
Milk-shops	559
Public Sanitary Conveniences	27
Travelling Vans	150

Common Lodging-houses.

The number of registered common lodging-houses in Bolton is 34. In 1926 there were 38.

The ward distribution of these common lodging-houses and the accommodation they afford is as follows :—

Ward.	Houses.	Rooms.	Beds.
Exchange	9	54	184
East	20	132	686
Church	2	17	186
Derby	2	16	74
West	1	17	84

ACCOMMODATION FOR THE SEXES.

Description.	Houses.	Males.	Females.	Couples.
Males only	23	963	...	...
Females only	1	...	56	...
Males and Females	1	27	8	...
Females and Couples	3	...	23	19
Males and Couples	3	45	...	7
Males, Females and Couples	3	34	18	14
	<u>34</u>	<u>1,069</u>	<u>105</u>	<u>40</u>

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 50% at the present time.

Prices for beds vary to the following extent :—

Single beds from 6d. to 1/2, the latter price being for cubicles.
Double beds 1/2 and 1/4.

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.

The byelaws provide amongst other matters, for:—

- (1) fixing the number of persons who may occupy a house,
- (2) the registration and inspection of such houses,
- (3) enforcing drainage and promoting cleanliness and ventilation
- (4) securing the adequate lighting of every room,
- (5) requiring provision adequate for the use of and readily accessible to each family of—
 - (i) closet accommodation,
 - (ii) water supply and washing accommodation,
 - (iii) accommodation for the storage preparation and cooking of foods.

None of the houses so let in Bolton was built for use as a lodging-house and generally they were intended for the use of one family only.

The byelaws do not apply to any house in which the landlord resides and not more than one family is lodged.

These lodging-houses are largely occupied by families who have no furniture of their own and who cannot afford the responsibility of separate tenancy.

Constant supervision by the Sanitary Inspectors is essential, as this sub-letting of houses has a definite tendency to create slums. When necessary structural alterations have been effected to attain the byelaw standard the premises are in most cases visited weekly for evidence of overcrowding, uncleanness or the lack of ventilation.

The overcrowding survey carried out during the year showed that there were 170 houses in which there were three or more unrelated families per house.

The most unfavourable conditions in our town for the rearing of families are found in houses let in lodgings.

Vans

The number of living vans in Bolton at the close of 1936 was 16, two less than last year. It is proposed to deal with these erections at an early date under the Housing Act, 1936, which enables local authorities to deal with them as houses if they have been on the site for two years.

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

Situation.	No. of Vans.	Occupants.	
		Adults	Children
Berlin Street	2	4	—
31, Bridgeman Street... ..	2	3	—
Cheetham Court	1	1	2
Corner of Bridge St. and St. George's St. ...	6	9	—
Rear of 405, Radcliffe Road	1	2	—
Field adjoining Withins Lane	1	1	—
Cotton Street	1	2	—
Shurmer Street	1	2	—
Land at top of Blake Street, Halliwell ...	1	2	—
	16	26	2

Offensive Trades.

Offensive trades are being carried on in 23 different premises in Bolton. The nature of these trades and their distribution in the wards of the town is shown in this table:—

OFFENSIVE TRADES.

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

No serious nuisance has arisen in connection with any of the afore-said trades.

FACTORIES AND WORKSHOPS.

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

I.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries)	79	2	—
Workshops (Including Workshop Laundries)	154	—	—
Workplaces (Other than Outworkers' premises)	28	—	—
Total	261	2	—

2.—DEFECTS.

Particulars.	Number of Defects.			Number of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts:—*</i>				
Want of cleanliness	3	3	—	—
Want of ventilation	1	1	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	—	—	—	—
Sanitary accommodation { insufficient	2	2	—	—
{ unsuitable or defective	8	8	—	—
{ not separate for sexes	2	2	—	—
<i>Offences under the Factory and Workshop Acts:—</i>				
Illegal occupation of underground bake-house (s. 101)	—	—	—	—
Other offences	4	2	2	—
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)				
Total	20	18	2	—

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

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

SHOPS AND WAREHOUSES.

The Shops Act, 1934, came into operation on December 30th, 1934. It contains important provisions regulating the employment of young persons under the age of eighteen, and for securing improved arrangements for the health and comfort of all shop workers and young persons alike. 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. The question of the administration of the Shops Act calls for further consideration as it has not been possible for the existing staff and inspectors to carry out their duties in relation to the Act in more than a perfunctory manner. The administration of the whole Act has been considered by the Council without a permanent decision, but if the sections relating to the health and comfort of the shop workers are to be properly administered an additional sanitary inspector will be necessary.

SMOKE ABATEMENT.

During the year 266 smoke observations were made, with the following results.

NO. OF OBSERVATIONS		RESULT.
141	...	No black smoke
39	...	$\frac{1}{2}$ min. ..
2	...	$\frac{3}{4}$ " ..
46	...	1 " ..
3	...	$1\frac{1}{4}$ mins. ..
25	...	$1\frac{1}{2}$ " ..
7	...	$1\frac{3}{4}$ " ..
2	...	5 " ..
1	...	6 " ..

Sixty-five observations of chimneys were taken for the emission of grit and in one case a nuisance was detected.

Representations were made to the firm concerned and efforts are being made at the present time to remedy the nuisance by means of a patent grit consumer and preventer.

Complaints were received during the year of the emission of cotton waste dust from certain cotton mills.

Upon investigation it was found that the plant provided to obviate the nuisance was not in proper working order. The owners were approached and the nuisance has now been abated.

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.

The improvements in the standards of cleanliness and of housing in the country have increased the attention paid to the infestation of houses with vermin. The bed bug, which is the most persistent and offensive infestation in this country, has been the chief object of attack. It is difficult to obtain precise information as to its prevalence for a variety of reasons but there is abundant evidence that it is very widespread, particularly in the older houses of the country. There are no reliable data as to the exact incidence of bug infestation in Bolton. Whilst it is very considerable, it is also true that competent observers with experience in various parts of the country are of opinion that in Bolton bug infestation tends to be relatively less frequent.

A number of municipal houses were found, as the result of a careful examination carried out during the year, to be bug infested, and these were disinfested by means of hydrocyanic acid gas. It is anticipated that with the more thorough treatment of incoming furniture by the cyanide

process the risk of bug infestation of municipal houses will be greatly reduced. A difficulty which remains is the purchase by the tenants of second-hand bug infested furniture after they are installed in the municipal houses.

No reliable information is available as to the number of other houses infested. There is no doubt that the percentage is very much higher than in municipal houses. In some localities of the town it is true to state that the majority of the houses are bug infested.

The eradication of bugs in property in private ownership is a matter for the tenants, and in old property is an extremely difficult task. The sanitary inspectors give help and advice. Various proprietary preparations such as Vermoose and Vermidine are used. They are sprayed liberally on all surfaces and crevices on two occasions at a fortnight's interval, prior to redecoration. Blow lamps are also used on all cracks and crevices. Beds and bedding are treated by steam disinfection. The Department sells the proprietary preparations at cost price and lends small sprays free of cost. These methods have proved moderately successful. In terrace houses no amount of effort on the part of one tenant can eradicate the bugs unless the tenants of adjoining houses co-operate.

The Housing Department has initiated methods for the treatment of the furniture and personal belongings of tenants from bug infested insanitary dwellings. Before the tenants enter their new dwellings, the furniture, etc., is collected in vans and treated with hydrocyanic acid gas for four hours. The Housing Director states that this method has given satisfactory results. To carry out this work more expeditiously the Housing Committee decided to set up its own disinfesting station and this is in course of construction. The new station will provide for the cyanide process and for the steam disinfection of soft bedding. A hermetically sealed building will house a removal van and the heat of this chamber can be so regulated and controlled that efficient cyanide fumigation can be completed in two hours. The van, which is part of the equipment, is of the trailer type capable of containing the furniture of three families. Whilst the furniture is in the sealed gassing chamber the bedding is steam disinfested in an adjacent chamber and is completed at the same time as the furniture.

During the year, the furniture from 189 slum clearance houses was treated by the cyanide process.

The work of cyanide disinfestation is at present carried out by a contractor. In the new disinfesting station of the Housing Department the work is to be carried out by the local authority.

The use of the cyanide process requires extreme care. Several fatal accidents have occurred throughout the country as a result of its use. The precautions taken must be sufficiently stringent to make this impossible in the future; for no bug infestation is serious enough to warrant even a remote risk of the loss of human life.

The first part of the document is a list of names and addresses, which are arranged in a columnar format. The names are written in a cursive hand, and the addresses are written in a more formal, printed style. The list appears to be a directory or a list of correspondents.

The second part of the document is a letter or a set of instructions. It begins with a salutation, followed by several paragraphs of text. The handwriting is consistent with the first part, and the text appears to be a personal communication or a set of directions.

The third part of the document is a list of names and addresses, similar to the first part. It is arranged in a columnar format, with names on the left and addresses on the right. The handwriting is consistent with the rest of the document.

The fourth part of the document is a letter or a set of instructions, similar to the second part. It begins with a salutation and contains several paragraphs of text. The handwriting is consistent with the rest of the document.

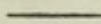
The fifth part of the document is a list of names and addresses, similar to the first and third parts. It is arranged in a columnar format, with names on the left and addresses on the right. The handwriting is consistent with the rest of the document.

The sixth part of the document is a letter or a set of instructions, similar to the second and fourth parts. It begins with a salutation and contains several paragraphs of text. The handwriting is consistent with the rest of the document.

The seventh part of the document is a list of names and addresses, similar to the first, third, and fifth parts. It is arranged in a columnar format, with names on the left and addresses on the right. The handwriting is consistent with the rest of the document.

The eighth part of the document is a letter or a set of instructions, similar to the second, fourth, and sixth parts. It begins with a salutation and contains several paragraphs of text. The handwriting is consistent with the rest of the document.

SECTION IV.



Housing.

SECTION IV

Housing

HOUSING.

Work under the Housing Acts continued during the year with a strenuous effort to make good the arrears caused by the repeated changes in the staff of sanitary inspectors. Three additional temporary sanitary inspectors were appointed.

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

When the present five year programme is completed a further additional programme will have to be dealt with before it can be claimed that Bolton is free from insanitary dwellings. With the improvement in housing standards it is obvious that the work of slum clearance to some extent will have to be a continuous process.

The provisions of the Housing Acts in relation to insanitary property have been carried out in co-operation with the Department of the Borough Engineer and with the Housing Department. In the consideration of insanitary property, the responsibility of advising the Public Health Committee is shared with the architectural section of the Borough Engineer's Department.

The rehousing of the occupants of demolished houses is left entirely to the Housing Department. The process of transfer of tenants from insanitary dwellings to new Corporation houses is not without difficulty. The furniture and personal belongings of many of the tenants from these insanitary dwellings are bug infested. To prevent infestation of the new houses the Housing Director has initiated methods for the treatment of infested goods.

A scheme is in operation for the provision of furniture to tenants in certain cases. The furniture is supplied at actual cost plus 5% and payment is collected weekly with the rent.

In connection with the rehousing of dwellers from insanitary property the Housing Committee have elaborated a scheme of rent rebate (within certain limits) based on income in order to bridge the gap between the low rent paid for the unfit house and the rent of a Council house.

Additional legislation came into force during the year with regard to overcrowding and the details of the overcrowding survey are given on pages 60 to 69.

During the year an Inspector from the Ministry of Health held a public enquiry into five Clearance Orders to which objection had been made by owners and interested parties. The Minister confirmed all the Orders with a slight modification in one case. The areas concerned were :-

Smith Street and Garden Street.
Green Street and Water Court.
Water Street and Bolton's Court.
Back Union Buildings.
School Hill No. 2.

The number of houses in these areas was 59, and the number of persons to be displaced is 200.

The work of reconditioning and breaking through of back-to-back houses has proceeded during the year but experience has shown that this method of dealing with insanitary property is far from satisfactory. Constant supervision is necessary whilst the work is in progress and the completed work in most cases has not come up to expectation. The number of back-to-back houses converted to the end of the year was 338.

The number of new houses completed in 1936 was 763 as compared with 644 in 1935, 324 of these new houses were erected by the local authority and 439 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

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

Housing Act, 1930.

The following figures show the progress that has been made from the date on which the Act became operative to the 31st December, 1936.

Unfit houses demolished in clearance areas	...	128
Number of persons displaced from such houses	...	471
Individual unfit houses (Sec. 19) demolished	...	337
Number of persons displaced from such houses	...	1,138
Number of houses made fit as a result of statutory notice	... ..	1,646
Insanitary houses demolished in anticipation of formal procedure	... ..	61
Insanitary houses closed (but not demolished) on an undertaking of the owner not to use for habitation		50
Number of houses made fit as a result of informal notice preliminary to formal notice	... ..	4,971

Housing Statistics, 1936.

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)	2,232
(b)	Number of inspections made for the purpose ...	9,471
(2) (a)	Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	1,656
(b)	Number of inspections made for the purpose ...	5,660
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	433
(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	1,264

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	829
--	--	-----

3.—ACTION UNDER STATUTORY POWERS DURING THE YEAR.

A. *Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930.*

(1)	Number of dwelling-houses in respect of which notices were served requiring repairs ...	309
(2)	Number of dwelling-houses which were rendered fit after service of formal notices	
(a)	by owners	226
(b)	by Local Authority in default of owners... ..	16

B. *Proceedings under Public Health Acts.*

(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	...	...	...	...	...	64
(2)	Number of dwelling-houses in which defects were remedied after service of formal notices..						
(a)	by owners	...	...	...	...	...	8
(b)	by Local Authority in default of owners...						—

C. *Proceedings under Sections 19 and 21 of the Housing Act, 1930.*

(1)	Number of dwelling-houses in respect of which Demolition Orders were made	...	...				93
(2)	Number of dwelling-houses demolished in pursuance of Demolition Orders	...	...	...			146

D. *Proceedings under Section 20 of the Housing Act, 1930.*

(1)	Number of separate tenements or underground rooms in respect of which Closing Orders were made	...	...	...	...	...	7
(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 4,712

Housing Act, 1935 — Overcrowding.

A.	(i)	Number of dwellings overcrowded at the end of the year	1,473
	(ii)	Number of families dwelling therein	1,534
	(iii)	Number of persons dwelling therein	10,181
B.		Number of new cases of overcrowding reported during the year	39
C.	(i)	Number of cases of overcrowding relieved during the year	22
	(ii)	Number of persons concerned in such cases	128
D.		Particulars of any cases in which dwelling-houses have again become overcrowded after the Local Authority have taken steps for the abatement of overcrowding	Nil
E.		Any other particulars with respect to overcrowding conditions upon which the Medical Officer of Health may consider it desirable to report—	
	(i)	Number of cases relieved in Corporation houses ...	4
	(ii)	Number of overcrowding cases relieved due to action under the five year programme	7
	(iii)	Number of cases of overcrowding in houses yet to be dealt with under five year programme	121
	(iv)	Number of persons in such houses	744

Overcrowding Survey. Housing Act, 1935.

Sections 1 to 12 of the Housing Act, 1935, together with the First Schedule of the Act, contain the specific provisions for the abatement and prevention of overcrowding.

The Act sets up a standard for measuring overcrowding and, subject to certain safeguards for special cases, makes the infringement of that standard after an appointed date, a punishable offence.

The Act required a survey to be made by all local authorities for ascertaining the extent and location of overcrowding in its area. It also required the local authority to report to the Minister of Health the facts as revealed by the survey, and to estimate the amount of new accommodation required to abate the overcrowding. Houses owned by the local authority had to be dealt with in a separate report.

The overcrowding standard is a combination of three standards :—

- (1) Sex separation standard.
- (2) A standard according to the number of rooms in a house.
- (3) A standard according to the size of the rooms.

The second and third standards are used in combination for deciding the permitted number in a dwelling.

In considering the application of the standard, it is to be noted that

- (a) a dwelling house as defined by the Act means any premises used as a separate dwelling by members of the working class, or of a type suitable for such use.
- (b) "room" does not include any room of a type not normally used in the locality either as a living room or as a bedroom.
- (c) children between the ages of one and ten years count as half a person, and a child under one year does not count at all.

From the definitions of room and dwelling-house, it will be seen that bathrooms and sculleries without fireplaces are not counted as part of the accommodation, and each part of a house which is sublet, as far as overcrowding is concerned, constitutes a separate house.

RESULT OF SURVEY.

The survey was made during the year by a temporary staff of 20 enumerators. The first part of the survey entailed detailed enquiries and examinations at all the working class houses in the Borough, to ascertain the number of persons, and the number of rooms occupied by each separate family.

The number of families enumerated and visited was 47,902, of which, 4,426 lived in Corporation houses.

The first survey revealed that 6,506 families appeared to be overcrowded, or so near the margin as to call for a more detailed examination with the measurement of all rooms.

A measurement survey was then carried out, and of the 6,506 families near the overcrowded standard, it was established that 1,456 families were actually overcrowded. 116 of these families lived in Corporation houses. 1,453 families (3.03%) were overcrowded in relation to number and floor area, and 3 families were overcrowded by mixing of the sexes.

With the results of the survey available, it was necessary to form some estimate of the number of new houses required to abate overcrowding. In arriving at this estimate the following facts had to be taken into consideration :—

- (1) the number of empty houses in the district.
- (2) the sizes and types of the empty houses.
- (3) the accommodation rendered available by decrowding.
- (4) the number of overcrowded families living in houses to be dealt with by Demolition or Clearance Orders.
- (5) the sizes of overcrowded families.
- (6) the number of families likely to become overcrowded by the normal advancement of age in future years.

After consideration of all the facts, it was estimated that 732 houses were required to abate overcrowding.

A summary of the survey will be found in Tables 1—5.

TABLES 1 AND 2.

These Tables are drawn up in accordance with the requirements of the Minister of Health (Form C). It will be noted that the Tables are intersected by a diagonal line. The figures to the left of this line show the overcrowded families and to the right the uncrowded families.

Table 1 gives details of the survey for the whole of the Borough. It will be observed that the most serious case of overcrowding was a family equivalent to 12 persons living in a dwelling with a permitted number of 5 persons. The most uncrowded family consisted of one person living in accommodation for 12. The greatest amount of over-

crowding occurred in the four-roomed houses of the Borough with a permitted number of 5. There were 951 overcrowded families living in this type of dwelling, the majority varying in size from $5\frac{1}{2}$ to $7\frac{1}{2}$ persons. It therefore appears that a number of dwellings with accommodation for $7\frac{1}{2}$ and 8 persons is required with as little delay as possible to abate this overcrowding.

Table 2 gives the details of the survey in the houses owned by the Housing Committee.

The most serious case of overcrowding was a family equivalent to 11 persons residing in a house with a permitted number of 7. The most uncrowded families were five single persons living in houses with a permitted number of 8.

Examination of this Table shows that in general the accommodation provided in Corporation houses is considerably in excess of the legal minimum established by the Housing Act, 1935.

TABLE 3.

This Table summarises the numbers and sizes of families in the Corporation and other working class houses in the Borough.

TABLE 4.

Table 4 gives details of the survey in different wards in the Borough.

It will be seen that the greatest percentage of overcrowding existed in Exchange Ward with 7.63%. In East, West and Derby Wards the percentage of overcrowding was approximately the same (5.17% to 5.19%). The least amount of overcrowding occurred in Great Lever Ward.

TABLE 5.

The Table gives particulars of the number of families likely to become overcrowded in the next five years. These cases will have to be reviewed to discover if overcrowding occurs by reason of increase in family or by the normal increase in the age of children.

FORM C.

OVERCROWDING SURVEY—REPORT.

1. Name of Local Authority: County Borough of Bolton.

TABLE I.

2. Area to which the Report relates: County Borough of Bolton.

Number of "persons" in family.	Number of families containing the number of persons in the first column occupying dwellings with the permitted number shown at the head of this column.												Families.													
	1	1½	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12 & over	Over-crowded (a)	Un-crowded (b)	Total (c)
1	167	43	289	1	1	681	1	1										51			13	1	1	3227	3227	
1½			8	6	1	15	50											305	1		65	13		85	85	
2	1	117	331	17	6	3746	6359	1										58			10	2	3	13054	13057	
2½		27	1	85	5	1230	2114	1										321			73	27	21	4097	4124	
3	1	17	3	96	43	3333	4916	4										49			8	29	21	10933	10954	
3½		11	23	23	52	790	1005	1										236			69	2	34	2302	2336	
4		6	40	6	48	2022	6	1998	6									38			13	7	9	6083	6132	
4½		1	6	6	18	466	2	483	4									139			45	21	28	1368	1377	
5			9	9	18	973	1	931	4									49			9	9	1	3024	3052	
5½		1	5	5	12	248	12	238	4									67			36	11	256	535	791	
6			4	4	19	53	19	353	9									23			1	6	6	822	1207	
6½			2	2	6	21	6	103	9									4			8	6	11	237	378	
7			2	2	3	17	3	133	1									39			15	4	4	365	538	
7½					2	9	2	48	2									10			4	7	73	126	199	
8					1	8	1	44	2									32			9	7	118	99	217	
8½					2	1	2	12	2									10			3	2	38	29	67	
9					1	4	1	14	2									14			3	3	54	30	84	
9½																		7			3	2	10	8	18	
10					4	1	1											2			9	3	19	17	36	
10½					1													4			2	9	9	2	11	
11																		7			2	2	3	4	7	
11½																		2			2	2	2	3	2	5
12 & over					1																		2	3	2	5
(a) Un-crowded	2	167	168	627	200	1	16117	73	3519	10	13557	76	104	384	9342	58	29	1442	25	3	399	4	142		46449	
(b) Over-crowded	3	1	63	5	91	2	4	64	951	25	60	29	42	75	8	18	9	2	1				1453		46449	
(c) Total..	5	168	231	632	291	3	16121	137	4470	35	13617	105	146	459	9350	76	38	1444	26	3	399	4	142	1453	46449	

Dwellings.

2. Area to which the Report relates: Houses owned by the Housing Committee.

Number of "persons" in family.	Number of families containing the number of persons in the first column occupying dwellings with the permitted number shown at the head of this column.													Families.													
	1	1½	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	Over-crowded (a)	Un-crowded (b)	Total (c)	
1	—	22	—	86	—	—	—	—	—	—	12	—	—	—	5	—	—	—	—	—	—	—	—	—	140	140	
1½	—	—	—	2	—	—	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	3	3	
2	—	—	2	63	2	—	—	—	—	299	—	—	—	—	127	—	—	—	—	—	—	—	—	—	791	791	
2½	—	—	—	—	—	—	—	—	—	235	—	—	—	—	67	—	—	—	—	—	—	—	—	—	505	505	
3	—	—	—	—	—	—	—	—	—	433	—	—	—	—	167	—	—	—	—	—	—	—	—	—	892	892	
3½	—	—	—	—	—	—	—	—	—	199	—	—	—	—	41	—	—	—	—	—	—	—	—	—	341	341	
4	—	—	—	—	—	—	—	—	—	358	—	—	—	—	157	—	—	—	—	—	—	—	—	—	603	603	
4½	—	—	—	—	—	—	—	—	—	174	—	—	—	—	35	—	—	—	—	—	—	—	—	—	236	236	
5	—	—	—	—	—	—	—	—	—	252	—	—	—	—	80	—	—	—	—	—	—	—	—	—	366	366	
5½	—	—	—	—	—	—	—	—	—	94	—	—	—	—	25	—	—	—	—	—	—	—	—	—	122	122	
6	—	—	—	—	—	—	—	—	—	26	—	—	—	—	51	—	—	—	—	—	—	—	—	—	156	156	
6½	—	—	—	—	—	—	—	—	—	11	—	—	—	—	10	—	—	—	—	—	—	—	—	—	122	134	
7	—	—	—	—	—	—	—	—	—	9	—	—	—	—	2	—	—	—	—	—	—	—	—	—	51	68	
7½	—	—	—	—	—	—	—	—	—	8	—	—	—	—	38	—	—	—	—	—	—	—	—	—	63	77	
8	—	—	—	—	—	—	—	—	—	6	—	—	—	—	16	—	—	—	—	—	—	—	—	—	25	41	
8½	—	—	—	—	—	—	—	—	—	1	—	—	—	—	5	—	—	—	—	—	—	—	—	—	8	26	
9	—	—	—	—	—	—	—	—	—	2	—	—	—	—	4	—	—	—	—	—	—	—	—	—	6	14	
9½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	13	
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	5	
10½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	
11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	
11½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
(a) Un-crowded	22	2	149	1	—	—	—	—	—	2082	35	66	40	831	27	5	2	—	—	—	—	—	—	—	4310	—	—
(b) Over-crowded	—	—	2	6	168	—	—	—	—	8	2118	42	96	44	835	31	8	2	—	—	—	—	—	116	4310	—	—
(c) Total	22	2	149	1	168	—	—	—	—	8	2118	42	96	44	835	31	8	2	—	—	—	—	—	116	4310	4426	

Dwellings. (a) Un-crowded (b) Over-crowded (c) Total

TABLE 3.

COUNTY BOROUGH OF BOLTON.

OVERCROWDING SURVEY—HOUSING ACT, 1935.

OVERCROWDED FAMILIES—SIZE AND NUMBER

(IN CORPORATION AND OTHER HOUSES).

Persons in family §	No. of families enumerated.	Found to be living in overcrowded condition.		
		Total.	In Corporation houses.	In other houses.
(a)	(b)	(c)	(d)	(e)
1	3,227	—	—	—
1½	85	—	—	—
2	13,057	3	—	3
2½	4,124	27	—	27
3	10,954	21	—	21
3½	2,336	34	—	34
4	6,132	49	—	49
4½	1,377	9	—	9
5	3,052	28	—	28
5½	791	256	12	244
6	1,207	385	8	377
6½	378	141	17	124
7	538	173	14	159
7½	199	73	16	57
8	217	118	18	100
8½	67	38	8	30
9	84	54	12	42
9½	18	10	4	6
10	36	19	3	16
10½	11	9	2	7
11	7	3	2	1
11½	—	—	—	—
12 and over	5	3	—	3
Total	47,902	1,453	116	1,337

§ Children between the ages of 1 and 10 are counted as half a person.

COUNTY BOROUGH OF BOLTON.

TABLE 4.

OVERCROWDING SURVEY—HOUSING ACT, 1935.

WARD	Preliminary Enumeration (Form "A")				Overcrowding Survey (Form "B")				
	No. of Enumerations.	No. of empty houses.	No. of families found to be		Total of columns "h" & "i"	No. of families found to be		% of families overcrowded.	
			Un-crowded.	Possibly over-crowded.		Definitely over-crowded.	Over-crowded		Un-crowded.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Astley Bridge	2886	68	2585	198	35	2818	46	2772	1.63
Bradford	4166	29	3411	574	152	4137	160	3977	3.86
Church	1844	56	1640	121	27	1788	34	1754	1.90
Darcy Lever-cum-Brightmet	2081	45	1832	172	32	2036	45	1991	2.21
Deane-cum-Lostock	1363	31	1179	131	22	1332	34	1298	2.55
Derby	4263	35	3377	646	205	4228	219	4009	5.17
East	1663	27	1316	233	87	1636	85	1551	5.19
Exchange	404	11	302	68	23	393	30	363	7.63
Great Lever	3977	68	3655	221	33	3909	41	3868	1.04
Halliwell	5389	44	4568	635	142	5345	142	5203	2.65
Heaton	349	20	289	36	4	329	5	324	1.51
Hulton	2017	44	1778	163	32	1973	37	1936	1.87
North	1680	18	1380	233	49	1662	52	1610	3.12
Rumworth	2468	17	2081	294	76	2451	87	2364	3.54
Smithills	3698	64	3444	165	25	3634	48	3586	1.32
Tonge	4462	119	3812	456	75	4343	82	4261	1.88
West	5983	95	4747	836	305	5888	306	5582	5.19
Whole Borough	48693	791	41396	5182	1324	47902	1453	46449	3.03

TABLE 5.

Number of families likely to be overcrowded in the years indicated.

Year.	No. of Families.
1936	53
1937	92
1938	80
1939	65
1940	37
Total	327

ABATEMENT OF OVERCROWDING.

It will take a considerable time before all the cases of overcrowding are alleviated. Examination of Table 2 suggests that practically all the overcrowding in municipal houses could be abated by a certain amount of reallocation. In relation to overcrowding in houses in private ownership, the Housing Committee are giving priority to overcrowded cases in the routine weekly lettings. At the moment of writing 28 overcrowded families have been rehoused. It would also seem necessary for further progress to be made that the private landlords should be approached to consider whether it is possible for them to reallocate and rehouse some of the overcrowded families.

In the abatement of overcrowding, regard must be paid to the definition of "suitable alternative accommodation."

The following conditions must be satisfied:—

- (a) the house must be a house in which the occupier and his family can live without causing it to be overcrowded;
- (b) the local authority must certify the house to be suitable to the needs of the occupier and his family as respects security of tenure and proximity to place of work and otherwise, and to be suitable in relation to his means; and
- (c) if the house belongs to the local authority, they must certify it to be suitable to the needs of the occupier and his family as respects extent of accommodation having regard to the standard specified in paragraph (ii) of Section thirty-seven of the Act of 1930, which provides that a house containing two bedrooms accommodates four persons, a house containing three bedrooms accommodates five persons, and a house containing four bedrooms accommodates seven persons.

MEASUREMENT SURVEY FOR PERMITTED NUMBERS.

In accordance with Section 5 of the Act, the Minister of Health fixed the 1st January, 1937, as the appointed day for the provisions of the Act to come into operation. The provisions of this Section require that every rent book must, after the appointed day, have the maximum permitted number of persons inscribed therein.

This provision made it necessary to carry out a detailed measurement of all remaining working class houses in the Borough so that the local authority could be in a position to issue certificates to the owners of houses indicating the number of persons allowed to occupy each house. The carrying out of this detailed measurement involved the department in a large amount of work. The number of houses measured up to the end of the year was 39,542. The number of houses in respect of which certificates had been issued was 17,193, and the work of issuing these certificates is continuing.

STATEMENT OF OPERATIONS

It will take a considerable time before all the cases of over-indebtedness are liquidated. The amount of funds available for the purpose of liquidating the same is estimated to be about \$1,000,000. It is estimated that the amount of funds available for the purpose of liquidating the same is estimated to be about \$1,000,000. It is estimated that the amount of funds available for the purpose of liquidating the same is estimated to be about \$1,000,000.

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SECTION V.

**Inspection and Supervision
of Food.**

(The Annual Report of the Veterinary Officer).

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Inspection and Supervision
of Food.

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MILK.

The Milk and Dairies Order, 1926.COWKEEPERS, DAIRYMEN AND PURVEYORS OF MILK.

Cowkeepers on register (1935)	...	...	...	...	...	124
„ added to register (1936)	...	...	...	...	...	—
„ discontinued (1936)	...	...	...	...	...	2
					TOTAL	122
Cowsheds on register (1935)	...	...	...	...	...	283
„ added to register (1936)	...	...	...	...	...	2
„ discontinued (1936)	...	...	...	...	...	2
					TOTAL	283
Number of cows provided for	...	...	...	...	...	3,276
Average Number of cows in cowsheds	...	...	...	...	...	2,662
Number of dairies and premises of milk purveyors on register (31st December, 1936)	...	...	...	...	...	728

Regular routine inspection of farms has been maintained throughout the year for the purpose of carrying out the provisions of the Milk and Dairies Order in regard to the inspection of cows, cowsheds and dairies, and all equipment connected with the milk supply. The Veterinary Officer paid 214 visits to farms, when, in addition to inspecting all cowsheds, etc., 4,782 cows were examined for evidence of tuberculosis and other notifiable diseases.

During the year a considerable amount of time has been taken up in dealing with cowsheds and dairies which failed to comply with the required standard laid down under the Milk and Dairies Order. In order to bring all cowsheds and dairies in the Borough up to a uniform standard of construction and general hygiene it was deemed advisable to allot this work to one sanitary inspector. The work was allocated to Inspector T. Ormrod. During the year the structural alterations and improvements carried out in the various cowsheds in the Borough have cost the occupiers approximately £1,250

Two new cowsheds have been erected and many alterations and improvements carried out in existing cowsheds including additional lighting, ventilation and reconstruction of defective floors.

Three farms containing eleven cowsheds have been brought up to the required standard for the production of Accredited Milk. A new dairy has been provided on each of these farms with the necessary facilities for the steam sterilization of all dairy utensils and equipment.

Two dairy farms have been closed during the year. In one case the farm buildings were demolished and the land taken over for building purposes; and in the other case the owner had given up keeping cows.

During the year, 124 samples of milk were taken and examined by the biological test for the presence of tubercle bacilli. Nine of these samples were taken from individual cows with suspected tuberculosis of the udder. Two of these samples were found to contain tubercle bacilli, and the cows were slaughtered under the provisions of the Tuberculosis Order. 32 of the samples were taken from groups of cows on farms within the Borough, all of which were reported negative.

83 of the group samples were obtained from milk produced in the Lancashire County Area but retailed in the Borough. Nine of these samples contained tubercle bacilli. Notification under the Milk and Dairies (Consolidation) Act, 1915, was sent in each case to the County Medical Officer of Health and your Veterinary Officer was present at the subsequent examination of three of the suspected herds. From the nine suspected herds, ten cows were discovered to be giving tuberculous milk and were slaughtered under the Tuberculosis Order.

Prosecutions under the Milk and Dairies Order, 1926.

SECTION 16.

For carrying out the process of sieving milk in a cowshed a farmer was fined £2.

SECTION 22 (i).

For failing to cause every part of the interior of a cowshed to be thoroughly cleansed and kept reasonably clean a farmer was fined £5.

SECTION 23 (iv).

For failing to keep his milking stools thoroughly clean a farmer was fined £5.

Milk (Special Designations) Order, 1923.

The following licences were granted under this Order during the year 1936:—

Producer's Licence to use the designation "Certified" ... (Licences issued by Ministry of Health.)	2
Producer's Licence to use the designation "Grade A" ...	4
Supplementary Licence to use the designation "Grade A" ...	1
Producer's Licence to use the designation "Accredited" ...	5
Dealer's Licence to use the designation "Pasteurised" ... (Licence is in respect of a Pasteurising establishment).	1
Supplementary Licence to use the designation "Pasteurised" ...	1

"Certified" Milk.

Licences to produce "Certified" Milk have been granted by the Ministry of Health to two dairy farmers in the Borough. Every animal in each of these herds is required to pass a veterinary examination and a prescribed tuberculin test twice during the year in accordance with the provisions of the Order.

"Grade A" Milk.

Licences to produce "Grade A" Milk have been granted by this department to four dairy farmers in the Borough. Every animal in these herds has been submitted to a veterinary examination once in every three months in accordance with the provisions of the Order. Mixed samples of milk have been taken from each of these herds and submitted to the biological test for tubercle bacilli with negative results.

Milk (Special Designations) Order, 1936.

This new Order which came into operation on the 1st June, 1936, revokes the Milk (Special Designations) Orders of 1923 and 1934 and prescribes the following special designations for milk:—

- (a) Tuberculin Tested. (b) Accredited. (c) Pasteurised.

Milk designated as Tuberculin tested, Accredited, or Pasteurised may be shortly described as follows:—

(a) TUBERCULIN TESTED MILK comes from cows that have passed the tuberculin test for freedom from tuberculosis.

- (i) TUBERCULIN TESTED MILK (PASTEURISED) is tuberculin tested milk which is also pasteurised.
- (ii) TUBERCULIN TESTED MILK (CERTIFIED) is tuberculin tested milk which is bottled on the farm.

(b) ACCREDITED MILK comes from cows which have passed a veterinary inspection but which have not been submitted to the special inoculation test for tuberculosis.

(c) PASTEURISED MILK is milk which has been heated at 145° Fahr. for 30 minutes to destroy any disease producing organisms.

All these milks are periodically tested for cleanliness.

They can only be sold under a licence from a Local Authority.

"ACCREDITED" MILK.

Licences to produce "Accredited" Milk have been granted by this department to five dairy farmers in the Borough. Every animal in these herds has been examined four times during the year and mixed samples of milk taken from each herd have been examined by the biological test for the presence of tubercle bacilli, with negative results.

Tuberculosis Orders of 1925 and 1931.

These Orders provide for the slaughter of every bovine animal found to be affected with any of the forms of the disease specified, namely:— Tuberculosis of the udder, induration or other chronic disease of the udder, tuberculous emaciation, and chronic cough accompanied by definite clinical signs of tuberculosis. Cattle which on veterinary examination are found to be suffering from one of the forms of tuberculosis specified above, are required to be slaughtered, compensation being paid to the owner.

The following Table shows the number of animals examined under the Order, the number of animals slaughtered, and the form in which they were diseased:—

Total Number of animals examined	Number of animals slaughtered	Number with tuberculosis of udder	Number giving tuberculous milk	Number with tuberculous emaciation	Number with chronic cough and definite clinical signs of tuberculosis
387	13	5	Nil	3	5

MEAT.**PUBLIC HEALTH (MEAT) REGULATIONS, 1924.**

These regulations 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. Shops and stalls, and the transport and handling of meat are also controlled by the provisions of these regulations.

The following notices of slaughtering and disease were received:

Written notice of regular slaughtering.	13
Notifications of casual slaughtering.	185
Notification of suspected disease:	
Relating to Cattle	176
Do. Sheep	11
Do. Pigs	208
Do. Calves	5
Total ...	<u>400</u>

The following Table shows the total number of animals slaughtered in the Borough during the year; the number and percentage of animals affected with disease; the number and percentage of animals affected with tuberculosis only; and the number of cows affected with tuberculosis of the udder.

	Total Number of Animals Slaughtered	Animals affected with Disease (including Tuberculosis)		Animals affected with Tuberculosis only		Cows affected with Tuberculosis of the Udder
		Number	Per-centage	Number	Per-centage	Number
CATTLE	11,200	1,627	14·52	1,136	10·14	23
CALVES	1,315	24	1·82	6	0·45	—
SHEEP	58,670	519	0·88	—	—	—
PIGS	13,250	755	5·69	671	5·06	—

Slaughterhouses.

Accommodation for slaughtering in the Borough is unaltered from last year. About 80% of the animals are slaughtered in the 16 private slaughterhouses, the remainder being dealt with at the Public Abattoir.

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, 2,395 visits were paid by the veterinary inspector and the meat inspector to the abattoir and private slaughterhouses.

The Slaughter of Animals Act, 1933, 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, 7 licences and 91 renewal licences were granted.

The local Knacker's yard was visited at intervals during the year. The provisions of the Protection of Animals Act, 1911, were found to be carried out satisfactorily.

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 carcass destroyed	Parts and Organs destroyed		Calves	Whole carcass destroyed		Parts and Organs destroyed	Sheep		Whole carcass destroyed	Parts and Organs destroyed
Tuberculosis	1056	52	14	14	180	956	6	4	2	...	...	...	688	17	671
Distomatosis	171	...	...	...	...	171	...	...	...	475	...	475	...	...	...
Echinococcus	94	1	1	...	...	96	...	...	...	...	...	...	2	...	2
Pneumonia ... ..	...	...	...	...	...	...	...	...	...	1	1	...	1	1	...
Pleurisy	8	...	...	...	...	8	...	...	...	1	...	1	9	...	9
Mastitis	53	...	...	...	...	53	...	...	...	...	...	...	...	...	...
Nephritis	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...
Abscess	12	5	1	...	...	18	...	...	...	...	...	...	1	...	1
Bacterial Necrosis	13	3	1	...	...	17	...	...	...	...	...	...	...	...	...
Actinomycosis	1	1	...	...	...	2	...	...	...	...	...	...	...	...	...
Decomposition	3	...	...	...	3	...	3	3	...	9	9	...	1	1	...
Angioma	89	...	...	...	...	89	...	...	...	...	...	...	...	...	...
Johne's Disease	8	...	...	...	6	2	...	...	...	...	...	...	...	...	...
Emaciation ... ..	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...
Edema	3	...	...	...	3	...	1	1	...	7	7	...	1	1	...
Fevered	5	...	...	...	5	...	...	...	...	...	...	...	...	...	...
Cirrhosis	2	...	2	...	...	4	...	...	...	...	...	...	28	...	28
Cysticercus Tenuicollis ... ..	...	...	...	...	...	...	...	...	...	25	...	25	19	...	19
Immaturity ... ..	...	...	...	...	...	...	13	13	...	...	...	...	...	...	...
Septicæmia	5	1	...	...	6	...	...	...	...	1	1	...	...	...	...
Jaundice ... ..	...	...	...	...	...	...	...	...	...	...	...	...	3	3	...
Enteritis	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Traumatism	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...
Sarcoma	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Navel ill ... ..	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
Total	1531	63	19	14	208	1419	24	22	2	519	18	501	755	25	730

**Number of Organs Destroyed for Tuberculosis and Other Conditions
in the Different Classes of Animals during 1936.**

	Cattle.	Calves.	Sheep.	Pigs.	Total.
LUNGS :					
Tuberculosis	949	5	...	190	1,144
Other conditions ...	146	19	119	18	302
HEARTS :					
Tuberculosis	421	4	...	162	587
Other conditions ..	36	18	18	8	80
BOWELS :					
Tuberculosis	477	4	...	122	603
Other conditions ...	42	18	18	8	86
STOMACHS :					
Tuberculosis	424	4	...	120	548
Other conditions ...	35	18	18	8	79
SPLEENS :					
Tuberculosis	417	4	...	103	524
Other conditions ...	37	18	18	8	81
LIVERS :					
Tuberculosis	674	6	...	188	868
Other conditions ...	388	19	550	30	987
KIDNEYS :					
Tuberculosis	412	10	...	68	490
Other conditions ...	20	38	36	10	104
HEADS :					
Tuberculosis	526	4	...	601	1,131
Other conditions ...	36	18	18	3	75
TOTAL	5,040	207	795	1,647	7,689

Weight of Unsound Meat Destroyed.

	Number	tons.	cwts.	qrs.	lbs.
Beef Carcases ...	208	42	16	...	1
" Fore Quarters ..	15	...	15	2	...
" Hind Quarters ...	4	...	4	2	...
" Offals ...	...	28	16	2	22
Mutton Carcases ...	18	...	4	1	12
" Offals ..	...	...	7	...	16
Pork Carcases ...	25	1	7	3	23
" Offals ...	...	3	14	3	26
Veal Carcases ...	22	...	7	1	2
" Offals ...	...	...	1	2	22
Imported Meat ...	...	...	3	2	1
Total Weight ...	—	78	19	2	13

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 ... ..	...	14	...	14
Poultry and Rabbits ...	1	2	3	14
Fruit and Vegetables ...	11	16	2	23
Canned Foods and Provisions	...	4	...	10
Total Weight ...	13	17	3	5

Merchandise Marks Act, 1926.

Regular visits have been paid to the various food shops and stores, and the provisions of the Orders made under this Act have been very well observed. Minor breaches were observed, but in each case a caution was deemed sufficient, and in no case was it considered necessary to resort to legal proceedings.

There have been no additional Orders during 1936. The under-mentioned goods, when imported, are now 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.

General Food Inspections.

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

Beef Butchers	...	...	1,544	Provision Dealers	...	...	1,635
Pork Butchers	...	...	932	Fruiterers	...	...	1,412
Wholesale Meat Stores	...	...	298	Fishmongers	...	...	1,021
Food Preparation Premises	...	...	409	Street Hawkers	...	...	468

Diseases of Animals Acts, 1894 to 1927.

The following is a brief account of the work carried out in pursuance of the Orders made under the above Acts.

Anthrax Order of 1928.

On the 29th July a report was received from the Knacker's yard, Bolton, that anthrax was suspected in the carcass of a cow which had been moved from a farm at Worsley. Bacteriological examination revealed the presence of anthrax bacilli and the diagnosis was confirmed in the Laboratory of the Ministry of Agriculture and Fisheries.

The removal of the carcass from Worsley had been authorised by their Local Veterinary Inspector.

The anthrax carcass was removed to the Corporation destructor and burnt, and the Knacker's yard premises and vehicles cleansed and disinfected.

The deaths of ten cows have been reported to this department as having occurred without history of previous illness. In each case the premises were visited and blood smears obtained, which, on microscopical examination, were found to be negative.

Foot and Mouth Disease.

No outbreaks of this disease have occurred in the Borough during the year. A considerable amount of work has been done in carrying out the provisions of the Foot and Mouth Disease Orders relating to the boiling of animal feeding stuffs and to packing materials.

Parasitic Mange Orders of 1911 and 1918.

One suspected case of mange in a donkey was notified. Microscopical examination of skin scrapings taken in this case proved negative.

Swine Fever Order of 1908.

Two suspected cases of swine fever were reported by occupiers of piggeries in the Borough during the year. These premises were visited and on investigation each case was found to be negative.

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

The Ministry of Agriculture and Fisheries made an Order extending the area in which the movement of swine is regulated to include the whole of the County of Lancaster with the exception of the County Borough of Barrow-in-Furness and the Petty Sessional Divisions of North Lonsdale and Hawkshead.

This Order came into operation on the 1st October and provides for the licencing of pigs from markets and pig dealers' premises.

During the period from the 1st October to 31st December, 1936, 33 licences involving the movements of 204 pigs were granted by this department.

New Orders Affecting Poultry.

The Minister of Agriculture and Fisheries has made three Orders in pursuance of powers conferred by the Diseases of Animals Act of 1935, for the better control of contagious diseases of poultry. The Orders are as follows :—

1—THE FOWL PEST ORDER OF 1936.

This Order which operates from the 11th January, 1937, requires the owner of any poultry affected with or suspected of fowl pest to notify the Director, Laboratory of the Ministry of Agriculture and Fisheries, New Haw, Weybridge, Surrey, and to forward a carcass for examination.

2—POULTRY MARKETS AND RECEPTACLES (DISINFECTION) ORDER OF 1936.

This Order which operates from the 11th January, 1937, requires the cleansing and disinfection of pens and conveyances after use for poultry in any market, fair or saleyard.

3—POULTRY AND HATCHING EGGS (IMPORTATION) ORDER OF 1936.

This Order which operates from the 15th February, 1937, prohibits the landing in Great Britain of live domestic fowls, turkeys, geese and ducks from foreign countries except on special licence.

In order to draw the attention of all concerned a copy of the above Orders was published in the Bolton Evening News on the 22nd December, 1936.

Warble Fly (Dressing of Cattle) Order of 1936.

This Order was made by the Minister of Agriculture and Fisheries for the compulsory treatment of cattle infested with ox warble fly.

The effect of the Order is to require the treatment of infested cattle either by the dressing of cattle with a prescribed preparation at monthly intervals from March to June, or by the mechanical removal and destruction of all ripe maggots from the backs of infested cattle from March to June.

A copy of this Order was published in the Bolton Evening News on the 7th February, 1936, and leaflets containing a copy of the Order were posted to all farmers in the Borough, with the object of drawing the attention of all concerned to their obligations under the provisions of the Order.

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

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

The following imported animals were received on licence in the Borough during 1936:

Cattle	...	...	...	...	4,463
Sheep	...	...	...	...	11,876
Pigs	...	...	...	...	3,081

Total ... 19,420

The Order provides for the movement of these animals to a slaughterhouse, during the prescribed detention period of six days, under further licences granted by an inspector of the Local Authority. For this purpose 870 cattle and 1,455 sheep were moved to slaughterhouses under further 96 licences granted by this department.

Inspection of Market.

The Cattle Market has been visited each week when sales of animals were being held, for the purpose of inspecting all live stock, and afterwards, in order to supervise the disinfection of the premises.

The following Table shows the number of animals examined during 1936. 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
1936	115	Nil	1,809	1,725	Nil	51	3,585
1935	112	10	1,767	1,802	Nil	85	3,664

Rats and Mice (Destruction) Act, 1919.

Immediately prior to National Rat Week a large number of copies of the Ministry's Advisory Leaflet, No. 49, on the "Destruction of Rats and Mice" was distributed to farmers, butchers, corn dealers, and occupiers of meat, fish, provision stores, and food preparation premises.

During the year, 73 rat complaints have been received from a variety of premises. In each case, the premises were visited and suitable advice and assistance given.

Rat catchers have been frequently employed on Corporation premises including the fish, fruit and vegetable market, Market Hall, and refuse destructor, and on these premises alone it is known that over 200 rats have been destroyed.

The first part of the report is devoted to a general survey of the situation in the country. It is followed by a detailed account of the work done during the year.

Summary of the work done during the year

The work done during the year has been of a general nature, and has been directed towards the improvement of the country's administration.

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SECTION VI.

Prevalence of, and Control over
Infectious and other Diseases.

SECTION VI

Prevalence of and Control over
Intoxications and other Diseases

NOTIFIABLE INFECTIOUS DISEASES.

PREVALENCE AND MORTALITY.

Below are shown the number of cases of notifiable diseases notified in Bolton in 1936 and the number of deaths resulting from each of these notifiable diseases.

NOTIFIABLE DISEASES (OTHER THAN TUBERCULOSIS) DURING THE YEAR 1936.

Disease.	Total Cases Notified.	Total Deaths.
Smallpox... ..	—	—
Scarlet Fever... ..	426	1
Diphtheria	68	4
Enteric Fever (including Paratyphoid)	—	—
*Pneumonia	109	106
Puerperal Fever	—	1
Puerperal Pyrexia	6	—
Cerebro-spinal Fever	5	2
Acute Poliomyelitis	3	—
Encephalitis Lethargica	5	7
Dysentery	—	—
Ophthalmia Neonatorum	7	—
Erysipelas	56	6
Malaria	—	—

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

The following table asked for by the Ministry of Health, gives detailed information regarding all cases of notifiable infectious diseases in Bolton during 1936.

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

NOTIFICATION-RATES IN 1936.

				Bolton.	England and Wales.	
Smallpox	...	...	...	—	...	0.00
Scarlet Fever	...	...	...	2.46	...	2.53
Diphtheria	...	...	...	.39	...	1.39
Enteric Fever	...	...	...	—	...	0.06
Erysipelas	...	...	...	.32	...	0.40
Pneumonia	...	...	...	.63	...	1.11

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 been low, 426 cases being notified. Since 1933, when 1,412 cases were notified, each year has shown a fall in the number of cases. 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.

The incidence of diphtheria has been low and Bolton has continued to enjoy its relative immunity from the disease. Facilities for immunization are offered at all the child welfare centres but the response has been poor.

Five cases of encephalitis lethargica were notified. One case died and three have serious disabilities as a result of the disease. One case has, apparently, made a complete recovery.

Undulant fever was notified in three instances. Sporadic cases of this disease are being recognised throughout the country. It is very prevalent in some parts of the world and, in Malta, was at one time the cause of a considerable amount of illness amongst the British population. The organism causing the disease in man also affects cattle, pigs, goats and other animals. In cows it is the cause of contagious abortion and the disease in this country may be communicated to man through the medium of infected cow's milk. In the three Bolton cases it was not possible to associate the disease definitely with the drinking of infected cow's milk. All three cases recovered after illnesses of considerable duration.

There were three cases of acute poliomyelitis (infantile paralysis) notified. The importance of early notification of infantile paralysis should be emphasized so that use can be made of the orthopaedic facilities provided for the treatment of the disease in the earliest stages.

INFECTIOUS DISEASES NOT NOTIFIABLE.

There was no exceptional incidence of influenza during the year. The only reliable information concerning its prevalence is to be found in the death returns. Influenza caused 35 deaths in Bolton in 1936. The average of the last 10 years is 89.

Amongst the 35 deaths attributed to influenza, pneumonia complicated 19 cases and other respiratory disease complicated 8 cases. In 6 cases other complications occurred. 2 deaths were attributed to influenza alone.

Bolton's influenza deaths from 1924 to 1936 are shown below :—

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Deaths	88	98	68	147	55	208	42	110	46	165	27	55	35

No accurate information can be obtained concerning the incidence of measles and whooping cough. 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 was an epidemic of whooping cough among school children. The number of measles cases was lower than usual. Mumps was prevalent in many schools.

Deaths from Infectious Diseases.

The deaths in Bolton attributed to the various epidemic diseases are shown in the following table for the years 1927 to 1936.

CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Smallpox... ..	—	—	—	—	—	—	—	—	—	—
Scarlet Fever... ..	—	1	4	3	2	1	10	2	3	1
Diphtheria and Memb. Croup	10	16	8	3	2	3	6	11	5	4
Enteric and Continued Fever	4	1	1	1	—	—	—	—	—	—
Measles	21	17	11	4	24	9	14	12	6	9
Whooping Cough	1	9	85	8	14	11	9	2	13	8
Diarrhœa and Enteritis under 2 years of age... ..	20	17	18	27	17	12	17	10	9	8
Erysipelas	11	9	5	14	7	3	7	10	5	6
Puerperal Sepsis	4	3	6	6	3	3	5	1	7	1
Cerebro-spinal Fever	3	4	—	2	7	5	3	2	1	2
Encephalitis Lethargica	10	11	5	4	6	3	2	5	5	7
Influenza	147	55	208	42	110	46	165	27	55	35

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, diphtheria 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 the 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 proposed 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 general incidence of infectious disease during the year has been low and the work of the hospital has been light. By the admission of a more varied group of diseases there will be a more constant level of work for the Hospital and relief to other hospitals in the town at times when the need for beds is acute. The architectural staff of the Borough Engineer's Department are proceeding with the preparatory work for the proposed alteration mentioned in previous reports. It is not yet possible to record that actual work of reconstruction has commenced.

During the year under review, Miss E. Bateman retired from the post of Matron after 25 years' devoted service. Miss Agnes M. Howitt, assistant matron of the Coventry Isolation Hospital was appointed her successor and commenced work in April, 1936.

ADMISSIONS.

(a) SCARLET FEVER.

284 cases were admitted to the wards of the hospital as scarlet fever. One death occurred. 252 of the patients admitted had pure scarlet fever. In 3 cases the scarlet fever was accompanied by measles, in 17 by chicken-pox and in 6 cases by other acute diseases. Six of the patients admitted

as suffering from scarlet fever were suffering from another disease. Four had tonsillitis, one had rubella and one had bronchitis.

The following complications occurred :

- 31 cases had adenitis.
- 14 " " otorrhœa.
- 11 " " rheumatism.
- 2 " " jaundice.
- 1 case " mastitis.
- 1 " " mastoiditis.

(b) DIPHTHERIA.

60 cases sent in as diphtheria were admitted to the diphtheria wards. Five of the cases were found not to be suffering from diphtheria.

- 1 had lobar pneumonia.
- 3 had catarrhal laryngitis.
- 1 had papilloma of the larynx.

One patient required tracheotomy.

Four of the diphtheria cases admitted died.

(c) ERYSIPELAS.

Fifteen cases were admitted. One death occurred.

(d) CEREBRO-SPINAL FEVER.

Eight cases were admitted. The diagnosis was confirmed in five instances. All the cases of cerebro-spinal fever recovered.

(e) UNDULANT FEVER.

Two cases were admitted.

(f) OTHER DISEASES.

Fifty-three cases of various other diseases were admitted.

(g) PULMONARY TUBERCULOSIS.

44 cases were admitted during the year. Five cases were also admitted for observation. Twelve of the patients died.

No. of Patients.	No. of Patients suffering from the following Diseases.					Total.
	Scarlet Fever.	Diphtheria.	Pulmonary Tuberculosis.	Other Tuberculous Diseases.	Other Diseases.	
Remaining, Dec. 31st, 1935	39	9	22	...	4	74
Admitted in 1936	278	55	49	2	87	471
Total No. treated, 1936 ...	317	64	71	2	91	545
Discharged in 1936	290	54	46	...	83	473
Died in 1936	1	4	12	2	7	26
Remaining, Dec. 31st, 1936	26	6	13	...	1	46

VACCINATION.

The following is a summary of the return for 1935 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, 1935, to the 31st December, 1935, inclusive.

No. of Births registered 1,706

On the 31st January, 1937, of the above children—

284 or 16.64% were successfully vaccinated,
 5 or .29% were insusceptible of vaccination,
 None had had smallpox,
 1,306 or 76.55% of their parents made the statutory declaration
 of conscientious objection,
 76 or 4.45% died unvaccinated,
 9 or .52% were temporarily unfit to be vaccinated,
 5 or .29% had removed out of Bolton,
 11 or .64% could not be traced,
 and 10 or .58% 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, 1936, was 333, and the number of statutory declarations of conscientious objection received during the same period was 1,196.

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, 1936, was as follows :

No. of successful primary vaccinations				
Under one year of age	...	...	...	250
One year and upwards	...	...	...	27
				<hr/> 277
No. of successful re-vaccinations of persons who had been successfully vaccinated at some pre- vious time				
...	...	...	...	10
				<hr/> 287
Total vaccinations by Public Vaccinators...				<hr/> <hr/> 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 1936 the following work was done by the disinfecting station :

Houses disinfected	...	...	...	...	...	674
Articles of clothing, bedding, etc., disinfected	...	...	...	...	...	2,866
Articles of clothing, bedding, etc., destroyed	...	...	...	...	...	142

CANCER.

The number of deaths from cancer during the year was 275, 151 females and 124 males. This figure is less than the previous year, when there were 294 deaths, the largest 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 recognized 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. To this end it was suggested some years ago in a Ministry of Health Circular that local authorities should ascertain whether, and if so, in what ways environment, economic, social or other conditions of cancer patients affect the chances of cure or of relief from suffering. It has not been possible to carry out any investigation on these lines in Bolton, mainly because of the absence of administrative co-ordination between the hospitals and the general health services. It is hoped that in the near future by the unification of Townleys Hospital with the other health services of the town, together with the co-operation of the Bolton Royal Infirmary, it will be possible to make enquiries into the environmental conditions of cancer patients. A consideration of the findings may suggest methods by which the best use can be made of the facilities for early treatment which are already at our disposal. With the knowledge which is at present available, the practical problem for a Health Authority to solve is the best methods it can adopt for securing the treatment of the cancer patient in the earliest possible stages of the disease.

Bolton residents suffering from cancer are treated in the Bolton Royal Infirmary and Townleys Hospital. A number are also treated in the Manchester Hospitals. About twenty Bolton residents were treated in the Christie Hospital and Holt Radium Institute last year. Eight patients were treated in the Manchester Royal Infirmary. 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 1936 are not available. 124 cases of cancer received treatment in Townleys Hospital. Approximately 80 of these cases were Bolton residents.

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 at fortnightly intervals 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. Twelve 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 make an annual grant of £50 to the general work of the Hospital. Two years ago they made a donation of £100.

It is hoped that the best use will be made of the facilities which are available for the treatment of cancer and if experience shows that the local authority has any further part which it can take in the fight against the disease that sympathetic consideration will be given to any proposals which are made.

The following table shows the number of deaths from cancer, and the cancer death-rate in Bolton for the years 1901 to 1936.

Deaths from Cancer in Bolton in the years 1901-1936.

Year.	No. of deaths.			Total.	Cancer Death-rate.
	Males.	Females.			
1901	26	71	97	...	'57
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

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 1936. The table shows also the localization of the disease.

DEATHS FROM CANCER, 1936.
Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																		
	M.	F.	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	85 and upwds
			to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55	to 60	to 65	to 70	to 75	to 80	to 85		
Buccal Cavity	3	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...
Jaw	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mouth	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Pharynx	4	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...
Tongue	4	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	...	...	...	...
Tonsil	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...
Other Sites	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...
Total Buccal Cavity	17	...	...	...	2	...	...	...	...	...	...	...	2	6	2	4	1	...	...	...
Digestive Organs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gall Bladder	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...
Intestines	18	...	...	...	...	...	...	...	1	1	...	1	4	6	2	3	...	...	...	...
Liver	3	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...
Esophagus	7	...	...	...	...	...	...	...	...	...	...	...	1	...	...	5	...	...	1	...
Pancreas	11	...	...	...	...	...	...	...	...	...	...	...	1	1	5	4	...	...	...	...
Peritoneum	2	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...
Rectum	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
Stomach	5	...	...	...	...	...	...	...	...	1	...	2	...	...	...	2	...	...	...	...
Total Digestive Organs	74	...	...	...	...	...	1	...	1	6	5	3	10	14	13	16	3	2	...	...
	72	...	...	...	1	...	...	3	3	2	6	11	6	11	15	8	5	1	...	...

DEATHS FROM CANCER, 1936.—contd.
Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																	
	M.	F.	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	
			to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	to 55	to 60	to 65	to 70	to 75	to 80	to 85	
Respiratory Organs	4	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	...	...
Larynx ... ..	...	2	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...
Lung	4	...	...	...	...	...	...	...	...	1	...	1	1	...	1	...	...	...
... ..	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Total Respiratory Organs ...	8	...	...	...	...	...	...	...	...	1	...	1	2	2	1	1	...	...
... ..	...	3	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...
Female Genital Organs	...	27	...	...	...	...	...	...	1	2	3	1	7	5	3	3	1	1	...
Uterus ... ..	...	8	...	...	...	...	...	...	2	...	...	2	1	1	1	1	...	...	...
Ovary ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Female Genital Organs...	...	35	...	...	...	...	...	...	3	2	3	3	8	6	4	4	1	1	...
Breast ... ..	...	30	...	...	...	...	...	...	...	2	7	3	6	4	3	1	4	...	...
Male Genito—urinary Organs	8	...	...	...	...	...	...	...	...	...	...	1	2	2	...	1	1	1	...
Bladder	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	1	...
Prostate	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
Scrotum	17	1	2	2	2	2	5	2	1	...
Total Male Genito—urinary Organs	1	1
Skin	...	2	2
Other or Unspecified Organs	7	1	1	1	2	1	...	1
...	7	1	1	...	1	2	2
Total Males	124	2	...	1	...	2	8	8	6	16	24	20	27	6	4
Total Females	151	1	...	4	5	8	13	19	25	15	20	20	14	6	1	...
TOTAL both sexes ...	275	2	1	1	4	7	16	21	25	41	39	40	47	20	10	1	...

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 1936, 2,001 bottles of insulin each containing 100 units, and 138 bottles each containing 200 units were supplied free, and 1,792 bottles of 100 units and 643 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 cases kept at home. The results of prompt and skilled treatment have been very satisfactory.

The number of cases notified during the year was 7, the same number as last year.

In no case was there impairment of vision.

The five cases not treated in hospital were visited daily by one of the health visitors and also by a district nurse.

Particulars of the cases notified in 1936 are as follows:—

CASES.			VISION.			Deaths
Notified	Treated		Un-impair'd	Impaired	Total Blindness	
	At Home	In Hospital				
7	5	2	7	—	—	—

TUBERCULOSIS.

The death-rate from all forms of tuberculosis in Bolton during 1936 was .68.

The total number of new cases notified in 1936 was 158, as compared with 170 in 1935.

The death-rate from tuberculosis of all forms during 1936 in certain Lancashire County Boroughs was as follows:—

Oldham	...	...	.56	Wigan	...	...	.72
Bury	...	...	.62	St. Helens	...	...	.73
BOLTON	...	...	.68	Blackburn	...	...	.75
Preston	...	...	.69	Warrington	...	...	.87
Burnley	...	...	.71	Manchester	...	...	1.01
Rochdale	...	...	.71	Salford	...	...	1.14

New Cases.

The number of new cases notified in 1936 was:—

Pulmonary	...	...	...	...	...	118
Non-pulmonary	...	...	...	...	...	40
				Total	...	<u>158</u>

How does Bolton stand as regards deaths from tuberculosis when compared with England and Wales as a whole? This is set forth in the following table.

ANNUAL DEATH-RATE FROM TUBERCULOSIS (ALL FORMS)
BOLTON AND ENGLAND AND WALES, 1926-1936.

Year.	Rate per 1,000 living.	
	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

It will be seen that Bolton stands this comparison very well. For the past nine 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 1936.

PULMONARY TUBERCULOSIS NOTIFICATIONS.

Ages	0	1	5	10	15	20	25	35	45	55	65 and upwards	TOTAL
	to 1	to 5	to 10	to 15	to 20	to 25	to 35	to 45	to 55			
Males	2	1	1	10	20	14	9	19	2	78
Females	1	6	8	8	6	8	3	...	40

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	4	6	3	...	2	...	...	...	...	...	15
Females	1	4	6	3	1	5	2	...	1	2	25

DEATHS FROM TUBERCULOSIS.

119 Bolton residents were certified as having died of tuberculosis during 1936. This compares with 97 in 1935.

70 of these deaths took place in institutions as follows:—

13 died in the Bolton Borough Hospital.

32 died in Townleys Hospital.

6 died in the Bolton Royal Infirmary.

16 died in Wilkinson Sanatorium.

1 died in Fishpool House.

1 died in the Liverpool Sanatorium, Delamere Forest, Frodsham.

1 died in the County Mental Hospital, Whittingham.

The age and sex distribution of those who died of 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 upwards	
Males	61	...	...	1	...	14	12	15	14	5
Females	37	...	...	1	4	23	2	4	2	1
Total	98	...	...	2	4	37	14	19	16	6

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 upwards
Males	10	1	2	1	1	2	...	2	...	1
Females... ..	11	4	1	...	...	2	2	...	2	...
Total	21	5	3	1	1	4	2	2	2	1

In 9 cases the disease had not been notified during life. Four of these cases died in institutions and the diagnosis was made after death.

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 62 of the Public Health Act, 1925, 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	2,231
Total number of patients sent for consultation ...	281

The results of these consultations were as follows:—

Number found to have pulmonary tuberculosis ...	87
Number found to have non-pulmonary tuberculosis...	27

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	...	...	...	...	164
Visits by Tuberculosis Nurse	...	...	...	...	1,320
No. of specimens of sputum examined	...	...	...	...	255
Total number of cases on the dispensary register :—					
pulmonary tuberculosis	...	...	...	...	316
non-pulmonary tuberculosis	...	...	...	...	134
				Total	450
X-ray examinations made in connection with dispensary work	...	...	...	...	148
Total number of cases on the notification register :—					
pulmonary tuberculosis	...	...	...	...	373
non-pulmonary tuberculosis	...	...	...	...	165
				Total	538

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.

254 persons applied for treatment in 1936. 193 of these were cases of pulmonary tuberculosis and 61 of non-pulmonary tuberculosis.

The treatment given was as follows :

Residential treatment	...	...	...	154
Domiciliary treatment	...	...	...	72
Out-patient treatment	...	...	...	27
Declined residential treatment...	...	...	...	—
On waiting list at close of 1936	...	...	...	1
Application withdrawn...	...	...	...	—
Application cancelled	...	...	...	—

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, 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.

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. More accommodation for these long-stay cases is required, and it is hoped that some will be eventually accommodated in Hulton Lane when this Hospital is enlarged, under specialist supervision.

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 1936.

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF
PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1936.

INSTITUTION.	Beds.	Treated:			Under Treatment 31st Dec. 1936.
		Total	Insured	Un-insu'd	
Wilkinson Sanatorium	30	68	58	10	24
Borough Hospital	24	51	39	12	13
*Heswall	6	8	...	8	12
*Bolton Royal Infirmary ... ..	...	18	8	10	...
*Robert Jones and Agnes Hunt Ortho- pædic Hospital, Oswestry ... ..	...	3	2	1	2
*Liverpool Sanatorium, Delamere Forest, Frodsham ... ..	...	2	1	1	1
*St. Andrew's Hos. Dollis Hill, N.W. 2 ...	...	1	1	...	...
*Manchester and Salford Hospital for Skin Diseases ... ..	...	1	...	1	...
*Eastby Sanatorium, Nr. Skipton ... ..	...	2	...	2	2

* Paid for per user.

Manchester and Salford Hospital for Skin Diseases.

8 patients suffering from tuberculosis of the skin were referred for advice and treatment to the Manchester and Salford Hospital for Skin Diseases. One of these patients received in-patient treatment, and the period this case was in hospital was 126 days. Seven of the cases received various other treatments. The total number of attendances made by the out-patients was 59.

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.

During the year, 18 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 23 treatments was given to each case.

Artificial Pneumothorax.

The number of cases to whom this treatment was given has again increased. 26 patients attended the Dispensary at intervals varying from 2—4 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, 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, 42 contacts were examined at the Dispensary or in the home ; of these, 4 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	...	...	168
2. Average time receiving assistance	...	...	6 months
3. Amount of milk given	...	...	27,936 pints
4. Malt and oil given	...	...	192 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.

During 1936 the venereal diseases clinics were very busy.

The nature of the work done by these clinics is of immense importance to the patients and to the community at large.

These clinics are conducted so as to attract the attention of the general public as little as possible.

The work of the clinics is very much hindered by the insufficiency of the present premises. It is extremely desirable that there should be entirely separate premises for women. Such provision is urgently necessary, and it is hoped that prior claim will be given to the completion of the new premises now in course of construction.

The times and place where the clinics are held are announced by public notices in many places in the town.

The times at which the clinics meet are as follows:—

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

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

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

FOR MALES.

Monday	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 Venerea' Diseases Clinics in 1936.**

The number of patients who attended the clinics in 1936 was :—

Men	...	839	Women	...	441
-----	-----	-----	-------	-----	-----

The diseases from which they suffered were :—

	Men	Women	Total
Syphilis	256	202	458
Soft Chancre	1	—	1
Gonorrhœa	438	124	562
Non-venereal	144	115	259
	<hr/>	<hr/>	<hr/>
	839	441	1,280
	<hr/>	<hr/>	<hr/>

The above figures give the total number of patients who attended the clinics during 1936. The numbers of new patients who came under treatment for the first time in 1936 were as follows :—

	Men	Women
Syphilis... ..	52	51
Soft Chancre	—	—
Gonorrhœa	175	35
Non-venereal	132	101
	<hr/>	<hr/>
	359	187
	<hr/>	<hr/>

Attendances.

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

Men	...	10,249	Women	...	5,844
-----	-----	--------	-------	-----	-------

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

Wassermann Reaction—Blood...	...	...	884
Gonorrhœa—Microscopical tests	...	...	28
Complement fixation test	...	...	138

Patients received 2,918 intravenous injections of Salvarsan substitutes, 3,104 intramuscular injections of bismuth, and 6 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
No. of cases dealt with for the first time during 1936... ..	11	2	16
(a) Syphilis	6	—	1
(b) Soft Chancre	1	—	—
(c) Gonorrhœa	3	1	6
(d) Conditions other than Venereal	1	1	9
Attendances of all patients ...	450	29	1,172
Doses of Salvarsan substitutes given	66	—	—
Tests—			
Wassermann	42	—	—
Gonorrhœa	4	—	—
In-patient days	7	—	—

The tables on pages 113 and 114 show the work carried out at the Bolton Treatment Centre.

7 medical men applied during 1936 for arsenobenzene compounds and 153 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:

Wassermann Reaction —Blood ...	367
—C. S. Fluid...	33
Gonorrhœa-Microscopical tests ...	27
Complement fixation tests	1

RETURN RELATING TO ALL PERSONS WHO WERE TREATED AT THE TREATMENT CENTRE AT BOLTON PUBLIC HEALTH OFFICES DURING THE YEAR ENDED THE 31ST DECEMBER, 1936.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
1. Number of cases on 1st January under treatment or observation	183	145	1	...	239	88	12	14	435	247	682
2. 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	14	6	...	...	17	1	...	...	31	7	38
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary... ..	22	5	...	...	...	...	...	...	22	5	27
" secondary	6	13	...	...	...	...	...	...	6	13	19
" latent in first year of infection	2	1	...	...	...	...	...	...	2	1	3
" all later stages	17	22	...	...	...	...	...	...	17	22	39
" congenital	5	10	...	...	...	...	...	...	5	10	15
Soft Chancre ... ..	...	...	...	...	...	...	...	...	...	...	...
Gonorrhœa, 1st year of infection ... ..	...	...	...	...	174	32	...	...	174	32	206
" later... ..	...	...	...	...	1	3	...	...	1	3	4
Conditions other than venereal ... ..	...	...	...	...	...	...	132	101	132	101	233
4. 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	7	...	...	...	7	...	...	...	14	...	14
TOTALS OF ITEMS 1, 2, 3, AND 4	256	202	1	...	438	124	144	115	839	441	1280
5. Number of cases discharged after completion of treatment and final tests of cure or after diagnosis as non-venereal	6	4	...	...	70	18	124	99	200	121	321
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary... ..	21	...	...	...	...	...	...	...	21	...	21
" secondary	9	4	...	...	...	...	...	...	9	4	13
" latent in first year of infection	2	2	...	...	...	...	...	...	2	2	4
" all later stages... ..	17	20	...	...	...	...	...	...	17	20	37
" congenital... ..	5	7	...	...	...	...	...	...	5	7	12
Soft Chancre ... ..	...	...	1	...	...	...	...	...	1	...	1
Gonorrhœa, 1st year of infection ... ..	...	...	...	...	128	18	...	...	128	18	146
" later... ..	...	...	...	...	...	1	...	...	...	1	1
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	17	1	...	...	17	...	...	...	34	1	35
8. Number of cases transferred to other Centres or to institutions, or to care of private practitioners... ..	7	1	...	...	11	4	...	...	18	5	23
9. Number of cases remaining under treatment or observation on 31st December	172	163	...	...	212	83	20	16	404	262	666
TOTALS OF ITEMS 5, 6, 7, 8, AND 9	256	202	1	...	438	124	144	115	839	441	1280
These totals should agree with those of Items 1, 2, 3, and 4).											
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—											
Syphilis, primary... ..	8	...	...	...	...	...	...	...	8	...	8
" secondary	2	3	...	...	...	...	...	...	2	3	5
" latent in 1st year of infection	1	2	...	...	...	...	...	...	1	2	3
" all later stages... ..	5	8	...	...	...	...	...	...	5	8	13
" congenital	1	...	...	...	...	...	...	...	1	...	1

11. Number of attendances :—	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal.		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
	*										
(a) for individual attention of the medical officers...	3738	2712	...	...	3652	1910	252	178	7642	4800	12442
(b) for intermediate treatment, e.g., irrigation, dressing	47	71	...	...	2179	746	381	227	2607	1044	3651
TOTAL ATTENDANCES	3785	2783	...	...	5831	2656	633	405	10249	5844	16093

12. In-patients :—	Under 1 year.		1 & under 5 years.		5 & under 15 years.		15 years and over		Totals.	
(a) Total number of persons admitted for treatment during the year	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(b) Aggregate number of "in-patient days" of treatment given

13. Number of cases of congenital syphilis in Item 3 above classified according to age periods :—	Under 1 year.		1 & under 5 years.		5 & under 15 years.		15 years and over		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	...	2	...	...	1	4	4	4	5	10

14. Chief preparations used in treatment of Syphilis :—	Arsenical.				Mercury.	Bismuth.
	Approved Arsenobenzene Compounds.		Others.			
	Stabilarsan, Sulfarsenol, Sulphostab.		Tryparsamide.		Colloidal Mercury Sulphide	Bi-mostab.
(a) Names of preparations						
(b) Total number of injections given (out-patients and in-patients)	2884		34		6	3104

15. PATHOLOGICAL WORK :—	Microscopical.		Cultural for Gonorrhœa	Serum.		Cerebro-spinal fluid	Others for diagnosis of Venereal Disease
	for Syphilis	for Gonorrhœa		for Syphilis	for Gonorrhœa		
(a) Number of specimens examined at, and by the medical officer of, the Treatment Centre	927	...	...	...	...	...
(b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory	28	...	† 884	138	...	...

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) to be inserted in these headings.	Bolton	Lancs. C.C.	Glasgow	Blackburn	Stockport	Wigan	Bury	Cheshire C.C.	Leeds	Total.
A. Number of cases from each area included under the following headings in Item 3 :—										
Syphilis	77	25	...	1	...	...	...	...	...	103
Soft Chancre ... ..	...	...	...	...	...	...	...	...	...	...
Gonorrhœa	136	71	1	...	1	1	...	...	...	210
Conditions other than Venereal	193	38	...	...	...	1	1	...	...	233
TOTAL	406	134	1	1	1	2	1	...	...	546
B. Total number of attendances of all patients residing in each area	11093	4907	9	30	4	26	19	1	4	16093
C. Aggregate number of "in-patient days" of all patients residing in each area ... ..	...	...	...	...	...	...	...	...	...	...

* This figure includes 68 attendances at the Ante-Natal Centre for the purpose of taking Wassermanns, etc.
 † This figure includes 36 Wassermanns taken at the Ante-Natal Centre.

SECTION VII.

Annual Report of the
Public Analyst.

SECTION VII

Annual Report of the
Public Analyst

Annual Report of the Public Analyst and Bacteriologist
for the year ended December 31st, 1936.

The following is the report on the work carried out in the Borough Laboratory during 1936.

SUMMARY.

	Number of Samples.
Food and Drugs	558
Bacteriological Examinations for the Public Health Dept.	988
Bacteriological Examinations of Milk	166
Analyses for the Waterworks Committee	698
Analyses for the Gas Committee	288
Fertilizers and Feeding Stuffs	2
Examinations for the Public Assistance Committee ...	42
Miscellaneous Analyses	130
	2,872

PUBLIC HEALTH COMMITTEE.**FOOD AND DRUGS.**

	Total.	Genuine.	Adulterated.	Per cent. Adulterated.
Milk	261	255	6	2'30
Condensed Milk	2	2	...	...
Tinned Cream	2	2	...	...
Butter	18	18	...	...
Margarine	12	12	...	...
Cheese... ..	10	10	...	...
Lard	17	17	...	...
Tea	17	17	...	...
Coffee and Mixtures ...	18	18	...	...
Cocoa	5	5	...	...
Sugar	12	12	...	...
Mincemeat, Jam and Marmalade	11	11	...	...
Meat and Fish Products	31	31	...	...
Cooking Fats	2	2	...	...
Cereals... ..	18	18	...	...
Condiments and Spices	35	34	1	2'85
Cake and Cake Mixtures	5	5	...	...
Sweets... ..	13	13	...	...
Beverages	10	10	...	...
Drugs	35	34	1	2'85
Lemon Cheese	2	2	...	...
Fruits	8	8	...	...
Miscellaneous	14	14
	558	550	8	1'43

<u>MILK.</u>	Total examined 261	Genuine 255	Adulterated 6
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All the samples were examined for preservatives and colouring matter. These were absent in every case.

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

Milk fat	Non-fatty solids	Water
3·82%	8·86%	87·32%

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	24	3·75	8·87
February	19	3·69	8·77
March	24	3·69	8·84
April	38	3·79	8·74
May	18	3·69	8·93
June	10	3·56	9·00
July	24	3·92	8·87
August	38	3·80	8·80
September ... ..	...	...	...
October	32	4·08	8·92
November	22	4·09	8·93
December	12	3·70	9·00

BUTTER.

18 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.

CONDENSED MILK.

2 samples have been examined. These were of satisfactory quality, and contents agreed with declarations on labels.

TINNED CREAM.

2 samples have been examined. The average fat content was 21.9%. Fresh cream contains as a rule about 50% fat and its superiority over the tinned variety is therefore obvious.

The samples examined were free from preservatives and thickening agents.

MARGARINE.

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

CHEESE.

10 samples have been examined. These were whole meat of satisfactory quality. Average 54.73% milk fat on dried sample.

COFFEE AND COFFEE MIXTURES.

18 samples have been examined.

MEAT AND FISH PRODUCTS.

31 samples were examined with special regard to preservatives. Where no declaration was made, these were proved to be absent in every case.

COOKING FATS.

2 samples were examined. These consisted of mixtures of beef fat and hydrogenated cotton-seed oil in the proportions of 45% and 55% respectively. The samples were sweet and wholesome and were satisfactory substitutes for lard.

LARD.

17 samples were examined. These were derived wholly from the fat of the hog.

SWEETS.

13 samples were 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.

CAKE AND CAKE MIXTURES.

5 samples were examined. These were free from boron preservatives.

CONDIMENTS AND SPICES.

35 samples were examined, 1 sample of vinegar contained 3.24% acetic acid (19% deficient).

DRUGS.

35 samples were examined. With the exception of one "tincture of iodine" which was 4.4% deficient in iodine, these were of good quality and complied with the requirements of the British Pharmacopœia.

SUGAR.

12 samples were examined. All were of excellent quality.

MISCELLANEOUS.

14 samples were examined.

PRESERVATIVES.

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

	No. examined.	No. containing Preservatives.
Milk	261	...
Cake and Cake Mixtures	5	...
Condiments and Spices	35	...
Meat and Fish Products	31	2 (Declared)

These were 2 samples of sausages containing 351 and 181 parts of sulphur di-oxide per million.

COLOURING MATTER.

	No. examined.	No. containing colouring matter.
Milk	261	...

BACTERIOLOGICAL EXAMINATIONS.

(Public Health Department).

	Total.	Positive.	Negative.	Doubtful.
Tuberculosis	502	167	334	1
Diphtheria	482	60	416	6
Fever B. typhosus ...	4	...	4	...
Para typhoid A.	4	...	4	...
Para typhoid B.	4	...	4	...

BACTERIOLOGICAL EXAMINATION OF MILK.VENDED MILK. (Bottled.)

No Ministry of Health Standard of Purity.

No. of samples examined...	...	...	...	24
Average agar count per 1 ml.	...	...	...	4,445
No. of samples with B. coli in 1/100 ml.	...	...	...	2 or 8.34%
" " " in 1/10 ml. absent in 1/100 ml.	...	...	...	5 or 20.83%
" " " in 1 ml. " 1/10 ml.	...	...	...	5 or 20.83%
" " " absent in 1 ml.	...	...	...	12 or 50.00%

The above 24 samples of vended milk contained total bacteria per 1 ml. as follows:—

Under 1,000...	...	...	3
1,000 to 5,000...	...	...	15
5,000 to 10,000...	...	...	4
10,000 to 20,000...	...	...	2
Over 20,000...	...	...	0

"GRADE A" MILK.

Ministry of Health Standard:—

Agar count not to exceed 200,000 per 1 ml.

B. coli absent in 1/100 ml.

No. of samples examined	...	...	...	...	23
Average agar count per 1 ml.	...	...	...	...	2,585
No. of samples with B. coli in 1/100 ml.	...	...	...	...	1 or 4.4%
" " " in 1/10 ml. absent in 1/100 ml.	...	...	...	...	2 or 8.7%
" " " in 1 ml. " 1/10 ml.	...	...	...	...	4 or 17.4%
" " " absent in 1 ml.	...	...	...	...	16 or 69.5%

The above 23 samples of "Grade A" Milk contained total bacteria per 1 ml. as follows:—

Under 1,000...	...	...	7
1,000 to 5,000...	...	...	13
5,000 to 10,000...	...	...	3
Over 200,000...	...	...	0

"ACCREDITED" MILK.

Ministry of Health Standard:—

Agar count not to exceed 200,000 per 1 ml.

B. coli absent in 1/100 ml.

No. of samples examined...	...	...	...	...	89
Average agar count per 1 ml.	...	...	...	...	2,106
No. of samples with B. coli in 1/100 ml.	...	...	...	...	6 or 6.7%
" " " in 1/10 ml. absent in 1/100 ml.	...	...	...	...	7 or 7.9%
" " " in 1 ml. " 1/10 ml.	...	...	...	...	17 or 19.1%
" " " absent in 1 ml.	...	...	...	...	59 or 66.3%

The above 89 samples of "Accredited" Milk contained total bacteria per 1 ml. as follows:—

Under 1,000...	...	...	34
1,000 to 5,000...	...	...	47
5,000 to 10,000...	...	...	6
10,000 to 20,000...	...	...	2
Over 200,000...	...	...	0

"CERTIFIED" MILK.

Ministry of Health Standard:—

Agar count not to exceed 30,000 per 1 ml.

B. coli absent in 1/10 ml.

No. of samples examined ...	...	...	...	...	10
Average agar count per 1 ml.	...	...	...	...	1,368
No. of samples with B. coli in 1/10 ml.	...	...	...	...	0
" " " in 1 ml. absent in 1/10 ml.	...	...	...	...	0
" " " absent in 1 ml.	...	...	...	...	10 or 100%

The above 10 samples of "Certified" Milk contained total bacteria per 1 ml. as follows:—

Under 1,000 ...	...	...	...	3
1,000 to 5,000 ...	...	...	...	7
Over 30,000 ...	...	...	...	0

TUBERCULIN TESTED MILK.

Ministry of Health Standard:—

Agar count not to exceed 200,000 per 1 ml.

B. coli absent in 1/100 ml.

No. of samples examined...	...	...	...	...	20
Average agar count per 1 ml.	...	...	...	...	2,121
No. of samples with b. coli in 1/100 ml.	...	...	...	...	0
" " " in 1/10 ml. absent in 1/100 ml.	...	...	...	...	0
" " " in 1 ml. " 1/10 ml.	...	...	...	...	8 or 40.0%
" " " absent in 1 ml.	...	...	...	...	12 or 60.0%

The above 20 samples of Tuberculin Tested Milk contained total bacteria per 1 ml. as follows:—

Under 1,000 ...	...	...	...	6
1,000 to 5,000 ...	...	...	...	13
5,000 to 10,000 ...	...	...	...	1
Over 200,000 ...	...	...	...	0

MISCELLANEOUS EXAMINATIONS.

- 10 Urines.
- 4 Waters.
- 2 Pathogenic specimens other than those previously tabulated.
- 60 Bath Waters.
- 3 Coals.
- 1 Deposit.
- 1 Bacon.
- 2 Shaving Brushes.

BATH WATERS.AVERAGE AGAR COUNTS AND B. COLI CONTENTS.

Agar Count per 1 ml. }	High Street.		Moss Street.		Bridgeman Street.		Whitecroft Rd. School.	
			Ladies.	Gents.	Ladies.	Gents.		
	60	...	614	475	...	54	47	... 2014

B. COLI.

	High Street.		Moss Street.		Bridgeman Street.		Whitecroft Rd. School.	
			Ladies.	Gents.	Ladies.	Gents.		
- in 10 ml.	81.82	...	81.82	90.91	...	90.91	90.91 ... 0 %
+ in 10 - in 5 ml.	9.09	...	9.09	0	...	9.09	9.09 ... 20.00%
+ in 5 - in 2 ml.	0	...	9.09	9.09	...	0	0 ... 40.00%
+ in 2 - in 1 ml.	9.09	...	0	0	...	0	0 ... 20.00%
+ in 1 - in 1/2 ml.	0	...	0	0	...	0	0 ... 0 %
+ in 1/2 - in 1/10 ml.	0	...	0	0	...	0	0 ... 0 %
+ in 1/10 - in 1/100 ml.	0	...	0	0	...	0	0 ... 20.00%
+ in 1/100 ml.	0	...	0	0	...	0	0 ... 0 %

The Whitecroft Road School bath water compares unfavourably with the Public Baths.

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

FERTILIZERS AND FEEDING STUFFS.

2 samples have been examined. One did not agree with warranty; a treacle meal which contained 43.3% excess oil, 25.7% excess albuminoids, and was 39.3% deficient in fibre.

WATERWORKS COMMITTEE.

The water comprising the town's supply is examined bacteriologically weekly, and chemically monthly. The findings show that generally speaking the water is of excellent quality. For details see "Survey Report, Water Examinations".

Routine water examinations	696
Paint	1
Deposit from gauge	1

GAS COMMITTEE.

The gas has been examined regularly for total sulphur, ammonia, and sulphuretted hydrogen.

WATCH COMMITTEE.

- 1 Water.
- 2 Pastes in connection with suspected poisoning.
- 35 Medicines, ointments, liniments, etc.
- 2,462 Eggs for detection of removal of mark of country of origin.

STREETS COMMITTEE.

- 1 Water.

PUBLIC ASSISTANCE COMMITTEE.

- 38 Milks.
- 4 Margarines.

The average composition of the above milks was :—

Milk fat	...	...	...	3.73%
Non-fatty solids	..	..	..	8.81%
Water	...	...	...	87.46%

With the exception of one sample of milk which contained 1.2% of added water, these figures are quite satisfactory.

The margarines satisfied the Committee's requirements.

CLEANSING COMMITTEE.

- 2 Fish meals.

ROYAL INFIRMARY.

- 2 Milks for chemical and bacteriological examination.

WORKSHOPS FOR THE BLIND.

- 1 Investigation to find suitable bristle fixative.

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	24'3 % deficient in fat	Fined £3 and 10/6 costs.
Milk	5'7 % " "	Fined £2 and 10/6 costs.
Milk	3'3 % " "	No action.
Milk	3'3 % " "	" "
Milk	2'4 % added water	" "
Milk	2'0 % " "	" "
Vinegar ...	19'0 % deficient in acetic acid ...	Informal sample.
Tincture of iodine ...	4'4 % deficient in iodine ...	" "

Offences other than adulterations.—Nil.

United States Park Observatory, Boston.

For the year ending 1894.

SECTION VIII.

Miscellaneous.

The year's rainfall total was 47.4 inches, or 1.4 inches in excess of the normal amount falling in September and December. During all years there had the same amount of rainfalls recorded as in any other year. The heaviest rain fell on the days of the 11th and 12th and 13th days.

Lightning strikes during the year were 10. The heaviest strikes were on February, April, May, July and December, each generally having had more than half the normal amount of lightning. The heaviest strike on the days of the 11th and 12th and 13th days.

The daily wind velocity was 10. The heaviest wind was on the days of the 11th and 12th and 13th days.

There were 11 thunderstorms during the year.

E. HENNING, Director.
Boston, Massachusetts.

THE STATE OF NEW YORK
IN SENATE
January 15, 1907.

NAME	RESIDENCE	EDUCATION
John A.
...
...
...
...

SECTION VIII
Miscellaneous

...

Queen's Park Observatory, Bolton.

METEOROLOGICAL SUMMARY, 1936.

The barometer average for the year was slightly above the long period average of 29.936". The most marked deviations from normal were in January (29.476" against 29.974") and in October (30.071" against 29.893"). The highest reading for the year was 30.629" on the 20th November and the lowest, 28.736" on the 20th January.

Temperatures were slightly higher, the average mean for the year being 0.56° above the 1887-1936 average. January, February, April and November were colder and September. October and December considerably warmer than usual. The hottest day of the year was 21st June (Max. 84.8°) and the coldest 19th January (Min. 19.4°).

The year's rainfall total was 0.5" above normal, greatly excessive amounts falling in September and November. During April less than half the usual amount of rainfall was recorded and it was the driest May since 1905. There was rain on 180 days (average 213) and snow on 14 days.

Sunshine (1067.3 hours) was 67 hours in excess of the average. February, April, May, July and December were unusually sunny; but March had less than half the normal amount of sunshine. The sun shone on 270 days (average 255). The greatest daily amount was 12.7 hours on the 30th April.

The daily wind average was only 98 miles against the long period average of 164 miles. The maximum velocity was 41 m.p.h. on the 9th January.

There were 13 thunderstorms during the year.

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

Meteorological Summary, 1936.

1936	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
January	29.476"	87.0%	37.76°	52.9°	9	19.4°	19	21.7	6.2	17	5.186"
February	29.782	86.2	36.12	51.2	18	21.5	13	47.9	6.4	3	2.449
March	29.823	83.1	43.67	61.4	22	29.5	4	33.7	4.9	24	2.741
April	30.003	60.9	42.91	59.2	25	29.2	23	168.0	12.7	30	1.150
May	30.049	68.0	51.99	73.8	16	36.0	31	181.3	12.5	18	.973
June	30.001	73.5	56.53	84.8	21	38.5	1	138.3	12.1	5	3.532
July	29.775	78.0	57.02	70.3	1, 2	44.5	22	105.8	12.0	22	5.041
August	30.107	80.7	58.79	76.3	29	45.5	23	139.5	12.1	7	2.898
September	30.018	82.1	57.33	70.1	2	38.6	29	85.9	8.5	17	6.346
October	30.071	76.0	49.32	62.5	17	36.4	4, 7	83.1	8.0	3	5.320
November	29.859	90.2	41.83	53.1	3	26.6	24	34.1	3.9	2	6.620
December	30.595	86.0	41.21	54.9	17	24.6	7	28.0	5.2	6	5.222
Totals	359.559	951.7	574.48					1067.3			47.478
Averages	29.963	79.3	47.87					88.9			3.956

Rainfall. Average 1887-1936 = 42.351"

Baths and Wash-houses. 12 months ended 24th March, 1937.

	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 & Wash-houses...	5900		16196	2327	26521	526	1113	5685	3844	...	1221	...	48978	112311	122084	21426	21571
Bridgeman St. Baths	7479		12671	1063	23514	292	2471	1963	1373	...	518	232	31000	82576	92133	...	...
High St. Baths	4048		7614	691	15856	548	888	3192	1734	...	1141	3	26280	61995	78706	...	...
Rothwell Street Baths and Wash-houses	...		...	...	...	...	...	773	717	4277	85	...	...	5852	5116	43201	43703
Total	17427		36481	4081	65891	1366	4472	11613	7668	4277	2965	235	106258	262734	298039	64627	65274

Turkish Baths. 12 months ended 24th March, 1937.

	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 ...	1548	1828	...	123	162	...	352	8	149	59	4229	4735

Corporation Horses.

REPORT ON THE INSPECTION AND TREATMENT OF HORSES
BELONGING TO THE CORPORATION.

The following statement shows the total number of Corporation horses on the 31st December, 1936, the Committees to which they belong, and the total visits of inspection for the purpose of treatment of horses for various ailments during the year.

Committee	Number of Horses	Visits of Inspec- tion during 1936.
Cleansing and Sewage	41	76
Streets	1	4
Gas	1	6
Parks	3	24
Waterworks	1	2
Education	2	9
Total	49	121

During the year six horses were submitted for veterinary examination prior to consideration of purchase by the Cleansing and Sewage Committee, and one horse was submitted by the Parks Committee.

In addition to the above horses, 20 dairy cattle belonging to the Education Committee at the Lostock Open Air School have received veterinary attendance and medicine during the year.

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 and insecticides, etc.

During the year, 179 applications were received from persons desirous of retailing the substances listed in Part II, and the names and addresses of these persons were duly entered in the local authority's list and certificates issued after the prescribed fee of 7/6 had been paid.

Eleven sanitary inspectors have been appointed inspectors under the Act, and although they have made numerous visits, no contravention of the provisions of Part II of the Act and the Rules has been detected. Many visits have been made by the inspectors for the purpose of giving advice on packing, storage, labelling, bottling, transport and the "breaking" of bulk supplied of poisons.

SECTION IX.



Appendix.

List No.	CAUSES OF DEATH	Total	SEX.		AGE.													
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35		
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	
I. Infectious and Parasitic Diseases.																		
1-2	Typhoid and paratyphoid fevers	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Typhus fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	Relapsing fever ("Spirillum obermeieri")	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Undulant fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	Measles	9	4	5	1	4	1	1	1	1	...	...	...	...	...	...
8	Scarlet fever	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...
9	Whooping cough	8	4	4	3	5	...	...	...	...	...	...	...	...	...	...
10	Diphtheria	4	2	2	...	...	...	...	3	1	...	...	...	...	...	...
11	Influenza	35	17	18	...	1	1	...	...	...	...	...	2	1	1	1
12	Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	Erysipelas	6	3	3	1	...	...	...	...	...	...	...	...	...	...	...
16	Acute poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	Encephalitis lethargica	7	2	5	...	...	...	...	...	...	...	...	4	1	...	...
18	Cerebro-spinal fever	2	2	...	...	...	...	...	...	...	1	...	1	...	...	...
19	Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	Rabies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23-32	Tuberculosis (all forms):	119	70	49	...	1	...	4	3	3	5	17	11	13	10	6		
23	Respiratory system	98	59	39	...	...	...	...	...	2	4	15	9	13	8	6
24	Central nervous system	11	6	5	...	1	...	1	3	1	...	2	2	...	...	...
25	Intestines and peritoneum	2	2	...	...	...	...	1	...	...	...	...	...	...	...	...
26	Vertebral column	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
27	Other bones and joints	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	Skin and subcutaneous tissues	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	Lymphatic system (abdominal and bronchial glands excepted)	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...
30	Genito-urinary system	2	1	1	...	...	...	...	...	...	1	...	...	...	1	...
31	Other organs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
32	Disseminated tuberculosis	4	2	2	...	...	...	1	...	...	...	...	...	...	1	...
33	Leprosy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
34	Syphilis	4	3	1	2	...	...	...	...	...	...	...	...	...	...	...
35	Other venereal diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
36	Purulent infection, Septicæmia	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
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	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...
	Total Infectious and Parasitic Diseases...	198	109	89	7	10	3	2	5	7	4	6	17	19	15	1		
II. Cancer and other Tumours.																		
45-53	Cancer, malignant disease:	275	124	151	...	...	...	...	...	...	2	1	1	4	...	16
45	Buccal cavity and pharynx	19	17	2	...	...	...	...	...	...	2	...	...	...	...	...
46	Digestive organs and peritoneum	146	74	72	...	...	...	...	...	...	...	1	1	...	...	9
47	Respiratory organs	11	8	3	...	...	...	...	...	...	...	...	...	...	...	1
48	Uterus	27	...	27	...	...	...	...	...	...	...	...	...	...	1	3
49	Other female genital organs	8	...	8	...	...	...	...	...	...	...	...	...	...	2	...
50	Breast	30	...	30	...	...	...	...	...	...	...	...	...	...	...	2
51	Male genito-urinary organs	17	17	...	...	...	...	...	...	...	...	...	...	...	...	...
52	Skin	3	1	2	...	...	...	...	...	...	...	...	...	...	...	1
53	Other or unspecified organs	14	7	7	...	...	...	...	...	...	...	...	...	...	1	1
54	Non-malignant tumours	6	3	3	...	...	...	...	...	...	...	...	1	...	...	...
55	Tumours of undetermined nature	6	3	3	...	...	...	...	...	...	...	...	...	1	...	...
	Total Cancer and Other Tumours	287	130	157	...	...	...	...	...	...	2	2	1	5	...	16

		WARD.																						
65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	60 to 65	65 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br' hmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	
...	
...	...	...	...	...	8	1	...	1	...	...	3	...	1	1	1	1	...	1	...	...	...	...
...	...	...	...	...	8	1	...	...	2	2	1	...	1	1	1	...	...	...	...	...	...	1	
5	3	4	2	2	1	2	33	1	1	5	1	3	...	3	...	6	...	3	...	5	...	4	3	
...	
1	1	...	...	1	...	1	5	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	2
1	...	...	...	...	...	7	...	...	2	...	1	...	1	1	1	1	1	...	...	1	...	...	...
...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
8	5	2	...	...	5	114	2	8	20	9	2	13	5	10	2	7	5	4	5	14	2	3	8
7	5	1	...	...	...	98	1	7	19	8	2	11	4	8	2	4	2	3	3	12	2	3	7
1	...	...	...	...	2	9	...	...	1	1	...	...	1	1	...	1	2	...	2	2	...	...	1
...	...	1	...	...	1	1	...	...	...	...	1	...	1	1	...	...	1	...	...	...	...	...	...
...	
...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...
...	...	...	...	...	1	3	1	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...
1	...	...	...	...	2	2	...	...	1	...	1	...	...	...	...	...	...	...	1	1	...	...	...
1	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...
...	
...	
...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
17	9	6	2	3	1	27	171	3	11	35	12	3	22	5	17	3	17	8	7	8	22	2	9	14
39	40	47	20	10	1	...	275	4	15	34	15	4	22	16	19	16	29	8	8	14	35	3	17	16
6	2	4	2	1	19	...	3	1	1	...	2	2	1	3	2	1	1	...	1	1
20	24	31	11	7	1	...	146	3	6	17	8	4	13	8	9	8	13	3	5	6	25	...	9	9
3	1	2	11	...	1	3	1	1	2	1	...	1	1	1
1	3	1	1	27	...	1	2	2	...	2	1	3	...	5	2	1	...	2	1	4	1
4	3	1	4	8	...	1	2	1	...	2	1	1	...	1
2	2	5	2	1	30	1	...	3	2	...	2	2	2	2	5	2	...	1	3	1	2	2
...	17	...	2	4	2	...	1	1	...	1	1	...	1	2	1	1
...	3	3
1	4	3	...	1	14	...	1	2	1	1	1	2	2	1	...	1	2	2
...	2	1	6	2	1	1	1	1	1
...	2	...	1	6	1	1	...	1	1	1	1
39	44	48	22	10	1	...	287	4	15	37	17	5	23	17	19	16	30	8	8	14	36	3	17	18

										WARD.														
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	90 to 95	95 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	2	1	...	...	1	23	1	2	3	4	...	1	3	2	1	1	...	...	1	3	...	1	1
2	2	1	3	1	...	...	11	1	...	4	...	...	1	...	1	1	2	...	...	...	...	...	1	...
7	7	5	5	2	1	1	34	2	1	6	5	...	1	2	1	1	3	1	...	1	2	2	4	3
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
2	3	...	...	...	...	...	15	...	...	2	1	...	1	...	2	...	2	1	...	2	1	...	3	...
...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	13	8	9	3	1	4	84	4	3	16	11	...	4	5	6	3	8	2	...	4	6	2	10	4
...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
6	2	6	3	...	...	...	24	...	1	5	1	...	1	...	4	...	2	2	2	...	3	...	...	3
1	...	...	...	...	...	...	7	...	...	2	...	...	1	...	3	...	1	...	...	...	...	...	...	...
...
7	2	6	3	...	...	1	31	...	1	7	2	...	2	...	7	...	3	2	2	...	3	...	...	3
...
...
...
1	...	...	...	...	...	...	4	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	1	...
...	...	...	...	...	...	2	2	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...
2	...	...	...	...	...	...	4	1	...	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...
3	...	...	...	...	...	...	5	...	...	2	...	...	...	1	...	...	1	...	1	...	...	...	...	...
22	29	30	17	18	4	8	152	3	10	19	18	...	9	10	14	7	15	4	7	12	14	5	6	7
...	...	...	...	...	...	...	6	...	1	1	...	...	...	2	1	...	...	...	...	...	1	...	...	...
2	...	...	...	...	...	...	5	...	...	1	1	...	...	...	1	...	...	...	...	...	2	...	...	...
1	...	...	...	...	...	...	10	1	...	3	...	...	2	1	...	1	...	...	...	...	2	...	...	...
...	...	...	...	...	...	9	...	...	2	1	1	...	2	...	1	...	...	1	1	...	...	...	...	...
1	1	3	2	...	...	2	15	1	1	4	1	...	...	...	3	...	2	2	...	1	1	...	...	1

								WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Loxstock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...
...	...	...	...	1	...	1	4	...	...	...	...	...	...	...	1	...	2	...	...	1	1	...	...	...
32	30	33	19	19	4	22	207	6	15	33	22	...	14	14	22	8	20	7	9	15	22	5	9	8
77	78	89	76	37	19	...	516	22	26	69	37	9	38	21	30	14	44	27	21	18	62	11	40	27
...	1	1	...	...	...	...	4	...	...	2	1	...	...	...	...	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...
16	13	14	8	3	...	...	99	7	3	10	7	2	7	6	4	2	9	5	6	8	8	...	8	7
46	55	63	64	32	16	...	342	11	20	48	22	7	29	12	21	9	30	18	13	8	47	6	27	14
7	9	7	1	...	1	...	39	2	3	7	1	...	2	1	4	2	1	1	...	1	5	3	2	4
8	...	4	3	2	2	...	29	2	...	2	6	...	...	2	1	1	4	2	2	1	1	1	2	2
...	...	...	...	...	...	...	2	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
12	25	40	30	20	6	...	147	6	1	15	4	...	17	13	17	7	9	8	5	8	17	3	13	4
1	1	1	1	2	...	...	7	1	...	1	1	...	1	...	1	...	...	...	...	...	1	...	...	1
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
...
...	5	...	2	3	...	...	15	...	...	1	...	...	1	...	1	1	3	1	1	2	1	1	...	2
...
95	104	132	110	59	25	...	688	30	27	86	42	9	57	35	49	22	56	36	27	29	81	15	53	34
...
6	13	15	14	11	4	2	78	1	6	13	6	1	10	5	10	4	8	...	2	3	6	1	2	2
12	5	6	5	3	2	21	85	3	5	16	12	2	8	1	7	3	12	2	2	5	13	1	8	6
6	2	4	3	2	...	19	26	2	5	6	6	1	5	...	6	...	1	...	1	4	3	...	2	3
5	3	1	1	1	1	1	47	1	...	8	5	1	3	1	1	1	9	2	1	1	7	1	4	2
1	...	1	1	...	1	1	12	...	...	2	1	...	...	...	...	2	2	...	...	...	3	...	2	1
...	1	1	...	...	...	1	3	...	...	...	1	...	...	...	...	...	...	...	2	...	1	...	...	...
...	1	2	1	1	1	...	7	...	1	...	1	...	...	...	1	...	2	...	1	...	...	...	1	...
1	...	2	...	...	...	...	8	1	1	...	1	...	1	1	...	1	...	1	...	...	1	...	...	...
1	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
20	21	26	20	15	7	25	184	6	13	29	21	3	19	7	18	8	22	3	7	9	22	3	11	8
...	...	...	...	...	...	1	7	1	...	...	...	...	1	...	1	...	...	...	...	1	2	1	...	1
...
3	3	1	1	...	...	...	26	1	2	2	1	...	1	...	6	1	3	...	3	2	1	...	1	2
1	1	1	1	...	...	1	4	...	...	2	1	...	...	1	...	...	1	...	...	...	...	...	...	...
2	1	...	...	...	...	8	4	1	1	1	...	2	...	...	1	1	3	...	...	...	2	...	...	...

									WARD.															
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	60 to 65	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
2	2	1	...	...	...	1	14	...	1	5	4	...	1	...	1	...	...	...	...	...	1	...	1	1
2	...	1	...	...	...	2	12	...	...	2	1	...	3	...	3	1	2	...	...	...	...	...	1	1
2	6	...	...	1	1	...	...	...	...	1	...	...	...	1	1	...	1	...
1	5	...	...	1	...	1	...	...	1	...	...	1	...	1	...	...	...	...
1	...	1	1	...	...	1	3	...	...	2	...	...	...	...	1	...	...	1	...	...	...	...	...	...
3	...	1	1	...	...	...	5	1	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	1
1	3	1	...	1	1	...	9	...	1	...	1	...	1	...	1	...	1	...	...	...	1	2	...	1
...
...	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
18	10	6	4	1	1	14	97	4	5	7	10	3	7	1	15	2	12	2	4	5	10	3	4	7
15	12	5	10	3	4	...	73	2	2	13	3	...	3	6	...	1	14	1	5	3	6	1	7	6
1	...	1	...	...	...	...	6	...	...	1	1	...	1	...	...	3	...	...	...	...	...	...	...	...
13	12	4	10	3	3	...	62	2	2	10	2	...	1	6	...	1	11	1	4	3	5	1	7	6
1	1	...	5	...	...	2	...	...	1	...	...	...	...	...	1	...	1	...	...	...
...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
...	3	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1
...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
3	2	6	1	...	...	...	12	1	2	2	1	...	...	...	...	1	2	...	1	...	...	...	1	1
...
...
...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
18	14	12	11	3	5	...	92	3	4	15	5	...	4	6	1	2	16	1	7	3	7	1	8	9
...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
...
...
...
...
...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
...	2	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...
...	2	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
...
...	10	1	...	2	...	1	2	...	...	2	...	...	...	1	1	...	...	...
1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
1	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
2	4	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	...	...

								WARD.																	
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	60 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	...	...	...	6	...	1	...	2	...	1	...	1	...	...	...	...	...	...	...	1	...
...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	
11	7	6	3	4	2	8	88	2	8	19	9	1	11	1	6	3	5	1	5	...	9	2	11	3	
...	
1	3	2	1	1	...	3	11	1	...	3	1	...	1	...	1	...	2	...	...	2	1	1	...	1
1	3	2	1	1	...	3	11	1	...	3	1	...	1	...	1	...	2	...	...	2	1	1	...	1

TABLE
SUMMARY OF CAUSES

List No.	CAUSES OF DEATH	Total	SEX.		AGE.														
			M.	F.	0	1	2	3	4	5	10	15	20	25	30	35	40	45	
					to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	to 50	
1-44	Infectious and Parasitic Diseases	198	109	89	7	10	3	2	5	7	4	6	17	19	15	11	7	17	
45-55	Cancer and other Tumours ...	287	130	157	...	...	...	...	...	...	...	2	2	1	5	7	16	22
56-69	Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases ...	88	25	63	2	...	2	...	...	1	4	4	1	...	2	1	3	9
70-74	Diseases of the Blood and Blood-forming Organs ...	32	14	18	1	...	...	...	...	...	2	1	...	1	...	1	...	...
75-77	Chronic Poisoning...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78-89	Diseases of the Nervous System and Sense Organs ...	229	113	116	15	4	3	...	...	3	2	4	2	...	2	7	6	10
90-103	Diseases of the Circulatory System ...	688	317	371	...	...	...	...	...	1	...	2	4	6	3	7	14	23
104-114	Diseases of the Respiratory System ...	209	112	97	14	6	3	...	2	1	2	3	3	5	8	7	9	11	
115-129	Diseases of the Digestive System	111	56	55	11	3	...	...	...	1	2	1	7	2	4	5	8	5
130-139	Non-Venereal Diseases of the Genito-Urinary System and Annexa ...	92	47	45	...	...	...	...	...	...	...	...	2	1	2	1	4	3
140-150	Diseases of Pregnancy, Childbirth and the Puerperal State ...	10	...	10	...	...	...	...	...	...	...	...	2	4	...	3	1	...
151-153	Diseases of the Skin and Cellular Tissue ...	4	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
154-156	Diseases of the Bones and Organs of Locomotion...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
157	Congenital Malformations ...	25	16	9	25	...	...	...	...	...	...	...	...	...	...	...	...	...
158-161	Diseases of Early Infancy ...	49	35	14	49	...	...	...	...	...	...	...	...	...	...	...	...	...
162	Old Age ...	242	114	128	...	...	...	...	...	...	...	...	...	...	...	...	...	...
163-198	Deaths from Violence ...	96	58	38	...	3	...	2	3	4	5	4	4	4	4	5	2	10	
199-200	Ill-defined Diseases ...	14	5	9	2	1	...	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL ...	2375	1155	1220	126	27	11	4	10	18	21	28	44	43	45	55	70	110	

										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 hmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Haliwell	Heaton	Smithills	Astley Bridge
18	17	9	6	2	3	1	27	171	3	11	35	12	3	22	5	17	3	17	8	7	8	22	2	9	14	
43	39	44	48	22	10	1	...	287	4	15	37	17	5	23	17	19	16	30	8	8	14	36	3	17	18	
10	11	13	8	9	3	1	4	84	4	3	16	11	...	4	5	6	3	8	2	...	4	6	2	10	4	
5	7	2	6	3	...	...	1	31	...	1	7	2	...	2	...	7	...	3	2	2	...	3	...	...	3
...
20	32	30	33	19	19	4	22	207	6	15	33	22	...	14	14	22	8	20	7	9	15	22	5	9	8	
55	95	04	132	110	59	25	...	688	30	27	86	42	9	57	35	49	22	56	36	27	29	81	15	53	34	
13	20	21	26	20	15	7	25	184	6	13	29	21	3	19	7	18	8	22	3	7	9	22	3	11	8	
14	18	10	6	4	1	1	14	97	4	5	17	10	3	7	1	15	2	12	2	4	5	10	3	4	7	
10	18	14	12	11	3	5	...	92	3	4	15	5	...	4	6	1	2	16	1	7	3	7	1	8	9	
...	...	...	...	...	...	...	...	10	1	...	2	...	1	2	...	...	2	...	...	...	1	1	...	...	...
2	2	...	...	...	...	...	...	4	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	25	...	...	2	2	4	...	...	1	3	...	3	1	1	...	6	...	2	...
...	...	...	...	...	...	...	49	...	1	2	12	3	1	3	2	5	3	3	1	...	1	6	1	3	2
2	8	30	49	72	49	32	...	242	7	20	41	16	8	30	4	19	8	22	5	6	13	20	1	7	15	
9	11	7	6	3	4	2	8	88	2	8	19	9	1	11	1	6	3	5	1	5	...	9	2	11	3	
2	1	3	2	1	1	...	3	11	1	...	3	1	...	1	...	1	...	2	...	...	2	1	1	...	1
203	279	287	334	276	167	79	178	2197	72	126	355	176	34	199	98	188	80	222	77	83	104	252	39	144	126	

TABLE II.

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE IN THE COUNTY BOROUGH OF BOLTON—1936.
(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	1139	83	12	11	22	30	43	66	127	241	318	186
	F	1200	41	14	14	15	42	43	56	123	236	293	323
Typhoid and paratyphoid fevers	M	...	...	...	...	...	...	...	...	...	...	...	...
	F	...	...	...	...	...	...	...	...	...	...	...	...
Measles	M	4	1	2	1	...	...	...	...	...	...	...	...
	F	4	...	2	2	...	...	...	...	...	...	...	...
Scarlet fever	M	1	...	...	...	1	...	...	...	...	...	...	...
	F	1	...	...	...	...	...	1	...	...	...	...	...
Whooping cough	M	4	2	2	...	...	...	...	...	...	...	...	...
	F	4	1	3	...	...	...	...	...	...	...	...	...
Diphtheria	M	2	...	...	...	2	...	...	...	...	...	...	...
	F	2	...	...	...	2	...	...	...	...	...	...	...
Influenza	M	16	...	...	1	...	...	2	...	4	4	4	1
	F	18	...	...	1	...	...	1	1	2	6	3	4
Encephalitis lethargica	M	2	...	...	...	...	...	1	...	...	1	...	...
	F	6	...	...	...	...	...	4	...	1	1	...	...
Cerebro-spinal fever	M	2	...	...	...	...	1	1	...	...	...	...	...
	F	1	...	...	1	...	...	...	...	...	...	...	...
Tuberculosis of respiratory system	M	61	...	...	...	1	3	11	12	15	14	5	...
	F	37	...	...	...	1	15	12	2	4	2	1	...
Other tuberculous diseases	M	10	...	...	1	3	2	1	...	2	...	1	...
	F	11	...	...	4	1	1	1	2	...	2	...	...
Syphilis	M	3	1	...	...	...	...	...	...	1	1	...	...
	F	1	1	...	...	...	...	...	...	...	...	...	...
General paralysis of the insane, tabes dorsalis	M	5	...	...	...	...	...	...	...	2	3	...	...
	F	5	...	...	...	...	...	...	2	3	...	...	...
Cancer, malignant disease	M	123	...	...	...	...	2	1	9	13	41	47	10
	F	153	...	...	...	...	1	3	14	33	42	40	20
Diabetes	M	12	...	...	...	...	...	...	...	...	6	2	4
	F	24	...	...	1	1	1	...	1	1	6	9	4
Cerebral hæmorrhage, etc.	M	68	...	...	...	...	...	...	1	6	19	30	12
	F	80	1	...	...	...	...	...	2	4	20	26	27
Heart disease	M	247	...	...	...	1	3	6	12	31	57	86	51
	F	325	...	...	...	2	7	4	10	37	67	106	92
Aneurysm	M	2	...	...	...	...	...	...	...	...	...	...	...
	F	1	...	...	...	...	...	...	...	...	...	1	...
Other circulatory diseases	M	55	...	...	...	...	...	...	...	3	11	23	18
	F	58	...	...	...	...	...	...	...	2	8	22	26
Bronchitis	M	40	2	...	...	...	1	...	...	4	7	13	13
	F	38	...	...	...	...	3	...	1	...	6	12	16
Pneumonia (all forms)	M	58	7	4	2	2	3	6	10	9	9	4	2
	F	46	6	...	2	1	...	5	4	7	7	7	7
Other respiratory diseases	M	14	...	1	1	...	...	...	...	2	2	7	1
	F	6	...	...	...	...	...	1	...	...	1	1	3
Peptic ulcer	M	19	...	...	...	...	...	2	3	8	5	1	...
	F	7	...	...	...	...	...	1	1	...	1	3	1
Diarrhœa, etc.	M	5	3	...	...	...	...	...	1	...	...	1	...
	F	6	3	1	...	...	...	...	...	...	2	...	...
Appendicitis	M	6	...	...	...	1	1	...	...	1	1	2	...
	F	11	...	1	...	...	3	2	2	...	2	1	...
Cirrhosis of liver	M	4	...	...	...	...	...	...	...	1	2	1	...
	F	1	...	...	...	...	...	...	...	...	1	...	...
Other diseases of liver, etc.	M	2	...	...	...	...	...	...	...	...	...	1	1
	F	11	...	1	...	...	...	1	...	...	4	3	2
Other digestive diseases	M	21	2	...	...	1	2	...	4	2	6	3	1
	F	14	2	...	...	1	2	...	3	3	2	1	...
Acute and chronic nephritis	M	35	...	...	...	...	2	2	2	3	13	7	6
	F	34	...	...	...	...	...	...	2	5	13	8	6
Puerperal sepsis	F	1	...	...	...	...	...	1	...	...	...	...	...
Other puerperal causes	F	8	...	...	...	...	2	4	2	...	...	...	...
Congenital debility; premature birth, malformations, etc.	M	57	57	...	...	...	...	...	...	...	...	...	...
	F	25	25	...	...	...	...	...	...	...	...	...	...
Senility	M	113	...	...	...	...	...	...	...	...	7	50	56
	F	122	...	...	...	...	...	...	...	...	5	27	90
Suicide	M	20	...	...	...	...	...	4	3	6	5	2	...
	F	12	...	...	...	...	1	...	2	4	5	...	...
Other violence	M	41	...	2	4	6	5	3	2	2	6	7	4
	F	37	...	1	1	3	2	1	...	2	6	7	14
Other defined diseases	M	85	8	1	1	4	5	3	7	10	20	20	6
	F	87	2	4	2	3	4	1	5	15	26	15	10
Causes ill-defined or unknown	M	2	...	...	...	...	...	...	...	...	1	1	...
	F	3	...	1	...	...	...	...	...	...	1	...	1

