[Report 1908] / Medical Officer of Health, Bury County Borough.

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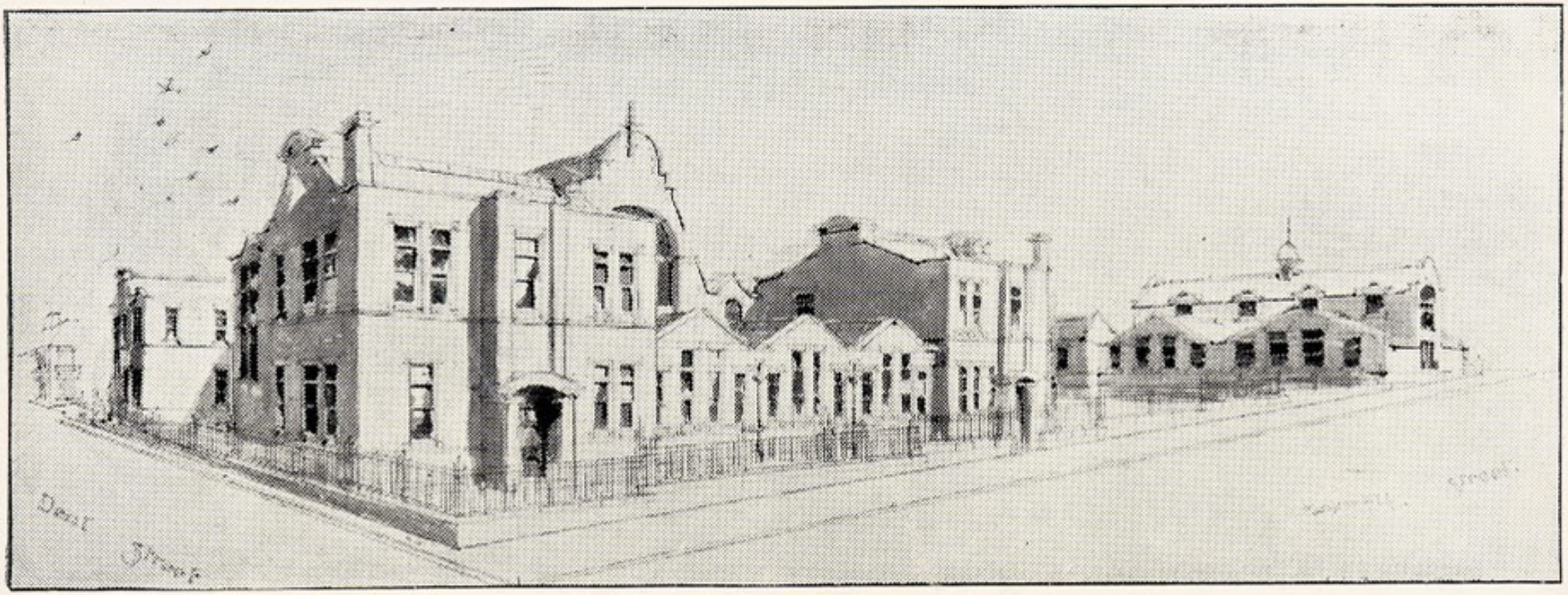
NEW COUNCIL SCHOOL, EAST WARD (in course of erection).



ACCOMMODATION PROVIDED { 600 Children in Mixed Department.
300 in Infants' Department.
200-250 in Special Classes for Teaching Manual, Science, Cookery, and Laundry Subjects.

Architect: MR. A. W. BRADLEY,
Borough Engineer.

COUNTY BOROUGH OF BURY.

ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR THE YEAR

1908,

BY

ROBERT BURNET,

M.B., Ch.B., M.Sc., D.P.H.,

Medical Officer of Health for the Borough,

Medical Superintendent of the Hospitals for Infectious Diseases, and

Medical Officer to the Education Committee.

BURY :

Printed at the "Times" Office, Cross Street,

1909.

HEALTH COMMITTEE, 1908.

CHAIRMAN - ALDERMAN PARKS.

DEPUTY-CHAIRMAN - THE MAYOR (ALDERMAN COLLINGE).

ALDERMAN ASHWORTH,
,, DAWSON,
,, FLETCHER,
,, GREENHALGH,
COUNCILLOR BATTERSBY,
,, BRADLEY,
,, W. BRIDGE,
,, DUCKWORTH,
,, HALL,
COUNCILLOR HARDMAN,
,, HARGREAVES,
,, HARRISON,
,, MARSDEN,
,, NUTTALL,
,, SHARP,
,, SLATER,
,, T. B. SMITH,
,, A. TAYLOR.

Meetings—The Wednesday in each month immediately preceding the 14th day before the Council, at 10-0 a.m.

OFFICIALS OF THE HEALTH DEPARTMENT.

Inspector of Nuisances, Superintendent of the Cleansing Department, District Inspector of Moorside and East Wards, Inspector under Shop Hours' Acts, Inspector under Explosives Act, &c. :—JOHN HAWORTH, Assoc. R.S.I., Certified Sanitary Engineer.

District Inspector for Bury South and Elton, Inspector of Common Lodging-Houses, Canal Boats, &c. :—SAMUEL KAY, Cert. R.S.I.

Inspector of Meat, and of Dairies, Cowsheds, and Milkshops; Inspector of Offensive Trades, &c. :—W. P. OPENSHAW, Cert. R.S.I., Certified Inspector of Meat and other Food.

Health Visitor, Inspector of Workshops (where Females are employed), Inspector under Shop Hours' Acts, Inspector of Midwives, &c. :—NURSE L. E. WALTON, ASSOC. R.S.I.

Chief Clerk in Health & Cleansing Departments :—T. H. TURNER.

Junior Clerk :—FRED K. NUTTALL.

Disinfectors, Drain Testers, &c. :—JOHN KENYON AND HENRY MITCHELL.

Ambulance Driver :—THOMAS BROWN.

Foremen in Cleansing Department :—WILLIAM BEAZLEY, DANIEL COOPER, AND JOHN KIRKMAN.

Assistant Medical Officer of Health (from April to December) :—J. A. P. CULLEN, M.B. (Lond.), M.R.C.S., L.R.C.P.

Medical Officer of Health :—ROBERT BURNET, M.B., Ch.B., M.Sc., D.P.H.

Inspector under Food and Drugs Acts, Abattoirs Superintendent : H. C. CASS (Markets Inspector).

Borough Analyst :—THOMAS J. HUTCHINSON, F.I.C.

Veterinary Inspectors and Surgeons :—W. PACKMAN AND W. E. S. RICHMOND.

Public Health Department,
Parsons Lane,
BURY, June, 1909.

To the Chairman and Members of the Health Committee of the County Borough of Bury.

Gentlemen,

I beg to present to you my Annual Report on the Health of your Borough for the year 1908, with which I have embodied that which deals with the Medical Inspection of School Children.

The vital statistics for the year under review are eminently satisfactory. The Death Rate (15.89 per 1,000) is the lowest on record for the Borough; whilst the Birth Rate (23.31 per 1,000) is the highest recorded since the year 1900, and is 0.23 per 1,000 higher than the mean rate for the preceding ten years.

Infant mortality (129 per 1,000 Births) shows a very satisfactory decline, and with one exception (the year 1902) is the lowest recorded.

Other satisfactory features of the report are (a) the small number of notifications of Typhoid Fever, and (b) the decline in the number of cases of Consumption, the rate being 1.07 per 1,000, which is the lowest recorded for the Borough. In connection with the latter, I would draw attention, on page 62, to a memorandum issued by the Medical Officer of the Local Government Board on "Administrative measures against Tuberculosis," in connection with the Public Health (Tuberculosis) Regulations, 1908, and would, owing to its importance, recommend its perusal. As this disease is not only preventable, but can in the earlier stages be cured, the provision of a Sanatorium in some country place near the town is necessary, and I would recommend this for your serious consideration.

The above statistics are not only a credit to my predecessor (Dr. A. E. Brindley), but constitute a reward for the progressive policy adopted by the Health and Cleansing Committees of the Borough. Such results as these ought surely to act as an incentive to further efforts, and taking an Infant Mortality of 100 per 1,000 births as a goal to be reached in a Borough such as your own, I would venture to trust that this will be effected in the very near future.

During the year new legal enactments have come into force which will, no doubt, have an important bearing on the health and welfare of the town. Chief amongst these are (a) for the Medical Inspection of School Children (Administrative Provisions Act, 1907), and (b) for the Notification of Births (Notification of Births Act, 1907). Much is to be expected from these, to obtain (a) higher physical standard, and (b) a lower Infant Mortality.

Much benefit should accrue from the Medical Inspection of School Children. The first report dealing with this shows that legislation was necessary, and it is only by realising the importance of this work that we can hope to maintain such a physical and mental condition in the children as will ensure their becoming good citizens.

With regard to the Housing of the Working Classes, much attention has been given to the problem by the Housing Committee. Perhaps one of the most unsatisfactory features of this Report is that dealing with "Houses Let-in-Lodgings," or, as they are better known, "Furnished Rooms." Much remains to be done to improve the conditions under which the poorer classes are housed under this system.

For special items of information in this Report, I am indebted to Messrs. A. W. Bradley, H. C. Cass, W. Clough, R. B. Rigby, J. Isherwood, S. Comfort, and to other public officials; also to many Medical Officers of Health, more particularly my predecessor, Dr. Brindley, for the valuable aid given by the statistical records he had kept, and Dr. Cullen for his important Educational work.

I have also to thank all the members of my staff for their loyalty and co-operation in their respective capacities.

Especially am I grateful to you for the courtesy, co-operation, and kind consideration extended to me.

I am, Gentlemen,

Your obedient Servant,

ROBERT BURNET,

Medical Officer of Health.

CONTENTS.

County Borough of Bury.

STATISTICAL SUMMARY, 1908.

Situation—Latitude, 53° 36′ N.; Longitude, 2° 18′ W.

Population, estimated to the middle of the year 1908	Males 27396	Total ... 59064	
	Females 31668		
Number of Inhabited Houses (Census 1901) 12692			
Rateable Value	Borough Rate, £279,046		
	General Rate, £281,033		
Marriages (Bury Union) 1314			
Births	Males 728	Total ... 1377	
	Females 649		
Annual Rate of Births per 1000 of the Population ..... 23·31			
Deaths	Males 448	Total ... 939	
	Females 491		
Annual Rate of Mortality per 1000	Males ..... 16·35	Total ... 15·89	
	Females ..... 15·50		
Excess of Registered Births over Deaths 438			
Infantile Mortality ..... 129 per 1000 Births.			

Density.—The mean density of the Borough from the census of 1901 was equal to 9·95 persons per acre:—In Church Ward, 28·53; East Ward, 15·0: Moorside Ward, 9·42; Redvales Ward, 8·69; Elton Ward, 6·86.

Area.—The Municipal Borough of Bury comprises parts of what were formerly the Townships of Tottington-lower-End, Shuttleworth, Bircle-cum-Bamford, Heap, Pilsworth, Pilkington, Radcliffe and Elton, as well as the township of Walmersley, and has a total area of 5907 acres.

Elevation.—The mean elevation of the Borough is about 300 feet above sea level, and varies between 223 feet at Blackford Bridge and 765 feet at Higher Sedger Hey.

LEGAL SUMMARY.

Particulars of the Sanitary Laws in force in the Borough (other than Public General Acts):—

LOCAL ACTS.

Bury Improvement Acts, 1846, 1872 and 1885.

Bury Corporation Acts, 1899, 1901, and 1906.

ACTS CONFIRMING PROVISIONAL ORDERS.

Local Government Board's Provisional Orders' Confirmation (No. 5) Act, 1882. (An Act to confirm the Bury Provisional Order, 1882, relating to the compulsory notification of Infectious Diseases).

Local Government Board's Provisional Orders Confirmation (No. 13) Act, 1900. (An Act *inter alia* to confirm a certain Provisional Order relating to the provision of Markets, Slaughter-houses, Refrigerators and Ice-making Plant by the Corporation of Bury.)

Local Government Board's Provisional Orders Confirmation (No. 17) Act, 1903. (An Act to confirm certain Provisional Orders relating to Bury and the Bury and District Joint Hospital Board.)

ACTS ADOPTED.

Public Health Acts Amendment Act, 1890. (March 5th, 1891.)

Infectious Diseases (Prevention) Act, 1890. (August 2nd, 1900.)

Notification of Births Act, 1907. (March 5th, 1908.)

Estimated Population.—The Registrar-General estimated that the population of the Borough would be 59,064 at the middle of the year 1908, this being an increase of 163 over the estimated population of the preceding year.

The following table shows the estimated population and the number of males and females in each ward of the Borough.

Ward.	Males.	Females.	Total.
Moorside	6696	7999	14695
East	5565	6421	11986
Church...	3535	3812	7347
Redvales	4882	5906	10788
Elton	6718	7530	14248
Totals	27396	31668	59064

Rainfall, 1908.—BURY. (Yard, Parsons Lane).

JAN...Total Rainfall 4·26in.
Greatest fall in 24 hours 1·06in., date January 26th.
No. of days on which 0·01in. or more fell = 15.

FEB...Total Rainfall 3·87in.
Greatest fall in 24 hours 0·76in., date February 22nd.
No. of days on which 0·1in. or more fell = 22.

MAR..Total Rainfall 3·37in.
Greatest fall in 24 hours 0·48in., date March 24th.
No. of days on which 0·1in. or more fell = 20.

APRL.Total Rainfall 2·50in.
Greatest fall in 24 hours 0·66in., date April 28th.
No. of days on which 0·1in. or more fell = 17.

MAY..Total Rainfall 3·16in.
Greatest fall in 24 hours 0·58in., date May 2nd.
No. of days on which 0·1in. or more fell = 18.

JUNE.Total Rainfall 2·02in.
Greatest fall in 24 hours 0·59in., date June 13th.
No. of days on which 0·1in. or more fell = 9.

JULY .Total Rainfall 5·02in.
Greatest fall in 24 hours 1·47in., date July 16th.
No. of days on which 0·1in. or more fell = 15.

AUG..Total Rainfall 3·45in.
Greatest fall in 24 hours 0·66in., date August 26th.
No. of days on which 0·1in. or more fell = 16.

SEP...Total Rainfall 3·93in.
Greatest fall in 24 hours 0·71in., date September 20th.
No. of days on which 0·1in. or more fell = 17.

OCT...Total Rainfall 1·83in.
Greatest fall in 24 hours 0·43in., date October 20th.
No. of days on which 0·1in., or more fell = 8.

NOV...Total Rainfall 3·03in.
Greatest fall in 24 hours 0·92in., date November 16th.
No. of days on which 0·1in. or more fell = 16.

DEC...Total Rainfall 3·12in.
Greatest fall in 24 hours 0·47in., date December 9th.
No. of days on which 0·1in. or more fell = 19.

	1908.	1907.	1906.
Total Annual Rainfall	39·56 ins.	42·59 ins.	44·07 ins.
Total No. of days on which rain fell..	192 ...	214 ...	209

RAINFALL AT GREENWICH OBSERVATORY, 1908.

Total .....23·78 ins.
Number of days 150

BIRTHS.

During the year 1,377 births have been registered within the Borough, of which 728 were boys and 649 were girls, representing a birth rate of 23.31 per 1,000 of the population, as compared with a rate of 22.74 per 1,000 in the preceding year. The number of births registered during the year show an increase of 31 over the previous year, and an increase of 25 over the mean number registered in the preceding ten years 1898—1907. When we take into consideration the fact that the birth-rate for England and Wales has shown a downward tendency for some years, some little satisfaction may be derived from the above figures.

Ward Distribution.

	No. of Births.	Rate per 1000.
Moorside	335	22.79
East	305	25.44
Church	170	23.13
Redvales	200	18.54
Elton	367	25.74

Seventy of the above births were illegitimate, as compared with 50 in the previous year, being apportioned to the Wards as follows:—

Moorside	12	
East	18	(8 of which occurred in the Union Workhouse).
Church	11	
Redvales	10	
Elton	20	

MARRIAGES.

The total number of marriages celebrated in the Bury Union during the year 1908 was 1,314, being a decrease of 107 as compared with the preceding year. The quarterly return of the marriages solemnised in the Bury District in the year 1908 is summarised as follows:—

	Church of England.	Before Authorised Persons.	Before Registrars.	Total.
March Quarter, 1908	178	31	97	306
June Quarter, 1908	186	43	121	350
September Quarter, 1908..	204	60	123	387
December Quarter, 1908...	142	38	91	271
Totals	710	172	432	1314

DEATHS.

During the year 1,056 deaths have been recorded in the Borough, being an increase of 22 over the total of the previous year. Of these deaths 196 occurred in the Union Workhouse, 42 in the Dispensary Hospital, 22 in the Florence Nightingale Hospital, and five in the Robinson Kay Home.

Of the deaths occurring in public institutions within the Borough 130 were of persons not usually resident in the Borough, 47 being from Heywood, 33 from Radcliffe, 17 from Ramsbottom, 11 from Whitefield, eight from Bury Rural, seven from Tottington, two from Manchester, and one each from Ilford, Essex, Widnes, Oldham, Liverpool, and Bolton respectively.

By excluding these 130 deaths of non-residents, the total number of deaths is reduced to 926, to which must be added the 13 deaths of Bury residents in other districts, 11 of which occurred in the County Asylum, Prestwich, and two in Manchester Hospitals. The corrected number of deaths of Bury residents is thus brought to 939, which is exactly the same number as was recorded in the previous year, but is 70 below the mean number for the ten years 1898-1907.

The death rate is equal to 15.89 per 1,000 of the population, as compared with a rate of 15.94 per 1,000 in the previous year.

The recorded death rate for the Borough is the lowest on record, being 0.05 per 1,000 lower than the rate for the previous year, and 1.42 per 1,000 below the mean rate (17.31) for the ten preceding years, and compares favourably with the rate (15.8 per 1,000) for the 76 Great Towns of England and Wales.

This comparatively low mortality rate, as in the previous year, is due in great measure to the diminution in the number of deaths from those diseases which come within the scope of that class of ailments which are known to be preventable, such as Measles, Whooping Cough, the Diarrhœal diseases of infants, as well as the usual notifiable ones—Scarlet Fever, Typhoid, and Diphtheria.

It is satisfactory to record this further decline in our Death Rate, which for a manufacturing town must be considered as decidedly good (15.8 per 1,000). The fact that over 38 per cent. of the total number of deaths recorded represented persons over 60 years of age must necessarily speak well for the health of this Borough.

The lowest Death Rates are recorded in Moorside Ward (13.27), Elton Ward (14.32), and Redvales Ward (14.64); whilst the highest Death Rates, as may be expected, were in the most densely populated parts of the Borough, namely, Church Ward (20.69) and East Ward (19.19).

The following table shows the natural increase of the population, *i.e.*, the excess of births over deaths during the past 18 years (1891-1908) :—

Year.	Births.	Deaths.	Natural Increase.
1891	1682	1474	208
1892	1617	1202	415
1893	1488	1287	201
1894	1507	1077	430
1895	1710	1414	296
1896	1454	1162	292
1897	1520	1099	421
1898	1483	1057	426
1899	1439	1061	378
1900	1390	1108	282
1901	1272	975	297
1902	1214	955	259
1903	1329	1030	299
1904	1383	1003	380
1905	1271	964	307
1906	1336	1001	335
1907	1336	939	397
1908	1377	939	438
Total.....	25808	19747	6061

District Mortality Rates.—The following table shows clearly the difference as regards the mortality rates in the various Wards :—

POPULATION, ACREAGE, AND DEATH RATES IN THE VARIOUS WARDS.

WARD.	Estim'ted Population to middle of 1908.	Acreage.	Persons per Acre.	Total Deaths	*Death Rate per 1000.	Mortality per 1000 Living.				
						Zymotic Diseases.	Phthisis.	Other Tuberculous Diseases.	Other Respiratory Diseases.	Cancer.
Moorside	14695	1534	9·42	195	13·27	0·27	1·16	0·41	2·38	0·54
East.....	11986	786	15·0	230	19·19	1·75	1·41	0·25	3·25	1·08
Church	7347	258	28·53	152	20·69	2·31	1·48	0·27	3·12	1·08
Redvales	10788	1221	8·69	158	14·64	0·83	0·41	0·18	2·13	1·21
Elton ...	14248	2042	6·86	204	14·32	1·19	0·77	0·49	1·95	1·00
Totals	59064	5836	9·95	939	15·89	1·15	1·07	0·39	2·51	0·96

*Deaths occurring in Public Institutions have been relegated to the Ward to which the person belonged; deaths within the Borough of persons usually resident outside are here excluded, and correction is made for persons dying without the Borough, but usually resident within. It will be observed from the above table that the highest death rates, as in previous years, are recorded in Church and East Wards, which are the most densely-populated districts.

Causes of, and Ages at, Death, during year 1908.

Causes of Death.	Deaths in or belonging to whole District at subjoined ages.							Deaths in or belonging to localities (at all ages). Registration Sub-Districts			Total Deaths in Public Institutions in the District.
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	North	South	Elton	
Smallpox	..	..	..	..	..	..	..	..	..	..	..
Measles	15	2	13	..	..	..	..	11	4	..	8
Scarlet Fever	3	..	1	2	..	..	..	1	2	..	6
Whooping Cough	6	1	5	..	..	..	..	1	1	4	..
Diphtheria and Membranous Croup	10	..	7	3	..	..	..	2	2	6	8
Croup	..	..	..	..	..	..	..	..	..	..	..
Fever — Typhus	..	..	..	..	..	..	..	..	..	..	..
Fever — Enteric	4	..	..	1	1	2	..	1	..	3	6
Fever — Other continued	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	13	..	..	..	1	6	6	8	4	1	8
Cholera	..	..	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	30	20	5	..	..	1	4	9	17	4	4
Enteritis	16	11	4	..	..	..	1	11	2	3	..
Puerperal Fever	2	..	..	..	1	1	..	2	..	..	..
Erysipelas	2	..	..	..	..	2	..	..	..	2	..
Other Septic Diseases	..	..	..	..	..	..	..	..	..	..	..
Phthisis (Pulmonary Tuberculosis)	63	1	..	1	4	54	3	34	19	10	24
Other Tuberculous Diseases	23	7	9	3	1	3	..	9	7	7	12
Cancer, Malignant Disease	57	..	..	..	..	41	16	20	22	15	11
Bronchitis	75	9	3	1	..	30	32	34	25	16	18
Pneumonia	66	9	23	2	2	24	6	35	19	12	3
Pleurisy	1	..	..	..	..	1	..	1	..	..	..
Other Diseases of Respiratory Organs	6	1	2	..	1	2	..	4	2	..	2
Alcoholism / Cirrhosis of Liver	18	..	..	..	..	14	4	8	6	4	5
Venereal Diseases	1	1	..	..	..	..	..	..	1	..	..
Premature Birth	32	32	..	..	..	..	..	11	8	13	..
Diseases and Accidents of Parturition	6	1	..	..	1	4	..	2	2	2	1
Heart Diseases	98	..	..	2	5	60	31	45	30	23	15
Accidents	18	4	3	1	1	6	3	10	6	2	10
Suicides	9	..	..	..	..	8	1	2	1	6	2
Diseases of Brain and Membranes	38	9	2	2	4	14	7	13	17	8	18
Apoplexy	56	..	..	..	..	40	16	24	27	5	4
Digestive Organs, Diseases of	27	4	2	3	..	16	2	14	8	5	9
Spinal Cord, Diseases of	7	..	1	..	..	5	1	4	1	2	5
Old Age	72	..	..	..	..	3	69	38	20	14	47
Rheumatic Fever	3	..	..	1	2	..	..	1	2	..	..
All other causes	162	66	12	3	6	57	18	60	55	37	39
All causes	939	178	92	25	30	394	220	425	310	204	265

Vital Statistics of Whole District during 1908 and Previous Years.

YEAR	Population estimated to middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate	Number	Rate per 1000 Births Regist'r'd	Number	Rate				Number	Rate.
1898	57804	1483	25·65	275	185	1128	19·51	150	71	—	1057	18·28
1899	57885	1439	24·85	233	161	1163	20·09	194	109	7	1061	18·29
1900	57966	1390	23·97	233	167	1199	20·68	210	107	16	1108	19·11
1901	58049	1272	21·91	213	166	1060	18·26	204	94	9	975	16·79
1902	58182	1214	20·86	156	128	1011	17·37	193	80	24	955	16·41
1903	58313	1329	22·79	231	174	1115	19·12	224	105	20	1030	17·66
1904	58450	1383	23·66	226	163	1104	18·88	148	119	18	1003	17·16
1905	58594	1271	21·69	185	146	1065	18·18	242	115	14	964	16·46
1906	58744	1336	22·74	236	177	1084	18·40	230	109	26	1001	17·04
1907	58901	1336	22·68	181	135	1034	17·55	248	108	13	939	15·94
Averages for years 1898-1907.	58289	1345	23·08	217	160	1096	18·50	204	102	15	1009	17·31
1908	59064	1377	23·31	178	129	1056	17·87	245	130	13	939	15·89

Area of District in acres (exclusive of area covered by water) ..... 5836.

Total population at all ages 58029
Number of inhabited houses 12695
Average number of persons per house... 4·57
At Census of 1901.

Vital Statistics of separate Localities in 1908 and Previous Years.

YEAR.	BURY (whole district).				SUB-REGISTRATION DISTRICTS.											
					NORTH.				SOUTH.				ELTON.			
	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under 1 year.
1898	57804	1483	1057	275	26227	686	519	118	17766	454	324	88	13811	343	214	69
1899	57885	1439	1061	233	26226	650	538	116	17784	425	299	72	13875	364	224	45
1900	57966	1390	1108	233	26225	655	594	107	17802	415	305	66	13939	320	209	60
1901	58049	1272	975	213	26224	580	470	99	17821	369	285	56	14004	323	212	58
1902	58182	1214	955	156	26290	560	425	70	17859	356	300	46	14033	298	230	40
1903	58313	1329	1030	231	26348	617	449	101	17901	402	320	74	14064	310	261	56
1904	58450	1383	1003	226	26405	649	434	111	17946	402	330	66	14099	332	239	49
1905	58594	1271	964	184	26468	610	456	99	17992	389	311	49	14134	272	197	36
1906	58744	1336	1001	236	26536	632	461	105	18038	380	332	82	14170	324	208	49
1907	58901	1336	939	181	26607	614	439	84	18085	413	294	49	14209	309	206	48
Averages of Years 1898 to 1907	58289	1345	1009	217	26356	625	479	101	17899	400	310	65	14034	320	220	51
1908	59064	1377	939	129	26681	640	425	86	18135	370	310	50	14248	367	204	42

CLASSIFICATION OF THE CAUSES OF DEATH.

Of the 939 deaths from all causes :—

Zymotic Diseases caused	85	deaths, or	9.05	per cent.
Constitutional ,,	,,	173	,,	,,	18.40	,,
Developmental ,,	,,	159	,,	,,	16.80	,,
Local ,,	,,	471	,,	,,	50.10	,,
Other ,,	,,	24	,,	,,	2.50	,,
Violence (Accident or Suicide) ,,	,,	27	,,	,,	2.80	,,

Mortality at Different Ages.—Of the 939 deaths :—

178	occurred in children under one year of age.....	18.95	per cent.
93	occurred between the ages of 1 and 5 years.....	9.94	,,
24	,, ,, 5 and 15 years.....	2.55	,,
30	,, ,, 15 and 25 years.....	3.19	,,
394	,, ,, 25 and 65 years.....	41.95	,,
220	occurred in persons over 65 years of age	23.42	,,
		100.00	

Zymotic Diseases (including Influenza).—The percentage of deaths from the infectious diseases (9.05) is the same as in the previous year, but shows a decrease as compared with the preceding years :—

Year :—	1901	1902	1903	1904	1905	1906	1907	1908
Percentage	10.87	9.95	12.04	14.05	9.23	11.59	9.09	9.09

This decrease, as in the year 1907, is due chiefly to the diminution of deaths from Measles, Whooping Cough, and Diarrhœa.

Diseases of the Respiratory System (excluding Phthisis) :—148 deaths have been attributed to various diseases of the respiratory organs, which is a decrease of 17 in the number of deaths, as compared with that of the preceding year.

Of these deaths, 75 (or 50.01 per cent. of the total 148) were attributed to Bronchitis. The following table shows the age periods at which deaths from Bronchitis were recorded :—

Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 upwards.	Total.
9	3	1	—	30	32	75

Pneumonia caused 66 deaths, as compared with 58 deaths in the previous year. The following table shows the ward distribution and the age periods at which these deaths were recorded :—

Wards.	Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and Upwards	Totals.
Moorside	4	5	...	1	4	2	16
East	3	6	1	...	6	3	19
Church	...	3	...	...	6	...	9
Redvales	1	3	...	1	4	1	10
Elton.....	1	6	1	...	4	...	12
Totals.....	9	23	2	2	24	6	66

Phthisis caused 63 deaths, making a total of 211 deaths from Respiratory Diseases, as compared with 231 deaths in the previous year.

Deaths from Respiratory Diseases and Phthisis in each of the preceding ten years :—

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Bronchitis.....	110	137	112	86	93	99	118	90	93	100
Pneumonia	107	95	99	85	89	93	56	75	59	58
Oth'r Respirat'ry Diseases	11	4	9	11	2	12	8	15	8	7
Phthisis	80	105	98	85	75	69	97	73	74	66
Totals.....	308	341	318	267	259	273	279	253	234	231

LONGEVITY.

Deaths of Persons over 60 Years of age.—The deaths of persons over 60 years of age were equal to 33.5 per cent. of the total deaths, as compared with 33 per cent. in the previous year.

The number of deaths attributed to **old age** was 72, a decrease of 5 as compared with the previous year. The following table gives the number of deaths attributed to Old Age, and the percentage to the total number of deaths; also a comparison with each of the ten preceding years:—

Year.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
No. of Deaths	78	81	112	109	74	79	73	72	66	77	72
Per cent. of Total Deaths	6·91	6·96	9·34	10·21	7·64	7·67	7·27	7·48	6·59	8·20	7·60

INQUESTS DURING THE YEAR 1908.

During the year the cause of death of 62 Bury residents was investigated by the District Coroner. In 53 instances it was found advisable to hold an inquest, and of this number 38 related to the bodies of males and 15 to females. In nine cases a public enquiry was dispensed with.

The following is a classification of the sex and age periods:—

	Males.	Females.
Under one year of age	6	1
Over one and under five years of age	2	1
Over five and under 15 years of age	—	4
Over 15 and under 25 years of age	2	—
Over 25 and under 65 years of age	21	6
Over 65 years of age	7	3
Total	38	15

The verdicts of the Coroner's Juries, and the wards to which the deceased belonged, are shown in this table:—

	Moorside.	East.	Church.	Redvales.	Elton.	Totals.
Natural Causes	2	5	4	5	4	20
Accident	4	7	4	1	2	18
Suicide	2	—	—	1	6	9
Found Drowned	—	—	—	1	2	3
Misadventure	—	—	1	—	—	1
Doubtful	1	—	—	—	1	2

Among those certified as due to Natural Causes, five deaths were returned as being due to Syncope or diseases of the Heart.

Of those due to Accident, five were due to suffocation; four resulted from accidents on the highway; two from machinery; two by drowning; two from falls; and three from burns.

Of the Suicides, one was by poison; one by drowning; two by cut throat; and four by hanging.

UNCERTIFIED DEATHS.

The number of uncertified deaths, i.e., deaths which had not been certified by a medical man, or cases in which the Coroner considered an inquest unnecessary, was nine, six being of males and three of females.

The following shows the age periods, and the wards to which the deceased belonged:—

Ages	0—1	1—5	5—15	15—25	25—65	65 upwards.	Total
Moorside	—	—	—	—	2	1	3
East	—	—	—	—	1	—	1
Church	—	—	—	—	2	—	2
Redvales	—	—	—	—	—	—	—
Elton	—	1	—	1	1	—	3

Annual Rate of Mortality compared with other Towns.

The following table compares the Birth Rate and certain Death Rates of Bury with other manufacturing towns :—

TOWN.	Estimated Population.	Birth Rate per 1000.	* Death Rate per 1000.	Zymotic Death Rate per 1000.	Phthisis Death Rate per 1000.	Other Tuberculous Diseases Rate per 1000	Cancer Death Rate per 1000.	Other Respiratory Diseases.	Infant Mortality per 1000 Births.
Accrington ...	46000	22·00	...	1·82	0·78	0·50	0·82	2·58	137
Bootle.....	70500	30·9	17·3	2·3	1·4	—	—	3·7	143
Burnley	105100	28·2	17·9	3·06	1·2	0·61	0·78	3·36	201
Bury	59064	23·31	15·89	1·15	1·07	0·39	0·96	2·51	129
Carlisle	50047	24·4	13·4	0·83	1·11	0·34	0·70	2·44	129
Crewe	48359	24·6	11·06	0·90	0·4	0·4	0·64	2·15	103
Darwen	42266	21·17	13·01	0·76	0 59	0·35	0·83	2·34	120
Eccles	40 00	27·0	13·9	1·5	0·75	0·22	0·55	2·9	119
Halifax	107500	19·7	14·5	1·0	1·3	0·4	1·0	2·3	101
Hanley	67998	33·0	18·6	1·9	0·89	—	—	—	157
Lancaster ...	44200	24 02	12·33	1·22	0 81	0·33	0·79	2·01	89
Nelson	39500	20·76	11·04	0·5	0·81	0·3	0·55	2·48	117
Oldham	142507	28·4	20·1	2·6	1·5	0·3	0·9	3·8	159
Radcliffe.....	27000	22·8	13·0	0·8	0·4	0·3	0·7	2·9	142
Rochdale ...	88800	24·78	18·38	2·40	1·37	0·5	1·02	2·97	168
Rotherham...	64000	32·75	15·62	3·0	0·97	0·47	0·78	2·78	149
St. Helens ...	93812	35·29	16·0	1·32	1·20	0·83	0·59	3·14	122
Stockport ...	102339	27·94	19·99	2·99	1·26	0·94	0·89	3·88	177
Stockton-on-Tees	54242	31·11	15·3	2·74	1·21	1·03	0·70	2·6	150
Wallasey ...	71000	24·4	13·9	1·22	0·8	0·5	0·8	2·0	101
Warrington .	72562	32·6	17·07	2·6	1·25	0·68	0·57	2·9	132
Wigan.	92114	31·85	16·97	1·85	0·81	0·83	0·41	3·61	154

* Corrected for Public Institutions.

INFANT MORTALITY.

Number of Births during the year 1908 1,377
Number of Deaths in children under 1 year of age 178
Infant Mortality ... ... 129 per 1,000 births.

The infant mortality for the year 1908 is, with the exception of the year 1902, the lowest on record, being 6 per 1,000 below the rate for the previous year, 31 per 1,000 below the mean rate for the preceding ten years 1898-1907, and compares very favourably with the rate (128) for the 76 Great Towns of England and Wales.

This mortality rate, although still much too high, is nevertheless very satisfactory, especially when we take into consideration the fact that the birth rate for the year shows an increase, which is usually associated with a corresponding rise in the infant mortality. There can be very little doubt, in my opinion, that this decline in the infant mortality is due in a great measure to the forethought of the Health Committee in appointing a Lady Sanitary Inspector, thereby providing the means of imparting to mothers, where necessary, a further knowledge as regards the feeding and care of their infants. In order to illustrate this it is only necessary to point out that of the 1,312 births in which the Lady Inspector was able to obtain information during the year as regards the method of feeding, no fewer than 60.71 per cent. were fed, as nature intended, by the breast. This percentage of infants who have been breast-fed is the highest yet recorded.

On reference to the appended table it will be seen that 33 deaths (or 18.54 per cent.) occurred during the first week after birth, and 69 (or 38.76) deaths occurred during the first month.

Deaths from zymotic diseases show a decrease as compared with the preceding year, viz. : 23 deaths in 1908, and 26 in 1907.

As compared with the previous year, deaths from Respiratory diseases show a marked decrease (19 in 1908, 38 in 1907), while deaths from Tuberculous diseases show a slight increase (8 in 1908, 7 in 1907). A considerable increase, however, is shown in the number of Premature Births (32 in 1908, 19 in 1907).

The following table shows the number of Infantile Deaths per 1,000 births in Bury during the past eleven years:—

1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	Average 10 years	1908
185	161	167	166	128	174	163	146	177	135	160	129

Infant Mortality for the whole of England and Wales (1908)	121
For the 76 Great Towns	128
For the 142 Smaller Towns	124
For England and Wales (less the 218 towns)	110
For London	113
For Bury	129

From the list below it will be observed that as regards Infant Mortality Bury compares very favourably with other Lancashire towns.

Infantile Mortalities.—Chief Lancashire Towns:—

Accrington	137	Manchester	151
Blackburn	149	Oldham	159
Bolton	149	Preston	149
Bootle	143	Rochdale	168
Burnley	201	St. Helens	122
Bury	129	Warrington	132
Liverpool	142	Wigan	154

Causes of Death.—**Zymotic Diseases** have caused 23 deaths, of which two were due to Measles, one to Whooping Cough, and 20 to Diarrhœa. The chief decrease is shown in Whooping Cough (11 fewer than in 1907), whilst the deaths from Diarrhœa show an increase of 11 over the year 1907. The number of infantile deaths from the latter cause during the last six years in Bury is apportioned as follows:—20 in 1908, 11 in 1907, 43 in 1906, 33 in 1905, 32 in 1904, and 38 in 1903.

Respiratory Diseases.—These were responsible for 19 deaths (as compared with 38 in 1907), and of these nine each were due to Bronchitis and Pneumonia and one to other respiratory diseases.

Tuberculous Diseases.—The Tuberculous diseases show a slight increase. The number of deaths was nine, while in 1907 there were seven deaths, and eleven in 1906. The deaths certified as due to Marasmus were 12, a decrease of 14 as compared with the previous year, when the number certified from this cause was 26.

Remaining Causes.—The chief remaining causes of death were :—

Premature Birth	32
Congenital Defects	9
Marasmus, &c....	38
Meningitis (not Tuberculous)	8
Convulsions	11
Overlying in bed	3

An analysis of the deaths at the various age periods is given on page 27.

Inquests.—During the year the Coroner (Mr. S. F. Butcher) enquired into the cause of death in six instances (five males and one female), the ages of the children being five months, seven weeks, 17 days, 12 days, 11 days, and a few minutes. The cause of death of three was returned as "Accidental Suffocation," of two as "Natural Causes," and in the remaining case as "Misadventure."

Uncertified.—There were no deaths which came under this category during the year.

Illegitimacy.—5.08 per cent. of the total births were illegitimate, and of the total deaths of children under one year 5.62 were of illegitimate children, as compared with 6.08 per cent. in 1907. The infant mortality among legitimate children was 128 per 1,000 births, whereas among illegitimate it was 142 per 1,000 births.

Occupation of Mother.—Of the mothers of the 178 fatal cases :—

63 were occupied only with house duties (35.39 per cent.).
115 were engaged as either mill workers or otherwise employed away from home (64.61 per cent.).

In 1907 the percentage of mill workers was 62, and of home workers 59.

The following table shows the increase in the number of the mothers of fatal cases who are employed outside the home :—

Year	Deaths.	Infant Mortality	Mothers occupied (a) Outside home.	(b) At home.	Doubtful.
1901	213	166	60 (28%)	117	36
1902	156	128	41 (26%)	106	9
1903	231	174	76 (33%)	135	20
1904	226	163	71 (31%)	128	27
1905	184	146	71 (38%)	113	—
1906	236	177	139 (59%)	97	—
1907	181	62	113 (62%)	56	—

Insurance.—68, or 38.20 per cent., of the infants who died were insured, as compared with 52.4 per cent. in the year 1907.

Influence of Feeding on Infant Mortality. —During the year Nurse Walton has obtained information as to the method of feeding of 1,336 of the 1,377 infants born. Of these :

836 were breast-fed, amongst which were 13 deaths, i.e., 8.90%
302 ,, bottle-fed, ,, ,, 96 ,, ,, 65.75%
174 ,, breast and bottle-fed ,, 13 ,, ,, 8.90%
24 died within 24 hours of birth.

Importance of Feeding.—From the above table the paramount importance of breast-feeding is forcibly illustrated, as showing that the death-rate amongst bottle-fed babies is more than eight times that of breast-fed babies.

District Mortality.

		Infant Deaths.	Births.	Deaths per 1000 Births.
Bury North	Moorside Ward	32	335	95
	East Ward	54	305	177
Bury South	Church Ward	28	170	165
	Redvales Ward	22	200	110
Elton Ward		42	367	114
Whole Borough		178	1,377	129

NOTIFICATION OF BIRTHS ACT, 1907.

The above Act was adopted at a meeting of the Town Council held on February 8th, 1908, and the consent of the Local Government Board having been obtained, came into operation on April 8th.

From the latter date to the end of the year 909 births were notified under the Act, 736 being notified by midwives, 132 by medical practitioners, and 41 by parents or other persons. Of the total number of births notified, 36 were returned as being "still-born."

The effect of the above measure cannot but tend to have a beneficial effect from a health point of view. Especially is this the case with regard to the feeding and care of infants, as the Lady Inspector is thus able at an earlier stage, where necessary, to give such information with regard to feeding, &c., as may be desired.

When one considers the high mortality which has annually taken place amongst infants in Bury, I am optimistic enough to hope that the adoption of the above measure will prove to be an important factor in reducing this mortality in the future.

In conclusion, I have pleasure in recording my appreciation of the valuable assistance which has been rendered, especially by the medical practitioners and midwives of the Borough, to the Health Department, by the promptitude with which the notifications have been made, thus tending towards the efficient and satisfactory working of this Act.

INFANTILE MORTALITY DURING THE YEAR 1908 (Whole District)

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Tot'l under 1 Month.	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 M'ths.	10-11 M'ns	11-12 M'ns	Total Deaths under one year.
ALL CAUSES.—Certified	33	15	13	8	69	22	17	10	16	10	6	5	7	6	5	5	178
Uncertified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
COMMON INFECTIOUS DISEASES.																	
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including M.Croup)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
DIARRHŒAL DISEASES.																	
Diarrhœa, all forms	..	..	..	..	..	4	6	1	2	1	..	1	..	3	2	..	20
Enteritis (not Tuberculous)	..	..	2	..	2	3	1	..	2	1	..	1	1	..	..	..	11
Gastritis, Gastro-intestinal Catarrh	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
WASTING DISEASES																	
Premature Birth	15	6	2	5	28	2	..	2	..	..	..	..	..	..	..	..	32
Congenital Defects	6	2	1	..	9	..	..	..	..	..	..	..	..	..	..	..	9
Injury at Birth	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Want of Breast Milk, Starvat'n	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atrophy, Debility, Marasmus.	7	1	2	3	13	8	5	3	5	3	..	..	1	..	..	..	38
TUBERCULOUS DISEASES.																	
Tuberculous Meningitis	..	..	2	..	2	..	..	1	1	..	..	..	1	..	..	1	6
Tuberculous Peritonitis : Tabes Mesenterica	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2
Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Syphilis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Meningitis (not Tuberculous)	..	..	1	..	1	1	1	..	1	..	1	1	..	..	..	2	8
Convulsions	2	1	..	..	3	..	1	2	1	1	1	..	1	1	..	..	11
Bronchitis	1	2	..	..	3	..	..	..	1	2	1	..	1	1	..	..	9
Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Pneumonia	..	.	..	..	..	1	..	..	2	..	1	1	2	1	1	..	9
Suffocation, overlying	..	1	1	..	2	..	..	1	..	..	..	..	..	..	..	..	3
Other Causes	1	1	2	..	4	3	1	..	..	1	1	1	..	..	..	..	11
TOTALS	33	15	13	8	69	22	17	10	16	10	6	5	7	6	5	5	178

INFANTILE MORTALITY DURING 1908 (Sub-Districts).

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	BURY NORTH.															BURY SOUTH.														ELTON.													
	Under 1 Week	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 year.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 year.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 year.
ALL CAUSES.—Certified	14	6	3	3	26	12	9	3	12	7	3	1	4	4	3	2	86	9	2	4	1	16	8	5	5	..	2	1	3	2	2	2	4	50	10	7	5	4	26	3	2	2	3	1	3	..	1	..	..	1	42
Uncertified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
COMMON INFECTIOUS DISEASES.																																																			
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dip'heria (including Mem. Croup)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
DIARRHŒAL DISEASES.																																																			
Diarrhœa, all forms	..	..	..	..	..	..	2	1	1	1	..	..	..	1	1	..	7	..	..	..	..	..	4	3	..	..	..	1	..	2	1	..	11	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2
Enteritis (not Tuberculous)	..	..	1	..	1	3	1	..	1	..	..	..	1	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..	3
Gastritis, Gastrointestinal Catarrh	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WASTING DISEASES.																																																			
Premature Birth	5	4	..	1	10	1	..	..	..	..	..	..	..	..	..	..	11	5	..	1	..	6	1	..	1	..	..	..	..	..	..	..	..	8	5	2	1	4	12	..	..	1	..	..	..	..	..	..	..	..	13
Congenital Defects	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	2	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	3	2	1	1	..	4	..	..	..	..	..	..	..	..	..	..	..	4
Injury at Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Want of Breast Milk, Starvation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atrophy, Debility, Marasmus	4	..	1	2	7	5	4	2	5	2	..	..	..	..	..	..	25	1	1	1	1	4	1	..	1	..	1	..	1	..	1	..	..	8	2	..	..	..	2	2	1	..	..	..	..	..	..	..	..	5
TUBERCULOUS DISEASES.																																																			
Tuberculous Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	2
Tuberculous Peritonitis :																																																			
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphillis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis (not Tuberculous)	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	4	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	2
Convulsions	2	1	..	..	3	..	..	..	..	1	1	..	1	1	..	..	7	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	2
Bronchitis	1	..	..	..	1	..	..	..	1	2	..	..	..	1	..	..	5	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	..	..	..	..	..	1	..	..	2	..	1	1	1	1	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Suffocation, overlying	..	1	1	..	2	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Causes	..	..	..	..	..	2	1	..	..	1	1	..	..	..	..	..	5	..	..	2	..	2	1	..	..	..	..	..	..	..	..	..	..	3	1	1	..	..	2	..	..	..	..	..	..	1	..	..	..	..	3
	14	6	3	3	26	12	9	3	12	7	3	1	4	4	3	2	86	9	2	4	1	16	8	5	5	..	2	1	3	2	2	2	4	50	10	7	5	4	26	3	2	2	3	1	3	..	1	..	..	1	42

NOTIFICATION OF INFECTIOUS DISEASES.

A. Infectious Diseases Notification Act, 1899.

Number of cases	202
Number of deaths	21

During the year 1908, the cases notified under the Infectious Diseases Notification Act number 202, or 152 less than the average for the preceding ten years. With regard to Scarlet Fever, there was an increase of 58 cases notified as compared with the year 1907; the number notified, however (98), is 92 below the annual average for the previous ten years. The cases of Diphtheria and Membranous Croup show a reduction of 15 in the average number of notifications during the past ten years.

The most satisfactory feature of all is to be found in the number of notifications of Typhoid and Continued Fever. This is the lowest recorded during the past twenty-one years, being only 17; the highest number reported was in 1894, when there were 106 cases notified.

As compared with 1907, Scarlet Fever shows an increase of 58, Enteric and Continued a decrease of two, Diphtheria an increase of four, Erysipelas a decrease of nine, and Puerperal Fever a decrease of five. The steady decline in the incidence of Typhoid Fever must be attributed to the improvement of the sanitary condition of the Borough with special reference to the conversion of the old open privy midden system to that of water carriage, more particularly of course the fresh-water system.

The total number of deaths from the notifiable infectious diseases was 21, as compared with 23 in 1907, 20 in 1906, 24 in 1905, and 28 in 1904.

It was not found necessary to notify Chicken-pox during the year.

B. Other Infectious Diseases.—653 notifications (505 verified) were received from the school authorities of cases of suspected measles, whooping cough, &c., as compared with 730 in 1907,

1,081 in 1906, and 1,106 in 1904. Of these 653 suspected Infectious Diseases, 383 were cases of suspected measles (298 verified), 95 of Whooping Cough (65 verified), 75 of Chickenpox (65 verified), 82 of Mumps (73 verified), 15 of Diphtheria (three verified), and three of Scarlet Fever (one verified). The notified cases of Measles show an increase of 205, whilst the notified cases of Whooping Cough show a decrease of 296, as compared with their respective numbers in 1907. The number of deaths from Measles was 15, an increase of four, and from Whooping Cough six, a decrease of 21, as compared with 1907. The chart opposite page 32 illustrates how much more serious the diseases Measles and Whooping Cough are than Scarlet Fever. Not only are these two former diseases more serious than the latter with regard to the number of deaths, but they interfere far more with the educational work of the Elementary Schools.

Suggestions for the Prevention of Measles.—The best administrative measures for the control of Measles may be summarised as follows:—

A. Through Schools.—(1) By school notification. (2) By medical inspection of school children. (3) By exclusion from school of suspected children. (4) School closure.

B. At Home.—By visits of Health Visitor and education of mothers.

C. Generally by Popular Lectures, &c.

The advantage of school notification is to be seen in the fact that out of 653 such notifications received during the year, as many as 505 cases were verified as suffering from the disease. This reflects great credit upon the teachers in the Elementary Schools for their powers of observation and their concern for the welfare of the children in their charge.

It is obvious that much assistance may be given to those engaged in medical inspection by the teachers in the schools, on account of the special knowledge the latter have of the dispositions of the individual children when in health, which enables them to discern the changes which take place in incipient disease.

Table showing the number of cases of Infectious Disease notified from 1885 to 1908.

DISEASE.	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
Smallpox	1	4	14	5	..	..	..	..	12	28	..	1	..	..	..	5	..	37	59	25	33	1	..	..
Scarlet Fever	171	114	183	92	42	98	255	272	359	449	160	365	262	148	236	432	179	156	156	261	197	90	40	98
Diphtheria and Membran'us Croup†	6	2	8	7	20	22	34	36	34	42	32	27	27	24	45	18	78	182	107	73	55	35	48	52
Enteric Fever	30	19	17	21	18	36	88	41	76	76	70	41	59	56	45	40	47	33	37	22	33	33	18	15
Continued Fever.	7	2		..	1	..	1		9	30	8	8	13	15	12	11	9	5	2	1	3	3	1	2
Typhus Fever	1	1	.	1	1	..	..	2		10		..	..	1	..	..	..	..	..	..	..	.	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	..	..	..	..	2	5	3	4	13	4	2	5	6	8	15	7	11	2	11	4	11	14	9
Measles§	1	26	78	499	22	27	360	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
Whooping Cough†	..	..	15	19	179	63	45	..		..	..		..	..		..	..	..	..	..	..	..	..	..
Erysipelas‡	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	15	20	20	10	46	42	35	26
Chickenpox *	..	..	..	..	..	.	..	..	..	..		..	..	..	..	..	.	..	..	..	79	..	..	..
TOTALS.	217	168	315	644	283	248	788	354	494	648	274	444	366	250	346	555	335	444	383	403	450	215	156	202

§Not notifiable after 1891. †Made notifiable on June 26th, 1897. ‡Made notifiable on January 1st, 1900.
* Made notifiable for six months from April 3rd, 1905.

Cases of Infectious Disease notified during the Year 1908.

Notifiable Disease.	Cases notified in whole District.							Total Cases notified in each locality.			No. of Cases Removed to Hospital from each locality.			Total Cases Remov'd to Hospit'l
	At all Ages	At Ages—Years.						Registration Sub-District.						
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards.	North.	South.	Elton.	North.	South.	Elton.	
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup)	52	..	15	24	7	6	..	23	10	19	11	7	9	27
Erysipelas	26	..	1	.	3	19	3	15	5	6	..	..	..	..
Scarlet Fever	98	1	21	61	11	4	..	41	40	17	30	35	10	75
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	15	..	..	3	5	7	..	4	5	6	1	2	6	9
Relapsing Fever		..	..	..	..		..	..	..	..	..	..	..	..
Continued Fever	2	..	..	1	..	1	..	2	..	..	1	..	..	1
Puerperal Fever	9	..	..	..	3	6	..	5	3	1	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS.	202	1	37	89	29	43	3	90	63	49	43	44	25	112

Number of Cases of Infectious Disease Reported in each Month of the Year.

	Scarlet Fever.	Diphtheria & Membranous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Smallpox.
January	9	11	3	...	2	2	...
February	3	2	...	...	...	2	...
March	6	2	1	...	...	2	. .
April	6	6	2	...	1	5	...
May	2	5	4	...	3	2	...
June	6	2	...	...	1	1	...
July	7	3	...	...	...	1	...
August	6	1	1	...	...	1	...
September	11	6	2	...	...	4	...
October	8	...	1	...	..	1	...
November	13	4	1	1	1	3	...
December	21	10	...	1	1	2	...
TOTALS	98	52	15	2	9	26	...

Number of Cases of Infectious Disease Notified in each Quarter of the Year 1908.

	Scarlet Fever.	Diphtheria & Membranous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Smallpox.
QUARTER.							
1st	18	15	4	...	2	6	...
2nd	14	13	6	...	5	8	...
3rd	24	10	3	...	...	6	...
4th	42	14	2	2	2	6	...
Totals.....	98	52	15	2	9	26	...

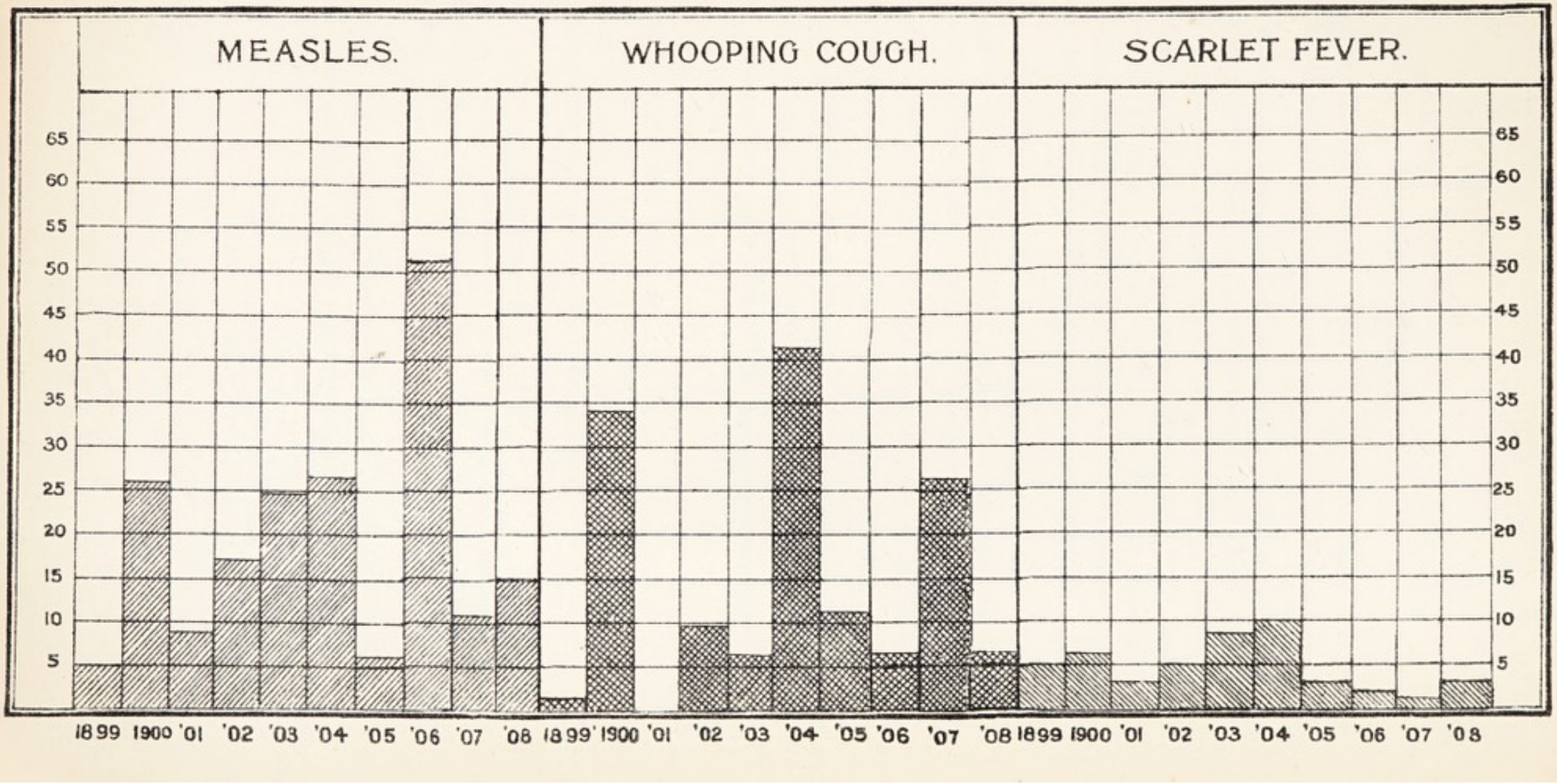
Ward Distribution of Infectious Diseases, 1908.

	Scarlet Fever.	Diphtheria & Membranous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Smallpox.
Moorside	22	10	3	1	4	7	...
East.....	19	13	1	1	1	8	...
Church.....	11	3	1	...	1	3	...
Redvales.....	29	7	4	...	2	2	...
Elton	17	19	6	...	1	6	...
Totals.....	98	52	15	2	9	26	...

Cases Removed to the Florence Nightingale Hospital from the various Wards.

	Scarlet Fever.	Diphtheria & Membranous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Smallpox.
Moorside ...	12	4	1	...	...	...	...
East	18	7	...	1	...	...	...
Church	11	2	1	...	...	...	...
Redvales	24	5	1	...	...	...	...
Elton	10	9	6	...	...	...	...
Totals.....	75	27	10	1	...	...	...

DEATHS IN BURY DURING TEN YEARS. 1899-1908.



SCARLET FEVER.

Number of cases notified	98
Number of deaths	3

The number of cases notified show an increase of 58 as compared with the number (40) notified in the previous year. The notifications, however, are fewer by 94 than the average number (192) notified in the preceding ten years (1898—1907). Of the notified cases, 53 were reported during the last four months of the year, during which time there was a tendency for the disease to assume an epidemic character in the Borough.

Type of the Disease.—The disease, generally, was of a mild type, except in the earlier and later portions of the year, when several of the notified cases were of a rather severe character.

Admission to Hospital.—Of the notified cases 75, or 76.53 per cent., were removed to the Florence Nightingale Hospital.

Houses Infected.—Ninety-eight cases were notified from 78 houses.

In 1 instance four	cases	occurred	in the infected premises.
In 3 instances three	,,	,,	,,
In 7 instances two	,,	,,	,,
In 71 instances only one	case	,,	,,

School Closure.—None of the schools in the Borough were closed during the year on account of this disease.

Quarterly Incidence.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Notifications	18	14	24	42
Deaths	1	1	—	1

Age Distribution.

The youngest case notified was eight months old, and the oldest 39 years.

	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	Over 65	All Ages.
Notifications	1	21	61	11	4	—	98
Deaths	—	1	2	—	—	—	3

Ward Distribution.

	Moorside.	East	Church	Redvales	Elton.
Notifications	22	19	11	29	17
Deaths	—	1	1	1	—

Return Cases.—No cases occurred which could be placed under this heading.

For a year's record, one must necessarily consider this as very satisfactory, especially in view of the fact that cases not infrequently occur which have to be placed in this category, but on enquiry the secondary infection is found to be in reality the original one delayed, and not the infection introduced by a child returning, say, from Hospital. Parents sometimes innocently, but ignorantly, conceal such perishable articles as hats or toys, belonging to the child which is removed to Hospital, from the disinfectors. These are put away, and only brought into evidence again as soon as the convalescent child returns. The disease is thus produced in other children of the house from the original infection, the home-coming child being given the credit for introducing it.

One is therefore forced to believe that sometimes the so-called "Return Cases" are really what one might term "Pseudo Return Cases," occurring in this manner, and not at all associated with any infection that could possibly be traced to the Hospital, either as an intrinsic or extrinsic infection, of the patient discharged.

This, therefore, shows the importance of parents realising the responsibility which rests upon them, in assisting the Health Authorities in their endeavours to prevent the spread of the disease amongst other members of the family.

Notified Cases, 1908.

From Families with	Treated at Home Number	Treated at Home Per cent.	Treated in Hospital Number	Treated in Hospital Per cent.
One child	5	35.7	9	64.3
Two children	10	50.0	10	50.0
Three children	5	21.8	18	78.2
Four children	—	—	12	100.0
Five children	2	25.0	6	75.0
Six children	—	—	10	100.0
Seven children	—	—	5	100.0
Eight children	—	—	6	100.0

ENTERIC FEVER.

Cases notified...	15
Deaths	4

Notification of 15 cases of Enteric Fever were received at the Health Office during the year, as compared with 18 cases in the preceding year. The following are the numbers of cases which have been notified during the last eight years :—

1901	1902	1903	1904	1905	1906	1907	1908
47	33	37	22	33	33	18	15

Of the 15 cases 9 were removed to the Florence Nightingale Hospital. There were four deaths, three of which occurred in the above Hospital, and one at the patient's home. One of the deaths occurring in Hospital was that of a nurse, not included in the 15 notifications enumerated.

The monthly incidence was as follows :—

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov,	Dec.	Total.
Notifications...	3	—	1	2	4	—	—	1	2	1	1	—	15
Deaths	1	—	—	—	1	2	—	—	—	—	—	—	4

Age Distribution :—

Ages—Under 1	1 to 5	5—15	15—25	25—65	Over 65	Total.
Notifications ... ... —	—	3	5	7	—	15
Deaths... ... ... —	—	1	—	3	—	4

Ward Distribution :—

	Moorside.	East.	Church.	Redvales	Elton.	Total.
Notifications	3	1	1	4	6	15
Deaths	—	1	—	—	3	4

Sex Incidence.—Of the notified cases six were males, and nine were females, and of the fatal cases two were males and two females.

Sanitary Condition of Infected Property.—The general sanitary conditions of the dwellings and surroundings of the 15 cases notified are summarised in the tables on pages 37 and 38. From these it will be seen that of the 15 houses infected,

10 were provided with privy middens,
2 with pail closets,
2 with waste-water closets, and
1 with a fresh-water closet.

Bacteriological Tests.—Specimens of blood of 30 cases of suspected Typhoid Fever were sent to the Public Health Laboratory, Manchester, with the following results:—

Six gave positive results to Widal's test.
Twenty-four gave negative results.

Water Supply.—In all cases the water supply was directly from the public service, and in no case was there any evidence of pollution.

Milk Supply.—No instance of infection by this channel was discovered.

Shellfish.—In two cases there was a history of cockles or mussels having been eaten previous to onset of the disease, but no proof of their culpability was obtainable.

Foul Privy Middens.—In two instances inspection of the premises revealed open, wet, and foul privy middens in close proximity to the infected houses.

Preventive Measures.—These, for some years now, have consisted generally in (i) Isolation (a) at home, or (b) in hospital. (ii.) Disinfection or destruction of stools. In the case of patients treated at home, special pails are supplied by the Health Department for the reception of the excreta of patients. The pails are removed frequently, and their contents burnt at the destructor. (iii.) Thorough disinfection of house, bedding, &c. (iv.) Disinfection of sanitary conveniences attached to the infected houses. (v.) Examination of drains, and defects, if any, remedied. (vi.) Conversion of midden ashpits, where these exist in connection with infected houses, to the water-carriage system. The last remedy is, in my opinion, a most important one in the prevention of the future spread of the disease.

CASES OF ENTERIC FEVER.

No.	Sex.	Age.	Cases in same house or vicinity.	Nature of Closet Accommodation.	Condition of			REMARKS.
					Yard.	Drains.	Closet or Ashpit.	
1	F.	52 years	None	P. & A.	Good order, partly flagged	Good order on surface	Privy ashpit cleared every two months	Poultry kept on unpaved portion
2	M.	38 ,,	None	P. & A.	In good order and completely flagged	Good on surface	Privy ashpit cleared every two months	Had cockles and mussels on Dec. 31st, 1907, case notified Jan. 21st, 1908
3	M.	38 ,,	None	Pail	Good order, but Greenhouse covering area from kitchen to closet	Inside premises	Ashpit cleared weekly	Removed from Kent three days after commencing with diarrhœa; disease imported here.
4	M.	11 ,,	None	W.W.C.	Well flagged	Good on surface	Ashpit cleared monthly	Two sewer manholes at end of sewer in back and front street; that in back street shows flow obstructed, causing effluvia in house
5	F.	14 ,,	None	P. & A.	In good order and flagged	Good order	Ashpit cleared every two months.	Adjoining yard unpaved and poultry kept.
6	F.	43 ,,	None	P. & A.	Completely flagged	Good order	Privy ashpit cleared every two months	
7	M.	51 ,,	Case No. 27, Nov. 8, 1907.	P. & A.	None	Good order	Cleared by users	Partaken of cockles and mussels frequently previous to onset of disease, and had also emptied several sewage tanks in the district
8	M.	24 ,,	None	Pail	Flagged	Good on surface	Ashpit cleared weekly	

CASES OF ENTERIC FEVER—Continued.

No.	Sex.	Age.	Cases in same house or vicinity.	Nature of Closet Accommodation.	Condition of			REMARKS.
					Yard.	Drains.	Closet or Ashpit.	
9	F.	21 years	Previous case (8) opposite side of same street	P. & A.	In good order, flagged	Good	Privy ashpit cleared every six weeks.	Deep, open, wet, and foul privy midden
10	F.	15 ,,	None	P. & A.	Flagged and roughly paved	Good on surface	Privy ashpit cleared every six weeks	Domestic cleanliness unsatisfactory
11	F.	7 ,,	None	P. & A.	Only partly paved, but clean	Good on surface	Privy ashpit cleared every two months	Deep open privy midden. Open sewer manhole grate six yards from front door
12	M.	52 ,,	In this house fatal case occurred 2 years ago.	W.C.'s	Flagged	Good	Quine's bin cleared weekly	Many domestic animals kept in the house. Observe fatal case two years ago.
13	F.	44 ,,	None	W.W.C.	Partially flagged, remainder intended for garden	Good	Portable bin	Resident six weeks in this house. Note that case No. 9 (daughter) now living in this house, occurred four months ago (? retaining infection)
14	F.	23 ,,	None	P. & A.	Unflagged	Good	Privy ashpit cleared monthly	
15	F.	22 ,,	None	P. & A.	In good order, flagged	Yard drain insecurely trapped.	Privy ashpit cleared monthly	

W.C.—Water Closet. W.W.C.—Waste (or Slop) Water Closet. P. & A.—Privy Ashpit or Midden Privy.

CONTINUED FEVER.

Two cases were notified as Continued Fever during the year, one of which was removed to the Florence Nightingale Hospital, where the patient was found to be suffering from Enteric Fever. The patient, a girl of 5½ years of age, made a good recovery.

Particulars of the *sanitary condition* of the houses in which the cases occurred :—

1. House old; two living rooms and two bedrooms. Yard in good order, and paved with small cobbles; waste-water closet and ashpit; drains in good order; narrow back street.
2. House new; four living rooms and four bedrooms; yard in good order; poultry and pigeons kept; pail closet and ashpit (cleared weekly); drains in good order. (This patient is known to have partaken of mussels three weeks before calling in the doctor.)

PUERPERAL FEVER.

Nine cases of Puerperal Sepsis have been notified during the year, with two deaths, as compared with 14 cases and six deaths in 1907. All the above cases were treated in their own homes.

DIPHTHERIA AND MEMBRANOUS CROUP.

Number of cases notified	52
Number of deaths	10

Fifty-two cases of Diphtheria and Membranous Croup have been notified during the year, as compared with 48 cases during the year 1907, 35 in 1906, 55 in 1905, 73 in 1904, 107 in 1903, and 182 in 1902.

Ten deaths have been recorded, representing a mortality rate of 0.17 per 1,000, as compared with a similar number of deaths and mortality rate in the preceding year.

Of the 52 cases, 27 were removed to the Florence Nightingale Hospital. The admissions to Hospital constitute 51.92 per cent. of the total cases notified, as compared with 58.33 per cent. in 1907, and 37.14 per cent. in 1906.

The increase in the number of notifications, as compared with the two previous years, is attributed to the continuation of the epidemic in the Elton portion of the Borough which occurred in the later months of the previous year, and was continued into the year under review. A special report dealing with this outbreak was prepared, a copy of which is herewith appended.

Of the 27 cases admitted to the Hospital, five, or 18.51 per cent., proved fatal. Of those treated at home five, or 20 per cent., died.

Monthly Incidence.

Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
11	2	2	6	5	2	3	1	6	—	4	10	52

Quarterly Incidence.

	1st Quarter.	2nd Quarter	3rd Quarter	4th Quarter	Total.
Cases	15	13	10	14	52
Deaths	5	2	1	2	10

Ward Distribution.

	Moorside.	East.	Church.	Redvales.	Elton.	Total.
Cases	10	13	3	7	19	52
Deaths	—	2	—	2	6	10
Removed to hospital	4	7	2	5	9	27

Notifications and Deaths at Different Ages.

	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	Total.
Cases	—	15	24	7	6	52
Deaths	—	7	3	—	—	10

Antitoxin.—Thirty-two phials of Antitoxin were supplied to the medical men of the district at a nominal rate for patients suffering from Diphtheria within the Borough. It is gratifying to note that not only the curative but the prophylactic use of the serum is now practised by medical men in the Borough, who have under their care families whose members have been infected or exposed to infection.

In the Florence Nightingale Hospital the use of Antitoxin is a matter of routine; it is used early, and repeated where necessary.

Case Mortality in

	1908.	1907.	1906.	1905.	1904.
Hospital cases	18.51	25.0	7.7	4.17	3.70
Home treated cases	20.0	15.0	22.5	12.9	19.36

Bacteriological Examinations.—Fifty swabs from doubtful cases were sent for bacteriological examination to the Public Health Laboratory, Manchester, with the following results :—

Six gave positive results for Diphtheria bacilli.

Forty-four gave negative results.

The following is a copy of the report forwarded to the Local Government Board, dealing with the outbreak of Diphtheria in the Elton Ward :—

Report upon the outbreak of Diphtheria in the Elton District.

The outbreak commenced during the last week of October, 1907, and ended in the fourth week of January, 1908, a period of approximately three months. During this period 28 cases were notified, all of which occurred, with one exception, in the Elton district. This latter case was notified in Church Ward, and proved on bacteriological examination not to be a true case of Diphtheria, and is not included in the present report. During the preceding three months, August, September, and October up to and until the last week of October, only six cases were notified in the Borough—one in Moorside Ward, two in East Ward, two in Redvales Ward, and one in Elton Ward; there being no special incidence of the disease, therefore, in the Elton district until the end of October.

Removals to Hospital.

Sixteen of the 27 patients were removed to the Florence Nightingale Hospital, of whom four died—a case mortality of 25 per cent.—while 11 cases were nursed at home and five died—a case mortality of 45.45 per cent. One of the latter cases died while the Nurse was preparing to convey the patient to the ambulance, preparatory to the removal of the child to hospital. The total number of deaths is therefore nine—a total case mortality of 33.3 per cent.

Sex.—Thirteen of the notified cases were males and 14 females.

Age.—The youngest case notified was one year and five months old, and the oldest 39 years. The age periods were as follows :—

	Under 1.	1 to 5.	5 to 15.	15 to 40.	Total.
	—	10	15	2	27
Fatal Cases		4	5	0	9

Type of Disease.

The cases admitted to Hospital were mostly of a severe type, with toxaemic symptoms, laryngeal cases being practically absent. Most of them showed a tendency to cardiac complications, and the fatal cases all suffered from severe vomiting (in some cases haemetemesis) from the outset. The convalescent cases showed a tendency to retain the infection in the fauces and nasal passages for a considerable period, in spite of vigorous local treatment.

Houses Affected.

The 27 cases were removed from 22 houses, there being four cases removed from one house, and two cases respectively from two other houses.

Sanitary Defects of Houses and Premises.

These are summarised in the appended table, a perusal of which shows that some of the twenty-two houses affected showed some sanitary defect, although there was nothing upon which to form a definite conclusion as bearing upon the incidence of the disease. The drains were good in most instances, but sewer manholes were in proximity to seven of the houses. In one instance a cellar drain was insecurely trapped, and admitted a strong current of sewer air.

Sanitary Conveniences.

As regards sanitary conveniences, 15 were of the privy midden type, three were waste water-closets, and four fresh water-closets. No direct connection with midden privies can be associated with the outbreak, since the percentage of infected houses provided with midden privies (68) is approximately the same as the proportion of these structures existing in the rest of the Ward (69). The majority of these ashpits were in good structural condition.

Milk Supply.

This apparently played no part in the spread of the disease, the infected houses being supplied from 14 different sources.

Water Supply.

All the houses were supplied with town's water.

Domestic Animals.

In two instances poultry were kept near the house; a canary was kept in two other instances; a magpie in one house; dogs were kept in two places; a cat in one; and rabbits were kept in proximity to another house.

School Influence.

Ten of the children affected attended Wood Street School, four attended St. Stephen's School, two attended Woolfold Wesleyan School, and one each attended All Saints' School and the Municipal Technical School respectively. In the latter case, however, there was a distinct history of contact with one of the cases attending St. Stephen's School. In eight instances the patients were attending no school at all, in two of the latter cases, however, relatives in the same household were attending Wood Street School. There seemed to be, therefore, a decided connection between Wood Street School and the outbreak; 13 of the cases either attended this school or had relatives attending it.

Measures Taken for Dealing with the Outbreak.

Isolation.—Such cases as could not be isolated or nursed satisfactorily at home were removed to the Hospital.

Disinfection.—Clothing and bedding of the patients removed to Hospital were disinfected by steam, the infected houses sprayed with formalin solution, and fumigated with either sulphur or formaldehyde. In the case of patients nursed at home these disinfecting processes were performed on the completion of the patient's illness. In all cases the ashpit connected with the infected house was at once emptied and disinfected.

Bacteriological Examinations.

Arrangements have been made for several years giving medical men in the town facilities for having throat swabs, &c., bacteriologically examined by Professor Delépine in his laboratory in Manchester, free of charge to the medical man, and these facilities were utilised during the outbreak; in some cases also, to avoid delay in transit, these examinations were made in the laboratory at the Florence Nightingale Hospital. No Diphtheria patient was discharged from Hospital until swabs, taken from the throat, also from the nose and ears in suspicious cases, showed the absence of Diphtheria bacilli.

Anti-toxin.

Anti-toxin was supplied to medical men in the town at a nominal rate, and special arrangements were made to supply the same at any time during the day or night on application at the Florence Nightingale Hospital, or at such times as when the Health Office was closed.

School Notices.

Notices were sent to either the Headmaster or Headmistress of each school attended by the infected patient, and other inmates of the house were precluded from attending school for at least a week.

General Precautionary Measures.

HANDBILLS were distributed (by the kind assistance of the police) to every household in the Elton portion of the Borough.

CLEANSING OF THE BOROUGH.—Special attention was paid to the cleansing of this portion of the Borough, and to the removal of ashpit refuse, inspection of drains, &c.

SCHOOLS were visited periodically both by myself and the Health Visitor, all cases showing suspicious throat illnesses were sent home, and the parents instructed to seek medical assistance; the teaching staffs of the schools co-operated in every possible way.

On the schools closing for the Christmas holidays the walls, desks, &c., of St. Stephen's, All Saints', and Wood Street Schools respectively were sprayed with a solution of formalin, the rooms afterwards being disinfected with sulphur. On the closure of the Infants' Department of Wood Street School, on January 24th, in each of the above schools, and also in the Woolfold Wesleyan School, similar disinfection was carried out.

Finally, in view of the association of the Wood Street School with the notified cases, the Infants' Department of this school was closed on January 24th until February 10th. (No other case of Diphtheria has been notified since this school was closed.)

Former Outbreaks of Diphtheria in the Borough.

	Wards.				
Year.	Moorside.	East.	Church.	Redvales.	Elton.	Total.
1907	5	6	0	9	28	48
1906	10	8	2	10	5	35
1905	29	5	6	7	8	55
1904	11	10	2	16	29	68
1903	24	16	7	16	44	107
1902	22	10	23	17	110	182
1901	9	10	3	45	11	83
1900	4	6	1	3	4	18
1899	3	10	9	22	1	45
1898	3	6	4	8	3	24
1897	6	11	3	5	2	27

It seems, therefore, that Diphtheria showed a tendency to disappear in the Elton Ward since the great outbreak in the year 1902, when 110 cases occurred in this part of the Borough, but last year (1907) there was a tendency towards a recurrence of the disease.

Origin of the Outbreak.

My opinion as to the origin of the outbreak is that *personal infection* was the prime cause of the spread of this disease; that there have been cases of a very mild type which have been unrecognised, and thus spread the infection through personal contact either in the schools or elsewhere. In support of this I might adduce the facts (1) Enquiry very often elicited that another or other inmates of the household recently suffered from some throat illness, (2) distinct personal infection was traced in several cases; the oldest patient, a man 39 years of age, nursed his two children immediately before their removal to Hospital, and admitted having drunk from the same cup as the patients. (3) The beneficial effect of closure of Wood Street School. (4) In addition, it might be mentioned that in cases of Scarlet Fever treated at the Florence Nightingale Hospital, throat swabs taken from patients on admission had shown the presence, previously unsuspected, of Diphtheria bacilli; and (5) of the persistence of Diphtheria infection in the cases treated in the Florence Nightingale Hospital, some cases having to be kept in as long as three months before the throat would be free from Diphtheria bacilli. The *high case mortality* of the notified cases rather suggests that milder cases of the disease may have escaped recognition.

CASES OF DIPHTHERIA IN ELTON DISTRICT.

No.	Sex.	Age. Years.	Date of Notification.	Address.	School.	Nature of Sanitary Convenience.	Condition of			REMARKS.
							Yard.	Closet.	Drains.	
1	M.	5	October 28, 1907..	Back Webb Street..	None (two brothers attend Wood St. School)	P. & A.	Small concreted.	..	Good on surface	Rabbits kept.
2	M.	4¼	October 28, 1907..	12, Milton Street ..	None(broth'r attends Wood St. School)	P. & A.	Good order, but not paved	..	Good on surface	House dirty, poultry kept.
3	F.	4	November 22, 1907	15, Pine Street	None (two sisters attend Guardian Angels' School)	P. & A.	Partlyflagged	..	Good on surface	Two sewer manholes in back street in close proximity.
4	M.	6⅔	November 30, 1907	10, Brooksmouth ..	St. Stephen's	W.C.	None	..	Recently re-laid	Dampness of kitchen wall, land at back of house four feet higher than floor of kitchen.
5	F.	3½	December 2, 1907.	82, Tottington Road	All Saints'	P. & A.	Partly flagged.	Open and wet.	Good on surface	Eaves gutter defective, W.C. choked.
6	F.	9⅓	December 2, 1907.	5, Cottam Street ..	Wood Street	P. & A.	In fair order, partly flagged	..	Good on surface	Sewer manhole in proximity.
7	M.	4	December 4, 1907.	30, Railway Terrace	Wood Street	W.W.C.	Flagged	..	Recently re-laid	Sewer manholes in front and back streets in proximity.
8	F.	7	December 8, 1907.	Elton Lodge	.....	P. & A.	Paved	..	Doubtful	Front and back streets not yet paved.
9	F.	12 7/12	December 17, 1907	4, Old Barracks....	Wood Street	W.C.	Large and open	..	Good	Magpie and two doves kept.
1	2	3	4	5	6	7	8	9	10	11

1	2	3	4	5	6	7	8	9	10	11
10	F.	4¼	December 17, 1907	167, Bolton Road ..	Wood Street	P. & A.	Good order, flagged	..	Partly choked	....
11	M.	6	December 18, 1907	25, Lower Hinds ..	Wood Street	P. & A.	None	..	None	House door opens on street, cobbled pavement.
12	M.	5½	December 20, 1907	91, Horbury Street	St. Stephen's	W.W.C.	Good order, flagged	..	Good	Streets unpaved.
13	F.	6	December 24, 1907	34, Mosley Street ..	St. Stephen's	P. & A.	Fair order, partlyflagged	..	Good	....
14	M.	3 7/12	December 28, 1907	9, Webb Street	Wood Street	P. & A.	Fair order, unpaved	Large and deep	Good	Untrapped street grid in front of house.
15	M. M. F. F.	4 5 15 39	December 30, 1907	7, Mill Lane, Woolfold	Woolfold Wesleyans	P. & A.	Good order, flagged and cobbled	Open and wet, liquid percolating therefrom.	Good on surface	Cellar flooded, large old house.
16	M.	5	January 2, 1908..	112, Ainsworth Road	St. Stephen's	W.C. and W.W.C.	Mostly laid out as a garden	..	Good	....
17	M.	4¾	January 2, 1908..	174, Wood Street ..	Wood Street	P. & A.	Paved (cobbles)	..	Good on surface	Sewer manhole at back, sewer in front street recently choked.
18	M. F.	2¼ 1 7/12	January 10, 1908	6, Wash Terrace ..	None.....	W.C.	Cobbled, open for 12 houses	..	Good on surface	Complaints of smell from sewer manhole.
19	M.	10	January 13, 1908	29, Scholes Street ..	Wood Street	P. & A.	Small, portion flagged	..	Good on surface	Sewer manhole nearly opposite front door, stables in proximity.
20	F. F.	5⅔ 14	January 21, 1908	144, Wood Street ..	Wood Street	P. & A.	Covered with cotes	..	Good on surface	Defective pavement near gully allowing percolation.
21	F.	13	January 23, 1908	87, Horbury Street..	Municipal Secondary School	W.W.C.	Mostly flagged	..	New	Streets not paved, canary kept ; communication with case No. 12.
22	F.	6	January 23, 1908	28, Merton Street ..	Wood Street	P. & A.	Flagged	..	Defective in cellar	Current of sewer air admitted into cellar through defective gulley.

P. & A.—Privy and Ashpit. W.C.—Water Closets. W.W.C.—Waste Water Closets.

ERYSIPELAS.

Number of cases	26
Number of deaths	2

During the year 26 cases of Erysipelas have been notified, and there have been two deaths. This corresponds to a death rate of 0.03 per 1,000, and a case mortality of 7.69 per cent. No case was removed to the Florence Nightingale Hospital.

Ward Distribution.

	Moorside.	East.	Church.	Redvales.	Elton.	Total.
Notifications	7	8	3	2	6	26
Deaths	—	—	—	—	2	2

Quarterly Incidence.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Notifications	6	8	6	6	26
Deaths	1	1	—	—	2

Age Incidence.

	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 upwards.	Total.
Notifications	—	1	—	3	19	3	26
Deaths	—	—	—	—	2	—	2

Sex.—As last year the incidence of the disease was greatest among females, 17 females and nine males being attacked.

The regions of the body affected were as follows:—

Face	21 cases.
Face and head	1 case.
Legs	4 cases.
	26

The majority of the cases occurred secondarily to some neglected injury, as a cut, scratch, or bruise.

On notification of the disease to the Health Department a thorough inspection of the premises is made, this frequently bringing to notice sanitary defects which otherwise would have escaped observation.

SMALLPOX.

No case of Smallpox occurred during the year, the last case notified in the Borough was on February 3rd, 1906.

SMALLPOX AND VACCINATION.

Return showing the number of births, deaths (under one year), vaccinations, conscientious objections, and the number unvaccinated for the year ending August 31st, 1908 :—

BOROUGH OF BURY.

	Bury North.	Bury South.	Elton.	Total.
Births	655	392	386	1433
Vaccinated	283	146	194	623
Insusceptible of Vaccination	—	3	—	3
Conscientious Obj'ct'n Certificates	238	145	135	518
Dead, Unvaccinated	69	33	38	140
Postponed by Medical Certificate	26	1	9	36
Removal to districts known	9	11	3	23
Removal to districts unknown	15	14	2	31
Unaccounted for	15	39	5	59

Table showing percentage of Vaccination, and also comparison with the years 1907, 1906, 1905, 1904, 1903, 1902, 1901 :—

	Year ending August 31st,							
	1908	1907	1906	1905	1904	1903	1902	1901
Number of Births	1,433	1,370	1,278	1,308	1,368	1,287	1,272	1,302
Vaccinated	42·08	52·70	59·31	68·12	64·40	57·34	66·74	49·23
Con. objection cert's	36·14	24·89	16·66	10·63	10·09	10·10	10·61	18·27
Unaccounted for	4·12	5·47	5·48	3·21	7·67	12·72	7·47	15·82

From the above table it will be seen that the percentage of children Vaccinated show a diminution of over 10 per cent., as compared with the previous year; whilst the percentage of objection certificates granted show an increase of over 12 per cent., probably due to the facilities now granted for the obtaining of these certificates.

SCHOOLS AND INFECTIOUS DISEASES, 1908.

During the year 684 notifications were received at the Health Office from the Headmasters and Mistresses of the various schools within the Borough, of the existence of Infectious or Contagious Diseases among scholars attending their schools. Of this number 562 were certified as suffering from one or other of the undermentioned ailments :—

Measles	298
Mumps...	73
Whooping Cough	65
Chickenpox	65
Ringworm	23
Bad Cough	10
Impetigo	7
Eczema	7
Sore Throat	5
Swollen Tonsils	4
Diphtheria	3
Scarlet Fever	1
Bronchitis	1

The number of notifications received from the various schools during the years 1904, 1905, 1906, and 1907, were 1,106, 787, 1,081, and 730 respectively.

The following are the schools from which notifications were received in the order of number of the notifications :—

St. Joseph's School.
Woolfold Wesleyan School.
St. John's School.
Brunswick School.
Parish Church School.
St. Thomas' School.
George Street.
Wood Street School.
St. Mark's School.
Pits-o'th'-Moor School.
Christian Church School.
Holy Trinity School.
St. Paul's (Huntley) School.
Chesham British School.
Bank Street School.
Guardian Angels' School.
Parkhills School.
Clerke Street School.
St. Paul's (Bell) School.
St. Stephen's School.
All Saints' School.
Heywood Street School.
St. Chad's School.

SCHOOL CLOSURE.

Owing to the prevalence of Diphtheria in the Elton portion of the Borough during the first month of the year, it was found advisable to close the Infants' Department of Wood Street School.

An outbreak of Measles which originated during the month of June, chiefly in Moorside Ward, continued to be prevalent until the close of the year, and during this period it was found necessary to advise the closure of the Infants' Departments of St. Mark's, St. John's, St. Joseph's, and Bank Street Schools.

It was also found necessary to advise closure of the Infants' Department of the Wesleyan School, Woolfold, owing to the prevalence of Chickenpox in this district.

In each instance the period of closure appeared to have the desired effect in controlling or checking the outbreak.

The following is a summary of the schools closed :—

Wood Street School.—The Infants' Department of this school was closed from January 24th to February 10th, owing to the prevalence of Diphtheria amongst the scholars. Out of a total of 133 scholars on the books, with an average daily attendance of about 100, only 73 were present on March 10th. The absence of a number of scholars was due to Diphtheria or owing to some relative suffering from this disease, whilst other scholars were absent owing to other types of bad throats. At the time the school was closed there were six scholars from the school in the Isolation Hospital suffering from Diphtheria.

St. Mark's School.—Closure was applied to the Infants' Department of this school from June 24th until July 13th, owing to the prevalence of Measles amongst the scholars. The attendance had fallen to 138 on June 24th, out of a total of 223 scholars on the books, with an average daily attendance of 170. Of the absentees, 59 were verified as suffering from Measles.

St. John's School.—The Infants' Department of this school was closed from July 17th until July 31st (the commencement of the Summer Holidays), owing to the prevalence of Measles amongst the scholars. On visiting the school during the morning of July 17th, only 78 scholars were present out of a total of 125 on the books, with an average daily attendance of 115, and several of those present were, on examination, found to be suffering from

either Measles or Mumps. Of the scholars absent, over 40 were verified as suffering from Measles.

St. Joseph's School.—Owing to the prevalence of Measles amongst the scholars, the Infants' Department of this school was closed from July 22nd to July 31st (the commencement of the Summer Holidays). On enquiry at the school it was found that out of a total of 172 on the books, only 90 were present on July 22nd. The majority of the absentees were verified as suffering from Measles.

Bank Street School.—The Infants' Department of this school was closed from October 16th until November 9th, owing to the prevalence of Measles. On visiting the school on October 16th, I found only 23 scholars present, out of a total number of 52 on the books. The majority of the absentees were verified as suffering from Measles.

Woolfold Wesleyan School.—Owing to an outbreak of Chickenpox amongst the scholars, the Infants' Department of this school was closed from November 13th to December 7th. On visiting the school I found that out of a total number of 93 scholars on the books, with an average daily attendance of 70, only 47 were present at the morning session of the school on November 13th. The majority of the absentees were found, on investigation, to be suffering from Chickenpox.

DISINFECTION.

In each case after the closure of a school the walls, desks, floors, &c., have been sprayed with a solution of formalin or "Chloros," the rooms afterwards being fumigated with sulphur, special attention being given to the books, &c., used by the scholars.

Owing to the somewhat prevalent recurrence of Scarlet Fever during the later months, disinfection was also carried out at several of the schools.

Mention might also be made of the co-operation of the School Managers with the Health Department in their endeavours to prevent and control infectious diseases. Much valuable assistance has also been rendered by clergymen and others to the Department, by not holding classes in the schoolrooms on Sundays during the period of closure of the day school for an infectious disease.

MEASLES.

Number of cases notified by School Authorities 298
Number of deaths 15

An outbreak of Measles which commenced during the month of June continued to be persistent until the close of the year. The outbreak, however, was of a local character, and was confined chiefly to the Moorside Ward portion of the Borough. An outbreak of the disease had also previously occurred amongst the children in the Union Workhouse, and was responsible for eight of the 15 deaths attributed to this disease. The mortality rate from Measles was equal to 0.25 per 1,000 of the population, as compared with eleven deaths and a rate of 0.18 per 1,000 in the preceding year. The mortality rate compares very favourably with the rate (0.22 per 1,000) for England and Wales, and also with the rate (0.31 per 1,000) for the 76 great towns of England and Wales.

Ward Distribution of Fatal Cases.

Moorside.	East.	Church.	Redvales.	Elton.	Total.
2	9	3	1	—	15

Monthly Record of Deaths.

Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
—	—	—	—	—	—	3	2	4	1	—	5	15

School Closure.

During the second half of the year School Closure was applied to the Infants' Department of three public Elementary Schools: (1) St. Mark's Infants' Department, from June 24th to July 13th; (2) St. John's Infants' Department, from July 17th to July 31st (the commencement of the Summer Holidays); (3) St. Joseph's Infants' Department, from July 22nd to July 31st (the commencement of the Summer Holidays); (4) Bank Street Infants' Department, from October 16th to November 9th.

Precautionary Measures.—The following precautionary measures are adopted in dealing with the outbreaks of Measles:—

(i.) Notification of the disease by School Teachers on printed forms supplied by the Health Department. (383 cases of Measles were thus notified during the year, and of these 298 were verified by the Health Department.)

(ii.) Each case is visited, where possible, by the Health Visitor, who leaves handbills, and gives advice as to the precautions to be taken in each instance.

(iii.) Closure of Schools, chiefly the Infants' Departments, affected by the disease. A request is made also to the Sunday School Authorities to have this portion of the School closed during the period of closure of the Day School.

(iv.) Disinfection of houses affected, by means of formalin spray, &c., where consent can be obtained.

(v.) Thorough disinfection of affected Schools, with special attention to books, desks, &c.

The experience of the past year has again shown rather a greater tendency on the part of mothers to treat Measles as a more serious disease, and not such a trifling ailment, as in former years, when the affected child was not even, in many cases, put to bed, until some such severe complication as bronchitis or pneumonia set in and rendered the patient very dangerously ill.

The old-fashioned idea of putting the healthy children of a family in contact with one suffering from Measles in order to "get it over" is, fortunately, rapidly disappearing.

Handbills.—Handbills, of which the following is the text, were distributed throughout the affected districts:—

MEASLES AND ITS PREVENTION.

Measles is a dangerous disease, one of the most dangerous with which a child under five years of age can be attacked. During the year 1898, the number of deaths from Measles in Bury exceeded not only that from either Typhoid Fever or Influenza, but also that of the total number from Scarlet Fever, Diphtheria, Croup, and Continued Fever combined.

During the year 1900, Measles caused more than four times the number of deaths which resulted from Scarlet Fever, and more than the total number of deaths from Scarlet Fever in the three years (1898-1899-1900).

The disease is especially apt to be fatal to teething children. It tends to kill by producing inflammation of the lungs, and may

prepare the way for consumption. Permanent damage to the eyes and ears may result from an attack of Measles.

Measles is therefore not such a trifling disease as is generally assumed. The older a child the less likely it is to catch Measles, and if it does, the less likely is it to die. If every child could be protected from Measles until it has passed its fifth year, the mortality from Measles would be very greatly diminished.

It is therefore a great mistake to say "The sooner the better" for a child to have Measles. The early signs of Measles are the following:—The face is flushed, the eyes are watery, glistening and sensitive to light, there is usually cough, sneezing, and running from the nose (signs similar to those of a bad cold in the head). During this period (before the rash comes out) the child is highly infectious, and should not be sent to school, and any child observed with these symptoms in school should be sent home at once.

PRECAUTIONS.—Mothers with children in arms should not go into houses where Measles exists.

Every child ill of Measles should be put to bed and kept warm, a doctor should be called in, except in the mildest cases.

A case of Measles continues infectious for at least three weeks after the appearance of the rash.

The importance of isolating the patient from other children for this period should be remembered.

Children from the house in which there is a case of Measles should on no account attend school (either Sunday or Day School). Parents or Guardians who send children to school from an infected house, as well as teachers who receive them knowingly, are liable to a penalty.

Disinfectants can be obtained on application to the Health Department, Parsons Lane. Disinfection of rooms, clothing, &c., will be undertaken by this department free of charge.

ROBERT BURNET,
Medical Officer of Health.

Table, showing the deaths from epidemic diseases in Bury among children under 15 years of age, during the last year and the ten preceding years :—

DEATHS AMONG CHILDREN UNDER 15 YEARS OF AGE IN BURY.

DISEASE.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	Average, 10 years.	1908
Measles	18	5	25	7	16	25	27	6	51	11	19·1	15
Whooping Cough ..	25	2	34	—	10	7	42	1	6	27	13·4	6
Diphtheria	7	9	8	12	34	25	7	5	6	10	12·3	7
Scarlet Fever	9	5	6	3	5	7	9	3	2	1	5·0	2
"Fever"	1	4	2	3	1	—	2	1	—	—	1·4	—
Smallpox	—	—	—	—	—	1	—	—	—	—	0·1	—
Diarrhœa	75	92	39	55	10	44	42	38	46	10	45·4	25

WHOOPING COUGH.

Number of cases notified through School Authorities... 65
Number of deaths 6

During the year six deaths were attributed to Whooping Cough, which is equivalent to a rate of 0.10 per 1,000, as compared with a mortality rate of 0.27 per 1,000 for England and Wales, and a rate of 0.29 per 1,000 for the 76 Great Towns of England and Wales. In the preceding year the mortality rate from Whooping Cough was 0.46 per 1,000.

DEATHS FROM WHOOPING COUGH DURING THE LAST TEN YEARS.

1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	Average.	1908.
25	2	34	0	10	7	42	1	6	27	15.4	6

AGE DISTRIBUTION—

Under 1.	1 to 5.	Over 5 years.	All Ages.
1	5	—	6

WARD DISTRIBUTION—

Moorside	—
East	1
Church	—
Redvales	1
Elton	4

QUARTERLY INCIDENCE—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.
1	1	2	2	6

School Closure.—During the year it was not found necessary to advise the closure of any of the public elementary schools owing to the prevalence of Whooping Cough amongst the scholars.

Handbills.—Handbills giving particulars of the disease, together with a summary of the precautions necessary to prevent spread of the infection, were distributed to householders in the affected portions of the Borough.

Disinfection.—Advantage was also taken at the majority of the schools from which cases were notified of having the various rooms, desks, &c., thoroughly disinfected.

Disinfection of rooms of infected houses, as well as of bedding and clothing, was in a large number of instances carried out by the Health Department, at the request of householders.

There can be no doubt of the importance of carrying out an early and efficient disinfection of all infected premises, articles of clothing, &c., and, in my opinion, it is only by the adoption of some such method that we can hope to prevent, or control, these recurring outbreaks of infectious disease.

INFLUENZA.

Thirteen deaths were attributed to Influenza during 1908. This represents a mortality rate of 0.22 per 1,000, as compared with ten deaths and a rate of 0.17 per 1,000 in the previous year.

Deaths from Influenza during 1908 as compared with the ten preceding years :—

1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	Average	1908
17	24	34	12	6	5	11	10	7	10	13.6	13

Age Distribution.—One death occurred between the age of 15 and 25, six between 25 and 65, and six were of persons over 65 years of age.

Ward Distribution—

Moorside.	East	Church.	Redvales.	Elton.	Whole Borough.
4	4	—	4	1	13

Quarterly Incidence—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.
9	2	1	1	13

TUBERCULOUS DISEASES.

PHTHISIS.

Phthisis caused 63 deaths, of which 38 were of males and 25 were of females. The rate of mortality was 1.07 per 1,000, as compared with a rate of 1.26 per 1,000 in the previous year. Ten of the deaths occurred in the Union Workhouse, and three in the County Asylum, Prestwich.

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

	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 Upwards	Total
Males	1	—	—	2	33	2	38
Females	—	—	2	3	20	—	25

MEAN AGE AT DEATH FROM PHTHISIS.

Males	39 years.
Females	38 years.

WARD DISTRIBUTION OF DEATHS FROM PHTHISIS.

	Moorside.	East.	Church.	Redvales.	Elton.	Total.
Males	13	8	9	4	4	38
Females	4	9	2	4	6	25

DEATH RATES FOR PHTHISIS IN THE SEVERAL WARDS.

Moorside.	East.	Church.	Redvales.	Elton.	Whole Borough.
1.16	1.41	1.48	0.41	0.77	1.07

QUARTERLY INCIDENCE OF PHTHISIS.

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.
13	18	13	19	63

DISINFECTION. — Twenty rooms in fifteen houses were fumigated with formaldehyde, and the walls of 38 rooms in 28 houses were sprayed with a solution of formalin.

Occupations of Persons Dying from Phthisis during the Years 1900-1908.

	1900	1901	1902	1903	1904	1905	1906	1907	1908
Cotton Operatives	18	24	13	16	11	10	13	15	9
Woollen Operatives	1	3	0	2	0	1	0	0	0
Felt Hat Workers...	4	2	3	2	2	1	3	0	1
Paper Mill Workers	2	3	2	2	0	0	1	4	0
Iron Operatives	7	0	11	8	6	8	2	6	5
Stone Masons	4	2	2	0	5	2	3	2	0
Dressmakers and Tailors...	3	0	3	0	2	5	1	1	1
Joiners and Cabinetmakers	0	2	2	2	3	2	2	0	2
Shoemakers and Cloggers	2	0	2	0	2	0	0	0	0
Clerks	0	0	0	2	1	1	1	0	0
Outdoor Labourers and Carters	6	8	10	6	25	7	16	13	19
Other or no employment ...	51	49	27	29	40	36	32	25	26
Totals	98	93	75	69	97	73	74	66	63

The class "outdoor labourers and carters" cannot be taken as an accurate description of the real occupation of the fatal cases so described, for many of them, who originally followed other employment, changed it for an outdoor one later, on medical advice.

Voluntary Notification of Phthisis.—This system, which has been in use in Bury since September 5th, 1901, resulted last year in 19 fresh cases being notified, making a total of 277 notifications since the first adoption. All the notified cases were visited by the Female Sanitary Inspector, who advised as to the nursing of the patients, and prevention of the spread of infection; handbills on "How to Prevent Consumption" and "Fresh Air and Ventilation" were left at the houses.

Age and Sex of the Notified Cases:—

	Under 5	5 to 15.	15 to 25.	25 to 65.	65 and Over.	Total
Males	—	—	1	6	—	7
Females	—	1	3	5	3	12

Spittoons were lent, and aseptic paper handkerchiefs given, gratis, to all consumptive persons who applied for them.

Other Tuberculous Diseases.—23 deaths resulted from tuberculous diseases other than Phthisis, as compared with 29 deaths in the preceding year. Of these—

7 were due to Abdominal Tuberculosis.
8 ,, Tuberculosis of the Brain.
5 ,, General Tuberculosis.
2 ,, Tuberculosis of the Larynx.
1 ,, other forms of the disease.

The age distribution was as follows :—

Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 35.	35 to 45.	45 and Over.	Total.
8	8	3	1	3	—	—	23

Tuberculosis, therefore, was responsible for 86 deaths altogether, which is equivalent to a rate of 1.45 per 1,000.

In other words, one out of every eleven deaths in Bury is due to some form of consumption.

Bacteriological Examination of Sputum.—The sputa of 35 suspected cases of Phthisis were sent in special tins to the Public Health Laboratory, Manchester.

Tubercle Bacilli were found in 8 cases, and
A negative result was obtained in 27 cases.

Deaths from Phthisis in Bury during the Past 10 Years :—

1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
90	98	93	75	69	97	73	74	66	63

The number of persons engaged in the Cotton Trade in Bury at the last census was 11,035, of which 3,155 were males and 7,880 females.

Phthisis Rate.

Whole District	1.07 per 1,000.
Of persons engaged in the Cotton Trade... ...	0.81 per 1,000.

PUBLIC HEALTH (Tuberculosis) REGULATIONS, 1908.

The above is an Order of the Local Government Board, and makes compulsory the notification to Medical Officers of Health of cases of Phthisis occurring in Poor Law Institutions, or amongst persons under the charge of District Medical Officers.

The Order came into force on January 1st, 1909.

The Local Government Board have issued a circular letter concerning the above Order, of which the following is a copy :—

LOCAL GOVERNMENT BOARD,
WHITEHALL, S.W.
18th December, 1908.

SIR,

I am directed by the Local Government Board to state that they have had under consideration the desirability of affording facilities for the extension of administrative action for the prevention of tuberculosis, and that with this view they have issued an Order in pursuance of Section 130 of the Public Health Act, 1875, as amended and extended by the Public Health (London) Act, 1891, and the Public Health Act, 1896, to provide for the notification to the Medical Officers of Health of Sanitary Authorities of cases of pulmonary tuberculosis occurring amongst the inmates of Poor Law Institutions, or amongst persons under the care of District Medical Officers, and for the taking of certain measures in such cases.

Notification by Medical Officers of Poor Law Institutions.

Article IV. of the Order directs that the Medical Officer of a Poor Law Institution, as defined by Article I., shall, within 48 hours after his first recognition of the symptoms of pulmonary tuberculosis in the case of a poor person who is an inmate of the institution, post to the Medical Officer of Health for the sanitary district in which the person resided immediately before he became an inmate of the institution a notification of the case.

The notification must be made on a printed form as set out in the Schedule to the Order.

Notification by District Medical Officers.

Article V. directs that a similar notification shall be posted to the Medical Officer of Health by the District Medical Officer in the case of any poor person suffering from pulmonary tuberculosis on whom he is in medical attendance according to his agreement with a Board of Guardians.

The notification must be posted within 48 hours after the District Medical Officer has first recognised the symptoms of pulmonary tuberculosis, and must be addressed to the Medical Officer of Health acting for the sanitary district in which the residence of the poor person is situate.

Notification by Superintending Officers of Poor Law Institutions.

Under Article VI. it will be the duty of the Superintending Officer of a Poor Law Institution to post to the Medical Officer of Health on a printed form as set out in the Schedule to the Order a notification of the actual or intended place of destination and address at that place of any person leaving the institution in respect of whom a notification has been made by the Medical Officer of the institution under Article IV.

The notification must be posted within 48 hours after the departure of the person to whom it relates, and must be sent to the Medical Officer of Health of the sanitary district in which the intended destination of the person is situate.

Notification of changes of address by Relieving Officers.

Article VII. provides that a Relieving Officer shall notify any change of address (other than by admission to a Poor Law Institution) of a person in respect of whom a notification has been made under Article V. by a District Medical Officer.

The notification must be made on a printed form as set out in the Schedule to the Order, and must be sent to the Medical Officer of Health for the sanitary district in which the address to which the person moves is situate.

The notification must be posted within 48 hours after the Relieving Officer has obtained accurate information respecting the change of residence.

Remuneration to be allowed.

Provision is made by Article VIII. for the remuneration of the Officers who have to make notifications under the Order. In the case of the Medical Officer of a Poor Law Institution or a District Medical Officer, the remuneration will be at the rate of one shilling for every notification, but where in relation to any one case two or more notifications have been posted by the Medical Officer to the same Medical Officer of Health, his remuneration will be at the rate of sixpence for every such notification after the first.

In the case of a Superintending Officer of a Poor Law Institution or a Relieving Officer, the remuneration will be at the rate of threepence for every notification.

The remuneration will be payable by the Council of the sanitary district for which the Medical Officer of Health acts, it

will be deemed to cover the cost of postage, and it will be payable in the manner and subject to the conditions prescribed by the Article.

Supply of Forms.

It will be the duty of the Poor Law Authorities referred to in Article III. to supply to the Officers concerned printed copies of the appropriate forms set forth in the Schedule to the Order.

Exception and Application of Enactments.

Some of the provisions of the Public Health Act, 1875, and of the Public Health (London) Act, 1891, relative to infectious disease are not usually appropriate in cases of pulmonary tuberculosis.

The Board have, therefore, provided by Article IX. (1) that nothing in the Regulations shall have effect so as to apply or to authorise anyone to put in force with respect to a person in relation to whom a notification has been made any enactment which renders him or any other person liable to a penalty or subjects him to any restriction, prohibition, or disability affecting him or his employment, occupation, means of livelihood, or residence on the ground of his suffering from pulmonary tuberculosis.

Special Powers of Councils.

Subject to what is stated in the preceding paragraph, it is desirable that Sanitary Authorities acting on the advice of their Medical Officers of Health should utilise their powers for the purpose of preventing the spread of infection from pulmonary tuberculosis. The Order confers some special powers which the Board are advised are suitable for this purpose, and which are set out in Article IX. (2) of the Order.

The Board proposes to issue for the use of Sanitary Authorities and Medical Officers of Health a memorandum by their Medical Officer setting out the appropriate action that can be taken under these powers. Copies of the memorandum will be sent to the Council in due course. *(See Memo. appended).*

Determination of Questions or Differences.

Article XI. will enable the Board to determine any question or difference in relation to anything done under the Order on the application of any of the parties affected.

Pulmonary Tuberculosis Notifiable under Local Acts.

Article XII. deals with those cases in which powers have been obtained with respect to pulmonary tuberculosis by a Local Act. Nothing in the Regulations will have effect in derogation of any power or obligation under any such Act, but subject to this the

Regulations will apply to any district in which a Local Act containing provisions with respect to pulmonary tuberculosis is in force.

The Board may, however, on the application of the Council of the district, direct that so much of the Regulations as relates to a notification by a Medical Officer of a Poor Law Institution or a District Medical Officer shall not have effect in relation to that district.

Date on which the Order comes into effect.

The Order will take effect on and after January 1st next, and it is desirable that the arrangements which are necessary to facilitate carrying it out should be made without any delay. In fixing January 1st as the date when the Order shall come into operation the Board have had regard to the convenience, from a statistical point of view, of the Order taking effect at the commencement of a calendar year. If, however, any delay occurs in the printing of the forms, it may be understood that it will not be necessary to carry out the Regulations until these can be obtained.

Copies of the Order and Circular are enclosed, and I am to request that a copy of each may be given to the Medical Officer of Health.

The Order and Circular will be placed on sale so that copies may shortly be obtained, either directly or through any bookseller, from Messrs. Wyman and Sons, Limited, Fetter Lane, London, E.C.

I am, Sir,

Your obedient Servant,

S. B. PROVIS,

Secretary.

MEMORANDUM BY THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD ON ADMINISTRATIVE MEASURES AGAINST TUBERCULOSIS.

In this Memorandum it is proposed to supplement from a medical standpoint the information contained in the circular letter issued by the Local Government Board, which was sent with the Public Health (Tuberculosis) 1908 Regulations to all Sanitary Authorities and Boards of Guardians.

The prevention of tuberculosis and the aid which can be given to patients suffering from it depend in large measure on knowledge of its pathology, and the earlier part of this

memorandum deals briefly with this aspect of the question. Afterwards are set forth the chief administrative measures that can be taken against the disease, and the different forms of aid that can be given to the patient, either through administrative or voluntary agencies.

1. *Scope of the Order and of this Memorandum.*

The Order deals only with those patients who come under the care of Poor-law medical officers, either at home or in Poor-law institutions. Such patients are often only temporarily within the scope of Poor-law administration, though at other times they may still need help and supervision. Furthermore, public health administration, whether dealing with poor persons, as defined in the Board's Order, or with other patients suffering from pulmonary tuberculosis, is concerned with similar problems; though these problems are more acute, and help is more urgently needed in cases of poor relief than in other cases. In all cases alike, however, it will be wise to take measures to avoid the spread of infection, and with this object in view to educate and train the patient in the method of life suitable to his disease, to secure for him separate sleeping accommodation so far as circumstances permit, either at home or in an institution, to disinfect rooms which have become infected, and to remove all conditions which favour infection or re-infection.

In a few towns all cases of pulmonary tuberculosis are compulsorily notifiable under local Acts of Parliament. In a considerable number of urban and rural districts, voluntary notification of cases of pulmonary tuberculosis is invited by the sanitary authority and secured in some proportion of the total cases of this disease. The Board have always advised that the payment of reasonable fees for the voluntary notification of cases of pulmonary tuberculosis to the Medical Officer of Health is within the powers of a Sanitary Authority.

As poor persons frequently pass outside the scope of the Poor-law, and as in many sanitary districts the Regulations as to tuberculosis will be worked alongside of a system of voluntary notification of patients affected with pulmonary tuberculosis, but not in receipt of relief, it is convenient and desirable not to limit the scope of this memorandum strictly to poor patients.

2. *Characteristics of Tuberculosis.*

Tuberculosis is an infectious disease caused by the tubercle bacillus. Its development is aided by defective nutrition and by other conditions unfavourably influencing personal health, and by insanitary circumstances of environment; but the indispensable element in its causation is the tubercle bacillus, and the disease can be prevented by avoiding infection. The knowledge that

tuberculosis is caused by the tubercle bacillus gives importance to the bacteriological diagnosis of tuberculosis mentioned in paragraph 4. In this memorandum infection from human patients alone is considered, as this is chiefly responsible for the causation of pulmonary tuberculosis.*

Tuberculosis is not only a preventable disease, but it can also be arrested, especially in its earlier stages; and indeed the vast majority of those attacked by it recover.

The total prevalence of tuberculosis as indicated by mortality has already greatly declined. This decline has occurred under the influence of improved sanitation and higher social welfare. These improved conditions have acted by diminishing infection and by increasing the resistance of the population to infection. Thus the vastly increased treatment of advanced cases of pulmonary tuberculosis in infirmaries and other institutions has been most valuable in securing segregation of patients from their families as well as in securing humane treatment for the patients themselves. Diminution of overcrowding has diminished infection and increased the resistance to it; and other measures of sanitation and social improvement have acted either by increasing resistance to, or by diminishing the amount of, infection in the community, or usually by the combined influence of both these factors.

Degree of Infectiousness of Pulmonary Tuberculosis.—As an infectious disease, pulmonary tuberculosis differs in several important respects from most of the acute infectious diseases. Its infection is derived under ordinary circumstances from one channel only, that of the lungs, the infectious material being discharged as expectoration or as cough-spray. This mode of infection can be controlled by the patient with but little trouble, if he is intelligent and scrupulously careful; whereas in the acute infectious diseases constant isolation of the patient is usually needed to protect susceptible persons. Against the limited channels of transmission of pulmonary tuberculosis must be set its protracted duration. It may be infectious during months or even years, instead of only for a few weeks. This statement needs to be remembered in conjunction with the following facts: First, a tuberculous patient discharges tubercle bacilli in his expectoration only at intervals; and second, the evidence clearly points to the conclusion that in most instances short exposure to infection does not suffice to infect healthy persons to an extent that will produce serious disease.

These facts not only indicate that an exaggerated fear of infection in pulmonary tuberculosis is unnecessary; but they also emphasise the desirability of inculcating more exact knowledge

* Infection by bovine tuberculosis occurs chiefly by means of infected cows' milk, and can be avoided domestically by boiling milk. In France and Germany cows' milk is almost universally boiled.

as to the disease; and it is convenient to discuss at this stage the steps that can be taken to this end, although this discussion necessarily to a certain extent stretches into the province of administrative measures considered in later paragraphs.

3. *Educational Measures against Tuberculosis.*

Tuberculosis has often been described as a *disease of misery*. This is true, in the main, because misery favours infection; to a less degree because it renders the patient a ready victim to infection. But tuberculosis is much more a *disease of ignorance*, and many of the measures for its treatment and relief—whether by home visits, dispensaries, or sanatoriums—if properly employed, have among their most valuable results the hygienic training of the patient.

Educational measures will naturally comprise means for instructing the members of the general community, those more directly exposed to the infection of tuberculosis, and those already tuberculous. It is unnecessary here to enlarge upon the importance of teaching hygiene in school life as an aid in the fight against tuberculosis. An active and valuable propagandism outside school life is rapidly diminishing the number of those *who do not know* and increasing the number of those *who know* the essentials of the prevention of tuberculosis, and is increasingly bringing the pressure of public opinion to bear against indiscriminate expectoration, and against overcrowding and other evils of housing and occupation. Much more could be done in these directions by special instruction of various social groups, trades unions, friendly societies, and so on, as well as in the Army and Navy.

It is more urgently necessary that special instruction should be given to those more directly exposed to tuberculous infection; and the value of notification is especially evident in this direction. Precise knowledge of the conditions under which tuberculosis is transmissible, of the channels of infection, and of means for appropriate disposal of expectoration, &c., are most desirable, if the relatives and attendants upon consumptive patients are to remain free from danger and free from an exaggerated fear of infection. More complete knowledge is the best means of preventing misapprehension. This knowledge should be possessed not only by nurses and relatives attending patients, but so far as practicable by those engaged in occupations in which tuberculosis is most rife, *e.g.*, among potmen, potters, cutlers, tin, lead, or copper miners, bookbinders, printers, hairdressers, &c. Although cards of instruction are valuable, personal explanation by health visitors or others, when intelligently carried out, is much more efficacious; and opportunity may advantageously be taken as it arises to give collective instruction to nurses, to mothers, or to the members of friendly society and other clubs, in the groups particularly affected by tuberculosis.

Instruction of the tuberculous patient is essential for the prevention of tuberculosis. Pulmonary tuberculosis being a disease of protracted duration, the institutional or domestic isolation of patients during the whole course of the disease is impracticable. No responsible administrator would contemplate such a possibility. The ideal to be aimed at is that, wherever the patient lives and works, his powers of infectivity shall be inoperative. This ideal is not likely to be realised unless specific instructions are given in such a way that they will become effective in the patient's life. Of the means to this end, temporary abode in a Sanatorium is probably the most effective (*see* paragraph 11). The habits of life thus initiated can be maintained by continued watchfulness and care under a private practitioner or in connection with a tuberculosis dispensary, and by the home-visiting of a competent and sympathetic health visitor or nurse (paragraphs 7, 8, and 9). They are most likely to be maintained if the desire for recovery and the conscientious determination to avoid infecting others are both brought to bear as motives influencing the patient's manner of life.

4. *Early Diagnosis.*

Stress has been laid upon teaching the nurses and relatives of the consumptive patient. Except in so far as it is given as part of instruction to the general community, instruction of those about a patient can only begin when the nature of his disease has been recognised. For this among other reasons every facility for securing early diagnosis is an important means of preventing tuberculosis.

Among the most valuable of these is—

Bacteriological diagnosis by detection of tubercle bacilli in the sputum. Although pulmonary tuberculosis can be diagnosed before there is any expectoration if the patient on consulting a medical practitioner is examined with great care, yet in actual experience the provision of facilities for the gratuitous bacteriological examination of sputum is one of the most successful means of securing an earlier recognition of cases of this disease than would otherwise occur.

The medical inspection of school children will, it is hoped, secure the detection of previously unrecognised cases among school children.

Under present conditions a large proportion of the total cases of pulmonary tuberculosis remain unrecognised until either consolidation or cavitation of lungs has occurred and patients are approaching or have reached the period of complete disablement for work. In such cases there must already have been many opportunities for spreading infection. Happily, there is strong reason to think that usually only those who have been exposed to protracted infection become infected to an extent that produces

serious disease; but it is, nevertheless, very important that the precautionary measures should be begun at an early period of disease, especially as this enables the patient himself to receive effective, because early, treatment.

The visits following notification of cases of pulmonary tuberculosis may not infrequently be made the means of securing early diagnosis of previously unrecognised cases in the same household. At this point, among others, voluntary and official agencies can join forces for the giving of hospital and dispensary letters to failing members of the affected household.

The conditions under which dispensary and hospital aid can be obtained are mentioned later (pars. 10, 11, and 12). They need to be considered at this point in relation to the facilities for early diagnosis. More effective preventive measures could be taken, were every encouragement given for the systematic treatment of "persistent colds," repeated attacks of "bronchitis" and the like, which may indicate an early stage of pulmonary tuberculosis. The difficulties that the poor frequently experience in obtaining hospital out-patient letters and the delay involved in receiving skilled attendance at such institutions, render it desirable for large communities to consider the need for a special tuberculosis dispensary at which every encouragement is given for the early diagnosis of disease. The organisation of such dispensaries is considered in par. 10.

5. *The Medical Practitioner's position in relation to Preventive Measures.*

When a diagnosis has been secured, the first and most essential point is for the doctor in attendance, whether he be the Poor-law Medical Officer or a private practitioner, to acquaint the patient with the nature of his illness. This is indispensable, if the active co-operation of the patient in regard to precautions is to be secured. It is equally necessary for the patient's own welfare, which depends in large measure on his intelligent carrying out of instructions. As the vast majority of cases of pulmonary tuberculosis recover when recognised early, and as life in more advanced cases can be prolonged by efficient treatment, there need be no hesitation in following this course.

The doctor will also consider whether, even though the particular case is not compulsorily notifiable, he will not be acting in the interest of his patient, as well as of the public health, to notify his case to the Medical Officer of Health, under a voluntary system of notification.

Next must follow the giving of instructions to each patient and the disinfection of bedrooms, &c., when the need for this is indicated. Although the medical attendant may be able to give the personal instructions, it is none the less true that, under the

usual conditions of medical practice, and particularly among the poor, supplementary aid is required to prevent infection and to secure the best arrangements for the patient's welfare.

It should be the aim of the Medical Officer of Health to furnish this supplementary aid in a way that will secure the continued co-operation with him of the patient and of his medical attendant.

6. *The Administrative Control of Tuberculosis.*

Incidentally some of the measures for the administrative control of tuberculosis have already been mentioned. The educational measures enumerated in par. 3 go far towards preventing the disease; and indeed every administrative measure is successful just so far as it secures enlightened precautions on the part of the consumptive patient.

Measures to secure early diagnosis, whether by bacteriological or other means, stand equally high as means of preventing the disease; for direct precautionary means—apart from scrupulous care respecting expectoration on the part of the entire population—can only be taken when a diagnosis has been made.

By providing information to the Medical Officer of Health as to the presence of cases of pulmonary tuberculosis among the poor, the Regulations as to tuberculosis recently issued by the Board enable sanitary defects to be promptly remedied and those administrative measures of control introduced that are set out in this Memorandum.

Of other measures against tuberculosis, the most important are the investigation of cases of the disease, advice being given, disinfection and cleansing recommended, and spit-bottles supplied to the poor; the provision of dispensary or Poor-law treatment of patients; the provision of sanatoria and of hospitals for advanced cases of disease.

These measures are, to a very large extent, also measures for aiding consumptive patients. The two objects cannot, in fact, be completely separated. The measures taken for preventing infection equally prevent the patient from receiving further doses of infective material, and he especially will gain by their success. That no strict line of demarcation can be drawn between personal and communal interests is further indicated by the fact that the community, by diminution of infection and by avoidance of loss of working ability, gains greatly when patients are cured, or when, apart from their cure, they are so housed that they cease to disseminate infection. Hence measures for the treatment of the individual patient cannot be left out of consideration in providing against the spread of the disease, any more than they can in the case of enteric

fever. In both diseases the cure and the care of the individual patient are the most effective means of avoiding further cases.

7. *Procedure in Official Investigations.*

When a notification of a case of pulmonary tuberculosis has been received by the Medical Officer of Health, certain inquiries should follow. These inquiries should be made by the Medical Officer of Health or by a trained assistant, and the advice given at these visits should, as already indicated, be so given as not to interfere with advice already given by the doctor in attendance on the patient. The objection that the patient or his relatives on rare occasions make to the visit, can be met by indicating early in the interview the points in connection with which the patient can be helped, inquiries as to the previous or family history of the patient being taken up later, possibly at a second interview. By the exercise of tact and discretion, there seldom need be difficulty in obtaining all the information required for public health purposes, or in giving all the counsel that the patient and his family need. Above all, the investigator must not pursue inquiries in a manner or give information that may prevent a consumptive patient from continuing to earn his livelihood. His duty in this respect as a rule ends when he has advised as to the precautions to be adopted. This attitude does not prevent him from investigating, *apart from notifications*, the conditions under which consumptive patients work, and such investigations are sometimes indicated.

Re-visits should be made by an officer from the Medical Officer of Health's department, such as an inspector, health visitor, or a nurse set apart for this work, who will encourage the patient in carrying out the treatment necessary for maintaining his ability to work, and the precautions needed to prevent infection. The results of these visits should be reported to the Medical Officer of Health or to the attending physician (paragraphs 9 and 10) according to circumstances.

The Board's Regulations as to Tuberculosis provide for the Medical Officer of Health obtaining information that shall enable him to keep in touch with consumptive Poor-law patients, when they change their abode. The Regulations also enable the Medical Officer of Health to have infected premises cleansed and disinfected before they are occupied by new tenants. Incidentally, also, the Regulations enable him to secure much more promptly than would ordinarily be practicable, remedial action in regard to insanitary conditions of dwellings, and particularly overcrowding under circumstances involving the specific danger of infection.

8. *Action against Infection.*

The chief means for the prevention of infection in tuberculosis is the prevention of indiscriminate expectoration. For this purpose sanitary authorities having the necessary powers may advantageously make bye-laws prohibiting spitting in public carriages,

halls, waiting-rooms, or places of public entertainment; and the enforcement of such bye-laws, and the exhibition of notices warning against expectoration, have a most beneficial influence.

The visit of the Medical Officer of Health or of his assistant to the patient will be made the occasion for instruction as to covering the mouth when coughing, and as to the method of use of suitable handkerchiefs and of pocket spit-bottles. The sanitary authority can provide such spit-bottles or other suitable means of preventing the spread of infection. Frequently such precautions have not been adopted in the past course of the case, and disinfection and cleansing of bedrooms will therefore be indicated. Such disinfection should always be carried out when the patient changes his address.

Continued spread of infection can be obviated if the patient will carry out the simple precautions indicated above, concerning which detailed advice should be given in each case. The patient's habits as to spitting are, however, often difficult to change. Hence the importance of the short training of patients in a sanatorium, to which allusion is also made in paragraphs 3 and 11. At a later stage of illness difficulty in preventing infection arises from another cause. The patient is feeble and possibly bedridden; his cough is violent and his expectoration frequent and excessive; and under such conditions, in the home circumstances commonly prevailing among the poor, the avoidance of repeated and massive infection is difficult. It is at this stage that institutional treatment becomes a very important means of preventing infection (*see* paragraph 12).

It will be noted that, subject to not inflicting upon the poor person coming within the scope of the Board's Regulations as to Tuberculosis, "any restriction, prohibition, or disability affecting himself, or his employment," &c., the Sanitary Authority can under these Regulations take all necessary measures for the disinfection or cleansing of infected articles and premises, as in the case of any infectious disease; for the safe disposal or destruction of infective material discharged by consumptive patients; for the proper use of sleeping apartments; and for furnishing any appliance, &c., that may help in preventing the spread of infection. These regulations will enable the Sanitary Authority and its officers to minimise the risks of infection from Poor-law patients caused by unguarded spitting and by improper use of sick-rooms. There will, it is hoped, be little difficulty in securing the observance of the same precautions in respect of other than Poor-law cases of pulmonary tuberculosis.

If the patient should continue to be treated at home, visits will be made at intervals by an officer attached to the Medical Officer of Health's department, or in larger towns attached to a tuberculosis dispensary; and these visitors will encourage the patient to pursue the necessary regime, and to make regular visits to his doctor or to the centre for medical aid.

9. *Home Training and Supervision.*

If the patient is treated at home throughout the whole course of his illness, it is much more difficult to secure his continuous adoption of the necessary precautionary measures than if he has had a short course of treatment and training in a sanatorium (*see* paragraph 11). To ensure this end requires conscientious perseverance on the part of the patient, and tactful advice and encouragement from the visitor sent as a result of notification. If the patient is in the charge of a family practitioner, the latter should be able to give much assistance. If the patient cannot afford to have a private doctor, the need for systematic medical assistance of some other kind arises. The patient may remain under the care of the Poor-law medical officer, and in such cases it will not be difficult for the visitor to co-operate with him in the interest of the patient and of those about him. As a rule, however, Poor-law cases of pulmonary tuberculosis, being most often cases of advanced disease, are preferably treated in the Infirmary (*see* paragraph 12).

If the patient is treated at home under the care of a private practitioner, the visitor's work will be limited by the considerations advanced in paragraphs 7 and 8.

If the patient, although poor, is not a Poor-law patient, but attends at intervals as an out-patient at a hospital or a dispensary, the visits he receives will advantageously be somewhat more frequent than when the patient is under the care of a private practitioner, and may be made helpful not only in advising the patient as to measures of personal hygiene and precautions against infection, but also in bringing him into relationship with the agencies for aid that his circumstances indicate as needed. Of these, the most important when completely organised is—

10. *The Tuberculosis Dispensary.*

The object of this institution is to secure early diagnosis for patients suspected to be suffering from pulmonary tuberculosis, and to direct their treatment in the light of knowledge not only of their medical, but also of their domestic and industrial needs. The ideal of the dispensary implies, therefore, a careful system of domiciliary visitation and investigation.

Such visitation and investigation have already been recommended (pars. 7, 8, and 9), and it is evidently undesirable that visits to the same patients should be duplicated. When such a dispensary is already at work, arrangements can be made for nurses attached to the dispensary to visit the patients at home, and enter the information obtained by them on forms, which will subsequently be seen both by the dispensary physician and the Medical Officer of Health. These nurses in some districts will be the health visitors of the Sanitary Authority, and in such cases the domiciliary work of the dispensary becomes a sub-department of the Medical Officer of Health's work.

A well-organised tuberculosis dispensary becomes a valuable aid in securing more general notification of cases of tuberculosis; and its visitors can not only secure that domestic precautions are taken, but also that the patients are brought into touch with the different forms of domestic aid, or with the sanatorium or hospital treatment that the needs of the individual case indicate.

A tuberculosis dispensary is specially adapted for the needs of large towns. When local circumstances do not permit of its formation, similar work can be organised in connection with other dispensaries, and with the out-patient departments of hospitals, voluntary or official health visitors being employed, as circumstances permit. Whether a new organisation is started, or whether —as may sometimes be both economical and efficient—old organisations are modified and improved for the new work, the essential points are that the doctor, when treating his patient, shall have before him all the circumstances relating to the patient's manner of life likely to aid him in giving rational advice; that the patient shall receive help adapted to his social needs; and that there shall be no redundancy or lack of supervision and of the help requisite for the patient and for the protection of others against infection.

11. *Sanatorium Treatment.*

Home treatment, if depended upon alone, often fails to prevent infection, besides failing to cure the patient. Hence the importance of sanatorium treatment when practicable. Under Section 131 of the Public Health Act, 1875, the Sanitary Authority has power to provide such treatment for patients whether patients are in the receipt of relief or not.

Considerations of finance will need to be borne in mind, and it is to be remembered that thoroughly efficient sanatoriums for consumptives need not be built upon expensive lines. Before embarking on any large scheme, each sanitary authority should consider what it can do with arrangements already available. Some sanitary authorities have found that in the intervals of epidemics empty rooms or wards of their isolation hospitals can be utilised for the treatment of pulmonary tuberculosis, and have taken action accordingly.

In rural districts it will be practicable by the use of temporary huts or tents, erected either at the patient's home or in the grounds of the infirmary or of the isolation hospital, to treat consumptive patients with minimum expense; in other instances private houses may be adapted as hospitals for the purpose; while in some circumstances contribution towards the cost of erection and maintenance of a sanatorium jointly with others may be the best course.

With regard to the use under regulated conditions of the wards of an isolation hospital for the treatment of pulmonary

tuberculosis, experience has demonstrated that this can be done with entire safety to the consumptive patient and with great success in his treatment.

The sanatorium treatment of the consumptive may be directed towards the cure of the patient, or towards such amelioration of the patient and incidental training in desirable habits as may be practicable in a shorter stay than is required for his cure.

In considering the cure of the patient by sanatorium treatment, what has already been said as to early diagnosis needs to be borne in mind. In actual experience a large proportion of poor patients cannot be cured at the stage at which their disease is first recognised, without treatment which is so protracted and so large in amount when attempted for a larger number of patients, as to be outside the range of present practical administration. Many such patients, however, either recover, or without complete recovery continue to be able to work indefinitely, even when protracted sanatorium treatment cannot be secured. Their working life can be extended and their capacity to spread infection can be stopped by an occasional stay in a sanatorium, of limited duration, say, for a month. It is on sanatorium treatment of this type for patients still able to work that stress may be laid. The patient usually does not lose his place by the short absence from work contemplated; he is willing to come into a sanatorium for such a short stay, when he would not accept more protracted treatment; and the improvement experienced during such a short stay in a sanatorium is often most remarkable. This, however, is not the only gain. When the patient enters the sanatorium his dwelling is disinfected; his relatives are relieved temporarily from a source of anxiety; and the patient while in the sanatorium is trained in the methods of disposal of sputum, and in the general hygienic regulation of his life in a practical manner that is scarcely possible at home. On his return home he is therefore no longer likely to be a source of infection, and the general hygiene of his home is almost certain to reflect the good influence of his stay in the sanatorium. From the standpoint of the sanitary authority a much larger number of patients can, in this way, be treated and prevented from becoming a source of infection, than if permanent cure of the individual patient were made the only consideration.

12. *The Institutional Treatment of Advanced Cases of Pulmonary Tuberculosis.*

A certain proportion of the total number of consumptives gradually deteriorate in health, notwithstanding every effort made on their behalf. The patients to whom this remark applies will diminish in number when they and the general public realise the importance of early and accurate medical recognition of the causes

of failure in health, especially if accompanied by cough. Under present conditions, however, it is likely that a large number of cases of pulmonary tuberculosis will continue to occur that will remain unrecognised in the early stage of disease. It does not follow, as is too often and too hastily inferred, that the total amount of tuberculous infection cannot be steadily and even rapidly diminished. The number of cases of tuberculosis at any one time, so far as the disease is derived from other human cases of the disease, must depend on the total number of similar cases from which the infection of tuberculosis can be derived, and on whether the dosage of infection suffices under the conditions of its recipients to produce disease. Evidently then the occurrence of future cases of tuberculosis, even though these measures are not adopted early in each case, can be prevented in the proportion of the extent to which measures are adopted (*a*) for preventing the patient from scattering infection by cough and expectoration, and (*b*) for keeping the patient separate from those susceptible to infection. The first aim is secured by sanatorium and dispensary training and treatment and by home visiting and advice, with the co-operation of the patient; the latter aim can be secured by providing the patient with a separate bedroom and suitable nursing at home, and, when this is impracticable, by providing efficient hospital accommodation.

In the homes of the poor, it often happens that suitable bedroom accommodation cannot be provided for advanced cases of pulmonary tuberculosis, and that the wife or other relative in charge of the patient is overworked and thus rendered more easily a victim to the same infection. Hence, the medical attendance and nursing of a large proportion of the total advanced cases in hospitals must form an essential part of any effective scheme for preventing tuberculosis. It is to a very large extent a need already met; for though the provision of hospital beds for such cases has not, in the main, been made with any intention of diminishing the total mass of infection, it has operated in that way. Not only in general and special hospitals but on an immensely larger scale throughout the country, and especially in our towns and cities—in which domestic overcrowding is most marked, and in which the domestic nursing of cases of pulmonary tuberculosis is therefore most dangerous—consumptives have been treated in the workhouse infirmaries, many of them under excellent conditions, and probably all of them under conditions less likely to cause spread of infection than the dwellings of the very poor and the destitute. Such arrangements need to be extended, and the hospital treatment of the bedridden consumptive in the ideal state will be made so popular that domestic infection will become much less frequent than at present.

In the preceding pages no attempt has been made to enumerate all the measures that can be utilised against tuberculosis. Nor

has it been urged that when notification of cases has been secured and free bacteriological diagnosis provided, subsequent measures against the disease shall be taken in any particular order. This will necessarily vary with local needs and local possibilities. The best work will be secured if there is active co-operation between voluntary and official workers and agencies; and this remark applies particularly in securing sanatorium treatment for patients. If all the measures within the range of practical action are adopted, there is no reason to doubt that by wise administrative efforts following upon the Board's Regulations as to Tuberculosis, the decline in the number of centres of infection can be made more rapid, and thus can be secured a quicker decline in the death-rate from tuberculosis than has hitherto been experienced. Although, owing to the long duration and occasional long latency of this disease, results in regard to it cannot be measured with accuracy except after a lapse of a considerable number of years, it may confidently be expected that administrative measures will enable sanitary authorities gradually to bring tuberculosis under their control, and to secure that it shall become as much a disease of the past in this country as leprosy has become.

A. NEWSHOLME.

February, 1909.

DIARRHŒA.

Thirty deaths have been recorded from Diarrhœa during the year 1908, as compared with 14 deaths in the previous year. The rate of mortality is equal to 0.51 per 1,000, as compared with 0.24 per 1,000. The rate of mortality is not so satisfactory as in the previous year. Of the total deaths from Diarrhœa, no fewer than 66 per cent. occurred in children under one year of age. This is a matter of grave concern, and one that requires urgent attention in order to prevent recurrence of the heavy mortality which annually takes place amongst infants from this disease.

Monthly Incidence.

January	0
February	0
March	0
April	0
May	1
June	1
July	1
August	6
September	6
October	10
November	5
December	0

Ward Distribution.

Ward.	Number of Deaths.
Moorside	2
East	7
Church	13
Redvales	4
Elton	4
Whole Borough	30

Age Periods.

Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 upwards	All ages
20	5	—	—	1	4	30

Comparative Mortality Rates in 1908.

The death-rate from Diarrhœa in Bury compares very favourably with the mortality rates in the other large towns, the rates for the Lancashire towns being as follows:—

Rochdale	0.98
Bury	0.51
Blackburn	1.12
Bolton	0.83
St. Helens	0.62
Manchester	0.92
Preston	0.95
Warrington	0.86
Wigan	0.29
Burnley	1.60
Liverpool	0.84
Bootle	0.24
Oldham	1.14

It will thus be seen that the Diarrhœa death-rate in Bury is one of the lowest of the rates for the Lancashire members of the 76 Great Towns of England and Wales.

Cleansing of Streets, &c.—With a view of minimising to some extent the various factors which have been considered to have a causal relation to Summer Diarrhœa, the following special methods of cleansing were adopted during the period from May

to the end of September :—(*a*) The sweeping of streets was carried out during the night-time, the combined street-watering and brushing machines being used (except in wet weather). (*b*) The collection of stable refuse, &c., during the daytime, by men with handcarts (orderly men), was extended to all the streets. (*c*) In addition to the principal thoroughfares, special attention was paid to the watering of secondary and other streets. (*d*) Special attention to the emptying of sanitary conveniences, especially those of the "Pail" and "Privy Midden" types. (*e*) After the emptying of contents from the latter types of conveniences, the interior of same were limewashed by means of a sprayer, with a sanitary lime. (*f*) The emptying of street gullies direct into a tank cart, the gulley afterwards being sealed with clean water, to which had been added a soluble disinfectant.

CANCER.

During the year 57 deaths (equal to a mortality rate of 0·96 per 1,000) were registered as due to various forms of malignant disease, as compared with 52 deaths during the previous year. Of these deaths 16 were of males and 41 of females.

Sex and Age.	Under 35.	35 to 45.	45 to 55.	55 to 65.	65 to 75.	Over 75	Total.
Males	—	2	1	7	6	—	16
Females	1	2	12	15	6	5	41

The following table gives the ward distribution of these deaths, and the rate of mortality in each ward, as compared with the corresponding figures for each of the four preceding years :—

Ward.	1904. No.	1904. Rate per 1000.	1905. No.	1905. Rate per 1000.	1906. No.	1906. Rate per 1000.	1907. No.	1907. Rate per 1000.	1908. No.	1908. Rate per 1000.
Moorside	15	1·03	11	0·75	14	0·96	15	1·02	8	0·54
East	6	0·51	18	1·51	10	0·84	10	0·83	12	1·08
Church	6	0·82	8	1·10	8	1·09	7	0·95	8	1·08
Redvales	10	0·93	8	0·75	13	1·21	8	0·74	14	1·21
Elton	4	0·28	9	0·63	14	0·99	12	0·84	15	1·00
Totals	41	0·70	54	0·92	59	1·00	52	0·88	57	0·96

Character of the disease :—

	Males.	Females.
"Cancer"	4	12
"Malignant Disease"	1	7
Carcinoma	7	18
Sarcoma	3	—
Epithelioma	—	2
Scirrhus	—	1
"Malignant Tumour"	—	1
"Rodent Ulcer"	1	—
	16	41

ORGANS AFFECTED.

	Males.	Females.
Mouth	1	—
Peritoneum	—	1
Abdomen	1	1
Breast	—	9
Liver	3	3
Stomach	4	7
Kidney	—	1
Pancreas	—	1
Larynx	1	—
Neck	1	2
Cervici	—	1
Rectum	2	1
Labia	—	1
Gall Bladder	—	1
Pylorus	2	1
Uterus	—	5
Right Iliac Possa	1	—
Œsophagus	—	2
Nasal	—	1
Face	—	1
Duodenum	—	1
Not stated	1	—
	17	40

DISINFECTION.

The following is a summary of disinfection carried out during the year in the reported cases of Infectious Diseases :—

169 rooms in 158 houses were disinfected with the fumes of either sulphur or formaldehyde, and the walls of 236 rooms in 169 houses sprayed with a solution of either formalin or carbolic acid.

311 rooms in 76 houses have been fumigated with sulphur, at the request of either the tenant or the owner.

Fifteen public schools have been fumigated with sulphur, and the desks, books, walls, &c., sprayed with a solution of formalin or " Chloros " after the occurrence of Infectious Diseases.

In addition the walls of the wards of the Dispensary Hospital have, on several occasions, been sprayed with a solution of formalin, the rooms afterwards being disinfected with the fumes of formaldehyde.

Three cells at the Police Station have also been sprayed with a solution of formalin, and afterwards fumigated with sulphur.

Twenty rooms in 15 houses have been disinfected with the fumes of formalin, and the walls of 38 rooms in 28 houses sprayed with a solution of formalin, after the occurrence of deaths from Phthisis.

Forty-two parcels of infected clothing and 239 sets of infected bedding have been disinfected by steam.

It may be said that in the disinfection of rooms—the spraying of floors, walls, ledges, &c., with either formalin or carbolic or other disinfectant solution before fumigation, is now the routine procedure.

WATER SUPPLY.

PUBLIC SUPPLY.—The public service of the Borough is derived from three of the Reservoirs belonging to the Bury and District Joint Water Board. The Board represents the following Authorities:—Bury, Radcliffe, Ramsbottom, Tottington, Haslingden, Rawtenstall, Whitefield, Little Lever, and Bury Rural. The area supplied is 80 square miles.

The three Reservoirs supplying Bury are:—

Gin Hall (situated in Bury) supplying 10,096 houses.

Calf Hey (situated in Haslingden Borough) supplying 1,859 houses, chiefly in the districts of Limefield, Bell Lane, and Blackford Bridge.

Hapton (situated partly in Rawtenstall Borough, partly in the Burnley district) supplying 1,447 houses, chiefly in Chesham and Walshaw districts.

The total number of houses supplied at December 31st, 1908, was 13,402.

RAINFALL.

	1908	1907	1906	1905
Gin Hall	44.17	47.14	51.49	38.34
Calf Hey	44.35	49.92	53.32	41.54
Hapton	39.87	43.95	46.93	36.34

An average of 42.79 inches, compared with 47.00 in 1907, 50.58 in 1906, and 38.34 in 1905.

DISTRIBUTION.—18 yards of 3-in., 1,256 yards of 4-in., and 110 yards of 8-in. main have been laid as follows:—

Yards.	Inch.	Situation.
18	3	Hilton Street, Bury.
6	4	Hamilton Street, Bury.
12	4	Walmersley Road, opp. Walmersley Old Road.
13	4	Cateaton Street, Bury.
36	4	Back Rochdale Old Road, Jericho.
50	4	Frederick Street, Bury.
52	4	Back Oram Street, Bury.
67	4	Back Price Street, Bury.
95	4	Lowes Road, Bury.
103	4	Back Mostyn Street, Bury.
116	4	Back Halvard Street, Bury.
130	4	Back Bolton Road, Bury.
170	4	Mosley Street, Bury.
406	4	Back Bolton Road, Bury.
110	8	Barnbrook and Bell Lane, Bury.
1384		

73 yards of 2-in. main at Bank Street, 132 yards of 3-in. at Back North Street, and 213 yards of 4-in. main at Canning Street have been renewed.

Flushing operations have been carried out periodically, and several "dead ends" have been renewed.

From January 1st to December 31st there were 93 new houses connected to the public service, and 49 houses were disconnected.

Water Closets.—During the year a water supply has been connected to 150 water closets and 95 baths, in accordance with the regulations of the Water Works Department.

Private Water Supply.—At the end of the year 1908 there were eight houses, 100 cottages, and two schools supplied with water from private sources. The following list shows the situation and the number of houses supplied:—

4 cottages, Well Brow.
1 cottage, Holebottom.
School, Woodgate Hill.
1 house, Green Bank.
1 house, Chesham.
1 house, Chesham Green.
1 cottage, Cinder Hill.
1 house, South View.
2 cottages, Chesham Green.
3 cottages, Cinder Hill.
1 cottage, Gipsy Brook.
1 cottage, Chesham.
2 cottages, Birchen Bower.
2 cottages, Lowes.
1 house, Broom House.
4 cottages, Duckworth Fold
2 houses, Springs.
2 cottages, Spring Cottages.
4 cottages, Springs.
9 cottages, School Street.
1 cottage, Bury Ground.
3 cottages, near Bury Reservoir.
3 cottages, Woodhill Road.
12 cottages, Yates Terrace.
School, Woodhill.
44 cottages, Woodhill.
3 cottages, Stag Houses.

FACTORIES AND WORKSHOPS.

FACTORIES.—During the year four notices have been received from His Majesty's Inspector of Factories, all of which referred to insanitary or insufficient closet accommodation. In each case the necessary work has been carried out.

WORKSHOPS.—The duty of supervising the workshops in which males are employed is carried out by Inspectors Haworth and Kay, and the Female Inspector (Nurse Walton) has charge of the workshops in which females only are employed.

GENERAL SANITATION.—The workshops, as regards cleanliness, light, air space, &c., have been found to comply with requirements. From a sanitary point of view the conditions under which work is carried on in these rooms is very satisfactory, and it is pleasing to record that any suggestions for further improvement have been carried out by the owners. The number of workshops in the Borough is 453, as compared with 519 in the previous year.

BAKEHOUSES.—The number of bakehouses on the register is 114, being an increase of 11 over the previous year. Inspector Openshaw, who has the bakehouses under supervision, reports that the businesses have been conducted in a very satisfactory manner, a pleasing feature being that no complaints have been received from residents in the vicinity of bakehouses of the excessive emission of smoke.

There is still one cellar bakehouse within the Borough, as in the previous year.

SHOP HOURS ACTS.—The duties of carrying out the provisions of these Acts, also the provisions under the Seats for Shop Assistants' Act, have been entrusted to Nurse Walton and Inspector Haworth. The Inspectors have paid 54 visits to the various shops in the performance of these duties, and have found that the requirements of the Acts were being carried out.

HOME WORK.—Lists containing the names and addresses of home workers have been received from several firms and entered in the register. The Female Inspector has paid 79 visits to the homes in which the work is carried on, and she reports that in the majority of cases the work is performed under satisfactory conditions.

Extract from Copy of Table sent to the Home Office at the request of the Secretary of State.

Annual Report of Medical Officer of Health for 1908, for the County Borough of Bury.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories ... ... (Including Factory Laundries	28	2	..
Workshops ... ... (Including Workshop Laundries.)	439	10	..
Workplaces (other than Outworkers' premises)...	7	2	..
Total	474	14	..

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
Nuisances under the Public Health Acts :—				
Want of cleanliness	9	9	..	..
Want of ventilation	..	..	..	..
Overcrowding	..	..	..	..
Want of drainage of floors	..	..	..	..
Other nuisances	13	13	..	..
Sanitary accommodation — insufficient	1	1	..	..
Sanitary accommodation — unsuitable or defective	7	6	..	..
Sanitary accommodation — not separate for sexes	..	..	..	..
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	..	..	..	..
Breach of special sanitary requirements for bakehouses (SS. 97 to 100.) ...	..	..	..	..
Failure as regard lists of outworkers (S. 107)	..	..	..	..
Giving out work to be done in premises which are — unwholesome (S. 108)	..	..	..	..
Giving out work to be done in premises which are — infected (S.110)	..	..	..	..
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)	..	..	..	..
Other offences...	..	..	..	..
Total	30	29	..	..

OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspectors of Factories:—	5
Failure to affix Abstract of the Factory & Workshop Act (S. 133)	9
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Notified by H.M. Inspector	4
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Reports (of action taken) sent to H.M. Inspectors.	4
Other	—
Underground Bakehouses (S. 101):—	
Certificates granted during the year	—
In use at the end of the year	1

Homework:—

	Number of Lists.	Number of Outworkers.
List of Outworkers (S. 107):—		
Lists received:—Twice in the year	2	71
Once in the year	—	—
Addresses of outworkers forwarded to other Authorities	—	—
Addresses of outworkers received from other Authorities	—	—
Inspection of Outworkers' Premises	79	

	Wearing Apparel.	Other.
Homework in unwholesome or infected premises:—		
Notices prohibiting homework in unwholesome premises (S. 108)	—	—
Cases of infectious disease notified in homeworkers' premises	—	—
Orders prohibiting homework in infected premises (S. 110)	—	—

Workshops on the Register (S. 131) at the end of the year 1908.

Important classes of workshops, such as workshop bakehouses, may be enumerated here.

Bakehouses	114
Milliners	42
Dress and Mantle Makers	58
Ladies' Tailors	19
Fly Coil Maker	1
Baby Linen	4
Laundries	2
Stocking Knitters	3
Stay Makers	2
Cloggers	30
Tailors	34
Boot and Shoe Makers and Repairers	51
Tinplate Workers	14
Other Trades	79

Total number of workshops on register 453

HOUSING OF THE WORKING CLASSES.

During the year one house was condemned as unsuitable for human habitation. The recommendations to the Health Committee were as follows :—

31, Shaw's Yard, Bury.—I have to make the following representation upon the above house. It is a small house of two floors situate in a court approached by a covered passage from Rose Hill Brow. The house is back-to-back with No. 5 in that thoroughfare, and it is closed in on one side by the wall of the court. There are only two rooms; the ground floor room is used as a kitchen and living room. In this there is a slopstone sink, which communicates with the exterior by an untrapped pipe discharging over a gully. The floor of the room is not in a satisfactory condition. On our visit to the place the walls of this room were in a dirty condition, but recently some attempt has been made to beautify them. The upstairs room is approached by a narrow, dark staircase; the room is small, and the walls are in need of attention.

The closet accommodation in the court consists of four pails, situate about 15 feet in front of the window of this house, which constitutes, in addition to the fireplace, the only possible ventilation, there being no through ventilation.

By reason, therefore, of the insufficient light and totally inadequate ventilation, the smallness of the premises and the proneness to damp, I am of opinion that this house is in such a state as to be unfit for human habitation.

THE HOUSING PROBLEM.

Much consideration has been given to the above question by the members of the Council during the year.

At a meeting of the General Purposes Committee held in the early portion of the year, an interesting and instructive report was submitted, prepared by the deputation appointed by the Council to visit a Housing Conference and Exhibition held at Sheffield; the result being the formation of a Housing Committee consisting of ten members, to consider the suggestions contained in the deputation's report.

Several sites were inspected by the Committee, and ultimately a plot of land off Bolton Road was acquired for the erection of workmen's dwellings, which could be let at rentals varying from 3s. 6d. to 5s. 6d. per week, inclusive of all charges leviable against property, except the Poor Rate.

There can be no doubt as to the urgency for the erection of types of houses to let at the above rentals. One has only to look at the increase in the number of "Houses-let-in-Lodgings," or, as they are better known, "Furnished Rooms," in which we get four, five, and sometimes six families living under one roof, to see that, despite the regulations for the control of this class of house, it is practically impossible under present conditions to exercise that supervision which is most to be desired. Apart from this, the crowding together of so many families under one roof must have a baneful effect not only on the morale, but also on the physique of the children who are reared under these conditions.

I am, however, trusting that before the close of another year we shall realise that the labours of the Housing Committee have not been in vain, and that as a result we shall be enabled to show a good attempt at the solution of this important problem, "The Housing of the Working Classes," in that there will be groups of cottages available to meet the objects of the scheme, and suitable for the working classes of the town. Thus, there will be obviated the evil of overcrowding, which at the present time constitutes so unsatisfactory a feature of the Sanitary Administration of the Borough.

MIDWIVES' ACT.

The number of midwives on the register at the end of the year was 21, an increase of one from the total at the end of the year 1907. Three new midwives were registered during the year. One midwife removed outside the district, and one, having relinquished practice, her name has been removed from the register.

With one exception there is nothing to report regarding the conduct of the midwives, but some still find difficulty in the use of the clinical thermometer, and some being unable to write have to rely upon others to enter up their registers; these latter, fortunately few in number, are untrained and uneducated.

The midwife alluded to, who had contravened the regulations, was reported to the Central Midwives' Board; subsequently she discontinued practising, and her name was removed from the Board's roll.

During the year 67 notices were received from midwives requesting the help of medical practitioners.

A leaflet issued by the Central Midwives' Board has been distributed to midwives. The leaflet, which dealt with Cancer of the Female Reproductive Organs, called attention to its gravity and the necessity for early recognition. Details were given of the early signs of the disease. The importance of early treatment by a medical man was emphasised.

Still Births.—Four still births were notified by medical men and 32 by midwives during 1908, an increase of 17 on the number notified during 1907.

Legislation as to the procedure to be adopted in the interment of still-born babies is desirable, in order to minimise the possibility of the occurrence of crime.

SMOKE OBSERVATIONS.

The number of observations taken was 35. Three of the observations were of half-an-hour's duration, 32 extended over the full hour. The time limit of seven minutes has now been in force two years.

Legal Proceedings.

Notices.—Legal notices were served upon nine firms for having allowed black smoke to be emitted for a longer period than seven minutes in the hour. The periods of emission of black smoke varied from eight minutes to 23 minutes.

HOUSES LET IN LODGINGS.

("Furnished Rooms.")

Several of the occupiers of these furnished lodgings have had to be warned on account of the uncleanly state of their rooms. One house has been added to the register, the total now registered being 35. Speaking generally, this method of housing the

poorer classes is exceedingly bad, and in this town such a system constitutes, in my opinion, a blot on our Sanitary Administration. We have, however, prospects of a better future, when the new Housing Scheme will, I hope, supply accommodation for families, at a rental low enough to allow a reasonable abatement of a system of housing which is more likely to lead to bad sanitation and to moral and social degradation than any other.

COMMON LODGING-HOUSES.

These houses now number 17. They are subject to annual registration in accordance with Section 40 of the Bury Corporation Act of 1901. They are kept clean, and have been limewashed twice in the year. The new regulation respecting cubic space per person has been in force with beneficial results. Three of these houses have been transferred to other owners during the year.

MEAT INSPECTION. THE PUBLIC ABATTOIRS.

The returns for the year 1908 show generally a nett decrease in the number of animals slaughtered compared with the year 1907, bringing the figures nearer to those recorded in 1906:—

	1908	1907		1906
Beasts	4350 ...	4827 ...	Decrease 477 ...	4701
Sheep & Lambs...	18727 ...	19432 ...	Decrease 705 ...	19048
Pigs.....	4921 ...	4458 ...	Increase 463 ...	4067
Calves	1237 ...	1419 ...	Decrease 182 ...	1346

From the above table it will be observed that the number of animals slaughtered (29,235) at the Public Abattoirs during the year 1908, shows a decrease of 901 as compared with the number slaughtered (30,136) in the preceding year.

Inspector Openshaw reports Tuberculosis in 63 carcases examined during the year ending December 31st, 1908, as compared with 62 carcases in 1907, 66 in 1906, and 77 in 1905. Of these 63 carcases, 44 were of beasts and 19 were pigs, as compared with 48 beasts, one calf, and 13 pigs affected with the disease in the previous year. Voluntary surrender of the affected organs or carcase (when necessary) was obtained. The quality of the meat generally maintained the standard of previous years.

Legal Proceedings.—Proceedings were taken against a farmer, whose farm was situate outside the Borough, for depositing a portion (round of beef) of a diseased carcase in a shop within the Borough, and also against the butcher for having the same in his possession. A penalty of £5 and costs was imposed on the farmer, whilst the case against the butcher was withdrawn.

Proceedings were also instituted against a butcher for having in his possession at the Public Abattoirs a hind-quarter of beef which was in a putrid condition. The proceedings were, however, withdrawn on the butcher contributing the sum of £10 to the Mayor's Charity Fund.

FARMS AND MILK SUPPLY.

The number of registered farms within the Borough at the end of the year was 62. Applications for registration under the Dairies, Cowsheds, and Milkshops Order were received from five persons.

The farms within the area of the Borough have been regularly and systematically visited by Inspector Openshaw, with the result that the majority of the farm buildings are now in a very good sanitary condition. Several important improvements have been carried out at various farms during the past year. At six farms new shippons have been provided, and from a reference to Inspector Openshaw's report it will be seen that other sanitary improvements, such as ventilation, drainage, lighting, &c., have been carried out at several other farms.

Milk.—The quality of the milk supplied in the Borough, as judged by the samples submitted for analysis, has been good. Fifty-one samples were taken by the Inspector (Mr. Cass) and submitted to the Borough Analyst, and, with two exceptions, all pronounced genuine. The two samples of milk referred to contained 4.4 per cent., and 3.0 per cent. of added water respectively. In the former case the vendor was "cautioned," and in the latter case, as the sample had not been taken in accordance with the

Acts, no action could be taken in the matter. The number of samples of milk taken shows an increase of eight over the preceding year.

Number of samples of milk taken in the past seven years :—

Year.	Samples.	Adulterated.	Percentage Adulterated.
1908	51	2	3.9
1907	43	0	—
1906	73	7	9.6
1905	76	9	11.8
1904	51	2	3.9
1903	40	3	7.5
1902	46	2	4.3

FOOD AND DRUGS.

The number of samples submitted to the Borough Analyst during the year was 110, a decrease of 11 from the number in 1907. The number of samples taken in 1906 was 142, and in 1905 130.

It is satisfactory to record that, with the exception of two samples of milk, all the samples submitted were genuine. In the preceding eight years the percentage of adulteration was as follows :—

Year.	Number of Samples.	Percentage of Adulteration.
1907	121	—
1906	142	7.0
1905	130	10.6
1904	113	3.54
1903	97	11.49
1902	78	3.8
1901	94	4.2
1900	92	3.2

CLEANSING DEPARTMENT.

Nightsoil Branch.

COLLECTION OF REFUSE.—During the year this important branch of the work of the Cleansing Department has been the subject of much consideration and discussion by the Sub-Committee appointed to deal with it, comprising the Chairmen and Deputy-Chairmen of the Health, Streets, Tramways, Sewage, and Cleansing Committee, with the Mayor as Chairman. Having in mind the fact that there was at Blackford Bridge a modern destructor which was not in use and practically derelict, and that the objectionable method of disposing of nightsoil by tipping was still going on, the Cleansing Committee suggested that some system of nightsoil carriage might be adopted, which would obviate the necessity of carting this material to the new destructor, which, due to the long distance, had hitherto been very expensive, and indeed prohibitive, to carry out. They felt also that a system of more speedy removal would enable most of this work to be completed during the night, so that the nightsoil carts would no longer have to make their long journeys through the main streets at all hours of the day. As a result, a scheme was submitted to the members of the Sub-Committee by the Manager of the Corporation Tramways (Mr. W. Clough), which embodied the conveyance of this material by electric traction from a convenient collecting centre to the Blackford Bridge destructor, a specially-constructed vehicle to be used capable of carrying 16 tons of refuse and transmitting it quickly to the destructor works at Blackford Bridge. The objects of this scheme were :—

(1) To utilise the new destructor, at the time abandoned.

(2) To enable a more rapid disposal of nightsoil, so that most of it could be dealt with during the night, instead of as at present, largely by day.

(3) To minimise the cost of carting, including provision of horses and carts and men's wages, in that the collecting centre would be near the most densely-populated parts.

(4) The abolition of the objectionable system of tipping refuse at the various tips.

An alternative scheme was prepared at a later date by the Borough Engineer (Mr. A. W. Bradley), whose main object appeared to be the re-building and enlargement of the present Fernhill destructor, which he declared to be in bad repair and inefficient and incapable of being rendered effective without re-building. The whole matter under discussion with reference to these schemes was left over until the Borough Engineer had had his scheme printed, and each member of the Sub-Committee furnished with a copy of it. At the close of the year this report was not completed.

Apart from the obvious advantages from a sanitary point of view of a scheme for the speedy removal of nightsoil, it would appear that a method of removal by other means than by the use of horses is commendable, especially in view of the fact that the greater portion of the building is at present being carried out on the outskirts of the town. This further cost of carting would be so great that it is perhaps not premature to state here that the Cleansing Committee, in the very near future, will probably have to consider the advisability of the provision of one or more of these collecting centres.

One might draw attention to the fact that small ashbins are used invariably in new property, which require more frequent emptying, and thus the number of excursions made by the horses would tend to multiply and the expenses increase, in the efforts to deal with these outlying districts by the old method.

During the year the emptying of ashpits, pails, and mill tanks has been carried out fairly satisfactorily. There is a very satisfactory reduction in the number of notices received at the Health Office for the clearing of ashpits, namely, 153, as compared with 273 in 1907, and 628 in 1906. There are still numerous streets in which every type of convenience may be found—pails, midden privies or midden ashpits, waste-water closets and fresh-water closets, fixed and portable ashbins.

A matter for careful consideration is the position of the "added areas" with regard to the work of the Cleansing Department. There is a tendency to disorganisation, in that the requests for emptying by the property owners themselves are so irregular

and haphazard that a systematic working is quite impossible; the Corporation undertaking the work in each instance by "request," are thus causing considerable overlapping in the visiting of certain streets by the refuse carts.

A satisfactory branch of this Department is the collection of waste paper. Special bags marked "Bury Corporation Cleansing Department," are sent round to shopkeepers and householders to hold a week's stock of paper. The bags are 30 by 50 inches, and are made of strong canvas. The contents of the bags are emptied into a covered lurry, which calls once or twice a week, the bags being returned to the shopkeeper, &c. The paper is then conveyed to the Fernhill Yard, where it is screened and packed in readiness for consignment to paper works.

As it is a common practice in the town for rag gatherers to carry on their barrows salt and sweets actually in contact with their filthy collections of rags, bones, &c., it would naturally appear reasonable to attempt to put a stop to such a dangerous proceeding as effectively as possible. Both salt and sweets are absorbent and liable to contamination with filth (say, from the bones), and the knives and saws used by the people thus employed cannot be expected to be clean. To allow this to go on in the hands of apparently irresponsible persons appears unreasonable, and the probability of spreading infectious disease cannot be lost sight of, as the persons so employed frequently turn over the contents of ashpits and middens in their search for material. Whilst realising that to interfere with any industry is undesirable, one would hope that the time is not far distant when householders will discourage such objectionable practices as far as possible, keeping in view the above dangers, which are obvious.

Conversion of Midden Ashpits and Pail Closets.—The number of conversions during the year shows a decline of 10 on the number for the previous year. The number of fresh-water closets which have replaced privy middens and pail closets was 137, whilst in 54 instances waste-water closets were adopted. The Health Committee now decline to assist property owners in the conversion of privy middens, &c., to the water-carriage system unless they are prepared to adopt the fresh-water type of closet.

On the recommendation of the Health Committee, the Council have decided that in future all property erected in the Borough shall be provided with fresh-water closets.

Limewashing of Ashpits.—As in the previous year, the work of limewashing the interiors of privy middens, in order to diminish at least some of the evils arising from these structures, was again carried out during the summer months. Ashpits in connection with 371 houses were limewashed, as well as several courts and open yards, the result being much appreciated, not only by householders, but by the men engaged in the work of ashpit cleansing.

Scavenging Branch.

The cleansing of streets has been carried out much in the same manner as in previous years. From April to October the work is carried on, in great part, during the night, before the bulk of the horse traffic commences. The combined street watering and sweeping machines have been utilised as much as possible so as to avoid dust nuisance.

The electrically-propelled water car continued to do admirable work during the year, and was on two occasions used for the purpose of washing the wood pavement. Street washing, especially that portion which is paved with wood, might with advantage be carried out more frequently. The old type of water barrel is now reserved for use on the secondary streets.

Handcart-men.—The number of men employed on the principal streets for the collection of horse-droppings, paper, &c., has been maintained, with the result that the streets, generally, have presented a fairly neat appearance.

Gulley Cleaning.—Special attention was paid to the cleansing of street gullies, especially during the hot dry weather, water, to which a soluble disinfectant had been added, being used after cleansing, to seal the gulley traps. Unfortunately there are still many untrapped street gullies in the Borough, which are the cause for numerous complaints, more particularly during the hot weather.

URINALS.—During the year three urinals of an old type have been demolished, and substituted by three structures of an up-to-date pattern. These latter are a decided improvement on the old unsightly iron urinals, which, by no amount of cleansing, could be kept in a satisfactory sanitary condition.

CONCLUSION.—The effect on the health of our towns of efficient Cleansing Departments cannot be over-estimated. There is a close association of the mortality rate, especially the infant mortality rate, with the efficiency or otherwise of the Cleansing Department.

A continuation of the policy of the Cleansing Committee in regard to the speedy removal of house refuse is anticipated, and their serious attention to still more efficient methods of carrying this work out affords ample evidence of this.

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MEDICAL INSPECTION

. OF .

SCHOOL CHILDREN.

PUBLIC HEALTH DEPARTMENT,

BURY,

June, 1909.

To the Chairman and Members of the Education Committee.

Gentlemen,

I beg to present to you my Annual Report dealing with the Medical Inspection of children attending the Public Elementary Schools under your Authority during the year 1908.

In the first place perhaps it would be advisable to give a brief summary of the Regulations of the Board of Education with regard to the Medical Inspection, and also of the method and character of the inspection adopted in your Borough.

Section 13 of the Education (Administrative Provisions) Act, 1907, Sub-Section I., paragraph (b), provides that the powers and duties of a Local Education Authority under Part III. of the Education Act, shall include "the duty to provide for the Medical Inspection of children immediately before or at the time of or as soon as possible after their admission to a Public Elementary School, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in Public Elementary Schools."

The Board by a series of memoranda subsequently issued have indicated clearly the aims and methods implied. The Board emphasise "That the new legislation aims not merely at a record of defects, but at the physical, mental, and moral improvement of the coming generation."

One of the objects of the new legislation is to stimulate a sense of duty in matters affecting health. It is desired also to remove those conditions and correct those habits which predispose to disease, and to detect the inception of those grave maladies which usually reach the medical practitioner at a stage when palliatives only are available.

It has been said that the broad requirements of a healthy life are few and elementary, but they are essential. If rightly administered, the new enactment is economical in the best sense of the word. Its justification is not to be measured in terms of money, but in the decrease of sickness and incapacity among children, and in the ultimate diminution of inefficiency and poverty in after life arising from physical disabilities.

The Board view the entire subject of school hygiene not as a speciality, but as an integral factor in the health of the nation.

In order to carry out the above regulations, the Health Committee decided to appoint an Assistant Medical Officer of Health, whose special duty should relate to the Medical Inspection of School Children. Dr. J. P. Cullen was appointed to the position, and he commenced his duties on April 20th, 1908.

The method of inspection adopted in Bury may be briefly summarised as follows :—

Prior to the inspection of the children attending a Public Elementary School, a blank form is sent by the Director of Education to the head teacher of the school to be filled up with the names of those children who have been admitted, and also of those children who will leave school before the end of the year.

A form is also sent for the names of those children who require special attention.

On receipt of these forms duly entered up, the Medical Officer fixes a date for the examination of the scholars, and a notice in the form shown on the next page is sent by the head teacher to each parent concerned.

COUNTY BOROUGH OF BURY.

MEDICAL INSPECTION OF SCHOOL CHILDREN,

Under Section 13 of the Education (Ad. Prov.) Act, 1907.

NOTICE TO PARENTS.—Date of Medical Inspection.

.....*School.*

Date.....19.....

Dear Sir (or Madam),

I beg to give you notice that the Medical Officer appointed under the Regulations of the Board of Education in accordance with the Education (Administrative Provisions) Act, 1907, will attend at this School on.....*at*.....*for the purpose of Medically Inspecting the Children.*

I have to request you to be good enough to see that your .....*is present on that date, and you, as parent, are requested to attend at the time named.*

Yours faithfully,

.....*Head Teacher.*

The following form of directions for filling cards was formerly sent to Head Teachers. This duty is now undertaken by a clerk.

COUNTY BOROUGH OF BURY.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

DIRECTIONS FOR FILLING UP INSPECTION CARDS.

It will greatly facilitate the work of inspection if teachers will have the following items filled up on the cards before the date of the Medical Officer's visit.

On Front of Card.

Name.

Born. Date to be written in figures, *e.g.*, 22/x/08.

Address.

School.

Personal and Family History.

Details under this head to be copied from the answers received from Parents on the query sheets; if no answer is received, or if it is negative, leave the space under that particular disease *blank*. A positive answer to be recorded under Family History.

N.B.—No negative answer to be recorded to any question.

On Reverse of Card.

1. Date, in figures, *e.g.*, 24/x/08.

2. Put in attendance when the child has been long enough at school to have a civil year's record, and signify it by a fraction, *e.g.*. $\frac{227}{400}$: numerator being actual attendances, denominator the possible ones. Should there be no attainable record of attendance, leave blank, after the standard has been recorded.

3. Age of child. Please write this *in red ink,* and record months as a fraction of year, *e.g.*, $5\frac{7}{12}$, $5\frac{10}{12}$.

4. Height.
5. Weight.

These to be taken and recorded the day before the inspection when possible, if not then, while the inspection is being done, but the former will facilitate matters most. Children to be weighed and measured with boots or shoes *off*, otherwise dressed as in School.

White record cards are used for girls, coloured cards being used for boys. On each card is recorded the name, address, and age, the previous illnesses and family medical history, together with the ages of members of the family as a guide in the estimation of possible factors. This information is treated by the Medical Officer as *strictly private and confidential.*

The child is weighed and measured, and the general state of nutrition compared with these indications. The items of cleanliness, &c., are then noted, not merely with a view to the particular child's comfort, but also for the sake of those who may be in contact.

Teeth, throat, nose, eyes, glands are examined, mental conditions noted, visual and auditory powers, articulation, and the nervous system are tested. The chest is examined for the purpose of ascertaining the condition of the heart and lungs. When the condition indicates the necessity for further examination, note is made of the fact, and the name of the child entered on a special list.

A child referred for medical treatment receives a notice in the following form :—

COUNTY BOROUGH OF BURY.

MEDICAL INSPECTION OF SCHOOL CHILDREN,

Under Section 13 of the Education (Ad. Prov.) Act, 1907.

LETTER TO PARENTS re Medical Treatment Required.

Date.....19.....

Dear Sir (or Madam),

I have examined your.....who is attending..... School, and find he (she) has.....

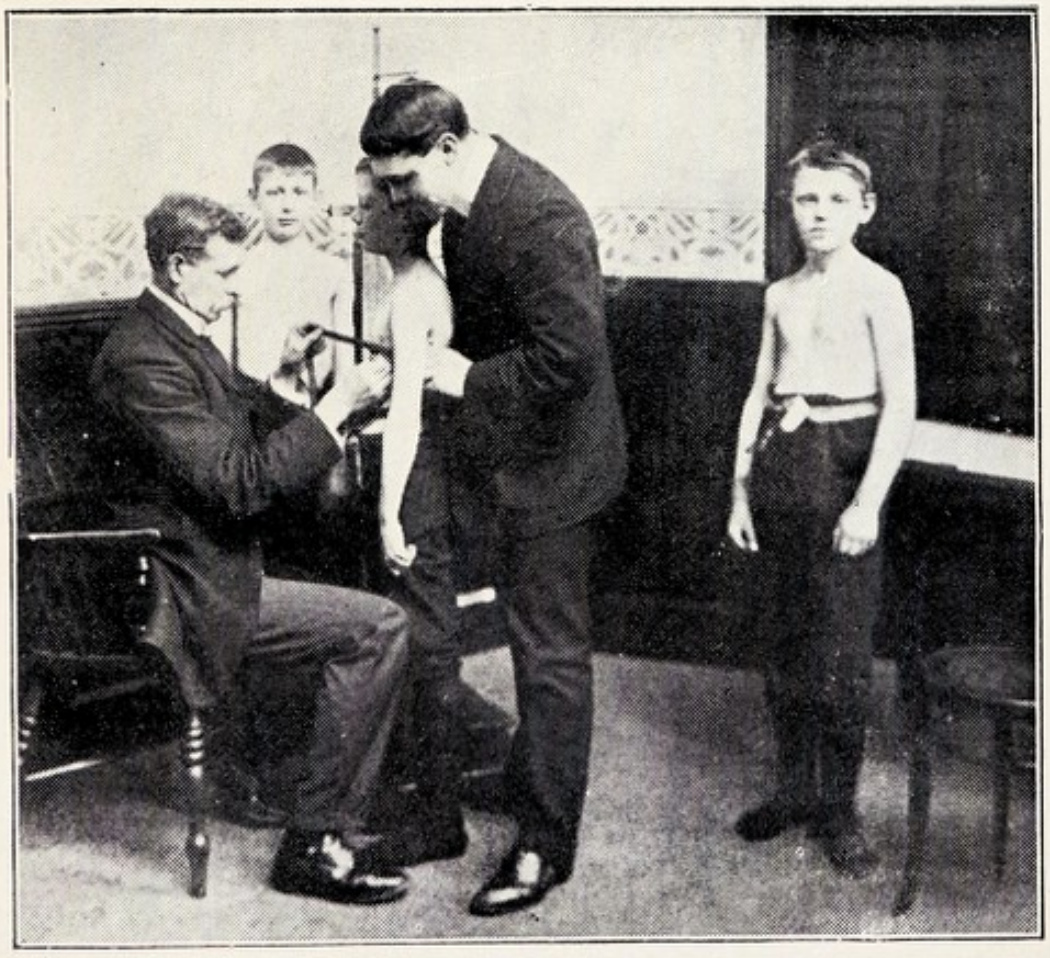
I suggest you should at once ask your Medical Attendant as to what he would advise should be done for the child.

Yours faithfully,

.....*Medical Officer.*

During the year Dr. Cullen examined 1,039 children attending the various Public Elementary Schools within the Borough, the children examined being those in the first and last years of school life, as required by the regulations of the Education Board. On conclusion of the examinations the particulars obtained were tabulated and summarised, and a report dealing with the condition of the school children presented to the Education Committee, of which the following is a copy :—

TAKING THE HEIGHT AND WEIGHT OF SCHOOL CHILDREN.



TAKING CHEST MEASUREMENTS.

PUBLIC HEALTH DEPARTMENT,

BURY,

October, 1908.

To the Chairman and Members of the Education Committee.

Gentlemen,

I beg to submit to you my report on the examination of school children to date.

The report comprises an examination of 1,039 children from the 26 schools, being those entering and leaving during the current year.

Of the 1,039 children—

18 had Heart Disease in some form or other, being 1.7 per cent. of the total. In 17 cases the lesion involved the mitral orifice, and in the majority of these its cause was Rheumatism in some one or other of its manifestations. In one case the pulmonary valve was affected, the lesion being congenital.

38 had the Lungs affected, being 3.6 per cent. of the total. In only two cases were the lesions tubercular—affecting the apices—one being in a child with discharging sinuses from long-standing tubercular disease of the hip. The remainder were due to Bronchitis, in many instances associated with enlarged tonsils.

8 had some affection of the Nervous System, being 0.7 per cent. of the total. The affections were Chorea and anterior Polio-Myelitis, mainly the latter.

53 had Deformities, or 5 per cent. of the total. A few of these were tubercular, e.g., hip disease, or spinal caries, and one was due to spina bifida. The large majority were due to rickets, e.g., bowlegs and thoracic changes.

24 had External Eye Disease, or 2.3 per cent. of the total. These comprised cases of squint, blepharitis, and leucomata. In no case, I am pleased to say, did I come across trachoma.

178 girls, out of 546 examined (or one girl out of three), had "nits" in their hair.

131, out of 724 examined, or 17 per cent., had vision affected. Under five years of age the eyesight was not tested, as defects in vision are rare. Speaking generally, the percentage of children over five years of age with defective vision throughout the country rises to 20 per cent.

150 children were defective in nutrition, or 14 per cent. of the total examined. The data for height and weight were those laid down by the Anthropometrical Commission. This figure is high, and the seriousness of the matter is more evident when, on closer examination into the figures, it is found that the proportion of defective nutrition in those entering to those leaving school is as 1 to 3. In other words, that at a time when great stress is being laid on the developing brain the body is not being kept up to the required standard of nourishment.

288 children, or 27 per cent., were found to have enlarged tonsils and adenoids.

435 children, or 43 per cent., were found to have carious teeth. This percentage is very high. Possibly the presence of large quantities of sulphurous and sulphuric acids in the atmosphere may account for this. If the eating of sweets were the cause a similar percentage might be expected all over the country, which is not the case.

Special Examination.—In addition to the above I have made notes on 68 cases *specially* submitted for examination. Out of these—

6 had defective nutrition. In one of these cases the defect was associated with retained testicles.

8 had external eye diseases in the shape of squint or leucomata.

19 had enlarged tonsils and adenoids.

3 had Heart Disease, two of the three being due to Rheumatism.

2 had Bronchitis.

5 had Nervous Affections, one being a case of fits, probably epileptic. One of anterior Polio-Myelitis, and three cases of Chorea or St. Vitus' Dance.

4 cases were mentally deficient.

1 case was a morally deficient. Arrangements were made in this case with the help of the teacher to secure the child's admission to a suitable home.

3 cases were found to have speech affected.

15 cases were found to have defective vision.

1 case had tubercular disease of the spinal column.

1 case had tubercular peritonitis, with a discharging sinus.

Owing to the prevalence of various contagious diseases, visits have also been paid to individual cases of Measles, Whooping Cough, &c., which have occurred in scholars attending the various public elementary schools. Inspections of the affected schools have also been made in order to ascertain, if possible, the origin of the above.

Bacteriological Examinations.—In addition from time to time bacterioscopic investigations have been conducted on contact cases of Diphtheria, and microscopical examinations made in cases of ringworm.

Summary and Conclusions.—In the general report the absence of grave diseases of the heart, lungs, and nervous system is satisfactory. The percentage of eye affections is also below the normal. On the other hand, the affections of the teeth and tonsils and the defects in nutrition are high, and the cleanliness of the children's hair leaves much to be desired. The special report comprises cases selected for some ailment or other. I am of opinion that unless medical inspection is to simply consist in the compiling of statistics, the Education Committee should take more active steps than they have hitherto done. Such steps should in the first place take the form of appointing a Nurse to assist the Education Officer, not only in the examination of the female scholars, in which he has hitherto been dependent on the kindness of the various masters in allowing lady teachers to assist him, but also in visiting homes and seeing that his recommendations are attended to. Secondly, I would draw the Committee's

attention to the periodical recurrence of infectious and contagious disease among the scholars, e.g., Measles, Whooping Cough, Mumps, &c. As the absence from school of the children must have a serious effect on the earning capacity of such school, I would, therefore, recommend to the earnest consideration of this Committee whether it would not be advisable to adopt a routine method for the frequent disinfection of schoolrooms, books, &c., used by the scholars.

Finally, I beg to thank the various masters and mistresses of the above schools, by whose unfailing courtesy the above work has been much lightened.

I am, Gentlemen,

Yours obediently,

J. P. CULLEN,

Assistant Medical Officer of Health.

From an examination of the interesting and instructive report prepared by Dr. Cullen, the need for the medical inspection of school children becomes apparent. As Dr. Cullen very pointedly remarks, "that unless medical inspection is to simply consist of the compiling of statistics more active steps will have to be taken in the future than have been in the past." No good can accrue from the compiling of these statistics. What is wanted is, that when children are found to be defective, such steps should be taken as will either remove or ameliorate the defect. This is a very serious question, and one that should receive the early and earnest consideration of the local Education Authority. In my opinion, it is simply a waste of time and money attempting to instil learning into a child that is suffering from either physical or mental defect, as not only is the child, in the majority of instances, incapable of acquiring the knowledge, but it also acts as a kind of drag on the other children who are both physically and mentally efficient, thus tending to hamper the progress of the class to which the child in question belongs, which would not be the case if the child were removed to receive special tuition.

Another important point mentioned in Dr. Cullen's report is that relating to defective nutrition. It is somewhat distressing to find that of the 1,039 children examined no less than 150, or 14 per cent., were found to be defective as regards nutrition. These figures provide ample food for reflection. Although much has already been done by the Education Authority by the provision of free meals to these children, there appears to be further scope for the consideration of this kind of work. It is no use attempting to shirk the responsibility. If the nation is to continue to hold its own amongst the great nations of the world, steps will have to be taken to improve the physique of the rising generation. The question for the present generation is how to stay the mischief and to provide a remedy for the evils. This, in my opinion, can only be done by a thorough medical inspection of the school children and by the co-operation of the local Education Authority in providing means for dealing with defective children when found.

As legislation requires all children to be medically examined before being engaged or allowed to work in a factory, surely it is not too much to ask that the child might receive such treatment before entering on a school career. Some of the defects found, although perhaps of only a minor character, may have such an effect on the child as to alter his or her whole career. It has often been noted that a child with only a slight defect will not mix freely with other children; consequently the child suffers by not receiving that amount of recreation which is essential to his or her welfare. If nothing worse develops, shyness, or an undue tendency to shun his or her companions, may have considerable influence in unfitting the child for a reasonable struggle for existence.

I would earnestly point out the great responsibility which rests on the shoulders of the Health and Education Committees, as it is only by the hearty co-operation of these two important bodies that we can hope to prevent and remove the evils from which the present generation of school children are undoubtedly suffering. The first consideration of the Education Committee should be to see that children entering the Public Elementary Schools are in such a physical condition as to receive full benefit from the knowledge to be obtained there; and secondly, to take such steps in the

case of those children who do not reach the desired standard, to ensure their attendance at such special classes, &c., as will tend to remove or diminish their disabilities, and to so make them become useful members of the community.

Not the least important action of the Education Authority is to be found in the adoption of the recommendation for the appointment of a school nurse, and also for the systematic periodical disinfection of school buildings.

Special Examination.—In addition to the above, five children (one boy and four girls), who were suffering from some form or other of mental or physical disability, were examined at the Health Office, and a report, dealing specifically with the condition of each child, together with a recommendation as to the method for future treatment, was prepared and presented to the Education Committee.

The medical examination of such children, in my opinion, constitutes one of the chief features of this branch of work, as the early recognition of the case, apart from the child's removal from amongst those children who are physically and mentally sound, enables such treatment to be adopted as may tend to make the child become a useful member of the community. There can be no doubt that it is only by such special segregation of the scholars, in accordance with the varying degrees of mental and physical condition, that we can hope to attain the standard of efficiency which we are all so anxious to see in our Public Elementary Schools.

CLASSES FOR THE CURE OF STAMMERING.

During the year the Education Committee have established special classes for Stammerers.

The first class, conducted by Mr. W. A. Yearsley, a specialist in the treatment of Stammerers, was begun on February 24th, 1908, and continued until April 3rd, 1908. Fifty children were admitted at the commencement of the class; but this number was subsequently reduced to 23 by the order of Dr. Eicholz, of the Board of Education, who excluded 27 of those first admitted.

A second class, held on Saturday mornings, and conducted by Mr. Amos Clarke, was begun on October 24th, 1908, but owing to the small attendance was finally discontinued on April 3rd, 1909.

It is to be hoped that from the good results obtained, should occasion again arise, a further stimulus will be given to the splendid efforts that have been made to ameliorate this condition.

SCHOOL BUILDINGS.

Although the sanitary condition of each school has been noted and attention directed to defects where necessary, I may say that, due to changes in the staff, both of principal and assistants, no special systematic record had been completed at the end of the year of the sanitary features of each school, but the same will be included in my next Annual Report.

The new Council School in course of erection in East Ward, built to the design of the Borough Engineer and Surveyor (A. W. Bradley, Esq., A.M.I.C.E.), was nearing completion at the close of the year. A photograph of the building as designed will be found as a frontispiece.

In conclusion, I would take this opportunity of thanking the Director of Education (R. Wilkinson, Esq., B.A.), and other officials for their co-operation in this work, and also you as members of the Education Committee for the kindness and consideration which at all times have been extended to me.

I am, Gentlemen,

Yours obediently,

ROBERT BURNET,
School Medical Officer.

TABLE I.

SUMMARY OF DEATHS, 1908.

DISEASES.	AGES.													ALL AGES.
	0	1	5	10	15	20	25	35	45	55	65	75	85	
Measles	2	13	..	..	..	..	..	..	..	..	..	..	..	15
Scarlet Fever	..	1	1	1	..	..	..	..	..	..	..	..	..	3
Epidemic Influenza	..	..	..	..	..	1	1	2	2	1	3	2	1	13
Whooping Cough	1	5	..	..	..	..	..	..	..	..	..	..	..	6
Diphtheria	..	7	3	..	..	..	..	..	..	..	..	..	..	10
Enteric Fever	..	..	..	1	..	1	..	2	..	..	..	..	..	4
Diarrhœa, Dysentery Epidemic Enteritis	20	5	..	..	..	..	..	..		1	..	4	..	30
Syphilis	1	..	..	..	..	..	..	..	..		..	..	..	1
Erysipelas	..	..	..	..	..	..	..	1	1	..	..		..	2
Puerperal Fever	..	..	..	..	..	1	1	..	..	..	..	..	..	2
Septic Tonsillitis	..	..	..	..	..	..	..	..	1	..	..	..	..	1
Septicæmia	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Rheumatic Fever	..	..	..	1	2	..	..	..	..	..	..	..	..	3
Tuberculosis of Brain	6	1	1	..	..	..	..	..	..	..	..	..	..	8
Tuberculosis of Larynx	..	..	..	..	..	..	2	..	..	..	..	..	..	2
Phthisis	1	..	..	1	..	4	17	11	16	10	3	..	..	63
Abdominal Tuberculosis	2	4	1	..	..	..	..	..	..	..	..	..	..	7
General Tuberculosis	..	3	1	..	1	..	..	..	..	..	..	..	..	5
Other forms Tuberculosis	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Thrush	2		..	..	..	..	..	..	..	..	..	..	..	2
Other Diseases due to altered food	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Chronic Alcoholism	..	..	..	..	..	..	..	..	3	..	..	..	..	3
Peripheral Neuritis	..	..	..	..	..	..	..	..	1	1	..	..	..	2
Osteo-arthritis	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Cancer	..	..	..	..	..	..	1	7	11	22	12	4	..	57
Diabetes Mellitus	..	..	..	..	..	..	..	..	4	3	..	2	..	9
Anæmia	..	.		..	..	.	..	1	..	1	..	..	..	2
Premature Birth	32	..	..	..	..		..	..	..	..		..		32
Injury at Birth	2	..	..	..	..		..	..	..	..	..	..	..	2
Debility at Birth	3	..	..	..		..	..	..	..	..	..	..	..	3
Atelectasis	2	..	..	..	..	..	..	..	..	..	..	..	..	2
Congenital Defects	2	..	..	..	..	..	..	..	..	..	..	..		2
Malformation of Heart	3	..	..	..	..	1	..	..	..	..	..	..	..	4
Imperforate Anus	2		..	..	..	..	..	.	.	..		..	..	2
Atrophy, Debility, Marasmus	34	2	..	..	..	..	..	..	..	..	..	..	..	36
Dentition	2	2	..	..	..	..	..	..	..	..	..	..	..	4
Rickets	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Old Age, Senile Decay	..	..	..	..	..	..	..	..	..	3	18	41	10	72
Convulsions	11	5	..	..	..	..	..	..	..	..	..	..	..	16
Meningitis	8	2	..	1	1	..	..	1	.	..	..	..	..	13
Apoplexy	..	..	..	..	..	..	1	3	8	28	12	4	..	56
Softening of Brain	..	..	..	..	..	..	..	3	..	2	1	..		6
Hemiplegia	..	1		..	..	..	..	..	1	1	3	..	1	7
General Paralysis of Insane	..	..	..		..	..	1	3	2	..	1	..	..	7
Chorea	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Cerebral Tumour	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Epilepsy	..	..	..	..	1	1	1	..	..	..	..	..	..	3
Laryngismus Stridulus	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Locomotor Ataxy	..	..	..	..	..	..		2	..	..	..	..	..	2
Paraplegia	..	..	..	..	..	1	..	..	..	..	5	..	..	6
Otitis	..	..	..	..	..	1	..	..	..	..		..	..	1
Endocarditis	..	..	..	1	2	3	5	7	15	25	21	2	1	82
Angina Pectoris	..	..	..	..	..	..	..	..	2	..	2	..	..	4
Aneurism	..	..	..	..	..	..	..	..	2	..	1	1	..	4
Senile Gangrene	..	..	..	..	..	..	..	..	..	1	2	4	..	7
Embolism, Thrombosis	..	..	1	..	..	..	..	..	..	4	2	..	..	7
Phlebitis	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Laryngitis	1	..	..	..	..	1	..	..	..	..	..	..	..	2
Acute Bronchitis	9	3	..	..	..	..	..	..	..	1	1	1	1	16
Chronic Bronchitis	..	..	1	..	..	..	..	2	9	18	17	12	..	59
Lobar Pneumonia	..	1	1	..	1	..	3	5	3	5	4	1	..	24
Lobular Pneumonia	9	22	1	..	1	..	2	1	2	3	..	1	.	42
Pleurisy	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Gangrene of Lungs	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Ulcer of Stomach and Duodenum	..	..	..	..	..		3	..	1	..	..	..	..	4
Other Diseases of Stomach	.	..	..	..	..	..	..	2	1	3	..	..	..	6
Enteritis	11	4	..	..	..	..	..	..			1	..	..	16
Totals	166	85	11	7	9	15	42	53	85	137	109	79	14	812

TABLE I.—*Continued.*

SUMMARY OF DEATHS, 1908.

DISEASES.	AGES.													ALL AGES.
	0	1	5	10	15	20	25	35	45	55	65	75	85	
Totals brought forward	166	85	11	7	9	15	42	53	85	137	109	79	14	812
Appendicitis	..	1	4	1	..		1	..		..	1	..	..	8
Obstruction of Intestine	1	..		..	..	1	2	1	1	..	..	..	..	6
Other Diseases of Intestine	5	..	..	..	..	..	..	1	..	4	2	..	..	12
Cirrhosis of Liver	..	..	..	..	..	..	..	1	6	4	4	..	..	15
Peritonitis	..	1	..	..	..	1	..	1	3	..	4		..	10
Myxœdema	..	..	..	..	..		..	..	..	..	1	..	..	1
Acute Nephritis	..	..	..	..	..	1	..	2	1	1	..	..	..	5
Bright's Disease	..	..	..	..	..	..	2	..	1	3	..	..	..	6
Calculus	.	..	..	..	..	..	..	..	1	..	..	..	..	1
Diseases of Bladder & Prostate	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Pyonphrosis	..	..	..	..	..	..	1	.	..	..	..	..	..	1
Diseases of Uterus & App'ndag's	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Abortion, Miscarriage	..	..	..	..		1	..	..	..	..	..	..	..	1
Puerperal Convulsions	..	..	..	..	1	..	2	..	..	..	..	..	.	3
Other Diseases, Pregnancy and Childbirth														
Goitre and Parturition	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Parturition	..	..	..	..	..	.	1	..	..	..	..	..	..	1
Pemphigus	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Accidents and Negligence:														
In Mines and Quarries	..		..	..	..	..	..	1	..	..	..	..	..	1
In Vehicular Traffic	..	1	..	..	..	1	..	..	1	..		..	..	3
In Building Operations	..	..	..	..	..	..	..	..	1	..	..	..	..	1
By Machinery	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Burns and Scalds	..	1	2	..	..	..	..	..	..	..	..	..	..	3
Suffocation, Overlaid in Bed	3	..	..	..	..	..	..	..	..	..	..	..	..	3
Suffocation, Otherwise	..	1	..	..	..	..	..	..	1	..	1	..	..	3
Falls not specified	..	..	..	..	..	..	..	..	..	1	1	1	..	3
Otherwise, not stated	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Suicides:														
By Poison	..	..	..	..	..	..	1	..	..	..	..	..	..	1
By Hanging and Strangulation	..	..	..	..	..		..	3	..	..	1	..	..	4
By Drowning	..	..	..	..		..	..	..	1	..	..	..	..	1
By Cut or Stab			..	..	..	..	..	1	..	..	1	..	..	2
By other & unspecified methods	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Sudden Death, cause not ascertained	..	..	..	..	..	..	..	1	..	5	..	..	..	6
Ill-defined & Unspecified Causes	2	2	..		..	..	..	2	3	8	..	1	..	18
Grand Totals	178	92	17	8	10	20	52	71	105	166	125	81	14	939

TABLE II.

Table showing Number of Deaths and Rates of the Principal Infectious Diseases for the past Ten Years.

	1899		1900		1901		1902		1903		1904		1905		1906		1907		1908	
	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000
Smallpox ...	0	0	0	0	0	0	3	0·05	6	0·10	2	0·03	1	0·01	0	0	0	0	0	0
Measles ...	5	0·08	26	0·42	8	0·13	17	0·29	25	0·43	27	0·46	6	0·10	51	0·87	11	0·18	15	0·25
Whooping C.	2	0·03	34	0·58	0	0	10	0·16	7	0·12	42	0·71	1	0·01	6	0·10	27	0·46	6	0·10
Scarlet F'v'r	5	0·08	6	0·10	3	0·05	5	0·08	8	0·13	10	0·16	3	0·05	2	0·03	1	0·01	3	0·05
Diphtheria ..	9	0·14	8	0·13	12	0·20	34	0·58	25	0·43	7	0·12	5	0·08	6	0·10	10	0·17	10	0·16
Fever ..	14	0·24	7	0·12	8	0·13	4	0·07	4	0·07	7	0·12	11	0·18	5	0·08	5	0·08	4	0·07
Puerperal F.	6	0·10	10	0·16	2	0·03	1	0·01	1	0·01	3	0·05	1	0·01	4	0·07	6	0·10	2	0·03
Erysipelas ..	1	0·01	5	0·08	0	0	1	0·01	1	0·01	0	0	3	0·05	3	0·05	1	0·01	2	0·03
Diarrhœa ...	107	1·20	45	0·85	59	1·06	14	0·24	49	0·84	45	0·77	44	0·75	46	0·78	14	0·34	30	0·50
Influenza ...	24	0·41	35	0·59	11	0·18	6	0·10	5	0·08	11	0·18	10	0·16	7	0·12	10	0·17	13	0·22

TABLE III.

The following is a CENSUS OF THE SANITARY CONVENIENCES within the Borough, a comparison being made with those of the preceding years :—

	1908	1907	1906	1905	1904
Number of privies	4169...	4318...	4465...	4682...	5016
Number of ashpits in connection with privies	2328...	2308...	2370...	2480...	2635
Number of pails	592...	619...	648...	689...	714
Number of dry ashpits in connection with pails	315...	327...	341...	356...	365
Number of mill tanks	19...	19...	22...	25...	35
Number of fresh-water closets (outside)...	1114...	1977...	1847...	1723...	1478
Number of fresh-water closets (inside)	807...	794...	793...	739...	731
Number of waste-water closets	2698...	2644...	2517...	2317...	2083
Number of dry ashpits in connection with water closets...	1733...	1671...	1610...	1490...	1335
Number of bins in connection with water closets	926...	863...	776...	690...	624

WORK PERFORMED IN THE NIGHTSOIL DEPARTMENT DURING THE YEAR 1908, ALSO COMPARISON WITH THE THREE PRECEDING YEARS.

	1908	1907	1906	1904
Number of ashpits in connection with privies emptied	27656...	23012...	25481...	26566
Number of loads removed from same	9941...	9792...	10407...	12158
Number of loads removed from dry ashpits	2951...	2705...	2612...	2308
Number of barrels of excreta removed from pail closets, &c. ...	770...	814...	837...	953
Number of notices received for ashpits to be emptied...	153...	273...	628...	763

TABLE III.—*Continued.*

AMOUNT OF WASTE PAPER COLLECTED.

	T.	C.	Q.
1904	30	11	1
1905	94	7	0
1906	131	18	3
1907	208	17	2
1908	214	10	2

DISPOSAL OF REFUSE.

During the year 12,892 loads of refuse have been removed from ashpits, and these have been disposed of as follows :—

To the Destructor at Fernhill	9361
To the various tips	3531

The following are the weights of the refuse taken to the Fernhill Destructor :—

	T.	C.	Q.
Household refuse	13131	11	0
Market refuse	94	6	0
Fish and other refuse	455	3	0
	13681	0	0
Average weight per load (1908)	1	8	0
Average weight per load (1907)	1	8	3
Average weight per load (1906)	1	7	1

SCAVENGING.

Loads of sweepings collected	3139
Loads of snow removed	1736

WATERING OF STREETS.

In addition to the water spread by the electric water car, 847 barrels of water have been spread on the principal streets during the year.

TABLE IV.

List of Registered Midwives, corrected to February 1st, 1909:—

Nabb, Mrs. Esther, 1, Regent Street.
†Benson, Mrs. Elizabeth, 2, Britain Street.
†Booth, Mrs. Sarah, 280, Tottington Road.
*Carrington, Mrs. Mary Jane, 4, Richard Burch Street.
Cook, Mrs. Louisa, 46, Holland Street, Radcliffe.
Cotterill, Mrs. Sophia, 108, Wash Lane.
*Dodd, Miss Emily, 130, Walmersley Road.
Fitzpatrick, Mrs. Mary, 72, Whalley Road, Shuttleworth.
*Hampton, Miss Annie, 66, Vernon Street.
†Ingham, Mrs. Julia, 98, Taylor Street.
Isherwood, Mrs. Elizabeth, 9, Shepherd Street.
†James, Mrs. Annie, 251, Bolton Road.
Morrison, Mrs. Louisa, 52, Manchester Old Road.
Pickup, Mrs. Mary Ann, 4, Eldon Street.
Rostron, Mrs. Harriet, 8, East Street.
Snowdon, Mrs. Elizabeth, 2, Thorn Street, Summerseat.
Taylor, Mrs. Ellen, 35, Union Square.
Wiley, Mrs. Ellen, 20, School Street.
Yarwood, Miss Ada, Booth Street, Elton.

* Trained and certificated by examination.
† Has received some training, but has passed no examination.

TABLE V.

List of Registered Keepers of Common Lodging-houses, 1908:—

Hoyle, William and James, 26 and 28, Clerke Street.
Vipond, John, 5, 7, 9, and 11, Clerke Street.
Leggett, Edward, 11, Parkhills Street.
Whitehouse, James, Samuel, and John.
Hanson, John, 52, Union Square.
Crossley, Benjamin, 18, Union Street.
Hindle, James, 4, 6, 8, 10, and 12, Rochdale Road.
Dodd, Lily, 16, Union Square.
Griffin, Lucy, 20, Earl Street.
Miles, Cornelius, 56, Union Square.
Tattersall, William, 12, John Street.
Wright, John, 38, King Street, and 41—43, Union Square.
Johnstone, Robert, 24, Clerke Street.
Taylor, Elizabeth Alice, 25, King Street.

TABLE VI.

COPY OF RETURN SUPPLIED TO THE LOCAL GOVERNMENT BOARD.

BOROUGH OF BURY.—Return of the number of cases of Infectious Disease reported to the Medical Officer of Health during the year 1908, and of deaths from the diseases notified.

	Cases Notified in 1908.	Deaths Registered in 1908.
Smallpox	Nil	Nil
Scarlatina or Scarlet Fever	98	3
Diphtheria (including Membranous Croup)	52	10
Typhus Fever	Nil	Nil
Enteric or Typhoid Fever	17	4
Continued Fever	Nil	Nil
Relapsing Fever	Nil	Nil
Puerperal Fever	9	2
Cholera	Nil	Nil
Erysipelas	26	2
Plague	Nil	Nil
Totals	202	21

ROBERT BURNET,

Medical Officer of Health.

Dated February 2nd, 1909.

TABLE VII.

DEATHS FROM PHTHISIS, 1908.

Ward.	Address.	Sex.	Age.	Occupation.
Elton ..	134, Wood Street	M	20	Piecer (Cotton Mill)
East ..	Fairfield (Union Workhouse)	M	38	Farm Labourer
Moorside ..	Shaw's Yard (Union Workhouse) ..	M	25	Labourer
Church ..	9, Clerke Street (Union Workhouse) ..	M	49	Stripper and Grinder
East ..	Barrett Street (Union Workhouse) ..	M	25	Railway Shunter
Redvales ..	7, Palace Street	F	46	Wife
Elton ..	32, Merton Street	F	58	Wife
East ..	489, Rochdale Old Road	F	37	Wife
Redvales ..	20, Shepherd Street	F	13	Daughter
Redvales ..	51, Gigg Lane	M	52	Bricklayer
Elton ..	18, Dudley Street	F	26	Wife
Moorside ..	407, Walmersley Road	M	55	Labourer
Redvales ..	135, Manchester Road	F	47	Widow
East ..	15, Fletcher Street	M	68	Formerly Gardener
Moorside ..	21, Argyle Street	M	63	Labourer
Church ..	28, Clerke Street (Union Workhouse) ..	M	45	Labourer
Church ..	16, Union Square	M	35	Street Artist
Moorside ..	12, Kenyon Street	F	41	Wife
Moorside ..	54, Badger Street	M	34	Blacksmith's Striker
Church ..	Clerke Street (Union Workhouse) ..	M	33	General Labourer
Moorside ..	25, Todd Street	M	30	Journeyman Hatter
Church ..	19, Castlecroft	M	58	General Labourer
East ..	15, Bright Street	F	40	Wife
Moorside ..	21, Topping Street	M	57	Tailor
Redvales ..	72, Andrew Street	M	5 months	Son
East ..	8, Walker Street	M	23	Brassmoulder
Moorside ..	47, Haslam Street	M	58	Iron Fitter
Moorside ..	3, Park Street	M	33	Wood Turner
Elton ..	50, Scholes Street	F	57	Wife
Moorside ..	136, Brook Street	F	42	Wife
Moorside ..	81, Brookshaw Street	M	25	No Occupation
Moorside ..	30, Portland Street	M	53	Plumber
Elton ..	68, Victoria Street	F	48	Cotton Winder (spinster)
Moorside ..	12, Hornby Street	M	34	Labourer
Elton ..	73, Tottington Road	F	49	Wife
East ..	24, Queen Street	F	10	Daughter
East ..	36, Audlam Street	M	49	Cotton Spinner
Church ..	Clerke Street (Union Workhouse) ..	M	45	Carter
Elton ..	Wood Road	M	54	Furnaceman
East ..	1, Rawson's Yard	M	44	Stripper and Grinder
Redvales ..	5, Benson Street	M	34	Cabinet Maker
Church ..	Union Square (Union Workhouse) ..	F	39	Wife
Church ..	30, Garden Street	M	25	Gardener
Redvales ..	80, Brierley Street	F	31	Wife
Church ..	Clerke Street (Union Workhouse) ..	M	34	Labourer
Church ..	28, Clerke Street (Union Workhouse) ..	M	28	Labourer

TABLE VII.—*Continued.*

DEATHS FROM PHTHISIS.

Ward.	Address.	Sex.	Age.	Occupation.
Moorside	7, High Street	M	57	Stripper and Grinder
East	255, Rochdale Road	F	24	Daughter
East	197, Wash Lane	F	24	Cotton Winder
Elton	22, Higher Woodhill	M	37	Carter
Elton	80, Bolton Road	F	42	Wife
East	60, Parsonage Street	M	67	Retired Warehouseman
East	26, Albert Street	F	30	Cotton Weaver
Moorside	10, Salford Street	M	30	Assistant (Co-op. Stores)
Church	54, Union Square	F	54	Wife
Redvales	27, Brierley Street	M	30	Gardener
Moorside	21, Lathom Street	F	63	Widow
East	253, Rochdale Old Road	M	28	Labourer
East	61, Kay Street	F	21	Wife
Moorside	332, Walmersley Road	F	29	Wife
East	4, Ash Street	F	38	Weaver
East	18, Cobden Street	F	59	Wife
Elton	County Asylum, Prestwich (from Elton)	M	32	General Labourer

TABLE VIII.

CHRONOLOGICAL ORDER OF

DEATHS FROM CANCER DURING THE YEAR 1908.

WARD.	ADDRESS.	SEX.	AGE.	DESCRIPTION.	ORGAN AFFECTED.	OCCUPATION.
Elton ..	4, Milton Street ..	M	53	Carcinoma ..	Stomach ..	Wife
Elton ..	11, Topping Street ..	M	71	Carcinoma ..	Abdomen ..	Paper Maker
Church ..	25, Rock Street ..	F	84	Epithelioma..	Breast ..	Widow
Elton ..	11, Merton Street ..	M	62	Cancer ..	Liver ..	Iron Fitter
Redvales..	95, Ingham Street ..	F	54	Carcinoma ..	Breast ..	Wife
Redvales..	River Bank, Pimhole ..	F	59	Malignant Disease ..	Stomach ..	Wife
Redvales..	10, Palace Street ..	F	69	Malignant Disease	Kidney ..	Widow
East ..	205, Bell Lane ..	F	62	Scirrhus ..	Breast ..	Housekeeper
East ..	8, Bambury St.(Dispensary Hospital)..	F	52	Cancer ..	Pancreas ..	Widow
Elton ..	239, Tottington Road .	M	64	Carcinoma ..	Stomach ..	Paper Finish'r
Elton ..	Dispensary Hospital ..	M	40	Sarcoma ..	—— ..	Engine Tenter
Moorside..	11, High Street ..	M	64	Cancer ..	Larynx ..	Superannuat'd Iron Turner
Moorside..	52, Bridge Street ..	F	62	Cancer ..	Breast ..	Seamstress
Church ..	2, Back Trinity Street ..	M	67	Cancer ..	Stomach ..	Labourer
East ..	2, Maxwell Street ..	F	41	Cancer ..	Neck .	Widow
Church ..	42, Edward Street ..	F	55	Carcinoma ..	Cervicis ..	Wife
Redvales..	12, Oxford Street ..	F	73	Cancer ..	Abdomen ..	Widow
Moorside..	498, Walmersley Road ..	F	56	Cancer ..	Stomach ..	Wife
Redvales..	12, South Bank Road ..	F	33	Carcinoma ..	Mammæ ..	No occupat'n
Elton ..	Union Workhouse ..	F	54	Cancer .	Liver ..	Widow
Redvales..	28, Pimhole Road ..	M	62	Carcinoma ..	Rectum ..	Stripper and Grinder
Redvales..	2, Leyland Street ..	F	77	Carcinoma ..	Labia ..	Widow
Redvales..	80, Horne Street ..	F	59	Carcinoma ..	Gall Bladder..	Wife
Elton ..	34, Horbury Street ..	F	59	Carcinoma ..	Stomach ..	Wife
Moorside..	104, Walmersley Road ..	F	67	Carcinoma ..	Duodenum ..	Wife
Church ..	36, Georgiana Street ..	F	60	Carcinoma ..	Pyloric ..	Wife
Moorside..	5, Eldon Street ..	F	54	Cancer .	Uterine ..	Wife
East ..	191, Rochdale Old Road ..	F	44	Cancer ..	Breast, Liver.. and Rectum	Cotton Weav'r
Church ..	8, Edward Street ..	F	82	Carcinoma ..	Uterus ..	Widow
Moorside..	8, Dawson Street ..	M	64	Carcinoma ..	Rectum ..	Labourer
East ..	39, Queen Street ..	M	71	Carcinoma ..	Liver ..	Labourer
Elton ..	16, Woodhill Street ..	F	51	Carcinoma ..	Stomach ..	Wife
Elton ..	11, Byrom Street ..	M	68	Carcinoma ..	Pylorus ..	Operative Cotton Dyer
Elton ..	6, Byrom Street ..	F	58	Malignant Disease ..	Stomach ..	Wife
Church ..	28, Trinity St.(Dispensary Hospital) ..	M	38	Sarcoma ..	Right Iliac Fossæ ..	Labourer
Redvales	13, Tenter's Court ..	F	55	Carcinoma ..	Uteri ..	Widow
Moorside..	7, Flint Street ..	M	69	Carcinoma ..	Stomach ..	Labourer
Church ..	46, Cecil Street ..	F	54	Carcinoma ..	Uterus and Rectum ..	Wife
Elton ..	29, Newbold Street ..	F	59	Carcinoma ..	Œsophagus ..	Widow
East ..	33, Stanley Street ..	F	73	Malignant Disease ..	Naso-pharynx.	Widow
Redvales..	10, Heywood Street ..	F	79	Malignant ..	Rectum ..	Widow
Elton ..	2, Albion Street off ..	M	61	Cancer ..	Mouth ..	Coal Miner
East ..	16, Maxwell Street ..	F	43	Carcinoma ..	Breast ..	Wife
Moorside..	198, Walmersley Road ..	M	63	Malignant Disease ..	Liver ..	Congregat'nal Minister
East ..	66, Wash Lane ..	F	46	Carcinoma' ..	Uteri ..	Cott'n Winder
East ..	Church Street (Union Workhouse) ..	F	81	Epithelioma..	Face ..	Widow
East ..	19, John Street ..	F	64	Carcinoma ..	Œsophagus ..	Wife
Redvales .	41, Manchester Old Road ..	F	66	Malignant Tumour ..	Neck ..	Widow
East ..	209, Rochdale Road ..	F	49	Cancer ..	Breast & Liver.	Wife
Church ..	11, Parsons Lane ..	F	74	Cancer ..	Liver ..	Widow
Elton ..	38, Mitchell Street ..	F	53	Malignant Disease ..	Liver ..	Wife
Redvales..	121, Spring Street ..	F	60	Cancer	Breast ..	Nurse
Redvales..	8, Mason Street ..	F	63	Malignant Dis.	Peritoneum ..	Wife
Redvales..	21, Dumers Lane ..	F	60	Cancer ..	Stomach ..	Housekeeper
East ..	9, Shaw Street ..	M	66	Sarcoma ..	Neck ..	Cloth Finish'r
Elton ..	10, Albion Court ..	M	49	Carcinoma ..	Pylorus ..	Labourer
Elton ..	20, Olive Street ..	F	54	Rodent Ulcer	—— ..	Wife

TABLE IX.

THE BURY AND DISTRICT JOINT WATER BOARD.

RAINFALL AT WORKSHOP YARD, PARSONS LANE.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
January.....	5·93	2·67	6·59	2 42	1·37	2·22	5·06	3·29	4·10	1·55	3·16	3·65	1·82	2·09	3 48	5·88	6·72	3·34	3·45	3·29	3·56	2·13	5·39	2 22	4 26
February	3·25	3·99	0·88	0·78	1·49	2·65	0·45	0·48	2·81	5·64	6·58	0·50	2·19	2·67	3·84	1·66	3·80	1·84	1·94	3·87	3·86	2·43	3·71	2·74	3·87
March	3·40	3·21	3·45	2·27	3·11	3·02	4·19	1·87	1·00	1·00	4·29	3·70	5·37	4·14	2·14	2·73	0·68	2·28	2·48	4·72	2·57	3·44	3·51	3·82	3·37
April	1·09	1·24	2·59	1·31	1·82	2·01	1·19	2·58	1·31	0·65	1·46	1·76	1·61	2·91	2·15	3·90	2·54	2·57	2·37	2·21	2·64	3·20	2·27	1·85	2·50
May	2·08	2·10	5·69	2·05	0 85	3·11	2·39	2·92	4 30	2·36	3·45	0·83	0·41	2 07	4·19	3·18	1·79	0·88	3·00	4·50	2·56	0·52	3·60	4·38	3·16
June	1·01	4·99	2·03	1·23	2·84	1·34	3·75	2 56	3·26	2·32	3·29	2·06	2·54	4·74	2 93	1·69	3·57	1·95	1·28	1·66	1·29	3·53	1·97	7·62	2·02
July	5·11	1·85	3·91	1·72	7·52	4·01	2·73	3·87	3·42	2·95	3 85	5·33	2·64	1·76	0·56	2·07	2·73	1·56	2·88	3·81	1·86	2 36	1·96	2·81	5·02
August	1·99	1·50	2·47	1·39	4·65	6·44	4·44	7·21	5·01	3·39	5·03	4·54	2·85	3·97	7·50	1·42	6·76	2·49	3·16	5·36	4·85	5·10	4·75	4·46	3·45
September	3·49	6·91	4·24	5·14	1·62	3·83	2·07	2·99	4·63	4·52	0·62	1·81	9·43	4·30	1·37	6·19	1·53	1·70	1·80	5·42	1·45	2·70	1·57	1·20	3·93
October.....	2·80	7·18	5·32	2·22	2·36	3·06	3·69	5·16	5·18	4·15	4·40	4·07	4·39	2·30	4·37	3·19	6·19	2·82	4·67	9·24	2·38	3·54	7·08	4·09	1·83
November	1·78	3·36	3·34	1·79	5·48	2·16	6·77	4·30	3·64	3·68	2·93	3·74	1·49	5·14	3·26	1·48	3·73	6·01	2·39	3·90	4·20	4·49	3·59	3·56	3·03
December.....	5·58	3·03	6·34	3·30	2·93	3·85	0·16	7·52	3·15	4·27	4·30	5·04	5·97	5·43	4·33	3·21	5·50	3·18	3·48	2·06	3·08	0·69	5·01	4·24	3·12
TOTAL.	37·51	42·03	46·85	25·62	36·04	37·70	36·89	44·75	41·81	36·48	43·36	37·03	40·71	41·52	40·12	36·60	45·54	30·62	32·90	50·04	34·30	34·13	44·41	42·99	39·56

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ANNUAL REPORT OF THE BOROUGH ANALYST.

ANALYTICAL LABORABORIES,
54, ARCADE CHAMBERS, ST. MARY'S GATE,
MANCHESTER,
January 16th, 1909.

To the Chairman and Members of the Health Committee of the Corporation of Bury.

Gentlemen,

In accordance with Section 19 of the Sale of Food and Drugs Act, 1875, I have pleasure in submitting to you reports upon the various samples received for the quarters ending March 31st, June 30th, September 30th, and December 31st, 1908, respectively.

During the twelve months ending December 31st, 1908, I have received from your Inspector, Mr. H. C. Cass, 110 samples, consisting of the following articles :—

Milk	51	samples.
Skimmed Milk	2	,,
Butter	24	,,
Margarine	2	,,
Cheese	2	,,
Coffee	2	,,
Pepper	4	,,
Ginger	1	,,
Spirits	15	,,
Vinegar	3	,,
Bread	1	,,
Oatmeal	1	,,
Honey	1	,,
Flour (Wheat)	1	,,
Total	110	,,

I submitted all these samples to careful examination, and with the exception of two samples of milk, found them to be genuine. The two samples of milk referred to contained 4.4 per cent. and 3.0 per cent. of added water respectively. In the former case the vendor was "cautioned," and as the other sample was submitted to the Inspector by a resident, and therefore not taken in accordance with the Acts, no action could be taken in the matter.

The percentage of the samples adulterated is equal to 3.9 upon the milks submitted, or only to 1.8 upon the whole samples examined.

I remain,

Yours faithfully,

THOS. J. HUTCHINSON, F.I.C.,
Borough Analyst, County Borough of Bury.

INSPECTION OF CANAL BOATS.

PUBLIC HEALTH DEPARTMENT,

PARSONS LANE, BURY.

January 18th, 1909.

To Dr. R. Burnet, Medical Officer of Health.

Dear Sir,

CANAL BOAT ACTS, 1877 AND 1884.

ANNUAL REPORT, 1908.

In accordance with Section 3 of the Canal Boat Act, 1884, I herewith submit to you this report on the working of the said Acts within the district of the County Borough of Bury.

One boat only visited the wharf at Bury Bridge, and this was found, on inspection, in every way satisfactory.

I am,

Yours faithfully,

SAMUEL KAY,

Inspector.

REPORT OF NURSE WALTON,

PUBLIC HEALTH DEPARTMENT,
PARSONS LANE, BURY.

To the Chairman and Members of the Health Committee.

Gentlemen,

I beg to present to you the following report, being a summary of the work carried out during the year 1908:—

SUMMARY OF VISITS.

1392 visits to houses where births have been registered.
178 visits to houses in which deaths of infants under one year of age have occurred.
268 visits to workshops where women are employed.
79 visits to homes of outworkers.
639 visits to houses in which cases of suspected Measles, Whooping Cough, Ringworm, &c., existed.
35 visits to houses for disinfection after Phthisis and Puerperal Fever.
19 visits to Puerperal Fever cases.
20 notifications of Phthisis visited.
19 visits under the Shop Hours Act.
21 visits under the Shop Assistants' (Seats) Act.
239 re-visits to babies during the Summer Diarrhœa season.
211 visits to Midwives.
5 visits to uncertified women, practising as Midwives, who have previously been cautioned.
15 visits to investigate complaints of dirty homes and surroundings.
17 visits to schools to examine children suffering from Sore Throats, Mumps, &c.

3157 visits in all.

BIRTHS.—During the year I have been able to obtain information in 1,336, or 95.28 per cent. of the total (1,377) births registered as regards the feeding, &c., of the infants. Advice has also been given where necessary with regard to the feeding and general care of the children.

Feeding.—836, or 60.71 per cent., of the infants were being fed naturally, 302, or 21.93 per cent., were fed by the bottle, 174, or 12.34 per cent., being fed partly by breast and partly by bottle; 24 died within a few hours of birth.

From the above it will be seen that the percentage (21.93) of the bottle-fed children shows a slight decrease as compared with the previous year (24.25). This is a very satisfactory feature, and it is also pleasing to record that of the children fed by bottle it is only on very rare occasions that the old style of bottle with its long filthy tube is met with.

Of the 1,377 births registered, 146 died before the end of the year. Of these 13, or 8.90 per cent., occurred in breast-fed children, 96, or 65.75 per cent., occurred in bottle-fed children, 13, or 8.90 per cent., occurred in children partly fed by breast and partly by bottle. Twenty-four died within a few hours of birth.

Summer Diarrhœa.—In the early part of the year special note was made of the bottle-fed, delicate, and seemingly neglected babies, and during the Diarrhœa season I re-visited all such cases, gave the necessary advice as to the cleanliness of homes, bottles, &c., and practical instruction in the preparation of infants' foods. Particulars were taken after the occurrence of deaths from this disease.

Deaths.—178 deaths have been recorded of children under one year of age. The following is an analysis of the nature of feeding :—

120, or 67.41 per cent., were bottle-fed.
17, or 9.55 per cent., were fed naturally.
17, or 9.55 per cent., were partly breast and partly bottle-fed.
24, or 13.48 per cent., died almost immediately after birth.

Of the above deaths (178) 17 were attributed to Diarrhœa, and from the information obtained it was found that 10 occurred in bottle-fed children, four in breast-fed children, and three were breast-fed for the first two weeks and bottle-fed for six weeks. This number of Diarrhœa deaths is exceedingly small as compared with previous years.

DIARRHŒA DEATHS.

Year.	No. of Deaths.	Bottle Fed.	Breast Fed.
1905	33	27 or 81.82 per cent.	6 or 18.18 per cent.
1906	43	35 ,, 81.40 ,,	8 ,, 18.60 ,,
1907	9	6 ,, 66.60 ,,	3 ,, 33.40 ,,
1908	20	13 ,, 65.00 ,,	5 ,, 35.00 ,,

From the above table it is instructive to observe the heavy mortality from this disease among the bottle-fed babies.

Two lectures were given during the year to mothers, on "The Care of Young Infants" and "Home Treatment of Consumption." Both these lectures were given under the auspices of the Co-operative Women's Guild.

OCCUPATION OF MOTHERS.—In 63 instances the mother was engaged at home, and in 115 cases the mother was engaged at the mill.

WORKSHOPS.—During the year I have paid 268 visits to workshops where women are employed, and it is pleasing to record that the conditions under which the work is carried on are very satisfactory as regards cleanliness, light, ventilation, and provision of suitable sanitary conveniences.

SHOP ASSISTANTS' (SEATS) ACT.—19 visits have been paid to shops, and in each case it was found that the sections contained in the above Act were being complied with.

OUTWORKERS.—Three lists of outworkers were received during the year containing 71 names and addresses, to which I have paid 79 visits. In the majority of cases I found the respective rooms in which the work was being carried on in a satisfactory condition. In a few instances, however, I have recommended that the workroom be cleansed and limewashed, and in each case the necessary work has been carried out.

OVERCROWDING.—15 complaints of overcrowding have been received during the year. As investigation in the majority of cases proved the homes and surroundings to be dirty, each house was re-visited and instructions given as regards cleanliness, &c.

ELEMENTARY SCHOOLS.—17 visits have been paid to Elementary Schools in the Borough to examine school children during epidemics. Many were found with a high temperature, suffering from Sore Throats, Measles, Mumps, &c. These were immediately sent home and afterwards visited, and where thought necessary the parents were advised to consult a doctor. The number of notifications received from headmasters of schools is about the same as in previous years.

MIDWIVES.—As regards Midwives practising within the Borough, speaking generally, they have complied with the rules and regulations according to the Midwives' Act under Central Midwives' Board. One Midwife's name has been removed from the roll for negligence and contravention of rules.

PUERPERAL FEVER.—I have investigated in every case the Midwife's mode of practice for some time before and after the case of Puerperal Fever which occurred in her practice, and supervised the disinfection of bag and appliances, also personal cleanliness. In each case the Midwife was interviewed by the M.O.H.

VOLUNTARY NOTIFICATION OF PHTHISIS.—During the year 19 fresh cases of Phthisis have been notified, to all of which I have paid visits. Owing to the cases, in most instances, not being notified until the disease was in an advanced stage, very little could be done beyond giving such advice as is necessary for the comfort of the patient.

The gratuitous supply of aseptic handkerchiefs is much appreciated, as are also the spitting cups (which are loaned) and refills for the latter.

After the occurrence of death from this disease, an endeavour was made to have the rooms, as well as the bedding, &c., used by the patient disinfected, and it is pleasing to record that in 43 instances the consent of the occupier of the house was obtained for the necessary disinfection to be carried out.

I remain, Gentlemen,

Yours obediently,

LILIAN E. WALTON.

REPORT OF MEAT INSPECTOR.

PUBLIC HEALTH DEPARTMENT,

PARSONS LANE, BURY.

To the Chairman and Members of the Health Committee of the County Borough of Bury.

Gentlemen,

I have pleasure in submitting to you my report for the year ending December 31st, 1908, on the inspection of Meat, Dairies, Cowsheds, Bakehouses, &c.

During the past year the various animals, carcases, &c., passing through the Public Abattoirs have been carefully examined, both before and after slaughter, and, generally speaking, the class of meat retailed in the Borough has been of a high standard, and fully equal to that of the past few years.

This year it was found necessary to pay special attention to 87 carcases, of which number 63 were affected with tuberculosis in varying degrees. These consisted of 17 cows, six bulls, eight heifers, 13 bullocks, and 19 pigs. The remaining 24 were variously affected, as will be seen from the appended table.

Of the cattle affected with tuberculosis, it was found necessary to condemn and destroy the entire carcase and organs in three instances, the disease being extensive and generalised; on three occasions portions of the carcase and all the internal organs were destroyed, while the remainder were carefully stripped, and such of the internal organs as proved to be diseased were destroyed. Of the pigs found to be affected, 11 entire carcases were destroyed, the disease being generalised; in the remaining six, the disease being confined to the tonsils, the heads and internal organs only were destroyed.

The number of pigs found to be affected with tuberculosis shows a slight increase over the previous year, being 19 against 13. The number of carcases in which the disease was so extensive as to necessitate entire destruction, however, shows a considerable increase, being 11 against two, and it is again noteworthy that nearly all the pigs affected were farm fed. In no case was an Irish pig found to be affected.

No case of contagious disease in animals has been reported during the year.

In several instances sides of beef have been found containing abscesses in the lumbar fat; these, with the surrounding tissues, being carefully removed and destroyed. Three cases of actinomycosis were discovered, the disease in one instance affecting the tongue, and in two instances the lower jaw, the parts affected being destroyed.

It was also found necessary to condemn and destroy the carcases of four sheep, three of which died in the lairs and one owing to pyæmia, one pig owing to jaundice, one drowned, one emaciated, and one died; one heifer and one calf also were destroyed, being found dead. The following organs were also destroyed, viz. :—35 beast livers, six beast lungs, two beast hearts, two beast heads, one beast belly, 11 pig livers, five pig lungs, 39 sheep livers, one sheep lungs, and one sheep head, variously affected.

On two occasions I have been called upon to inspect carcases slaughtered in emergency on farms in the Borough. In one of these the animal (a cow) was slaughtered owing to an affection of the brain, and the carcase, being normal, was passed as fit for food; in the second case the carcase (pig) was unfit for food and destroyed.

Enforced slaughter has also been necessary in several instances at the Abattoirs, in most instances slaughter being performed sufficiently early to enable the carcase being passed as fit for food.

In every instance where the extent or nature of the disease has rendered the carcase doubtful, it has been reported to the Medical Officer of Health, and his advice sought thereon, this necessitating the attendance of the Medical Officer on several occasions.

During the year the butchers' shops, fish shops, &c., have been regularly and frequently visited, the meat, fish, &c., coming under observation being, with few exceptions, of satisfactory quality. In several instances my attention has been invited to various articles of food which proved to be in an unsound condition, these comprising 354-lbs. of beef and mutton, one hind-quarter of frozen beef, one box of pork loins, five boxes of beast livers, four dozen tripe bellies, one cow head, three-quarter cwt. of eggs, three boxes (six cwts.) of gurnets, and 12 boxes of kippers, these being removed to Fernhill and destroyed.

MAGISTERIAL PROCEEDINGS.

Your Committee ordered proceedings to be taken against a farmer outside the Borough for depositing a piece (round of beef) of diseased beef in a shop in the Borough, and also against the butcher for having the same in his possession. The farmer was fined £5 and costs, the case against the butcher being withdrawn.

Proceedings were also instituted against a butcher for having in his possession at the Abattoirs a hind-quarter of beef which was putrid, these being withdrawn on the owner paying a sum of £10 to the Mayor's Charity Fund.

Carcases found to be affected with Disease.

No.	Disease.	Cows	Bulls.	Heifers.	Bullocks.	Calves.	Sheep.	Pigs.	Carcases Destroyed	Parts or Organs Destroyed
63	Tuberculosis	17	6	8	13	...	...	19	14	49
3	Actinomycosis	...	1	...	2	...	...	...	...	3
1	Pyæmia.....	...	...	...	...	...	1	...	1	...
7	Died	...	...	1	...	1	3	2	7	...
1	Emaciated	...	...	...	...	...	...	1	1	...
1	Jaundice	...	...	...	...	...	...	1	1	...
11	Various.....	...	...	...	...	...	...	...	...	11
87	Total.....	17	7	9	15	1	4	23	24	63

FARMS.

204 visits have been paid to the farms in the Borough, which have been kept in a very fair state of cleanliness. Several have been improved and brought more in accordance with regulations, especially as regards the lighting, cleansing, ventilation, and drainage, a short summary of which is given below.

Lower Woodhill Farm.—New cowshed, stalled for 14 cattle, lighted by four opening windows, and ventilated by these and several outlets in roof. Brick on edge, grouted with cement for stalls, with stone channels and flagged passages. Cubic space ample. New provender house and stables, with efficient trapped drains to new liquid manure tank.

Nabb's Farm.—No. 1 shippon: Stalls for 24 cattle, lighted by four opening windows, and ventilated by four inlets 3-ft. by 1-ft., and five large outlets in roof. Ample cubic space. Floor of stalls brick on edge, with front and back passages flagged, wide stone channels and drain connected to tank.

No. 2 Shippon.—Stalled for three cattle.

No. 3 Shippon.—Stalled for 34 cattle, lighted by nine windows in side walls, four of which are made to open, and two in roof. Ventilated by opening windows, and large outlet ventilators in roof. Floor of stalls brick on edge, wide flagged channels, front and middle passages flagged, and drains discharging into tank.

Redvales Farm.—Two new cowsheds to stall 27 cattle, well lighted and ventilated by opening windows and outlets in roof. Concrete floor and drains connected to tank. Repairs to loose boxes, and construction of large well lighted and ventilated piggery.

High Crompton Farm.—Construction of a new cowshed to stall six cattle, with loose box in connection. Lighted by five windows, and ventilated by Louvre ventilators and outlets in roof. Flagged floor and drains to tank.

Hall de Hill Farm.—The floor, ceiling, and interior walls of cowshed taken out and replaced, with increased cubic space, light, and ventilation. Stalled for 10 cattle, with horse-box. Floor brick on edge, grouted with cement. Efficient drains, &c.

Higher Sedger Hey Farm.—New cowshed, to stall eight cattle, and lighted by three opening windows 3-ft. 6-ins. by 3-ft.; ventilated by opening windows and two large outlets in roof. Roof matchboarded, and stalls paved with brick on edge; front and back passages, channel, &c., laid in concrete, floated with cement. Drains discharging into new liquid manure tank.

Lower Wood Road Farm.—Three additional ventilators provided, and two drain openings removed therefrom. Floor repaired.

High Bank Farm.—Entire drains of cowsheds (two), stables, and house taken up and re-laid. Drains of cowsheds, stables, &c., discharging into tank. House drains discharging into septic tank.

Wood Bank Farm.—New drains from cowsheds (two), stables and piggery to tank. Separate system of drains for surface water, discharging in field.

Woodgate Hill Farm.—New shippon constructed of wood, to stall 16 cattle, and well lighted and ventilated by opening windows and outlets in roof. Floor of stalls, channels, and passages brick on edge. Drains to tank.

BAKEHOUSES.

These have been kept under observation, and, generally speaking, have been carried on in a satisfactory manner. No complaints have been received during the year.

OFFENSIVE TRADES.

Frequent visits have been paid to the various offensive trade establishments in the Borough. One application for permission to carry on the trade of tripe boiler was received during the year, and granted by your Committee. In one instance it was necessary to warn the occupier for breach of regulations endorsed on his licence.

ICE CREAM AND MILK SHOPS.

These have been kept under observation, there being no cause of complaint.

KNACKER'S YARD.

Regular and frequent visits have been paid to the knacker's Yard, generally three times weekly.

The business has been carried on with as little nuisance as possible, having regard to the nature of the same.

No case of contagious disease has been discovered on these premises during the year.

The returns from the Knacker's Yard are: 204 cows and 277 horses. Of the cattle 105, or 51.47 per cent., were returned as being affected with tuberculosis; 87, or 42.65 per cent., as due to some form of inflammation; and 12, or 5.88 per cent., to various causes.

I am, Gentlemen,

Your obedient servant,

W. P. OPENSHAW, Cert. San. Inst.
Inspector of Meat and Other Foods.

REPORT OF INSPECTOR HAWORTH, INSPECTOR OF NUISANCES.

PARSONS LANE, BURY.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have much pleasure in submitting to you the following report of the work done in the Sanitary Department during the past year.

For several years this department has been making steady progress in the conversions of the closets from the conservancy to the water-carriage system. During the past year 149 privy closets connected with 80 middens, 26 pail closets, and three cess-pools, have been cleared out, 137 fresh-water and 54 waste-water closets being provided, the middens having been altered or pulled down, 62 brick ashpits and 40 galvanised iron ashbins being substituted. You will note there is a falling off in the number of waste-water closets during the past two years, this being due to the Committee having decided not to assist property owners with any portion of the expense incurred by altering to this type, it being found by testing that a much larger quantity of water is used by dwellings where waste-water closets are fixed than in the dwellings in which fresh-water closets are fixed; this being an important factor in the finances of our water supply, as each fresh-water closet is charged for in addition to the ordinary water rate. This extra charge for a w.c. is undoubtedly a stumbling block in carrying out this work, and it is to be hoped that it will soon be removed. The adoption of fresh-water closets and galvanised iron ashbins in connection with new property will bring about a much-desired change in the architecture of the buildings at the rear, as these places will be built against the main buildings instead of abutting on the boundary walls.

The following table gives the number of conversions which have been carried out during the past nine years :—

Year –	1908	1907	1906	1905	1904	1903	1902	1901	1900
Fresh-water Closets..	137	131	121	209	191	107	107	118	137
Waste-water Closets..	54	70	161	204	199	120	159	14	27
	191	201	282	413	390	227	266	132	164

In the carrying out of these conversions the yard drains are re-laid and connected to the sewer direct, most of the old drains passing through the yards of several dwelling-houses before being connected to the sewer. At the request of householders to have the drains and sanitary fittings examined, this work has been carried out. Twenty-three houses have been examined, the result being that in several cases the whole of the drains have been re-laid.

INFECTIOUS DISEASES.

In referring to the table of visits made by your inspectors, it will be seen that 178 visits have been made to cases of infectious and contagious disease. The number of notifications received from the Medical Officer of Health was: Scarlet Fever 98, Diphtheria 52, Enteric Fever 17, Erysipelas 26. On receipt of each notification your inspectors visit the house and examine the sanitary condition of same. By this means many defects are ascertained, such as defective waste pipes and pavements round the gully traps, which occupiers do not think worth consideration. The unflagged or unpaved backyard is a source of danger on account of household slops being thrown thereon, and each house should be compelled by bye-laws to have a given area at the rear of the building made impervious by flags, concrete, or ashphalt. The cases of Diphtheria and Enteric Fever have received special attention. If a privy midden is connected to the house in which a case has occurred, the owner is written to and asked to convert same to the water-carriage system, and in most instances the work is carried out.

COMMON LODGING-HOUSES.

One hundred and forty-one visits have been made to the Common Lodging-houses within the Borough. During the year the cards for the respective rooms have been made out under the

new regulation of 400 cubic feet for one person. The number of lodging-houses within the Borough is 17, there being 127 rooms for 544 lodgers. At the annual registration of these houses, which takes place in May, one occupier was cautioned for leaving the house to an irresponsible person to look after whilst he was out of the district. On account of deaths four houses were transferred to other occupiers. These houses are kept in a clean condition, the limewashing taking place at the time prescribed in the Public Health Act, 1875, viz., in the first weeks of April and October respectively.

HOUSES LET IN LODGINGS.

During the period under review one additional house, containing six rooms, has been placed on the register, there now being 35 houses registered, with 173 rooms, and accommodation for 391 adults and 67 children, reckoned on the basis of 400 cubic feet of air space per person for sleeping room only, and 500 cubic feet when used for living and sleeping purposes. The houses have been kept fairly clean, although several of the occupiers have had to be warned as to the condition of their rooms. The limewashing was carried out at the same time as in the Common Lodging-houses.

EXPLOSIVES ACTS.

Thirty-seven persons were registered for the sale of explosives during the year, as required by these Acts, thirty-three being for the sale of fireworks as mixed explosives, four for the sale of gunpowder, and one for storing explosives for quarry purposes. The sale of fireworks lasts only for a limited period (about three weeks in the latter end of October and beginning of November). Most shopkeepers now use the dummies for advertising purposes. Gunpowder sold by the ironmongers and locksmiths is kept in the safes in small quantities.

PETROLEUM ACTS.

Under these Acts five licences have been granted for the keeping of petroleum, three for petrol, and four for calcium carbide; a special store having now to be provided for the storing of petroleum and petrol, one application was refused.

SHOP HOURS ACTS.

The period fixed by Section 3 of the Shop Hours Act (viz., 94 hours) is seldom attained, the hours fixed by the respective trade associations being generally observed, the barbers' and hairdressers' shops being governed by a closing order obtained under the Shop Hours Act, 1904. Most of the shops within the Borough where women or young persons are employed have the notice hung up as required by Section 4 of the Act.

SMOKE OBSERVATIONS.

The following table gives the particulars of thirty-five smoke observations taken during the year, thirty-two being of 60 minutes' duration and three of 30 minutes:—

Initials of Firm.	Black. Mins.	Secs.	Moderate. Mins.	Secs.	None. Mins.	Secs.
T. W. & S., No. 1	5	30	54	30	0	0
T. W. & S., No. 2	1	45	16	45	11	30
M. D. Co.	6	0	34	30	19	30
T. & N.	5	15	32	15	22	30
* J. K. S. & Co.	10	30	3	0	16	30
B. F. M. Co.	4	45	21	15	34	0
J. K. S. & Co.	6	15	34	45	19	0
Y. B.	4	45	20	15	35	0
P. S.	3	15	14	45	42	0
* P. S. & M. Co.	8	30	25	30	26	0
N. B. S. Co.	3	0	4	30	52	30
B. C. Co.	5	30	11	30	43	0
A. A. & S.	4	30	8	30	47	0
W. & L.	0	0	60	0	0	0
* B. C. S. & M. Co. (S)	8	0	36	0	16	0
B. C. S. & M. Co. (W)	0	30	22	0	37	30
* J. & A. E.	17	30	13	30	29	0
* J. K. & S.	8	45	20	15	31	0
V. C. S. & M. Co.	0	0	14	30	45	30
* W. L. & S.	10	15	19	0	30	45
J. R. & S.	0	0	27	0	33	0
P. S. Co.	0	0	16	30	43	30
C. W. S.	0	0	19	0	41	0
B. Q. M. Co.	4	15	15	0	40	45
B. & H. C. Co.	0	0	24	0	36	0
O. B. Ltd.	3	45	44	0	12	15

Initials of Firm.	Black. Mins.	Secs.	Moderate. Mins.	Secs	None. Mins.	Secs.
S. S. & S.	6	30	28	30	25	0
* B. P. M. Co.	15	0	13	0	2	0
* S. S. & Co. Ltd.	13	0	26	0	21	0
* A. C. & Co.	23	15	16	45	20	0
N. V. C. S. & M. Co.	2	30	43	30	14	0
J. R. C. & B.	4	0	48	0	8	0
J. H. O., No. 1	1	0	25	30	33	30
R. P.	5	0	34	30	20	30
J. H. O., No. 2	7	15	24	15	28	30

* Nine legal notices were served on the occupiers under Section 94 Public Health Act, 1875, the time limit (seven minutes in sixty minutes) being exceeded. There have been no prosecutions.

NOTICES.

Fifteen legal notices have been served during the year in connection with the following matters :—

Factories and Workshops.

Nine to abate smoke nuisance.

Dwelling Houses.

Six notices have been served to abate the following nuisances :

Four to abate nuisances in connection with privy closets and middens being very wet and offensive.

One due to untrapped and choked drain.

One due to walls and ceilings of two houses being very dirty.

Four of the notices have been complied with, the work being carried out in accordance with the notices. The other two abated the nuisances by altering the privy closets in such a manner as to make them proof to ground water, and easily accessible for cleansing purposes.

Prosecutions had to be taken in respect to a legal notice (served during the previous year) not being complied with. The magistrates imposed a fine of 20s. and costs, and granted an order of abatement for the work to be carried out as per notice. This order not being complied with, a summons was again taken out, and a further fine of 40s. and costs was imposed. The work has now been carried out.

Preliminary notices on printed forms or by letter are served in all cases, and, if possible, personal interviews arranged, before a legal notice is served, and it is satisfactory to note that by these means nearly all the nuisances are abated without having to report them to the Committee.

Number of preliminary notices served	37
Number of letters in lieu of preliminary notices	368
Number of verbal notices	135
Number of letters sent other than notices	247
Number of special reports re sanitary fittings and drains	23
Number of notices served on occupiers	65
Number of notices served on occupiers of Workshops or Factories	30
Number of notices received from H.M.I. of Factories	4
Number of Prosecutions...	3

The following table gives particulars of nuisances occurring in which notices have been served :—

Number of Notices.	Affecting.	NUISANCE.	Houses Affected
		FACTORIES AND WORKSHOPS.	
1		Water closet insufficient	—
1		Water closets without sufficient supply of water	—
1		Water closet insanitary	—
8		Defective pail closets	—
1		Dilapidated privy closet	—
9		Workshops require limewashing...	—
4		Drains choked	—
1		Insufficiently drained	—
5		Defective rain-water spouts and gutters...	—
8		Accumulations of refuse	—
1		Block of privy closets too close to workroom	—
		DWELLING-HOUSES.	
12	18	Houses to repair	18
17	18	House to cleanse	18
10	11	Houses in a damp condition	11

Number of Notices.	Affecting.	NUISANCE.	Houses Affected.
		DWELLING-HOUSES.	
7	7	Houses overcrowded	7
1	8	Houses with a dirty water supply	8
4	4	Defective sanitary fittings	4
16	20	Defective soil and waste pipes...	20
72	78	Defective rain-water pipes and eaves gutters	91
42	66	Defective and untrapped drains	67
145	165	Choked drains	239
3	3	Waste pipes connected direct to drain...	3
7	7	Houses without sufficient drains	7
3	3	Cellars flooded...	4
30	32	Fresh water closets out of order	46
15	15	Waste water closets out of order	15
6	8	Insufficient closet accommodation	14
7	7	Insufficient ashpit accommodation	14
17	24	Ashpit and closet roofs and walls to repair	65
5	5	Privy middens to cleanse (in added areas)	15
	C. M.		
67	155 83	Foul privy closets and middens	201
13	20	Defective pail closets	37
34	40	Ashpits without proper doors	43
7	8	Offensive and dirty closets and approaches	17
8	3	Dirty back yards	8
20	20	Defective pavement in back yards	38
31	31	Accumulations of refuse	35
5	5	Defective manure steads	—
11	11	Animals kept so as to be a nuisance	—
1	1	Smoke issuing from greenhouse chimney	—
1	1	Offensive Urinal	—
1	1	Burning trade refuse in yard	—
4	4	Dangerous places	—

Sanitary improvements carried out in pursuance of inspections made and notices served in connection with

FACTORIES AND WORKSHOPS.

Initials of Firm.	Nuisance.	Manner of Abatement.
S. G. & S...	Insufficient closet accommodation ..	One w.c. provided.
S. R. & Co..	do. do. ..	One w.c. provided.
W. S.....	Insanitary pail closets	Pails cleared out and two w.c's provided.
J. Y.	do. do. ..	W.C. substituted for pail, window fixed and closet limewashed.

In connection with dwelling-houses and other premises :—

Privy closets converted to fresh-water closets	102
Privy closets converted to waste-water closets	47
Pail closets converted to fresh-water closets	20
Pail closets converted to waste-water closets	6
Additional fresh-water closets provided (outside)	9
Additional waste-water closets provided	1
Waste-water closets taken out and fresh-water closets substituted	6
Number of fresh-water closets fixed	137
Number of waste-water closets fixed	54
Privy middens altered and converted to dry ashpits...	57
Privy middens taken down and dry ashbins substituted	23
Additional ashpits provided	5
Additional ashbins provided	40
Ashpits provided with new doors or repaired	63
Privy middens repaired or modified	25
Pail closets repaired structurally	4
New pails provided to pail closets	28
Fresh-water closets put in order	46
Waste-water closets put in order	17
Traps of fresh and waste water closets unstopped ...	0
Water closets (pedestal and soil pipes renewed)	11
Sanitary fittings repaired or renewed other than water closets	9
Choked drains unstopped and cleansed	215
Defective drains taken out, new drains laid	73
Cellars redrained	2
Defective yard pavements made good	18
Defective rain-water spouts and gutters repaired or renewed	85
Houses in which repairs to plaster, roof, and woodwork have been carried out	18
Houses cleansed and limewashed	24
Houses closed as unfit for habitation	3
Foul accumulations removed	33
Animals and fowls removed	11
Cases of overcrowding removed	7

SUMMARY OF VISITS.

Infectious and contagious diseases	178
Common lodging-houses	141
Houses let in lodgings	70
Factories and Workshops	138
Elementary Schools	13
Canal (Boats) Wharf	3
Houses to cleanse	59
Re Houses overcrowded	14
,, Houses to repair	23
,, Houses damp	17
,, Houses with escapes of coal gas, &c.	6
,, Houses with an insufficient supply of water	8
,, Drains choked, dilapidated, and untrapped	571
,, Waste and fresh-water closets	294
,, Offensive privy middens	525
,, Offensive and foul back yards	10
,, Defective pavement in back yards	38
,, Defective rain-water spouts and gutters	66
,, Cellars flooded and damp walls	21
,, Defective manure steads	5
,, Animals kept as to be a nuisance	15
,, Effluvium nuisance	1
,, Smoke nuisances	43
,, Accumulation of refuse	44
,, Work in progress	562
,, Appointments and nuisances of a general character	520
,, Tips on fire	6

In conclusion I have to express my sincere thanks to Inspector Kay for the most able services which he has rendered in the carrying out of the work embodied in this report. I also wish to express my thanks to you for your kind consideration.

I am, Gentlemen,

Your obedient servant,

JOHN HAWORTH, M.S.I.A.

Certified Inspector of Nuisances and Sanitary Engineer.