[Report 1908] / Medical Officer of Health, Wakefield City.

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REPORT OF THE MEDICAL OFFICER OF HEALTH

ON THE

PUBLIC HEALTH AND SANITARY STATE

OF THE

CITY OF WAKEFIELD,

FOR THE YEAR, 1908.

Extract from Local Government Board Order.

By the Order of the Local Government Board dated March 23rd, 1891, Section 14, it is prescribed that the Medical Officer of Health shall "prepare an Annual Report, to be made to the end of December "in each year, comprising a summary of the action taken during the "year for preventing the spread of disease, and an account of the "sanitary state of his district generally at the end of the year. The "report shall also contain an account of the enquiries which he has "made as to the conditions injurious to health existing in his district, "and of proceedings in which he has taken part or adivsed under the "Public Health Act, 1875, so far as such proceedings relate to those "conditions; and also an account of the supervision exercised by him "or on his advice for sanitary purposes over places and houses that "Sanitary Authorities have power to regulate, with the nature and "results of any proceedings which may have been so required and "taken in respect of the same during the year. I shall also record "the action taken by him on his advice during the year in regard "to offensive trades and to factories and workshops. The report "shall also contain tabular statements (on forms to be supplied by "the Local Government, or to the like effect) of the sickness and "mortality within the district classified according to diseases, ages, "and localities."

Extract from Local Government Board's Memorandum as to Annual Reports of Medical Officers of Health.

"The report should be chiefly concerned with the conditions "affecting the health in the district and with the means for improv- "ing those conditions. It should contain an account, brought up to "the end of the year under review, of the sanitary circumstances of "the district, and of any improvement or deterioration in these cir- "cumstances which may have occurred during the year. Care should "be taken to report full and explicitly on the influences affecting or "threatening to affect injuriously the public health in the district, and "on the action which has been taken, or which may still be needed, "with a view to combat those influences. It is of special importance "that the medical officer of health should record what action has been "taken to remedy unhealthy conditions which have been reported by "him in previous annual reports, or in special reports presented dur- "ing the year under review, and that attention should be called afresh, "year by year, to such as remain unremedied.

"The following deserve to be especially borne in mind as subjects "concerning which the Board desire to obtain, through annual re- "ports of the medical officer of health, not only definite general in- "formation, but record also of particular changes of condition that "may have occurred incidentally or by action of the local "authority:—

"Physical features and general character of the district and "general conditions of its population.

"The chief occupations of the inhabitants, and the influence of "any particular occupation on public health.

"House accommodation, especially for the working classes; its "adequacy and fitness for habitation. Sufficiency of open "space about houses, and cleanliness of surroundings. "Supervision over erection of new houses. Action under "Parts 1, 2, and 3 respectively of the Housing of the Work- "ing Classes Act, taken or needed.

"Water supply of the district or of its several parts: its source "(from public service or otherwise), nature (river water, "well water, upland water, etc), sufficiency, wholesomeness, "and freedom (by special treatment or otherwise) from risks "of pollution. In the case of waters liable to have plumbo- "solvent action, any facts, either clinical or chemical, "whether negative or positive, as to contamination of the "water by lead should be stated, and whether administra- "tive action has been taken during the year in respect of "such contamination.

"Milk supply: character and wholesomeness of milk produced "within the district or imported; condition of dairies, cow- "sheds, and milpshops; administration in regard to milk. "Tuberculous milk.

"Other foods: unsound food and food inspection; sanitary con- "dition of premises where foods are prepared, stored, or "exposed for sale. Meat inspection, disease in meat, and "condition of slaughterhouses. Action under Sale of Food "and Drugs Act, taken or needed. Action under section 117 "of the Public Health Act, 1875. Number of carcases and "parts of carcases condemned for tuberculosis.

"Sewerage and drainage: its sufficiency in all parts of the "district. Condition of the sewers and house drains. "Method or methods of disposal of sewage. Localities "where improvements are needed.

"Pollution of rivers and streams in the district: the sources "and nature of such pollution, and any action taken to "check it.

"Excrement disposal: system in vogue; defects, if any.

"Removal and disposal of house refuse, whether by public "scavenger or occupiers: frequency and method.

"Nuisances: proceedings for their abatement, any remaining "unabated.

"Bye-laws as to houses let in lodgings, offensive trades, etc. De- "tails as to number of premises coming under each set of "bye-laws, and action taken. Any need of amendment or "further bye-laws.

"Schools, especially public elementary schools; sanitary condi- "tion of, including water supply; action taken in relation "to the health of the scholars and for preventing the spread "of infectious disease.

"Methods of dealing with infectious diseases; notification; iso- "lation hospital accommodation, its sufficiency and effici- "ency; disinfection.

"Methods of control of tuberculosis; whether any system of "notification of cases of pulmonary tuberculosis, compulsory "or voluntary, is in operation. Number of cases notified; "what action is taken in respect of known cases and of "deaths. Amount of hospital accommodation for cases of "pulmonary tuberculosis in infirmaries and elsewhere, for "advanced and for earlier cases of the disease.

"With regard to the preceding points it should be remembered "that these reports are for the information of the Board and of the "County Council as well as of the Council of the District, and that a

"statement of the local circumstances and a history of local sanitary "questions which may seem superfluous for the latter may often be "needed by the former bodies.

"It is expected that each of the preceding points will be men- "tioned in the annual report, and the extent of action or the absence "of action on each of them definitely stated.

"The report should deal with the extent, distribution, and causes "of disease, especially of epidemic and notifiable disease and of "tuberculosis, within the district; and should give an account of any "noteworthy outbreaks of disease which may have engaged the atten- "tion of the medical officer of health, during the year under review, "stating the result of his investigations into their origin and propa- "gation, and the steps taken by him, or on his advice, with a view "to check their spread. Attention should be called to cases in which "disease is attributed to the consumption of particular articles of "food, including shell-fish."

HEALTH DEPARTMENT,

TOWN HALL, WAKEFIELD.

To His Worship the Mayor, Aldermen, and Councillors of the City of Wakefield.

MR. MAYOR AND GENTLEMEN,

I have the honour to submit for your information and consideration a Report on the Public Health and Sanitary State of the City of Wakefield for the year 1908.

I am glad to inform you that the birth-rate (24.07) has at least not declined during the year, but indeed has shewn a slight improvement on the rates of the two previous years. It is, however, under the average for the previous ten years (26.9), and is 2.5 per 1,000 under the birth-rate of England and Wales for 1908. It is shewn in Table VI. at the end of this Report that out of 24 other Yorkshire towns, 13 have higher and 11 lower birth-rates than Wakefield.

The death-rate (15.2), I regret to say, stands at a higher level than it has done since 1904, and is 0.5 per 1,000 higher than the death-rate of England and Wales for 1908. The death-rate of England and Wales (14.7) is the lowest on record for the whole country. Amongst the Yorkshire towns Wakefield holds a central position as to the death-rate. Twelve of the towns mentioned have a higher and twelve a lower death-rate than Wakefield.

The infantile mortality shares in the increase shewn by the general death-rate, and stands at 136, a figure over the rates shewn in the previous three years. It is, however, still under the average for the previous ten years (153). It is higher than the infantile death-rate of England and Wales (121), and this rate is also slightly higher than that of the previous year. Amongst the Yorkshire towns Wakefield again occupies a middle position as to infantile mortality, twelve having higher and twelve lower infantile mortality figures.

The zymotic death-rate (1.44) is nearly double that of 1907, but is about the same as the average for the preceding six years. It is also higher than the zymotic death-rate of England and Wales (1.29).

The number of cases of infectious disease notified under the Infectious Disease Notification Act was 137, a comparatively small number. No cases of Smallpox were notified during the year. The prevalence and mortality of both Scarlet Fever and Enteric Fever remained very low, but Diphtheria, on the other hand, was higher in both respects. The prevention of Diphtheria is discussed in this Report with some detail.

Whilst the vital statistics of Wakefield may not compare unfavourably with those of other places, the analyses of deaths and diseases set out in this Report demonstrate very clearly that a

substantial reduction of the mortality is well within the sphere of practical politics. I am therefore glad to say that with this end in view the Corporation have during the year now under review taken steps and initiated measures which are calculated to have far-reaching beneficial effects on the public health of the City. I refer more especially to the forward movement with regard to the infantile mortality and to the medical inspection of school children. Both lines of endeavour indicate the wider views now taken of public health work, and the increased importance now attached to the individual units of the community. It cannot be too strongly emphasised that health visiting and medical inspection of school children are just as much matters of sanitation as are questions of infectious disease or questions of drainage.

In conclusion, I desire to acknowledge the courtesy and consideration extended to me by the Chairman and members of the Sanitary Committee, and to thank my official colleagues for the ready assistance they have at all times afforded me. I also wish to express my indebtedness to the members of the medical profession in the City for much assistance and kindly co-operation during the year. The important Meteorological Table appended to this report has been furnished by H. Stanley Haworth, Esq., of Stanley Grange, and the Vaccination Table is founded on information supplied by H. Beaumont, Esq., the Superintendent Registrar. The figures in the table of Comparative Vital Statistics have been supplied by the Medical Officers of Health of the various Yorkshire towns. To the kindness of all these gentlemen I am heartily indebted.

I am,

Mr. Mayor and Gentlemen,

Your obedient Servant,

THOMAS GIBSON,

Medical Officer of Health.

12th May, 1909.

STATISTICAL SUMMARY.

Acreage	2,438
Population (estimated 1st July, 1908)	43,611
Number of Persons per Acre (Census)	17
Number of Persons per House (Census)	4.66
Rateable Value	£207,526
Rate of 1d. in £1 is equal to	£818
Births	1,050
Birth-rate per 1,000 of Population	24.07
Natural Increase of Population	384
Deaths (Residents)	666
Nett Death-rate per 1,000 of Population	15.2
Deaths (Non-Residents)	278
Infantile Death-rate per 1,000 Births	136
Tuberculosis Death-rate ... ... per 1,000 of Population	1.55
Phthisis Death-rate ,, ,, ,,	1.33
Respiratory Diseases Death-rate ,, ,, ,,	2.56
Zymotic Death-rate ,, ,, ,,	1.44
Scarlet Fever Death-rate ,, ,, ,,	0.02
Diphtheria Death-rate ,, ,, ,,	0.22
Enteric Fever Death-rate ,, ,, ,,	0.06
Diarrhœal Diseases Death-rate ,, ,, ,,	0.55
Measles Death-rate ,, ,, ,,	0.38
Whooping Cough Death-rate ,, ,, ,,	0.20
Cancer Death-rate ,, ,, ,,	1.00
Heart Diseases Death-rate ,, ,, ,,	1.32
Number of Cases of Infectious Disease notified under Infectious Diseases (Notification) Act	137
Rainfall in inches	19.69
Approximate Mean Temperature	47.5°F
Sunshine in Hours	1,236

PHYSICAL FEATURES, ETC.

"Wakefield, the county town of the West Riding of Yorkshire, is situated, for the most part, on the left bank of the River Calder, and covers an area of 2,438 acres. Part of the town is low lying, part is built on the rising ground. The low-lying districts are chiefly Thornes, Thornes Lane district, Thornes Lane Wharf, lower part of Kirkgate, Calder Vale Road, the contiguous parts on the other side of the river, Ings Road district, and Westgate Common. The districts near the river have an altitude above sea level varying from 70 to 80 feet. The Kirkgate end of Ings Road is 80 feet, while the Westgate end is 95 feet. At St. Michael's Church it is 93 feet, and at Balne Lane Bridge 98 feet. The central and main part of the town stands at higher levels. At St. John's Church the height above sea level is 201 feet, at the Clayton Hospital 184 feet, and at the Cathedral 148 feet. Geologically the town stands on the Middle Coal Measures. The low-lying districts near the River Calder, and along the Ings and Westgate Common are alluvial, consisting for the most part of a sandy clay, while the higher district stands on a white or grey friable sandstone, which is on the same horizon as the Woolley Edge Rock, and above the equivalent of the Wathwood coal. This sandstone comes very near the surface, and is at once exposed by the ordinary building excavations. The town is a very old one, being mentioned in Domesday Book. In former times chiefly residential, it is now very largely an industrial town. The chief industries are woollen and worsted manufactures, iron works of different kinds, glass bottle works, chemical works, malting and brewing, and coal mining. There is a corn and cattle market, the latter very large. The town contains many large offices and public institutions, including the County Hall of the West Riding, the Clayton Hospital and Dispensary, the West Riding Lunatic Asylum, H.M. Prison, and the Workhouse and Infirmary of the Wakefield Union.

POPULATION.

The population of Wakefield at the middle of 1908 is estimated by the Registrar General at 43,611, which exceeds the estimated population of 1907 by 319, while the natural increase of the population (excess of births over deaths) has been 384. Based on the number of inhabited houses in 1908 (8,763) and the average number of inmates per house found at last census (4.66), the population of the City (excluding the public institutions) works out at 40,315. Adding the population of the public institutions (3,547), the total population of the City at the middle of 1908 amounts to 43,862. This is slightly higher than the figures given by the Registrar General, whose estimate is based on the assumption that the population is increasing at the same rate as it did during the previous intercensal period, but both sufficiently agree to shew that the estimations are

probably not far off the actual numbers. In this report the various rates are calculated on the population figures of the Registrar General. In the table given below the Northgate Ward population includes the population of the West Riding Lunatic Asylum, which at the middle of the year was 2,040; North Westgate Ward that of H.M. Prison, which was 1,014; the Primrose Hill Ward that of the Union Workhouse, which was 396; and St. John's Ward that of the Clayton Hospital, which was 97. It should be kept in mind that at best estimations of population are only approximate, and the likelihood of error increases the further we get from the date of the last census. The estimations of ward populations made on a double assumption are still more questionable than the general population figures.

Census 1901.

WARD.	Inhabited Houses.	Uninhabited Houses.			Population.			Population estimated middle of 1908.
		In Occupation.	Not in Occupation.	Building	Persons.	Males.	Fem'ls	
St. John's ...	1000	59	22	9	4674	1990	2684	4866
Northgate ...	1912	56	20	7	10806	5332	5424	11371
Primrose Hill	1065	9	17	1	5369	2717	2652	5647
N. Westgate	804	8	16	32	4306	2321	1985	4586
S. Westgate	701	4	8	8	3509	1822	1687	3679
Kirkgate ...	1090	7	23	6	5001	2469	2532	5239
Calder ...	889	17	7	5	4048	1997	2051	4276
Alverthorpe	813	20	11	3	3700	1814	1886	3947
Total ...	8274	180	124	71	41413	20512	20901	43611

BIRTH RATE, DEATH RATE, AND ANALYSIS OF MORTALITY DURING THE YEAR 1908.

	Death Rate.		Annual Rate per 1,000 Living.								Deaths under 1 year to 1,000 Births.
	Birth Rate.	Death Rate.	Principal Epidemic Diseases Cols. 4-10.	Small-pox.	Measles.	Scarlet Fever.	Diph-theria.	Whoop-ing Cough.	Fever.	Diarr-hœa.	
	1	2	3	4	5	6	7	8	9	10	11
England and Wales ...	26·5	14·7	1·29	0·00	0·22	0·08	0·15	0·27	0 07	0·50	121
76 Great Towns ...	27·0	15·8	1·59	0·00	0·31	0·10	0·16	0 29	0·08	0·65	128
142 Smaller Towns ...	26·0	14·7	1·26	—	0·20	0·06	0·15	0·25	0 08	0·52	124
England and Wales less the 218 Towns	26·2	13·8	0·99	0·00	0·13	0·06	0·15	0·25	0·07	0·33	110
Wakefield	24·0	15·2	1·44	0·00	0·38	0·02	.022	0·20	0·06	0·55	136

MARRIAGES.

The number of marriages celebrated in Wakefield during 1908 was 346. The marriage rates for 1908 and the preceding 5 years are as follows:—

1908—16	persons	married	per	1,000	of	population.
1907—18	,,	,,	,,	,,	,,	,,
1906—16	,,	,,	,,	,,	,,	,,
1905—18	,,	,,	,,	,,	,,	,,
1904—13	,,	,,	,,	,,	,,	,,
1903—21	,,	,,	,,	,,	,,	,,

BIRTHS.

TABLE GIVING BIRTH-RATE OF WAKEFIELD IN EACH YEAR FROM 1867 TO 1908.

Year.	Birth Rate per 1,000 of Population.	Year.	Birth Rate per 1,000 of Population.
1908	24·0	1887	31·9
1907	23·6	1886	30·9
1906	23·2	1885	32·0
1905	26·4	1884	32·7
1904	26·1	1883	33·8
1903	26·3	1882	33·2
1902	28·7	1881	34·7
1901	29·6	1880	35·0
1900	26·8	1879	33·0
1899	29·7	1878	36·8
1898	28·6	1877	38·4
1897	28·9	1876	39·5
1896	33·2	1875	39·0
1895	31·4	1874	40·0
1894	29·6	1873	37·0
1893	31·2	1872	36·0
1892	25·1	1871	35·4
1891	27·2	1870	39·9
1890	26·3	1869	38·9
1889	29·5	1868	39·7
1888	32·7	1867	39·1

TABLE GIVING THE AVERAGE ANNUAL BIRTH-RATE DURING EACH OF THE FOUR DECENNIAL PERIODS 1867 TO 1906.

Decennial Period.	Birth Rate per 1,000 of Population (Average Annual).
1897—1906	27·4
1887—1896	29·1
1877—1886	34·0
1867—1876	38·4

TABLE SHEWING NUMBER OF BIRTHS AND BIRTH-RATES IN THE WHOLE CITY AND WARDS DURING 1908.

WARD.	Total.	Males.	Females.	Legitimate.	Illegitimate.	Percentage of Illegitimate Births.	Birth Rate per 1,000 of the population.
St. John's	76	45	31	68	8	10·5	15·6
Northgate	241	113	128	234	7	2·9	21·1
Primrose Hill...	155	80	75	138	*17	10·9	27·6
North Westgate	138	64	74	135	3	2·1	30·0
South Westgate	90	48	42	83	7	7·7	24·4
Kirkgate.....	124	64	60	114	10	8·0	23·6
Calder.....	122	70	52	119	3	2·4	28·5
Alverthorpe ...	104	57	47	103	1	0·9	26·3
Whole City ...	1050	541	509	994	56	5·3	24·07

* The Primrose Hill Ward figures include 11 births (6 illegitimate) in the Workhouse, where the mothers did not belong to Wakefield. Excluding the Workhouse cases, there were 11 illegitimate births in the Ward, or 7 per cent. of the total births. There were 8 other births in the Workhouse where the mother did belong to Wakefield, and these have been allotted to their respective Wards.

It will be noted that the birth-rate is slightly higher than the rates recorded in each of the two previous years, but is under the average for the preceding ten years (26.9). North Westgate Ward, as usual, holds the highest place as to birth-rate, and St. John's Ward, as usual, the lowest. It is highly creditable to Calder Ward that

with the lowest infantile mortality rate in the City it holds the second highest birth-rate, and is therefore doing its utmost to stock that part of the City with a liberal supply of healthy children.

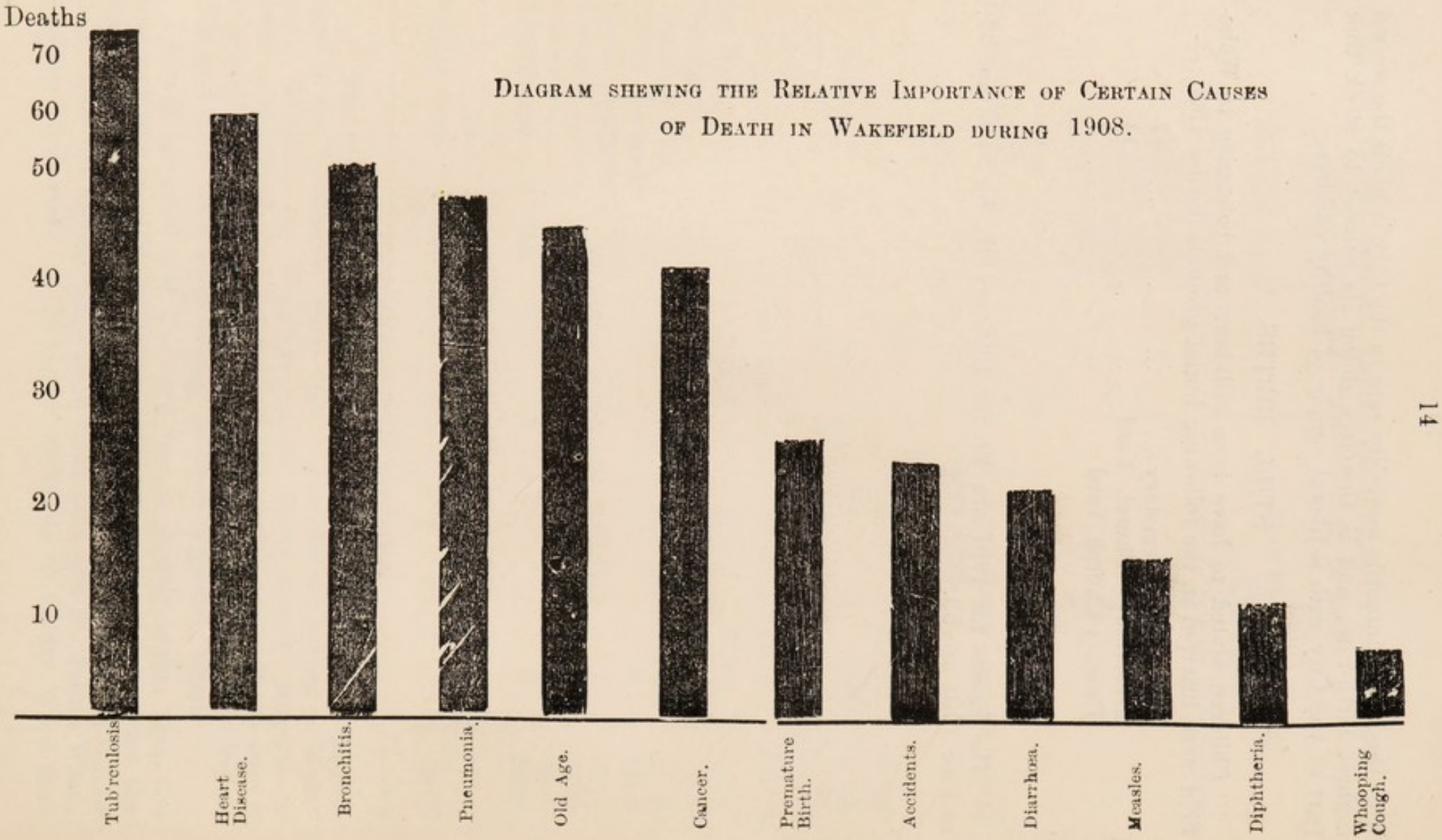
STILL BIRTHS.

Children stated to have been still-born and belonging to Wakefield were interred in the following burial grounds during 1908:—

Corporation Cemetery	47
Alverthorpe Church Yard	14
Thornes Church Yard	3
	64

The figures for 1907 are 49, for 1906 are 46, for 1905 are 33, and for 1904 are 53.

DIAGRAM SHEWING THE RELATIVE IMPORTANCE OF CERTAIN CAUSES OF DEATH IN WAKEFIELD DURING 1908.



DEATHS.

946 deaths were registered in Wakefield during 1908, comprising 664 persons belonging to the City (residents) and 282 persons not belonging to the City but dying in public institutions situated within the City (non-residents). 2 Wakefield residents were reported to have died in public institutions outside the City. The total resident deaths are therefore 666, and the nett death-rate is 15.2 per 1,000 of the estimated population, which is a death-rate 0.5 per 1,000 higher than the nett death-rate of 1907. It has not been so high since 1904.

Nett	Death-Rate,	1908	... ...	15.2
,,	,,	1907	... ...	14.7
,,	,,	1906	... ...	14.3
,,	,,	1905	... ...	13.4
,,	,,	1904	... ...	15.9
,,	,,	1903	... ...	15.9

Of the 666 deaths 373 were males and 293 were females.

All the deaths were certified by a medical man or by the Coroner. Full particulars of all non-resident deaths were sent by me to the Medical Officers of Health of the district to which they belonged, in order that they might be included in the mortality statistics of their proper districts. There were 17 non-resident deaths, the home address of which could not be ascertained, and these are included among our resident deaths and distributed amongst the wards.

TABLE SHEWING DEATH-RATE OF WAKEFIELD, 1851-1908.

Period.	Death Rate per 1000 of Population.
Decennium 1851–1860	23 (average).
Decennium 1861–1870	24 (average).
Decennium 1871–1880	24 (average).
Decennium 1881–1890	21 (average).
Decennium 1891–1900	20 (average).
Year 1901	20.16.
Year 1902	18.2.
Year 1903	18.1.
Year 1904	18.0.
Year 1905	15.5.
Year 1906	16.2.
Year 1907	16.7
Year 1908	18.0

In the above table the death-rates since 1895 represent the total deaths in the City minus the Asylum deaths, calculated on the total population of the City minus the Asylum population. The Asylum is

entirely excluded from the statistics, but all the other public institutions are included. This method of calculation having been used in former Reports is continued here in order to shew how the mortality in 1908 compares with previous years. It should, however, be noted that the number of deaths on which this rate is calculated includes 97 non-residents who died in the Workhouse, Clayton Hospital, and Prison, and these non-resident deaths are sufficient to raise the mortality rate more than 2 per 1,000. Like the nett death-rate, this death-rate is also raised, and is higher than the rates in each of the three preceding years.

TABLE SHEWING NUMBER OF DEATHS (RESIDENTS) IN VARIOUS AGE PERIODS IN 1908, AND IN FORMER YEARS.

Age Period.	Number of Deaths in 1908.	Number of Deaths in 1907.	Number of Deaths in 1906.	Number of Deaths in 1905	Number of Deaths in 1904.
Under 1 Year	143	127	127	119	187
1–5 Years	89	68	71	47	90
5–15 Years	22	29	25	21	13
15–25 Years	21	25	24	23	26
25–65 Years	223	248	246	237	213
65 Years and over	168	140	128	125	146
All Ages	666	637	621	572	675

The above table shews that in 1908 there were altogether 29 more deaths than in 1907, and that the increase affected the early (0—5) and the late (65 and over) age periods. In the intermediate age periods there was really a decreased number of deaths. The individual diseases shewing a marked increase in 1908 as compared with 1907 are Measles, Diphtheria, Diarrhœa, Cancer, and the number of deaths from Old Age and Accidents are also increased. On the other hand, the number of deaths from Bronchitis, Heart Diseases, and Tubercular Diseases are decreased.

Respiratory Diseases (including Phthisis) caused 27 per cent. of the total mortality, Phthisis caused 9 per cent., Bronchitis 8 per cent., and Pneumonia 8 per cent. of the mortality. Tubercular Diseases (including Phthisis) caused 10 per cent., Heart Disease 9 per cent., Cancer 7 per cent., Old Age 7 per cent., Premature Birth 4 per cent., Accidents 4 per cent., Diarrhœa 3.4 per cent., Measles 2.5 per cent., Diphtheria 1.5 per cent., Whooping Cough 1.3 per cent., Influenza 1 per cent., Alcoholism 1 per cent., Enteric Fever 0.4 per cent., and Scarlet Fever 0.1 per cent. of the total mortality.

During the first year of life the chief causes of death are Premature Birth (17 per cent.), Marasmus (14 per cent.), Diarrhœal Diseases (11 per cent.), Convulsions (9 per cent.), Bronchitis (8 per cent.), Pneumonia (8 per cent.), Whooping Cough (2.8 per cent.), Tubercular Diseases (2.8 per cent.), and Measles (2 per cent.).

Between the first and fifth years of life the chief causes of death are Pneumonia (17 per cent.), Measles (15 per cent.), Bronchitis (12 per cent.), Diphtheria (7 per cent.), and Diarrhœa (7 per cent.).

Between the ages of 5 and 15 years the chief causes of death are Diphtheria (14 per cent.), Accidents (14 per cent.), Bronchitis (9 per cent.), and Pneumonia (9 per cent.).

Between the ages of 15 and 25 years the chief causes of death are Phthisis (24 per cent.), Pneumonia (14 per cent.), and Accidents (14 per cent.).

Between the ages of 25 and 65 years the chief causes of death are Phthisis (21 per cent.), Heart Disease (15 per cent.), Cancer (11 per cent.), and Pneumonia (8 per cent.).

Over the age of 65 years the chief causes of death are Old Age (27 per cent.), Heart Disease (14 per cent.), Bronchitis (12 per cent.), and Cancer (11 per cent.).

Of the 666 deaths, 21 per cent. occurred during the first year of life, 13 per cent. between 1 and 5 years, 3 per cent. between 5 and 15 years, 3 per cent. between 15 and 25 years, 34 per cent. between 25 and 65 years, and 24 per cent. over 65 years of age.

All resident deaths in public institutions are allocated to the wards to which they belong. All persons dying in public institutions and whose home address is unknown are counted as residents and distributed among the wards. There were 17 such deaths in 1908. It will be noted that about 17 per cent. of all the resident deaths took place in public institutions, and 9 per cent. in the Workhouse.

INQUESTS ON RESIDENTS.

Natural Causes (Disease)	33	
Injuries (Accidental)	17	
Burns	3	
Drowning (Accidental)	2	
Suicide (Hanging)	2	7
„ (Cut Throat)	2	
„ (Poisoning)	2	
„ (Drowning)	1	
Total	62	

Ages of Persons Burned—2 years; 2 years; and 19 years.
Poisons Used—Hydrocyanic Acid; Carbolic Acid.

INQUESTS ON NON-RESIDENTS.

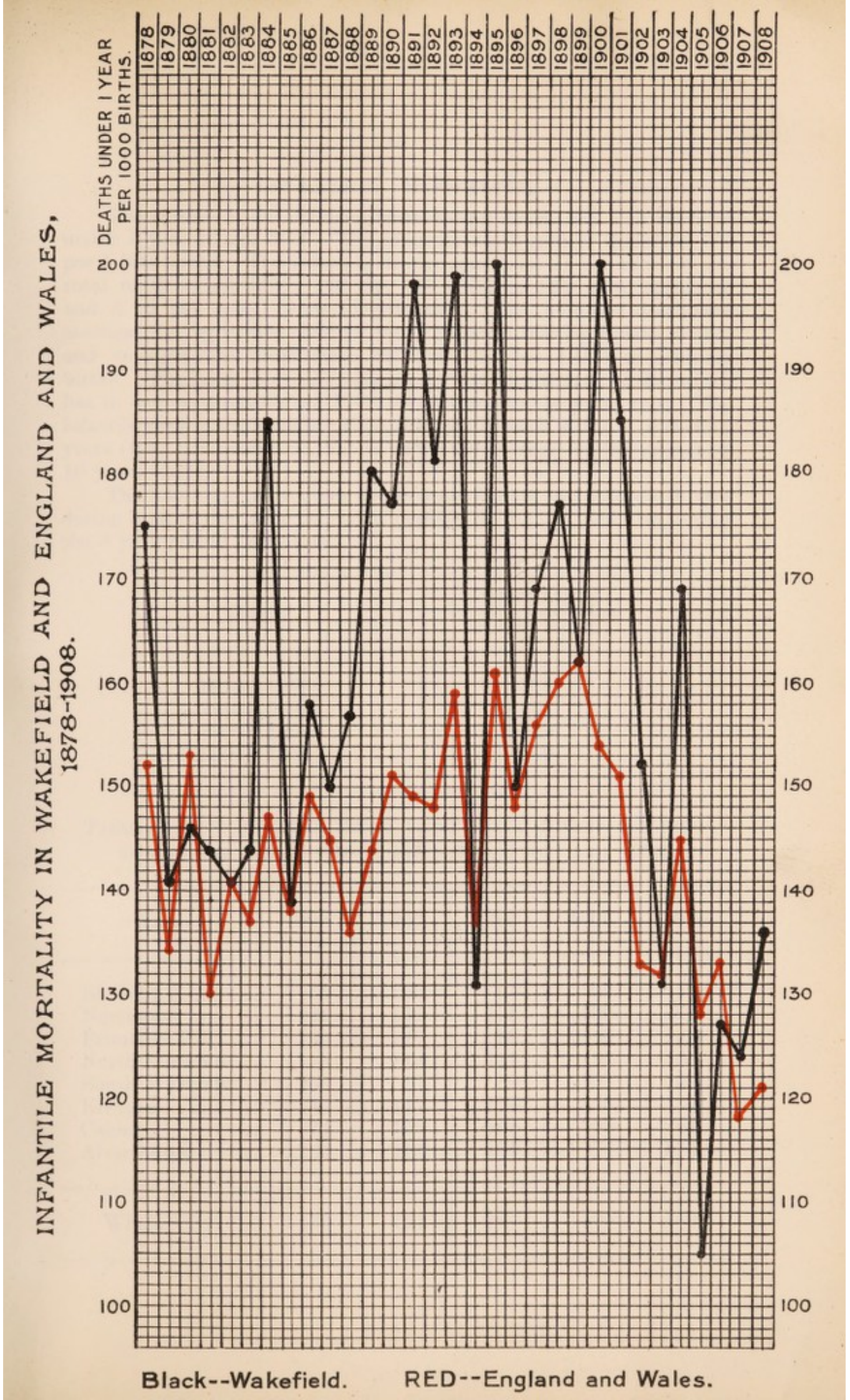
W.R. Asylum	8
Workhouse	2
Clayton Hospital	31
H.M. Prison	3
Total	44

TABLE SHEWING NUMBER OF RESIDENT DEATHS AND DEATH-RATES IN THE MUNICIPAL WARDS IN 1908, AND ALSO DEATH-RATES. IN 1908, 1907, 1906, 1905, 1904.

WARD.	Total.	Males.	Females.	Death Rate per 1,000 of the population, 1908.	Death Rate per 1,000 of the population, 1907.	Death Rate per 1,000 of the population, 1906.	Death Rate per 1,000 of the population, 1905.	Death Rate per 1,000 of the population, 1904.
St. John's ...	64	30	34	13·1	10·9	12·6	12·1	10·9
Northgate ...	148	74	74	13·0	13·6	15·3	14·4	15·9
Primrose Hill ...	104	69	35	18·4	17·8	14·3	16·6	19·8
North Westgate.	70	40	30	15·2	12·4	13·6	12·7	12·0
South Westgate.	64	35	29	17·3	18·3	14·6	13·3	17·6
Kirkgate	79	49	30	15·0	14·3	14·6	14·5	16·0
Calder	71	39	32	16·6	19 6	13·5	13·1	20·7
Alverthorpe ...	66	37	29	16·7	12·5	15·5	10·2	14·3
Whole City ...	666	373	293	15·2	14·7	14·4	13·4	15·9

TABLE SHEWING NUMBER OF DEATHS IN PUBLIC INSTITUTIONS WITHIN THE CITY IN 1908.

Institution.	Total.	Residents.	Non-Residents.
W.R. Asylum	198	17	181
Union Workhouse	113	65	48
Clayton Hospital	74	27	47
H.M. Prison	3	1	2
Corporation Fever Hospital ...	3	3	0
Total	391	113	278


INFANTILE MORTALITY IN WAKEFIELD AND ENGLAND AND WALES,
1878-1908.
DEATHS UNDER 1 YEAR PER 1000 BIRTHS.
1878 1879 1880 1881 1882 1883 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
200 190 180 170 160 150 140 130 120 110 100
Black--Wakefield. RED--England and Wales.

INFANTILE MORTALITY.

There were 1,050 children born during 1908, and 143 children under 1 year of age died. The infantile death-rate is therefore 136 per 1,000 births. The infantile deaths constitute 21 per cent. of the total resident mortality. Of the 143 children 135 were legitimate and 8 (5 per cent.) were illegitimate. The infantile death-rate amongst the legitimate children was 136 per 1,000 legitimate births, and amongst the illegitimate children 134 per 1,000 illegitimate births. The lower mortality rate among the illegitimate births, which has in fact occurred during 1908, is contrary to the usual rule. The infantile death-rate is higher than the rate in each of the 3 preceding years (124, 127, and 105), but is under the average for the preceding 10 years (153).

The following table gives the average annual infantile death-rate during each of the three decennial periods 1870-1899, and also during the 8 year period 1900-1907.

Period.	Average Annual Infantile Death Rate per 1,000 Births.
1870—1879	171
1880—1889	154
1890—1899	175
1900—1907	149

TABLE SHEWING INFANTILE DEATH-RATES IN THE MUNICIPAL WARDS DURING THE YEARS 1908, 1907, 1906, 1905, AND 1904.

WARD.	1908	1907	1906	1905	1904
St. John's	145	100	95	65	135
Northgate	124	152	175	109	163
Primrose Hill ...	129	147	96	146	198
North Westgate ...	145	113	117	92	100
South Westgate ...	165	67	80	107	131
Kirkgate	146	127	115	125	117
Calder	74	103	108	99	221
Alverthorpe... ...	184	131	170	74	211
Whole City ...	136	124	127	105	169

TABLE SHEWING THE INFANTILE MORTALITY IN EACH OF THE FOUR QUARTERS OF 1908.

1908.	Infantile Deaths per 1000 Births
1st Quarter	121
2nd Quarter	98
3rd Quarter	182
4th Quarter	149

TABLE SHEWING NUMBER OF CHILDREN DYING IN EACH OF THE FIRST TWELVE MONTHS OF LIFE IN 1908.

Month of Life.	Number of Deaths.		
First	47		
Second	15	1st Quarter	79
Third	17		
Fourth	10		
Fifth	6	2nd Quarter	25
Sixth	9		
Seventh	12		
Eighth	7	3rd Quarter	25
Ninth	6		
Tenth	3		
Eleventh	6	4th Quarter	14
Twelfth	5		

TABLE SHEWING NUMBER OF CHILDREN DYING IN EACH OF THE FIRST FOUR WEEKS OF LIFE.

Week of Life.	Number of Deaths.	
First	25	
Second	5	47
Third	10	
Fourth	7	

Causes of Infantile Deaths in 1908.

Disease.	Number of Deaths.	Percentage.
Premature Birth	25	17
Convulsions	13	9
Diarrhœa	12	9
Bronchitis	11	8
Pneumonia	11	8
Inanition and Debility ...	11	8
Marasmus (Wasting)	9	6
Whooping Cough	4	3
Congenital Syphilis	3	2
Intussusception...	3	2
Measles	3	2
Gastric Catarrh...	3	2
Tubercular Meningitis	2	1·4
Non-Tubercular Meningitis ...	2	1·4
Hydrocephalus	2	1·4
Spina Bifida	2	1·4
Injuries at Birth	2	1·4
Suffocation (Overlaying) ...	2	1·4
Otitis Media	2	1·4
Tabes Mesenterica	2	1·4
Pemphigus	1	0·7
Gastro-Enteritis	1	0 7
Gastro-Intestinal Atrophy ...	1	0·7
Dyspepsia	1	0·7
Abdominal Abscess	1	0·7
Abscess of Thigh	1	0·7
Deformed Spine	1	0·7
Prolapse of Cord	1	0·7
Want of Breast Milk	1	0·7
Scarlet Fever	1	0·7
Erysipelas	1	0·7
Impetigo	1	0 7
Mastoidoitis	1	0·7
Icterus Neonatorum	1	0 7
Acute Nephritis...	1	0·7
Haemophilia	1	0·7
Atelectasis	1	0·7
Acute Rheumatism	1	0·7
Heart Failure from pressure of enlarged Liver	1	0·7

Death Rates during the First Five Years of Life.

Year.	Infantile Death Rate per 1,000 of Population.	1-5 years of age Death Rate per 1,000 of Population.
1908	3·52	2·04
1907	2·93	1·57
1906	2·95	1·65
1905	2·78	1·1
1904	4·41	2·12
1903	3·44	1 8

Deaths 1-5 Years, and Death Rates in Wards, 1908, and Death Rates, 1907.

Ward.	Number of Deaths 1908.	Death Rates 1908.	Death Rates 1907.
St. John's	2	0·41	1·03
Northgate	21	1·84	1·32
Primrose Hill	24	4·25	1·24
North Westgate	4	0·87	2·66
South Westgate	11	2·98	1·72
Kirkgate	11	2·09	0·76
Calder	10	2·33	2·6
Alverthorpe	6	1·52	1·27
Whole City	89	2·04	1·57

TABLE SHEWING MORTALITY AT EACH YEAR OF LIFE BETWEEN 1 AND 5 YEARS OF AGE.

Cause of Death.	Number of Deaths.				
	1-2 Years.	2-3 Years.	3-4 Years.	4-5 Years.	Total 1-5 Years.
Pneumonia	11	1		3	15
Measles	7	4	2		13
Bronchitis	8	2	1		11
Diphtheria	1	1	3	2	7
Diarrhœa	6	1			7
Meningitis	2	1	1	2	6
Whooping Cough	3		1	1	5
Tubercular Diseases: Phthisis	1		1		2
Tubercular Diseases: Acute Tuberculosis ...	1				1
Tubercular Diseases: Tubercular Disease of Spine				1	1
Tubercular Diseases: Tubercular Peritonitis		1			1
Tubercular Diseases: Tubercular Meningitis	1				1
Tubercular Diseases (total)					6
Nephritis	2				2
Dentition, Convulsions ...	2				2
Acute Laryngitis	1	1			2
Burns		2			2
Accident (Run over) ...				1	1
Epilepsy	1				1
Congestion of Lungs ...	1				1
Peritonitis				1	1
Chronic Laryngitis... ...		1			1
Gastric Catarrh	1				1
Follicular Tonsilitis ...		1			1
Acute Stomatitis	1				1
Laryngismus Stridulus ...	1				1
Intestinal Obstruction ...				1	1
Rickets (Convulsions) ..	1				1
Total	52	16	9	12	89

REMARKS.

1.—The infantile mortality figures for 1908 are not so satisfactory as those recorded in each of the three preceding years, although they are still under the average for the preceding decennium. The rate is over that for England and Wales, which itself is slightly higher than it was in 1907. While the infantile mortality is one naturally subject to fluctuations, it is to be regretted that we have again risen above the 130 line.

2.—The infantile deaths in 1908 were 16 more than in 1907. The increase is mainly amongst the deaths from Diarrhœa, Convulsions, Measles, and Tuberculosis, whilst the number of deaths from respiratory diseases is diminished. Between the ages of 1 and 5 years there were in 1908 21 more deaths than in 1907, and the increase is mainly due to Measles and Diphtheria. In 1908 there were 20 deaths from these two diseases, and in 1907 none.

3.—Amongst the localities, Calder Ward holds the premier place with a remarkably low infantile mortality rate of 74, whilst Alverthorpe is at the opposite pole with a rate of 184. Besides Calder Ward, both Northgate and Primrose Hill Wards are under the average. South Westgate Ward, which has shewn a low rate during each of the 3 preceding years, has the second highest rate of the year.

4.—As usual the incidence of the mortality falls heaviest on the earlier months of infant life. More than half (55 per cent.) of the infantile deaths occurred during the first three months of life, about a third (33 per cent.) during the first month of life, and about one sixth (17 per cent.) during the first week of life. In the case of deaths between 1 and 5 years of age, 58 per cent. occurred during the second year of life. If we consider together the total deaths occurring during the first 5 years of life, we find that 84 per cent. of them occurred during the first two years of life.

5.—The infantile mortality in 1908 was, as in former years, mainly limited to the working class part of the community. I have classified the infantile deaths according to the occupations of the fathers with the following result.

29 per cent. were children of labourers, or of persons of similar social position.

17 per cent. were children of coalminers.

41 per cent. were children of artisans, or of persons of similar social position.

9 per cent. were children of clerks, or persons of similar position, and 5 per cent. were illegitimate.

6.—As to the causes of death it will be noted that during the first year of life premature birth, convulsions, diarrhœa, bronchitis, pneumonia, inanition, and marasmus are the leading factors, while in the ensuing four years pneumonia, measles, bronchitis, diphtheria, diarrhœa, meningitis, whooping cough, and tuberculosis are the chief causes of death. As I have pointed out so often before a large proportion of these diseases or conditions causing mortality are essentially preventable, even although many of them are due to antenatal causes.

7.—While the infantile mortality is still unduly high it is satisfactory to record that the City Council through the Sanitary Com-

mittee are alive to their responsibilities in the matter, and that during the year important steps for the purpose of more effectively grappling with the evil have been taken.

In June, 1908, the Council appointed a lady health visitor, and one of her duties, amongst others, is to visit houses in the poorer parts of the City, and advise the mothers as to the proper feeding and care of infants. Later in the year the Wakefield and District Sanitary Aid Society, which has for a few years employed a lady health visitor, decided to discontinue the work of health visiting. At the same time certain ladies of the City, who had been much interested in the system of health visiting, and were desirous that it should be maintained as efficiently as possible, approached the City Council, and offered to pay the salary of the lady whose services were being dispensed with, if the Council would allow her to work under the directions of the Medical Officer of Health and in co-ordination with the other health visitor. The Council acceded to the request, and it was arranged that the new system should come into operation at the beginning of 1909. In order to obtain the early information with regard to births, which is so necessary for the efficient working of a system of health visiting, the City Council decided to adopt the Notification of Births Act (1907), and the consent of the Local Government Board having been obtained the Act came into force on the 15th December, 1908.

The requirements of this Act are briefly set out in the following letter, which I addressed to the medical men and midwives practising in the City.

9th December, 1908.

Dear Sir (or Madam),

NOTIFICATION OF BIRTHS ACT, 1907.

I am directed by the City Council to inform you that the above Act having been adopted by them, and the consent of the Local Government Board to the resolution of adoption having been obtained, the provisions of the Act will come into force within the City on 15th December, 1908.

Further, as directed by Section 2 (3) of the Act, I have to bring its provisions to your attention.

The Notification of Births Act, 1907, is a short measure containing in all only six Sections. Of these the most important is Section I., which provides that, in the case of every child born in an area in which the Act is adopted, notice in writing of the birth must be given to the Medical Officer of the district in which the child is born.

The persons upon whom the duty of notifying devolves are the father of the child, if he is actually residing in the house where the birth takes place at the time of its occurrence, and any

person in attendance upon the mother at the time of, or within six hours after the birth.

Notice is to be given by posting a prepaid letter or postcard addressed to the Medical Officer of Health, or by delivering a written notice at his office or residence, giving the necessary information of the birth within 36 hours after the birth.

Stamped addressed postcards containing the form of notice are to be supplied free of charge by the local authority to any medical practitioner or midwife residing or practising in their area, who applies for the same.

Any person who fails to give notice of a birth, as required by the Act, is liable on summary conviction to a penalty not exceeding twenty shillings. No penalty, however, is incurred if the person satisfies the Court that he had reasonable grounds to believe that notice had been duly given by some other person.

Section I. further provides that the notification shall apply to any child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy, whether alive or dead.

It is to be noted that the notification to be made under this Act is in addition to and not in substitution for the requirements of any Act relating to the registration of births.

The provisions of the Act, apart from those given above, are of little importance, so far as the medical practitioner and the midwife are concerned.

A supply of stamped addressed letter cards is enclosed for your use in your midwifery practice, and I shall be obliged if you will arrange, in any case you are attending, for one to be handed for transmission, when filled up, to the Medical Officer of Health, by the person responsible for notification. In the absence of any other person you yourself will, of course, be responsible for sending in the notification within the time stated.

Any assistance rendered by you in this or any other way in carrying out the provisions of this most important Act, will be greatly appreciated by the City Council. Additional stamped addressed letter cards will be supplied on application to the Medical Officer of Health.

Yours faithfully,

THOMAS GIBSON,

Medical Officer of Health.

In order to make clear to the medical practitioners what we proposed to do in the way of health visiting and to secure as far as possible their hearty co-operation, I also sent to them the following circular letter :—

9th December, 1908.

Dear Sir,

In addition to sending you the accompanying circular, which is required by the Act, I should like, further, to acquaint you with the procedure which the Sanitary Committee propose adopting as a means of giving practical effect to the provisions of the Notification of Births Act. The object of this Act is, as you know, to diminish infantile sickness and mortality through the agency of health visiting, and in Wakefield such work will be carried out under the supervision of the Medical Officer of Health. It is not proposed to visit every house where a birth occurs, but only those where, from the nature of the locality and other considerations, it appears likely that a visit might prove useful. In order to avoid any misunderstanding, it has been decided that in all cases where a medical man is in attendance, the lady health visitor will not call at the house until a fortnight after the birth, unless she is specially requested by the medical man to visit earlier. In all cases where the child is under medical treatment, the health visitor will have strict instructions not to interfere in any way with the treatment or prescribed feeding, but on the other hand it will be her aim to try and help the mother to carry out the doctor's advice as fully as possible. It will also be her duty to advise parents to secure medical treatment in all cases when it appears necessary, but has not been obtained. The main object of the health visitor's work is to prevent sickness amongst children, but not to treat the children who are sick.

I have no doubt but that these arrangements will meet with your approval, and that the Sanitary Committee may expect in this work the hearty co-operation and support which has always been extended to them by the members of the medical profession in Wakefield.

Yours faithfully,

THOMAS GIBSON,

Medical Officer of Health.

The Act only came into force during the last fortnight of the year, and it will suffice to state here that the system is working smoothly, and that the medical men and midwives are giving us their hearty support. In order to have some means of checking the notifications, the Sanitary Committee decided to secure weekly returns of births registered from the Registrar, and with the same object arrangements were made for the notification of all burials of still-born children by the curators of the various burial places in the City. I should also state that during 1908 the Corporation health visitor did not under-

take the routine visiting of infants, inasmuch as throughout the year the health visitor of the Sanitary Aid Society continued her usual work, and it was deemed advisable not to interfere with the existing system until entirely new arrangements could be made. These new arrangements provide for the Corporation Health Visitor visiting infants in Alverthorpe, North Westgate, and South Westgate Wards, while the other lady visits similarly over the rest of the City.

ZYMOTIC MORTALITY.

The Zymotic Mortality means the number of deaths from the seven principal zymotic diseases, namely, Smallpox, Scarlet Fever, Diphtheria, Enteric Fever, Measles, Whooping Cough, and Diarrhœa In 1908 there were 63 deaths from these diseases, giving a zymotic death-rate of 1.44 per 1,000 of the population. The corresponding death-rates for the six preceding years are as follows:—

1907—0.78 per 1,000 of population.
1906—1.46 ,, ,, ,, ,,
1905—1.05 ,, ,, ,, ,,
1904—2.1 ,, ,, ,, ,,
1903—1.1 ,, ,, ,, ,,
1902—2.3 ,, ,, ,, ,,

The rate for 1908 is just equal to the average of these preceding six years, although it is nearly double that of 1907. Measles, Diarrhœa, and Diphtheria are the diseases that have chiefly raised the Zymotic Mortality in 1908.

Zymotic Diseases and Deaths in 1908.

	Zymotic Disease.	Number of Cases Notified.	Number of Deaths.	Case Mortality, per cent.
	Smallpox	0	0	0·0
	Scarlet Fever	41	1	2·4
	Diphtheria	56	10	17·8
	Enteric Fever	15	3	20·0
Not Notifiable	Diarrhœa	—	23	—
Not Notifiable	Whooping Cough	—	9	—
Not Notifiable	Measles	—	17	—

Zymotic Mortality in Wards in 1908 and Preceding Years.

Ward.	No. of Deaths 1908	Death Rate 1908.	Death Rate 1907.	Death Rate 1906.	Death Rate 1905.
St. John's	6	1·23	0·41	1·04	0·83
Northgate	8	0·70	1·32	1·95	1·43
Primrose Hill... ...	18	3·18	1·06	1·25	1·44
North Westgate ...	5	1·09	0·66	1·56	0·55
South Westgate ...	6	1·63	0·27	1·38	0·83
Kirkgate	6	1·10	0·19	1·15	1·74
Calder...	8	1·87	1·16	1·65	0·47
Alverthorpe	6	1·52	0·25	1·03	0·26
Whole City ...	63	1·44	0·78	1·46	1·05

It will be noted that the Zymotic Mortality was above the average in Primrose Hill, Calder, South Westgate, and Alverthorpe Wards, and below the average in the other wards. The mortality was excessive in Primrose Hill Ward, when out of the 18 Zymotic deaths, 11 were due to diarrhœa.

SCARLET FEVER.

Scarlet Fever Statistics, 1875-1908.

Year.	Number of Cases Notified.	Attack Rate per 1000 of population.	Number of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	Total Case Mortality Percentage.	Case Mortality, Home Percentage.	Case Mortality, Hospital Percentage.	Number of Deaths (Total).	Death Rate per 1,000 of Population.
1908	41	0·9	10	24·4	2·4	3·2	0 0	1	0.02
1907	46	1·0	14	30·5	0·0	0·0	0·0	0	0·00
1906	194	4·3	67	34·5	3·5	2·3	4·6	6	0·13
1905	191	4·4	19	9·9	3·1	3·4	0.0	6	0·14
1904	37	0·8	2	5·4	5·4	5·7	0·0	2	0·04
1903	108	2·5	4	3·7	1·8	1·9	0·0	2	0·04
1902	198	4·7	70	35·3	4·7	5·4	2·8	9	0 21
1901	150	3·6	68	45·3	2·6	4·8	0·0	4	0·09
1900	293	7·5	144	49·0	8·2	8·0	8·3	24	0·62
1899	102	2·6	47	46·0	0·0	0·0	0·0	0	0·0C
1898	155	4·1	50	32·3	3·8	3·8	4·0	6	0·15
1897	92	2·4	21	22·8	5·6	5·6	4·7	5	0·13
1896	172	4·6	40	23·2	7·5	7·5	12·5	15	0·4
1895	259	7·5	49	18·9	4·2	4·2	4·0	11	0·32
1894	38	1·1	0	0·0	2·6	2·6	—	1	0·02
1893	78	2·3	0	0·0	2·5	2·5	—	2	0·05
1892	108	3·2	0	0·0	2·7	2·7	—	3	0·08
1891	53	1·3	8	15·0	0·0	0·0	0·0	0	0·00
1890	39	1·1	8	20·5	12·9	12·9	0·0	4	0·12
1889	343	10·2	53	15·4	18·9	18·9	16·9	64	1·9
1888			2					15	0·45
1887			20					15	0·45
1886			6					18	0·55
1885			2					10	0·31
1884			1					11	0·38
1883			7					24	0·77
1882			5					36	1·1
1881			13					18	0·58
1880			3					14	0·42
1879								15	0·46
1878								1	0·03
1877								10	0·33
1876								95	3·06
1875								94	3·13

NUMBER OF CASES NOTIFIED IN EACH MONTH AND QUARTER OF 1908.

Month.	Number of Cases.	
January	2	
February	6	9 1st Quarter.
March	1	
April	4	
May	3	10 2nd Quarter.
June	3	
July	0	
August	4	7 3rd Quarter.
September	3	
October	4	
November	5	15 4th Quarter.
December	6	
	41	

NUMBER OF CASES, ATTACK RATE, AND NUMBER OF DEATHS IN THE CITY WARDS.

Ward.	Number of Cases.	Attack Rate per 1000 of population.	No. of Deaths.
St. John's	7	1·43	—
Northgate	11	0·96	—
Primrose Hill	3	0·53	—
North Westgate	8	1·74	1
South Westgate	3	0·81	—
Kirkgate	7	1·33	—
Calder	2	0·38	—
Alverthorpe	0	0·00	—
Whole City	41	0·94	1

SEX.

Of the 41 cases, 14 were males and 27 females.

NUMBER OF CASES AT AGE PERIODS.

Under 1 Year.	1-5 Years.	5-15 Years.	15-25 Years.	25-60 Years.
1	19	20	0	1

TABLE SHEWING DISTRIBUTION OF CASES OF SCARLET FEVER OCCURRING DURING 1908, IN HOUSES CLASSIFIED ACCORDING TO THE NUMBER OF ROOMS PER HOUSE.

Class of House.	Number of Houses Invaded.	Total Number of Inmates.	Average Number of Inmates per house.	Average Number of Inmates per room.	Number of Contacts over 14 Years of Age.	Number of Contacts under 14 Years of Age.	Number of Susceptible Contacts over 14 Years of Age.	Number of Susceptible Contacts under 14 Years of Age.	Total Number of Cases.	Number of Primary Cases.	Number of Secondary Cases.	Number of Return Cases.	Number of Cases removed to Hospital.
2 Roomed	5	19	3·8	1·9	10	4	6	4	5	5	0	0	2
3 Roomed	4	24	6·0	2·0	13	7	7	6	5	4	0	1	2
4 Roomed	7	31	4·4	1·1	16	8	10	5	8	7	0	1	1
5 Roomed	8	52	6·5	1·3	28	16	18	14	9	8	1	0	1
6 Roomed	2	13	5·5	1·0	8	3	5	3	2	2	0	0	0
7 Roomed	4	25	5·2	0·9	13	8	10	8	7	4	3	0	1
8 Roomed and over	4	26	6·5	0·8	14	8	10	8	4	4	0	0	1
Total ...	34	190	5·6	1·3	102	54	66	48	40	34	4	2	8

NOTE—The above does not include one case which occurred in the Clayton Hospital and was removed to the Fever Hospital.

The term "susceptible" is applied to each inmate stated not to have suffered from Scarlet Fever.

REMARKS.

In 1908 41 cases of Scarlet Fever were notified, being an attack rate of 0.9 per 1,000 of the population. This is the second lowest attack-rate on record, and is far below the average for the preceding 10 years (3.6). It is satisfactory to record such a comparatively small number of cases notified, but this indicates perhaps more the extreme mildness of the type of the disease rather than the number of cases of the disease actually occurring. As I have pointed out so often before, a very large number of the cases are so mild as to escape detection, and our notification list only shews a few selected cases somewhat more marked in their character or by some chance coming under medical purview.

The cases were fairly uniformly distributed over the year, with a slight increase in the last quarter. The prevalence of the disease was highest in North Westgate, St. John's, and Kirkgate Wards, while Alverthorpe Ward had no cases, and Calder Ward only two.

Of the 41 cases, 40 occurred in 34 private dwelling-houses, and 1 in the Clayton Hospital. There were 32 houses with one case each, the other two more than one. Eight were middle-class houses, and 27 working-class dwellings. Of the 26 working-class houses 17, or 63 per cent., were of the better type, and contained 4 or more rooms.

These figures shew that the disease was found chiefly not in the poorest but in the better class of workmen's dwellings, and was not associated with overcrowding. Even in the 5 two-roomed dwellings invaded there were under 2 persons to a room, and in the three-roomed dwellings the number did not exceed two persons to a room. So far as the notifications shew, the disease seems specially to select the good, sanitary, clean, and respectable working-man's house. At the same time I do not think the prevalence of the disease is really less in the poorer kind of dwelling, but the inmates of these are less careful and less ready to call in the doctor, and thus a greater proportion of the cases occurring there escape notification.

Still the incidence of Scarlet Fever is no index of the sanitary state of any district. The spread of the disease is from individual to individual, and has little or no relation to the surroundings, whether sanitary or insanitary. On the other hand, insanitary surroundings no doubt have an important influence in determining the mortality from the disease.

Schools.

Only 19 of the 41 cases notified were children in attendance at the public elementary schools.

Eastmoor Council	5 cases
Clarendon Street	3 „
Wesleyan	3 „
Westgate Council	2 „
St. Michael's	2 „
St. John's	1 „
Alverthorpe Church	1 „
St. Mary's	1 „
Ings Road	1 „

ISOLATION.

Of the 41 cases 10 (24 per cent.) were removed to hospital, and 31 were treated at home. Of the 10 removed, 9 were taken to the City Fever Hospital and 1 to Carrgate Fever Hospital.

The reasons for removal were as follows:—

4 were removed at request of parents or patient.
2 were in unsuitable dwellings.
2 were in shop dwellings.
1 was in lodgings.
1 was in the Clayton Hospital.

There were only six cases where, in the interests of the public health, removal to hospital appeared necessary, although for the other four the hospital proved a convenience. The day of disease when removed to hospital varied from the 2nd to the 7th day, the average being the 4th day.

The average interval between the date of onset and the date of receipt of the notification was four days, as compared with five days in 1907, four days in 1906, five days in 1905, and six days in 1904.

SECONDARY CASES.

The term "secondary" case is applied here to a case occurring in a house subsequent to the primary case, and presumably infected by it, but not including "return" cases.

In 1908 there were four secondary cases, occurring in two houses. One house had three secondary cases, and one house one secondary case

The intervals elapsing between the onset of the primary case and the onset of the secondary case were in the four instances 10 days, 11 days, 12 days, and 14 days. All the secondary cases had sickened before the primary case was notified. The three cases occurred in a seven-roomed and the single case in a five-roomed dwelling.

RETURN CASES.

There were two hospital return cases, that is cases starting in the home after the return of a convalescent scarlet fever patient from hospital, occurring in separate houses.

Case 1 commenced seven days after the return of the infecting case from hospital. The latter had been in hospital 64 days, a protracted period of detention on account of rhinorrhœa and otorrhœa, and was discharged with the persistent otorrhœa uncured. The rhinorrhœa and desquamation had ceased.

Case 2 commenced six days after the return of the infecting case from hospital. The latter had been in hospital 44 days, and on discharge was free from desquamation and also from rhinorrhœa or otorrhœa. This was the patient admitted from the Clayton Hospital, and the detention in the Fever Hospital was longer than usual on account of an osteotomy.

The period of detention of all the cases treated in the City Fever Hospital varied from 44 to 29 days, the average being 33 days. Only one case left the hospital with a discharge (see above), but three left with desquamation. None of the latter infected any other known case.

Generally speaking, one may say that return cases are caused by patients suffering from nasal or aural discharge or by patients who have been kept in hospital for more than five weeks. The sooner a patient is discharged after the lapse of four weeks, provided there are no discharges or other complications or sequelæ, the less likely is he to infect others on his return home, and in this connection the desquamation may be quite ignored.

A third case in 1908 was really a return case, although the infecting case did not belong to Wakefield. In this case our patient, a child five years old, went on a visit to some friends outside the City on the 22nd August. There she met a child who had been discharged from a Fever Hospital on the previous day, and they played together. She returned home on the same evening, and 48 hours later she sickened with Scarlet Fever.

Mortality.

The one death of the year was a child 10 months old, and was due to Scarlet Fever, complicated with otitis media and bronchitis. The death occured at home, and on the 14th day of the disease.

Clinical Condition of Cases.

The following table has been compiled with the object of shewing the general character of the cases of Scarlet Fever notified during 1908, and the incidence of complications and sequelæ among the cases in the home treated group and similarly among the hospital treated group. The information with regard to the home treated cases has been supplied to me by the medical practitioners in attendance, and I must here acknowledge their invaluable assistance in throwing light on this important matter.

84 per cent. of the cases in the home group and 80 per cent. in the hospital group are noted as mild. 74 per cent. of the cases in

the home group and 70 per cent. in the hospital group had only slight throat inflammation, 16 per cent. of the home treated cases and 10 per cent. of the hospital treated cases had nasal discharge, and 6 per cent. of the former and 20 per cent. of the latter had aural discharge.

TABLE SHEWING CLINICAL CONDITION OF THE CASES OF SCARLET FEVER, 1908.

	Home Treated Cases, 31.	Hospital Treated Cases, 10.
GENERAL CHARACTER OF ATTACK—		
(1) Mild	26	8
(2) Moderate ...	4	2
(3) Severe... ...	1	—
THROAT INFLAMMATION—		
(1) Slight	23	7
(2) Moderate ...	7	2
(3) Severe... ...	1	1
(4) Septic	—	—
NASAL DISCHARGE—		
(1) Temporary ...	5	1
(2) Persistent ...	—	—
AURAL DISCHARGE—		
(1) Temporary ...	1	2
(2) Persistent ...	1	—
ALBUMINURIA—		
(1) Temporary ...	1	—
(2) Persistent ...	—	—
NEPHRITIS—	—	—
JOINT AFFECTION—	2	—
OTHER COMPLICATIONS OR SEQUELA—	Otitis Media 1 Pneumonia 1 Bronchitis 1 Ulceration of Mouth 1	Marked Adenitis 1

CONTRAVENTION OF PUBLIC HEALTH ACT.

A case shewing a flagrant contravention of the provisions of the Public Health Act with regard to infectious diseases occurred in May. On the 18th of that month an ailing child was taken by his mother to a doctor's surgery in the City. The doctor diagnosed Scarlet Fever, and informed the mother accordingly. She was further told that he would report the case, and in the meantime she was advised to take the child home. It appeared that the mother and child belonged to Coventry, and at the time of this occurrence were on a visit to relatives in this City. On learning the nature of the malady, the mother evidently soon made up her mind to disregard the necessary precautions, for within two hours of visiting the doctor she and the child had entrained for Coventry. I telegraphed to the Medical Officer of Health there, and soon after arriving at the destination the patient was removed to the Coventry Fever Hospital. After some difficulty we found the cab in which the patient had been taken, and that as well as the house were disinfected. No legal proceedings were taken here, but the facts were sent on to the Sanitary Authority of Coventry.

DIPHTHERIA.

DIPHTHERIA STATISTICS, 1890-1908.

Year.	No. of Cases Notified.	Attack Rate per 1,000 of population.	No. of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	No. of Deaths.	Case Mortality per cent.	Death Rate per 1,000 of population.
1908	56	1·28	24	42·8	10	17·8	0·22
1907	19	0·43	6	31·5	5	26	0.11
1906	33	0·76	9	27·2	5	16	0·11
1905	27	0·63	1	3·8	8	31	0·18
1904	33	0·77	0	0·0	1	3	0·02
1903	19	0·45	0	0·0	1	5	0·02
1902	24	0·57	2	8·3	2	8	0·04
1901	52	1·25	5	9·6	5	10	0·12
1900	100	2·60	19	19 0	16	16	0·41
1899	20	0·52	1	5·0	6	30	0·15
1898	17	0·45	0	0·0	2	12	0·05
1897	22	0·58	0	0·0	0	0	0·00
1896	20	0·54	0	0·0	5	25	0·13
1895	24	0·70	0	0·0	5	21	0·14
1894	13	0·38	0	0·0	1	8	0·02
1893	26	0·77	0	0·0	4	15	0·11
1892	30	0·89	0	0·0	1	3	0·02
1891	25	0·75	0	0·0	0	0	0·00
1890	44	1·34	0	0·0	1	2	0·03

Death Rate from Diphtheria, and from Diphtheria and Croup combined 1867–1908.

Period.	Average Annual Death Rate from Diphtheria per 1,000 of Population.	Average Annual Death Rate from Diphtheria and Croup per 1,000 of Population
1908	0·20	0·22
1907	0·11	0·11
1897–1906	0·11	0·14
1887–1896	0·06	0·18
1877–1886	0·04	0·19
1867–1876	0·13	0·21

Number of Cases.

56 cases of Diphtheria were notified during 1908, 17 were males and 39 females.

Number of Cases and Deaths in Wards

WARD.	No. of Cases.	Attack Rate per 1,000 of population.	No. of Deaths
St. John's	5	1·02	—
Northgate	23	2·22	3
Primrose Hill	10	1·78	2
North Westgate	7	1·52	—
South Westgate	1	0·27	—
Kirkgate	2	0·38	1
Calder	5	1·16	3
Alverthorpe	3	0·79	1
Whole City	56	1·28	10

Number of Cases at Age Periods.

Under 1 Year.	1-5 Years.	5-15 Years.	15-25 Years.	25-35 Years.
0	16	33	3	4

NUMBER OF CASES NOTIFIED IN EACH MONTH.

January	...	2	10	July ...	...	4	7
February	...	1		August	...	0	
March	...	7		September	...	3	
April ...	...	5	11	October	...	4	28
May ...	...	5		November	...	18	
June ...	...	1		December	...	6	

The cases occurred in the following streets, etc.:—

Clayton Hospital.
Wentworth Street.
Wood Street.
Carter Street (2 cases).
Back Lane.
Rishworth Street.
Howard Street.
Hatfeild Street (2 cases).
College Grove Road (4 cases).
Pinderfields Road.
Belgrave Terrace.
Eastmoor Road.
Stanley Road (3 cases).
Bailey's Buildings.
Denstone Street.
Vicarage Street.
Zetland Street
Warrengate.
Westmoreland Street.
Old Crown Yard.
Brook Street.
New Street.
Providence Street (2 cases).
Kay Street.
Pincheon Street (4 cases).
Peterson Road.
William Street (2 cases).
Kirkgate (2 cases).
Charlotte Street.
Doncaster Road.
Thornes Lane (2 cases).
Church Street.
Jessop Street.
Bishopgate.
Albion Court.

Plumpton Street.
Ossett Road.
Alverthorpe Road.
Lincoln Street (3 cases).
Balne Lane.

Diphtheria and Schools.

Of the 56 cases notified, 32 were children in attendance at the following schools:—

Cathedral	9
Clarendon Street	7
Wesleyan	3
Eastmoor Council	2
Westgate Council	2
Alverthorpe Church	2
St. Austin's	1
Thornes Lane	1
Ings Road	1
St. Andrew's	1
Holy Trinity	1
St. Mary's	1
St. Michael's	1

Condition of Houses Invaded.

Of the 56 cases, 55 occurred in 51 private dwelling-houses and 1 in the Clayton Hospital.

Of the 51 dwelling-houses 5 were of middle-class character, and 46 working-class. 3 were shop dwellings. 23 were "through," and 18 "back-to-back" houses.

Houses with 2 rooms	2
Houses with 3 rooms	15
Houses with 4 rooms	20
Houses with 5 rooms	8
Houses with 6 rooms and over	6

45 houses had ordinary water closets, 2 trough closets, 3 tub closets, and 1 a privy closet.

Drainage defects were found in 15 of the houses, but in only 3 instances were the defects serious.

Secondary Cases.

Of the 51 houses, 49 had one case each, and 2 houses had more than one case.

(1) This house had one secondary case. 4-roomed through house, with 6 inmates, of whom 4 were under 14 years and 2 over 14

years of age. Primary case treated at home. The secondary case sickened 23 days after the onset of the primary case, and 12 days after the notification of the primary case.

(2) This house had 3 secondary or rather return cases. 3-roomed back-to-back house, with 6 inmates, of whom 4 were under 14 years and 2 over 14 years of age. The primary case was removed to hospital on the 5th day of the disease, and returned home after a stay of 53 days. She then appeared clinically well and free from infection, but on account of the protracted period of isolation, no bacteriological examination was considered necessary. 9 days after her return a sister sickened with diphtheria, 5 days later a brother sickened, and 6 days after this the other sister also sickened. These cases were also removed to hospital.

ISOLATION.

24 cases (42 per cent.) were treated in this City Fever Hospital.

Deaths.

No.	Sex.	Age.	Locality.	Place of Death.	Date of Death.	Day of Disease.	No. of Days after Notification.	Cause of Death as Certified
1	F	1½ years	Jessop Street, Thornes	Hospital	9-3-08	10	6	Diphtheria, Cardiac Failure
2	M	5 years	Lincoln Street	Home	1-4-08	16	5	Diphtheria, Cardiac Failure
3	F	3 years	Spring Terrace, Stanley Road	Home	12-4-08	4	1	Diphtheria
4	F	5 years	Church View, Thornes Lane	Home	14-4-08	3	Died before Notification received	Diphtheria, Tracheotomy
5	M	2 years	Thornes Lane	Home	15-5-08	2	Died before Notification received	Diphtheria
6	M	4 years	Bishopgate	Home	5-6-08	3	Died before Notification received	Diphtheria
7	M	4 years	Spurr Yard, Stanley Road	Home	15-7-08	2	1	Diphtheria, Exhaustion
8	F	7 years	New Street	Hospital	31-10-08	4	1	Diphtheria, Heart Failure
9	M	3 years	Perkin's Yard, Pincheon Street	Hospital	19-11-08	12	9	Diphtheria, Toxaemic Vomiting
10	F	3 years	Charles Street	Home	3-12-08	4	Died before Notification received	Membranous Croup

REMARKS.

The prevalence of diphtheria was much above the average during 1908. The attack-rate for 1908 was 1.28 per 1,000 as compared with 0.84, the average for the preceding 10 years. The mortality of the disease was also increased. The death-rate for 1908 was 0.22 per 1,000 as compared with 0.12, the average for the preceding 10 years.

The prevalence was greatest in Northgate Ward, and lowest in South Westgate Ward. It was highest during the month of November, and half of the cases occurred in the last quarter of the year. During the school holiday month of August not a single case was notified. 87 per cent. of the cases were children under 15 years of age, and about 60 per cent. were between 5 and 15 years of age. All the deaths were children between 1½ and 7 years of age.

As in the case of Scarlet Fever, our methods for controlling diphtheria have been greatly improved during recent years, and an application of these methods during the year under review has, I am convinced, averted an epidemic which threatened us at least in the last quarter. The disease, like Scarlet Fever, is spread for the most part by mild unrecognised cases, or by persons who, although not suffering from diphtheria, are harbouring the specific bacilli in their throats or air passages. If we confine our energies to dealing with only the notified cases, we can never effectually check the spread of the disease. The notified cases, however, do provide us with clues whereby the unnotified cases may be tracked. This investigation takes up a large amount of time, and has for the most part to be done personally by the Medical Officer, but it is a sine qua non in the scientific control of the disease. The method also requires the assistance of a bacteriological laboratory, and fortunately we have in Wakefield the advantages of the County Council laboratory. The services rendered by this laboratory during the past year have been invaluable, for without it we should have missed a great number of infective cases, and probably we should have had a greater number of serious cases to deal with. The disease for the most part affects children of school age, and its control is further strengthened by the coordination between public health and medical inspection administration which exists in Wakefield. This is illustrated by the following facts. On the 21st of October, whilst visiting the Cathedral Girls' School in Zetland Street, the headmistress called my attention to a girl whose speech had become peculiar. I found that the girl was suffering from paralysis of the soft palate, which, is not an uncommon sequel of diphtheria. I then ascertained that some three weeks before the girl had been at home suffering from sore throat. She stayed at home a week and then returned to school. I "swabbed" her throat, and on examination at the laboratory the bacilli of diphtheria were discovered. She was immediately excluded from school, and sent into the hospital. Then between the 7th and

15th November five girls attending the same school sickened with diphtheria, and within the same period there were also 2 cases among the infants who meet in the same building.

Two of these cases were discovered by the Medical Officer, who made frequent visits to the school, examined all the suspicious cases, as well as followed up sick absentees at their homes. In addition he discovered a considerable number of children who, although not actually suffering from the disease, were in an infectious condition, and these were excluded from school and precautions taken. As the drainage of the school had been found defective the school was closed for three weeks, during which time the school was re-drained, disinfected, cleansed, and re-painted. On re-opening the school it was found that the threatened epidemic had subsided. Similar steps were taken with regard to a threatened epidemic among the children attending the Clarendon Street School in December, with equally satisfactory results. Earlier in the year (September) I found a child with marked diphtheria attending this school.

Whilst diphtheria is not a disease unduly prevalent in Wakefield as compared with other places, it is still a sufficiently serious item in our bills of mortality as to justify a brief consideration of our methods for dealing with it, and to see how far these can be improved or extended.

1.—Earlier notification of the cases is much to be desired. During 1908 the period between the definite onset of symptoms and the receipt of the notification varied from 1 to 20 days, the average period being 4 days. Probably on an average the medical man is not called in till the third day of the disease, but often much later. We endeavour to remove cases to hospital almost immediately on receipt of the notification, and the average day of disease on removal is, for 1908, the fourth day. Only six cases were removed as early as the second day, and only three on the third day. None was got on the first day. Delay in calling in a medical man and in securing prompt and proper treatment is the main cause of the considerable mortality from diphtheria. Out of the 10 deaths recorded above four had actually occurred before the notification was received. The doctor had not been called in till the patient was in a dying condition. Other three died within 24 hours of notification. When diphtheria is treated with antitoxin on the first day of the disease, the mortality is practically nil, on the second and third days it is very slight, but after the third day the mortality rises markedly, and antitoxin has little effect.

It is, of course, a difficult matter to bring home to parents the necessity of getting medical treatment when they do not realise the serious nature of the malady, but publicity of the facts stated above may have some good effect. If they would only be persuaded to consult a doctor in all cases of sore throat, especially when accompanied by swellings in the neck, our diphtheria mortality would soon be con-

siderably reduced. The glandular swellings in the neck so common in diphtheria, especially in its severer forms, are often regarded by the parents as mumps, and consequently as a trivial matter. All children reported to me from the schools as suffering from mumps are immediately inquired into, and not infrequently I find these to be really cases of diphtheria or some other throat affection.

2.—All cases that cannot be satisfactorily isolated and satisfactorily nursed at home should be removed to hospital. Most of the cases, indeed, should be removed, and if this, coupled with earlier notification, could be secured, it would have a marked effect both on the prevalence and on the mortality from this disease. Proper nursing is all important, and even under the best circumstances it is difficult to get proper supervision over the patient at home. For instance, complete rest in the recumbent position is most necessary, but unless the patient is constantly under the eyes of a trained nurse this is seldom obtained. The thorough disinfection of the throat can also be best secured in hospital, and if the cases are removed early enough antitoxin can be promptly administered.

3.—I am glad to say that the medical men of the City are availing themselves more and more of the excellent facilities they possess for the bacteriological testing of doubtful cases. During 1908 28 (or just half) of the cases notified were examined bacteriologically, and the specific bacilli found. During the year altogether 194 throat swabs were sent in to the laboratory by Wakefield doctors, as compared with 165 in 1907, 47 in 1906, and 32 in 1905. The continued and extended use of bacteriological methods in assisting in the exact diagnosis of throat affections will, I am certain, have a far reaching effect in reducing the prevalence of diphtheria. I make it a rule personally to swab all cases of doubtful sore throat coming under my observation as medical inspector of school children, and I have been surprised to find how large a number of cases, not clinically diphtheria, were harbouring the diphtheria bacilli, and were therefore potentially infective. It is also important that the throats of contacts, *e.g.*, other inmates of the house, should be swabbed, as it has been found that a certain proportion of these possess the bacilli. These infective contacts may be simply what are termed "carriers," that is, they are passively harbouring the bacilli, or they have the disease in a mild form. It sometimes happens (and an instance occurred in 1908) that the notified case is a sequel to a previous overlooked case in the same house, and I need hardly point out how futile it is to take precautions with regard to the notified case only and leave other infective cases at liberty.

4.—When should a diphtheria patient be liberated from isolation? Of course the answer is simple and obvious, when the patient is free from infection. At the same time it is not so easy to ascertain this point. Most medical men content themselves with

isolating for three or four weeks, and then if the patient appears well sending in the disinfection card. Others swab the throat, and if the report from the laboratory is negative, that is if the diphtheria bacilli are absent, they consider that the patient may be safely liberated. I am bound to say that I cannot point to any bad results from the purely clinical test, but at the same time I think that if we are to carry out a system of scientific control with regard to diphtheria, the bacteriological test is the one that should be relied on. Medical men who have given most attention to the subject declare that they do not consider a patient free from infection until they get three consecutive negative reports from the bacteriologist, and no doubt it would be desirable, if not absolutely necessary, to get this method generally practised. Of course medical men cannot be required to do this, although many might be willing to take the necessary swabs. In other cases arrangements might be made whereby the medical officer should do so. I think, at any rate, that children, whether they have been actually suffering from the disease or only harbouring the bacilli, should not be re-admitted to school until the necessary negative reports have been obtained.

5.—The method of dealing with cases of diphtheria is straightforward. They must be properly isolated either at home or, preferably, in hospital. It is more difficult to deal with "carrier" cases, who although quite well in health, are yet infectious and capable of transmitting the infection, possibly in a severe form to others. Strictly speaking, these need isolation almost as much as cases of diphtheria, and I have on occasion had such cases removed to hospital. Others have been isolated at home, and provided with disinfectant lozenges for the purpose of eradicating the bacilli. It is, however, most difficult to have the proper precautions carried out with such cases in their homes, because being themselves in good health they or the parents cannot understand why such restrictions should be imposed. At any rate they should be very frequently visited by an inspector to see that the necessary rules are being observed.

6.—I have referred above to the use of antitoxin in the treatment of diphtheria, and in previous reports I have recommended that in certain cases the serum be supplied by the Sanitary Authority. Antitoxin is of the utmost value in the treatment of diphtheria, but it must be administered early, *i.e.*, within the first three days of the disease, if it is to be efficacious. It often happens that a doctor is called in to see the child of poor parents, and he suspects diphtheria, but is unable to make a definite diagnosis until he receives a bacteriological report some 24 hours later. In such a case it would be wise to administer antitoxin, and regard the child as having diphtheria until it is settled by the bacteriologist. If it is not diphtheria no harm is done by the injection. If it is diphtheria the prompt injec-

tion of the serum may prove the means of saving the child's life. Antitoxin is administered to all cases of diphtheria admitted to hospital within the first four days of the disease, but in many cases where admission was delayed on account of doubt as to the nature of the malady, the value of the antitoxin would have been enormously enhanced by injection 24 hours earlier. If medical practitioners knew that they could obtain from the Medical Officer of Health a free supply of antitoxin for poor patients, the invaluable remedy would be made use of to a greater extent and prove of much greater value. The extra cost would not really be great, for, as I have said, the antitoxin in many cases would be administered in the home, instead f later in the hospital when the lapse of time has diminished its utility. Of course the free supply of antitoxin, which is now allowed in many other towns, should be restricted to people too poor to provide it themselves.

7.—The foregoing observations lay great stress on the microbic cause of diphtheria, but I trust they will not suggest any neglect of the role played by insanitary conditions. Whilst in the light of modern medical science we must regard diphtheria as directly due to the activity of the specific bacillus, we must also recognise that insanitary conditions, particularly defective drainage, do indirectly cause or predispose to the disease by making the human subject more susceptible to the infection. Bacteriology has opened up new and invaluable channels through which the spread of the disease may be diminished, but it has not made attention to the drainage and sanitary conditions one whit less necessary.

ENTERIC FEVER.

Enteric Fever Statistics, 1888 to 1908.

Year.	No. of Cases Notified.	Attack Rate per 1,000 of Population.	No. of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	No. of Deaths.	Case Mortality Per Cent.	Death Rate per 1,000 of Population.
1908	15	0·34	2	13	3	20	0·06
1907	8	0·18	3	37	2	25	0·04
1906	14	0·32	2	14	3	21	0·06
1905	13	0·30	0	0	3	23	0·07
1904	20	0·47	0	0	4	20	0.09
1903	30	0·71	0	0	8	27	0·14
1902	28	0·69	1	4	8	28	0·19
1901	51	1·23	14	27	16	31	0·38
1900	83	2·16	6	7	14	17	0·36
1899	45	1·17	4	9	9	20	0·23
1898	62	1·64	0	0	6	10	0·15
1897	29	0·77	0	0	4	14	0·10
1896	55	1·48	2	4	13	24	0·35
1895	45	1·31	1	2	8	18	0·21
1894	26	0·75	1	4	6	23	0·17
1893	61	1·81	0	0	12	20	0·35
1892	30	0·89	0	0	7	23	0·20
1891	28	0·84	1	4	7	25	0·21
1890	43	1·31	9	21	9	21	0·27
1889	28	0·85	0	0	6	21	0·18
1888	73	2·25	0	0	8	11	0·24

Death-Rate from Enteric Fever.

1867—1908.

Period.	Average Annual Death Rate per 1,000 of population.
1908	0·06
1907	0 04
1897—1906	0·18
1887—1896	0·22
1877—1886	0·21
1867—1876	0·73

NUMBER OF CASES AND DEATHS IN WARDS IN 1908.

WARD.	No. of Cases.	Attack Rate per 1,000 of population.	No. of Deaths
St. John's	1	0·20	--
Northgate	5	0·44	1
Primrose Hill	2	0·35	—
North Westgate	3	0·65	—
South Westgate	0	0·00	—
Kirkgate	1	0·19	—
Calder	2	0·46	—
Alverthorpe	1	0·25	*2
Whole City	15	0·34	3

*One of the patients who died was notified from Northgate, but belonged to Alverthorpe Ward, and the death is entered in the latter ward.

NUMBER OF CASES AT AGE PERIODS.

5-15 Years.	15-25 Years.	25-35 Years.	35-45 Years.	45-55 Years.	55-65 Years.
3	4	4	2	1	1

NUMBER OF CASES NOTIFIED IN EACH MONTH OF 1908.

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

The cases occurred in the following localities:—

West Riding Asylum (4 cases).
Cleaver Place, Stanley Road.
Kay Street, Primrose Hill.
Back Epsom Place, Primrose Hill.
Kirkgate.
New Brunswick Street, Thornes Lane.
Pilkington Street.
Northgate.
Westgate End.
Ossett Road.
Manor Road.
North Row, Flanshaw.

Character of Houses Invaded.

11 of the cases occurred in 11 private dwelling-houses, and 4 in the Asylum. Of the 11 houses invaded, 1 was a middle-class house, and 10 working-class dwellings.

Houses with 2 rooms	2
Houses with 3 rooms	2
Houses with 4 rooms	3
Houses with 5 rooms	3
Houses with 6 rooms and over	1

4 were back-to-back houses, and 7 were through. 1 was a public-house, and 1 had a fried fish shop attached. All the houses were provided with pedestal water closets, and in one only were sanitary defects discovered.

Deaths.

No.	Sex.	Age.	Locality.	Place of Death.	Date of Death	Day of Disease.	No. of Days after Notification.	Cause of Death (as Certified).
1	F	31	W. R. Asylum	W. R. Asylum	24-1-08	? 14	Same day	Typhoid Fever, Pneumonia
2	F	31	W. R. Asylum	W. R. Asylum	26-1-08	26	5	Typhoid Fever.
3	M	36	North Row, Flanshaw	North Row, Flanshaw	1-12-08	24	10	Enteric Fever, Exhaustion.

REMARKS.

Although the Enteric Fever figures, both as to prevalence and mortality, exceed those of 1907, they are well under the average for the previous ten years. The attack rate in 1908 is 0.34 per 1,000, as compared with 0.88, the average for the preceding ten years, and the death-rate in 1908 is 0.06 per 1,000, as compared with 0.17, the average for the preceding ten years. If we divide this period of 10 years into 2 periods of 5 years, we find that in the first half on an average 10 persons died annually from Enteric Fever, and in the latter half only 4 persons died. In 1908 the deaths were 3. Of the 15 notified cases 5 occurred in the month of January and 5 in the month of August. 4 of the cases and 2 deaths occurred in the Asylum during January. The four cases were notified on the 25th January, and I visited the Asylum on the same day. Two of the cases were female nurses, and 2 were female inmates, all associated with the same ward in the Asylum. The primary infecting case was probably a nurse, who had contracted the disease about the middle of December, 1907, and had been ill for over a week when she first complained, and came under medical observation on the 10th of January. Numerous inquiries as to the source of the infection in her case did not lead to anything. She probably infected the other nurse, who was a close friend, and the two inmates may have been infected by either of the nurses. They all used the same water closets attached to the ward.

Only one other case calls for comment. The patient was a middle-aged man, who was employed in the emptying of cesspools in a district outside the City on the 13th January. He was attacked with vomiting and diarrhœa next day, but he continued at work till the 17th of January. He was notified on the 28th January. It was stated that others who worked with him at the cleansing of the cesspools also suffered from vomiting and diarrhœa, but none of these apparently developed enteric fever.

None of the cases appeared to have been infected by shell-fish. Two of the cases had been eating fried fish, but there was nothing to substantiate the suspicion of infection from the fish. The period elapsing between the onset of the disease and the notification varied from 6 days to 41 days, the average being 17 days.

Notified in the first week of the Disease	...	2 cases.
,, ,, ,, second ,, ,, ,, ,,	...	5 ,,
,, ,, ,, third ,, ,, ,, ,,	...	5 ,,
,, ,, ,, fourth ,, ,, ,, ,,	...	2 ,,
,, ,, ,, fifth ,, ,, ,, ,,	...	— ,,
,, ,, ,, sixth ,, ,, ,, ,,	...	1 ,,

ERYSIPELAS.

In 1908 23 cases of Erysipelas were notified, 19 males and 14 females. 2 of the cases occurred in the Asylum, the others in private dwellings. 1 case was an infant, 3 between 5 and 15 years of age, 18 between 25 and 65 years of age, and 1 over 65 years. There were two deaths, one a child only a month old, the other a man aged 29 years.

PUERPERAL FEVER.

There were only two cases of Puerperal Fever notified in 1908, and no deaths. Both were young married women (20 and 27 years), and both were attended at their confinement by midwives. One of the midwives was not on the register.

MEASLES.

In 1908 Measles caused 17 deaths (11 males and 6 females), which is a death-rate of 0.38 per 1,000, and is slightly over the average for the previous 10 years (0.36).

MEASLES DEATH-RATE, 1867-1908.

Period.	Average Annual Death Rate per 1,000 of Population.
1908	0·38
1907	0·04
1897—1906	0·40
1887—1896	0·29
1877—1886	0·21
1867—1876	0·11

DEATHS IN WARDS, 1908.

Ward.	No. of Deaths.	Death Rate per 1,000 of the Population.
St. John's...	2	0·41
Northgate	0	0·00
Primrose Hill	3	0·53
North Westgate	1	0·21
South Westgate	5	1·35
Kirkgate	2	0·38
Calder	3	0·70
Alverthorpe	1	0·25
Whole City	17	0·38

The deaths occurred in the following localities :—

Gill's Yard, Northgate.
Statter's Yard, Providence Street.
Park Street (House let in Lodgings).
Monk's Yard, Ingwell Street (2 deaths in one house).
Mill Yard, Kirkgate.
Church View, Thornes Lane.
Park View, Thornes Lane.
Wellington Street, Thornes Lane.
Bishopgate.
Quebec Street.
Lawefield Lane.
Westgate Bridge.
Gaskell Street.
Horbury Road.
Dewsbury Road.
Scarboro' Street.

DEATHS IN MONTHS.

January	0	July	3
February	3	August	1
March	5	September	0
April	4	October	0
May	1	November	0
June	0	December	0

DEATHS AT AGE PERIODS.

0-1 Year	1-2 Years	2-3 Years	3-4 Years	4-5 Years	5-6 Years	6-7 Years
3	7	4	2	0	0	1

Occupations of Parents of Children who died from Measles :—

Coalminers	4
Labourers	4
Teamer	1
Cloth Miller	1
Blacksmith	1
Storekeeper	1
Plumber (Journeyman)	1
Housepainter	1
Hairdresser	1
Brewery Engineman	1
Illegitimate	1

Cause of Death (as Certified) :—

Measles	1
Measles, Pneumonia	9
Measles, Bronchitis	4
Measles, Oedema of Glottis	1
Measles, Convulsions	1
Measles, Hydrocephalus	1

REMARKS.

Measles was much more prevalent during 1908 than it had been during 1907. As usual young children were the class most affected, and with one exception all the deaths were children under four years of age. The disease chiefly prevailed from February to May. On two occasions school closure was carried out on account of the prevalence of Measles. The "babies'" class in St. Michael's School (Infant Department) was closed from 4th February for 3 weeks, and the Infant Department of St. Andrew's School was closed from 29th May to the 15th June (the last ten days being the Whitsuntide holidays). The Local Government Board Circular on school closure (January, 1908) received consideration during the year, and it was decided to experiment with the method recommended in paragraph 13 of the Circular. The following arrangements were made :—

1.—Immediate notification from the school of the first case or cases of measles. This is done by the Head Teacher on postcards supplied for the purpose.

2.—Immediate investigation by the Health Department of the circumstances of these cases.

3.—Closure of the Infant Department or a class on the 9th day after the sickening of the first case, and keeping the department or class closed for a week unless there is evidence that the primary case could not have been attending school during the infectious period. By this means those children who have contracted the disease from the first case will be kept out of school during the time when their own illnesses will commence, and thus another crop of secondary cases will be avoided.

4.—All children affected with Measles to be excluded for four weeks, and all contacts attending Infant Departments for three weeks. Contacts in the higher departments who have already had Measles will not be excluded, but susceptible contacts will be excluded for three weeks, as in the case of the infants.

5.—Disinfection of the class-rooms.

After making the above arrangements there was, fortunately, only one opportunity of putting them into practice during the remainder of the year. In September a "first case" was reported to me in an Infant Department. The child had sickened on the fourth, and had

been in school on the sixth and seventh of the month. The children attending the same class were excluded from school from the 16th to the 23rd, and on re-opening the class it was found that none had contracted the disease, although a child in another class had done so. There was no spread of the disease.

The appointment of a lady health visitor during the year made it possible to extend our arrangements for the supervision of cases of Measles. The facts of the preceding tables shew that the mortality is chiefly among the poor, and is largely due to pulmonary complications that might often be avoided by proper care on the part of the mothers. I have often urged that much good might be done through the visits of a trained nurse or health visitor, and happily such an official is now at our disposal. We have also through the Education Department an excellent system of notification of cases of Measles and other infectious and contagious diseases from the schools, and from the information provided the Health Visitor is able to follow the cases up. The new machinery was got into working order in September.

WHOOPING COUGH.

In 1908 Whooping Cough caused 9 deaths (5 males and 4 females), giving a death-rate of 0.2 per 1,000, as compared with 0.25 in 1907 and 0.3, the average for the preceding 10 years.

Period.	Average Annual Death Rate per 1,000 of the population.
1908	0·2
1907	0·25
1897—1906	0·3
1887—1896	0·33
1877—1886	0·37
1867—1876	0·19

Deaths at Age Periods.

0-1 Years.	1-2 Years.	2-3 Years.	3-4 Years.	4-5 Years.
4	3	0	1	1

DEATHS IN WARDS.

Ward.	No. of Deaths.	Death Rate per 1,000 of Population.
St. John's	0	0·00
Northgate	0	0·00
Primrose Hill	2	0·35
North Westgate	3	0·65
South Westgate	1	0·27
Kirkgate	1	0·19
Calder	1	0·23
Alverthorpe	1	0·25
Whole City	9	0·20

The deaths occurred in the following localities:—

South Street.
Pincheon Street.
Trinity Church Gate.
Back Garden Street.
Thornes Lane Wharf.
Dewsbury Road.
Manor Road.
Marlborough Street.
Kershaw Fold, Alverthorpe.

The deaths occurred in the following months:—

January	—	July	1
February	1	August	2
March	—	September	1
April	1	October	—
May	—	November	1
June	2	December	—

Occupations of parents:—

General Labourer
Teamer
Ironmoulder
Bricklayer
Grocer's Assistant
Drayman
Prison Warder
Worsted Scourer
Railway Goods Clerk.

Causes of death (as certified):—

Whooping Cough ... ... 1 death.
Whooping Cough, Pneumonia ... ... 3 deaths.
Whooping Cough, Bronchitis ... ... 1 death.
Whooping Cough, Convulsions ... ... 3 deaths.
Whooping Cough, Cancrum Oris ... ... 1 death.

DIARRHŒAL DISEASES.

During 1908 there were 21 deaths certified as Zymotic or Epidemic Diarrhœa (or Enteritis) and 3 infantile deaths as Gastro-Intestinal Catarrh, making a total of 24 deaths (16 males and 8 females) from Diarrhœal Diseases as classified in the Local Government Board Table V. The death-rate from Diarrhœal Diseases is 0.55 per 1,000 of the population, which is considerably over the rate for 1907 (0.32), but is less than the average for the preceding ten years.

Period.	Average Annual Death Rate from Zymotic Diarrhœa per 1,000 of population.
1908	0·55
1907	0·32
1897—1906	0·81
1887—1896	0·57
1877—1886	1·10
1867—1876	1·32

NOTE.—The death-rates for the years 1908 and 1907 refer to diarrhœal diseases as defined in the Local Government Board Table. The other death-rates refer to Zymotic Diarrhœa only, and would be raised by the inclusion of other diarrhœal diseases.

DEATHS IN WARDS.

Ward.	No. of Deaths.	Death Rate per 1,000 of Population.
St. John's...	4	0·82
Northgate	4	0 35
Primrose Hill	11	1·94
North Westgate	1	0·21
South Westgate	0	0·00
Kirkgate	2	0·38
Calder	1	0 23
Alverthorpe	1	0·25
Whole City	24	0 55

The deaths occurred in the following localities:—

Northgate.
Leeds Road.
Arundel Street.
Providence Street (Statter's Yard).
Springs (Shaw's Yard).
Hardy Croft (Dickenson's Buildings).
Hardy Croft.
Back Epsom Place.
Monk Street.
Charles Street.
Stanley Road (Woodcock Square).
Mattock Street.
Warrengate.
Warrengate (Sun Lane).
Park Street (Briggs' Yard).
Tavern Street.
South Street (Haigh's Low Yard).
John Street.
Pincheon Street (Spurr Hill).
Kirkgate (Wild's Yard).
Grove Street.
Doncaster Road.
Brooksbank.
Alverthorpe Road.

Ages at Death.

16 of the deaths were infants under 1 year of age, 7 were between 1 and 2 years of age, and 1 was over 65 years.

Number of Deaths in Each Month of the First Year of Life.

1st Month	—	7th Month	3
2nd Month	—	8th Month	1
3rd Month	5	9th Month	1
4th Month	1	10th Month	—
5th Month	3	11th Month	1
6th Month	1	12th Month	—

The deaths occurred in the following months:—

May	1	August	9
June	1	September	5
July	3	October	5

The occupations of the parents of the children are as follows:—

Foundry Labourers ...	5	Fish Hawker	1
Coalminers	3	Boot Repairer	1
General Labourers ...	3	Cloth Mill Labourer ...	1
Platelayer	1	Milk Salesman ...	1
Publican	1	Insurance Agent ...	1
Ironpipe Turner ...	1	Illegitimate	1
Blacksmith	1	Manufacturer	1
Drayman	1		

Of 18 cases where information was obtained, the mother was employed out of the house in two instances.

Feeding.

Information as to the feeding was obtained in the case of 15 out of the 16 children who died under 1 year of age. All were being artificially fed before the illness came on, although in 10 of them there had been breast feeding previously for shorter or longer periods.

Cow's Milk	7
Cow's Milk and Infant Foods	4
Condensed Milk	3
Breast and Infant Foods	1

8 had tubeless bottles, 2 tubed bottles, 2 were spoon fed, and 4 not stated.

Duration of Illness.

The duration of illness varied from 8 hours to 42 days, the average being 14 days. 14 of the children were stated to have been previously delicate, and 4 healthy.

Sanitary Condition of Houses.

Of the 18 houses inspected, 1 was a common lodging-house, 4 through houses, and 13 back-to-back houses. 15 had pedestal water closets, 2 trough closets, and 1 a privy closet. 3 houses were damp, and 2 were dirty. 9 were severely infested with flies.

Remarks.

1.—With a lessened rainfall there was a natural tendency for the diarrhœal mortality to go up. The rainfall during the six months, May to October, 1908, amounted to 10.93 inches, as compared with 13.98 inches during the same period in 1907.

Year.	Total Rainfall in inches.	Rainfall in inches during Six Months, May to October.	No. of Deaths from Diarrhœa.
1908	19·69	10·93	24
1907	22·35	13·98	14
1906	23·01	11·95	28
1905	20·05	11·54	14
1904	22·25	10·15	42
1903	30·42	20·03	12

The subsoil temperature at 4 feet (which has been supposed to have a direct relation to the prevalence of diarrhœa) was also somewhat higher, as the following figures supplied by Mr. Stanley Haworth shew :—

Mean Subsoil Temperature 4 Feet.

	1908	1907
May	46 0	46·5
June	50·8	49 4
July	54·0	51·9
August	55·4	54·0
September	53 8	53·6
October	53 4	52·3
Mean for Six Months ...	52 2	51·3

The critical temperature of Ballard (56 degrees F.) was nearly reached by the mean for August, and during this month the greatest number of deaths occurred. The temperature of the air was also much higher during 1908 than during 1907.

2.—The fact that nearly half the deaths took place in Primrose Hill Ward calls for consideration. From the reports given me by Miss Annett it would appear that the fly nuisance was very marked in this district, especially about the lower end of South Street, Charles Street, Tavern Street, John Street, Hardy Croft, and Pincheon Street, where most of the diarrhœa deaths occurred, and where the disease was very prevalent. In my last report I dealt very fully with the relationship of the fly nuisance to diarrhœa, and pointed out, inter alia, that stable manure was a favourite breeding-ground for the house-fly. In many cases where deaths occurred from diarrhœa, stables and accumulations of manure were found close by, and the houses themselves were infested with the flies. Many of the housewives complained bitterly of the nuisance, and said that they found it impossible, do what they might, to get rid of the little pests.

The Sanitary Inspector dealt with all cases where accumulations of manure were discovered, but it would be a great advantage to the public health if the byelaw requiring the removal of manure at least once in every two weeks were strictly enforced. Stable manure at least should not be allowed to accumulate more than a fortnight, especially between the months of May and October. The byelaw to which I refer reads as follows, but it is to the last paragraph I direct your attention :—

"Every occupier of a building or premises wherein or whereon "any horse or other beast of draught or burden or any cattle or swine "may be kept shall provide, in connection with such building or pre- "mises, a suitable receptacle for dung, manure, soil, filth, or other "offensive or noxious matter which may from time to time be produced "in the keeping of any such animal in such building or upon such "premises. He shall cause such receptacle to be constructed in such "a manner and of such materials and to be maintained all times in "such a condition as to prevent any escape of the contents thereof or "any soakage therefrom into the ground or into the wall of any build- "ing. He shall cause such receptacle to be constructed so that the "bottom or floor thereof shall not in any case be lower than the surface "of the ground adjoining such receptacle. He shall cause such "receptacle to be furnished with a suitable cover, and, when not "required to be open, to be kept properly covered. He shall likewise "provide in connection with such building or premises a sufficient "drain constructed in such a manner and of such materials and main- "tained at all times in such a condition as effectually to convey all "urine or liquid filth or refuse therefrom into a sewer, cesspool, or "other proper receptacle. *He shall once at least in every two weeks "remove or cause to be removed from the receptacle provided in "accordance with the requirements of this byelaw, all dung, manure, "soil, filth, or other offensive or noxious matter produced in or upon "such building or premises and deposited in such receptacle.*" (Bye-laws with respect to Nuisances No. 13, made 14th April, 1896).

In my last report I also referred to the dirty condition of many of the yards, water-closets, etc., as conditions favourable to diarrhœa, and the Sanitary Committee ordered a small bill drawing the attention of the public to these matters to be posted throughout the City. This was done in August, and the poster read as follows :—

CITY OF WAKEFIELD.

CAUTION.

On account of Nuisances or conditions injurious to health in various parts of the City, arising from

1. The emptying of slops and the like on the surface of yards and streets, in gully grates and into ashpits and ashbins ;
2. Allowing closets and the approaches thereto to become dirty and foul ;

3. The deposit of excreta by children on the surface of the ground;
4. The shaking of mats in streets;
5. Depositing refuse on the surface of the ground;

notice is hereby given that persons by whose act, neglect, or default such nuisances or conditions injurious to health arise, will be prosecuted as by law directed.

By Order.

Town Hall, Wakefield,
6th August, 1908.

During the months of July and August Miss Annett devoted the greater part of her time to house-to-house visits in the poorer parts of the City, with the special object of warning mothers as to the dangers of diarrhœa. She distributed a leaflet on the subject, and reinforced this by verbal advice. The leaflet read as follows:—

Health Department.

Summer Diarrhoea.

A Warning.

During the summer and autumn months, especially when the weather is hot, a great number of infants die from the serious disease called Summer Diarrhœa, and a still greater number are ill with the disease. Mothers are earnestly warned and advised to take steps to prevent the disease occurring, and when it does occur, to call in a doctor immediately the illness begins, for delay if often dangerous.

How to Prevent Diarrhoea.

1. Feed the Child carefully and properly.

A child should have nothing but milk until it is seven months old. The breast milk is the best. Babies fed at the breast seldom die from Diarrhœa. Failing the breast, the child should have good fresh cow's milk. In hot weather the milk should be scalded as soon as received by placing it in a jar which is placed in a saucepan of boiling water for 15 or 20 minutes. It should then be covered over, so as to keep flies and dust out, and kept in a cool, clean place. Do not use a bottle with a long tube, and keep bottle and teat scrupulously clean. With older children, still make milk chief article of diet, to which prepared foods, bread, rusks, or eggs may be added. Condensed milk is not so good as cow's milk, and the cheaper brands (skimmed milk) should not be used. Do not give babies anything you may be having yourselves. Avoid unsound fruit, ice cream, and fried fish. Keep all food in a proper larder, and keep the flies off by a fine meshed wire netting. Do not let the child use a dummy teat.

2. Keep the Child clean.

The child should be washed all over with soap and water every day. Wet or soiled napkins should be removed at once, and clothing kept clean. Older children should be taken to the closet, and not allowed to use the yard.

3. Keep the House clean.

Thorough cleanliness in the house is most necessary. Open the windows sufficiently and get fresh air in. Avoid smells from sink pipe by pouring boiling water down from time to time. Pour slops down water closet, and not into the drain openings, and keep closets clean and well flushed with water. Put nothing but dry ashes in the ash-bin or ash-place, and burn all vegetable waste matter or waste food in the kitchen fire. Keep the yard clean, and if paved, have it regularly flushed or swilled with water.

Thomas Gibson, M.D.,
Medical Officer of Health.

TUBERCULAR DISEASES.

There were 68 deaths from Tubercular Diseases in 1908, giving a death-rate of 1.55 per 1,000 of the population, which is lower than each of the two preceding years. There is a decrease in the number of cases of phthisis, but a still greater decrease of other forms of tubercular diseases. The tubercular deaths constitute 10 per cent. of the total mortality, *i.e.*, one death in every ten is from Tuberculosis.

Tuberculosis Death-rate in Wakefield.

Period.	Death Rate per 1,000 of the Population.
Year 1908	1·5
,, 1807	1·9
,, 1906	1·6
,, 1905	1·5
,, 1904	1·7
,, 1903	1·7
,, 1902	1·9
,, 1901	2·0
Decennium 1891-1900 (Average Annual) ...	2·3
,, 1881-1890 ,, ,, ...	2·6
,, 1871-1880 ,, ,, ...	3·7

The 62 deaths are classified as follows:—

Phthisis	58
Tubercular Meningitis	4
Tabes Mesenterica	2
Tubercular Laryngitis	1
Tubercular Peritonitis	1
Tuberculous Spine	1
Acute General Tuberculosis ...	1

TUBERCULAR DISEASES OTHER THAN PHTHISIS.

In 1908 there were 10 deaths from Tubercular Diseases other than Phthisis, giving a death-rate of 0.22 per 1,000. This is much below the average.

1908	0.22
1907	0.51
1906	0.55
1905	0.46
1904	0.51

Deaths in Wards.

Ward.	No. of Deaths.	Death Rate per 1,000 of population.
St. John's	0	0.00
Northgate	1	0·08
Primrose Hill	1	0·17
North Westgate	0	0.00
South Westgate	0	0 00
Kirkgate	3	0·57
Calder	3	0 69
Alverthorpe	2	0·50
Whole City	10	0·22

Deaths at Age Periods.

Under 1 year.	1-5 years.	5-15 years.	15-25 years.	25-65 years.
4	4	—	—	2

Sex.—7 were Males and 3 Females.

Locality.—The deaths took place in the following localities:—

Stanley Road (Webster's Yard).
Sanderson Street.
Tootal Street.
Bridge Street (Paradise Row).
Thornhill Street (Hargreave's Square).
Grove Street (Bell's Yard).
Thornes Lane (Fawcett's Yard).
Thornes Lane (Tadman's Buildings).
Flanshaw Lane.
Colbeck Street, Alverthorpe.

Occupation of Parents.

The parents of the 8 children had the following occupations:—

General Labourers	2
Coalminers	2
Hawker	1
Foundry Foreman	1
Illegitimate	2

PHTHISIS.

Phthisis or Tubercular Disease of the Lungs caused 58 deaths, giving a death-rate of 1.33 per 1,000 of the population, and forming nearly 9 per cent. of the total mortality and 85 per cent. of the tuberculosis mortality. The rate is lower than that of 1907, but is above the average for the previous ten years (1.27).

Death-Rate from Phthisis, 1897—1908.

Year.	Death Rate per 1,000 of Population.
1908	1·33
1907	1·43
1906	1·11
1905	1·10
1904	1·25
1903	1·37
1902	1 24
1901	1·32
1900	1·06
1899	1·12
1898	1·72
1897	1·12

PHTHISIS DEATHS IN WARDS IN 1908.

Ward.	No. of Deaths.	Death Rate per 1000 of population
St. John's...	8	1·64
Northgate	11	0 96
Primrose Hill	10	1·77
North Westgate	8	1·74
South Westgate	3	0·81
Kirkgate	6	1·14
Calder	5	1·17
Alverthorpe	7	1·77
Whole City	58	1·33

NUMBER OF DEATHS AT AGE PERIODS.

1-5 years.	5-15 years.	15-25 years.	25-35 years.	35-45 years.	45-55 years.	55 65 years.	65 years and over
2	1	5	19	11	11	7	2

The ages at death ranged from 2 years to 69 years, the average age being 38 years. For males the average age was 38 years, and for females 37 years. 39 of the deaths were males and 19 females.

The following is a list of localities where deaths from phthisis took place or from which patients dying in public institutions were admitted. 12 of the deaths (20 per cent.) took place in public institutions, 10 in the Workhouse and 2 in the Asylum. 3 of the patients dying in the Workhouse had no fixed abode, and 1 was admitted from a common lodging-house:—

Newton
Howard Street.
Northgate.
Northgate (Shaw's Yard).
Northgate (Strafford Square).
Talbot and Falcon Yard.
Providence Street (2 deaths).
New Street (Hudson's Yard).
Elm Street.
Clarendon Street.
Stanley Road.
Stanley Road (Spurr Yard).

Stanley Road (Rawling's Yard).
Stanley Road (Collet Row).
Jacob's Well Lane (Frederick Square).
Warrengate (George's Square, 2 deaths).
Hardy Croft (2 deaths).
Peterson Road (Hilton Terrace).
Kay Street.
Park Street (Briggs' Yard).
South Street.
Crystal Place.
Kirkgate (2 deaths).
Kirkgate (Mollacree's Yard).
Kirkgate (Union Square).
Bridge Street (Gibson's Square, 2 deaths).
Thornes Lane.
New Brunswick Street.
Church Street.
Holmfield Lane, Thornes.
Denby Dale Road.
Wonder Street.
Thornhill Street.
Back Lane (Dragon Yard).
Halliley Row, Chald Lane (2 deaths).
Horbury Road (2 deaths).
Whitehall Street.
Cross Lane (Watson's Buildings).
Balne Lane.
Victoria Street.
Holly Street.
Blacksmith's Fold, Alverthorpe.
Wordsworth Street, Alverthorpe.
Wellington Street (Scott's Buildings), Alverthorpe.
Brick Street, Flanshaw.
Wade Street, Flanshaw.
Huntsman's Fold, Alverthorpe.
Flanshaw.

NUMBER OF DEATHS IN EACH MONTH OF 1908.

January	4	July	5
February	5	August	8
March	3	September...	7
April	3	October	5
May	4	November	2
June	6	December	2

Deaths and Notifications.

Of the 58 deaths 26 had been previously notified under the system of voluntary notification. Of these 11 were notified within a month of death, 5 between 1 and 3 months, 6 between 3 and 6 months, 4 between 6 and 12 months.

Occupations.

The occupations of the 39 males were as follows:—

Labourers	16	Brushmaker	1
Coalminers	4	Groom	1
Hawkers	2	Plasterer	1
Ironmoulder	1	Insurance Agent	1
Iron Driller	1	Telegraph Clerk	1
Stonemason	1	Brewery Foreman ...	1
Baker	1	Fish Salesman	1
Bricklayer	1	Child of Brewery Labourer	1
Cloth Spinner	1	Child of Iron Pipe Turner	1
Waggon Repairer ...	1	Child of Domestic Servant	1

The occupations of the 19 females were as follows:—

Wives of Labourers ...	4	Wife of Joiner	1
Wife of Teamer ...	1	,, ,, Waggon Cover Repairer	1
,, ,, Mechanic ...	1	Widow of Railway Porter	1
,, ,, Drayman ...	1	Unmarried. Charwoman	1
,, ,, Gardener ...	1	Unmarried. Hawker	1
,, ,, Motor Driver...	1	Unmarried. Worsted Spinner ...	1
,, ,, Engine Driver	1	Unmarried. Ragsorter	1
,, ,, Grocer ...	1		
,, ,, Publican ...	1		

Duration of Illness.

The duration, according to information given by the relatives, varied from 2 months to seven years, the average being 1 year and 8 months.

Onset.

In 27 instances the onset was stated to have been insidious. In 5 instances Phthisis supervened on Influenza, in 2 after Pneumonia, in 1 after Bronchitis, in 1 after Pleurisy, in 1 after Measles, in 1 after Typhoid Fever, in 1 after Rheumatic Fever, in 1 after Confinement, and in 2 after accidents.

Family History.

Out of 42 cases where information was obtainable 31 (74 per cent.) had no history of phthisis in the family, whilst 11 had such a history.

Source of Infection.

In the majority of cases I could not find any direct association with other cases of phthisis. In the following cases there was some such association:—

1. Female. History of illness a year, probably longer. Sister died of phthisis 2 years before, and was frequently visited by this case.

2. Male. Father died of phthisis in same house 8 years before. Not disinfected then.

3. Male. Illness about a year. Wife was notified 2 years before this as suffering from phthisis, but appears to have recovered.

4. Male. 4 brothers and 1 sister died in the same house from phthisis. The last death occurred 5 years before. Not disinfected.

5. Female. Two years before frequently visited a friend who was suffering from phthisis.

Housing Conditions.

The 58 cases were living in the following kinds of dwellings:—

Working Class Dwellings	52
Public House	1
Shop Dwelling	1
Common Lodging House	1
No Fixed Abode	3

Of the 52 private dwellings 28 were back-to-back, and 24 through houses.

2 roomed	8
3 roomed	26
4 roomed	16
5 roomed and over	2

10 of the houses were damp, 7 badly lighted, 5 very badly ventilated, and 2 dilapidated.

Disinfection.

38 houses were disinfected by the Corporation after a death from Phthisis, and in most of other cases the occupiers themselves carried out a certain amount of disinfection, liquid disinfectant being supplied free by the Corporation. The Registrar of Deaths notifies all deaths from phthisis immediately after their registration, so that arrangements for disinfection may promptly be made.

NOTIFICATION OF PHTHISIS.

Year.	Total Number of Cases notified.	Number of Cases notified from private houses.	Number of Cases notified from the Workhouse.	Number of Cases notified from the Asylum.	Number of Cases notified from Clayton Hospital.
1908	42	35	7	—	—
1907	40	36	6	—	—
1906	36	29	5	2	—
1905	14	14	—	—	—
1904	29	21	8	—	—
1903	50	16	29	5	—
1902	40	17	22	—	1
1901	50	31	19	—	—
1900	54	31	19	4	—
Total	355	230	115	11	1

The voluntary system of notification has been in force in Wakefield since the end of 1899. A fee of 2s. 6d. is paid for each notification, whether the case occurs in private practice or otherwise. During 1908 42 cases were notified. The house of each case notified was visited by the Medical Officer or lady health visitor, who gave advice as to precautions (leaving a leaflet of printed instructions), and made inquiries into the history, and sanitary circumstances of the case.

The Health Visitor continues to visit the cases from time to time. The following is a summary of the information obtained as a result of notification.

1. Sex.

27 were Males and 15 Females.

2. Ages.

5—15 years	6
15—25 years	3
25—35 years	12
35—45 years	7
45—55 years	6
55—65 years	6
65 years and over	2

3. Occupations.

The 27 Males had the following occupations:—

Labourers	5
Coalminers	3
Hawkers	3
Cabman	1
Iron Moulder	1
Master Builder	1
Railway Inspector	1
Stone Mason	1
Boiler Washer	1
Gardener	1
Clothfinisher	1
Joiner	1
Beer Bottler	1
Child of Coal Miner	1
Child of Railway Guard	1
Stone Dresscr	1
Unknown	3

The 15 females had the following occupations:—

Wives of Teamers	2
Wife of Coalminer	1
Wife of Labourer	1
Wife of Gardener	1
Wife of Waggon Cover Maker	1
Wife of Fitter	1
Wife of Motor Driver	1
Charwoman	1
Millworker	1
School Girls	3
Unknown	2

4. Family History.

Out of 32 cases where information was obtainable, 19 cases had no history of phthisis in the family, while 13 had such a history.

5. Source of Infection.

In 5 instances there was a history of direct exposure to infection from previous consumptives in the same family.

6. Duration of Illness.

The duration of illness up to the date of notification varied from 6 weeks up to 4 years, the average period being 10 months.

7. Housing Conditions.

The cases were reported from the following localities (or in the case of Workhouse notifications had been residing in the localities mentioned) :—

Barstow Square.
Howard Street (2 cases).
Northgate (Shaw Yard).
Northgate.
Elm Street.
Mattock Street.
Jacob's Well Lane (Gosnay Terrace).
Stanley Road (Rawling's Yard).
Stanley Road (Spurr Yard).
Warrengate (George's Square).
Vicarage Street.
New Street.
Hardy Croft.
Charles Street.
Bridge Street (Gibson's Square, 2 cases).
New Brunswick Street.
Thornes Lane.
Church Street, Thornes Lane.
Queen's Place, Thornes Lane.
Pilkington Street.
New Row, Thornes.
Wonder Street.
Morton Parade.
Milton Street.
Back Lane (Dragon Yard).
Albion Court, Westgate.
Horbury Road.
Whitehall Street.
Marlborough Street.
Cross Lane.
Albion Terrace, Alverthorpe Road.
Blakeley's Buildings, New Scarborough.
Willow Lane, Flanshaw.
Flanshaw Lane.
Bective Cottages, Flanshaw.
Mount Pleasant, Alverthorpe.
Light Lane, Alverthorpe.
Common Lodging Houses (3 cases).

39 of the houses were private dwellings, and all except one were working class in character. Of the 39 houses 19 were back to back, and 20 through houses. 2 were noted as damp, 3 as badly lighted, 3 as very badly ventilated, 1 as dilapidated, 1 as dirty, and 1 as overcrowded.

8. Disinfection.

8 houses were disinfected after removal of patient to hospital or other house.

Notifications and Deaths.

24 of the 42 cases notified died during the year.

Patient	died	same day as notification	2
,,	,,	within a week of notification	3
,,	,,	between 1 and 4 weeks of notification	5
,,	,,	between 1 and 2 months of notification	5
,,	,,	between 2 and 3 ,, ,, ,,	2
,,	,,	between 3 and 4 ,, ,, ,,	0
,,	,,	between 4 and 5 ,, ,, ,,	2
,,	,,	between 5 and 6 ,, ,, ,,	2
,,	,,	between 6 and 7 ,, ,, ,,	1
,,	,,	between 7 and 8 ,, ,, ,,	1
,,	,,	between 8 and 9 ,, ,, ,,	1

REMARKS.

It is so far satisfactory to note that the mortality from Tuberculosis, which was sensibly increased in 1907, has in 1908 undergone a distinct reduction. Altogether in 1908 there were 16 fewer deaths from Tuberculosis than in the preceding year. There were 4 fewer deaths from phthisis and 12 fewer from other tubercular diseases.

At the same time the facts disclosed in the foregoing tables, and they are for the most part repetitions of what have been put before you many times, do not justify any comfortable assurance that all that can be done to stem the ravages of this scourge is being done either in Wakefield or elsewhere. We are doing what we can within the bounds of a somewhat limited circle of administrative action. We are doing as much as most places, more than a good many. We get a number of cases notified, and these are visited. The patient and the relatives are advised as to what they might do in the way of precautions, and we try to reinforce the doctor's advice as to fresh air and so on. No doubt we are able to diminish the risks of infection somewhat, and possibly we may be the means of helping towards an individual patient's recovery. We see to the patient's house and surroundings, and where these are defective we try to get them remedied as far as we can. We inquire into the history of the cases, and thereby accumulate information which may be of the greatest use in formulating schemes for more drastically dealing with the disease. We disinfect the houses at every opportunity. Medical Inspection of School Children has also now come to our assistance, and must prove a valuable auxiliary. Yet, when all is said and done, we are not making any serious attempt to grapple with the disease. We do try to grapple with Swine Fever, a purely animal disease, and if the same spirit was shewn towards the infinitely more important disease of Tuberculosis we would soon see a great declension in the prevalence and mortality from the disease. If to

judge by the relative attention which the Board of Agriculture pays to Swine Fever on the one hand and to Tuberculosis on the other, we are bound to conclude that the pig is a much more valuable asset to the country than man himself. It is high time that the nation woke up to the necessity, the pressing necessity, of dealing actively and comprehensively with Tuberculosis. We have now ample knowledge on which to base a system of scientific control, and I am convinced that if we made up our minds to get rid of Tuberculosis, we could do so just as effectually as we have got rid of hydrophobia. Such a system would involve—

(1) With regard to human beings.

(a) Compulsory notification.

(b) Arrangements providing for earlier diagnosis and more adequate treatment and supervision of phthisical or phthisically disposed persons than is afforded by charitable and poor law organisations at the present time.

(c) Ample provision of Sanatoria.

(d) Homes for segregation of advanced cases.

(2) With regard to animal tuberculosis radical measures to exterminate the disease should be welcomed as much by farmers and cowkeepers as by public health authorities.

As to Sanatoria, I have over and over again pleaded in these annual reports for some such provision for our poor Wakefield consumptives. I know full well that the only obstacle in the way is the omnipresent obstacle of money, or rather the want of it. But we must not forget that through the want of such an institution we are year by year losing many, many lives, and these lives mean money, even if they did not mean something infinitely more valuable.

Just look at the statistics for 1908. In that year Tuberculosis killed 68 persons. There is no other disease that killed so many. Heart Diseases come nearest with 58 deaths, but these diseases, although affecting one organ, are due to a variety of causes. The combined mortality from all the zymotic diseases is less than the mortality from tuberculosis. Phthisis itself killed 58 persons. The bulk of these were men and women in early manhood or womanhood and the prime of life. 60 per cent. were between 15 and 45 years of age. The majority were married men and women with, in a great many cases, dependent families. They were all working-class people, as you can see from the list of occupations given above, or from the kind of dwellings they occupied. More than half of them were living in houses with not more than 3 rooms, and only two out of the lot occupied houses with more than four rooms.

How many of these got a real good chance to recover? Probably not one. How many other cases of the disease are these responsible for? No one can tell.

If the working man or woman stricken with consumption is to be given a genuine chance to get better, a sanatorium must be provided. And even in the event of open-air treatment failing to arrest the disease, and there will always be a considerable proportion of failures, the training which the patient gets in the sanatorium will be of the utmost value in protecting his relatives when he returns home. He will have realised the dangers of the malady, and he will be anxious that no member of his family should contract the disease through any carelessness on his part. The sanatorium must be a municipal one, and should have no connection whatever with poor law administration. In my last report I stated that there was not a single municipal sanatorium in existence in Britain, although some authorities were using their Fever Hospitals for the purpose, or securing beds in private or charitable institutions by means of subscriptions. This is no longer the case. In 1908 two municipal sanatoria were opened, the one erected by the Corporation of Kircaldy and the other by the Corporation of Birmingham. The cost of the former is stated to be £121 per bed.

The sanatorium for consumptive children at Stannington, Northumberland, which was opened at the end of 1907, only cost £100 a bed.

The statistics of various public sanatoria, which are published from time to time, agree pretty well with those given in my report for the year 1906, and shew how much benefit may be expected in suitable cases. In the Annual Report of the Worcestershire Association for the Prevention of Consumption issued in 1908, it is stated that out of 122 early cases admitted to the sanatorium of the Association at Knightwick during the five years the institution had been in existence 102 were at work in 1907, 9 were at home, 10 had died, and 1 could not be traced. On the other hand, of 111 more advanced cases, 38 were at work and 52 had died. The following account taken from the "British Medical Journal" (18th January, 1908) gives an interesting and informing summary of the results obtained in the County Durham Sanatorium over a period of seven years. I should point out that the bulk of the patients admitted to these sanatoria belong to the working class:—

"The Society for the Prevention and Cure of Consumption in the "County of Durham, which now has nearly ten years' active work "behind it, has decided to open a second sanatorium at an estimated "cost of £6,000. Its present building has accommodation for 45 "patients, and full justification for a second venture of the same char- "acter is contained in the report adopted at the last annual meeting. "The same document included an interesting summary of the results "achieved since the present sanatorium was opened seven years ago, "signed by its medical officer, Dr. John Gray. The greater number "of patients are artisans and the like, and an endeavour is made to

"limit admission to cases in quite an early stage, but that this is not "always possible is clear from the fact that of the 153 patients ad- "mitted during the last completed year, 52 already had cavities. At "this institution all cases are classified for admission as either (1) "early or consolidation cases or (2) advanced or cavity cases. The "former are persons in whom no physical signs of loss of lung tissue "can be discovered, while advanced cases are those in whom there "is evidence of definite loss of tissue in one or both lungs. The "results as regards the former are shown in the following table, which "covers rather less than two-thirds of the total admissions at any "stage.

EARLY OR CONSOLIDATION CASES.

Year:	Cases Discharged.		Condition on April 30th, 1907.			
	Total.	Returned to Work.	At Work.	At Home.	Dead.	Lost Sight of
1900–1901	16	14	6	—	4	6
1901–1902	30	23	11	1	9	9
1902–1903	41	30	10	3	20	8
1903–1904	59	46	29	4	11	15
1904–1905	75	57	31	4	21	19
1905–1906	84	63	44	8	19	13
1906–1907	101	70	66	27	8	—
Totals ...	406	303	197	47	92	70

"It may be objected that the classification is somewhat rough, "and from the particulars given as regards last year's admissions it "is evident that early cases at this institution include many which "elsewhere would be regarded as advanced. Thus of 101, 47 had "diseases of both lungs, and 4 infection of four lobes. As, however, "the classification has been adopted, it may be better to adhere to it, "so that as the years go on the progress or the reverse at this sana- "torium may be easier to follow, while even if rough, the difference "in the results as seen upon the foregoing and the following tables "are compared, shows that the classification is of a practical char- "acter:—

ADVANCED OR CAVITY CASES.

Year.	Cases Discharged.		Condition on April 30th, 1907.			
	Total.	Returned to Work.	At Work.	At Home.	Dead.	Lost Sight of.
1900–1901	20	9	0	1	17	2
1901–1902	25	12	1	—	19	5
1902–1903	38	23	5	—	24	9
1903–1904	39	16	1	5	24	9
1904–1905	37	14	3	5	20	9
1905–1906	57	23	15	4	23	15
1906–1907	52	17	16	19	17	—
Totals ...	268	114	41	34	144	49

"As regards the term 'lost sight of,' Dr. Gray explains that it "is applied to those from whom no communication has been received "for twelve months. There is a tendency for patients on discharge "to leave the district in which they previously resided to seek work "in more salubrious surroundings. He also notes that those to whom "the term has been applied are chiefly persons who when they left "the sanatorium were in very good physical condition, so that there "is a strong presumption that may of them are still working. The "cost of maintenance is low, the average expenditure a week for each "patient being 17s. 10d.; the average stay is 13.2 weeks."

CANCER.

During 1908, 44 deaths were caused by Cancer and other forms of malignant disease, and the death-rate is 1 per 1,000. This is higher than the rates recorded during the preceding few years.

1908	1.00
1907	0.67
1906	0.86
1905	0.84
1904	0.75
1903	0.76

DEATHS IN WARDS.

Ward.	No. of Deaths.	Death Rate per 1,000 of population.
St. John's...	8	1·64
Northgate...	8	0·70
Primrose Hill	4	0·70
North Westgate	7	1·52
South Westgate	3	0·81
Kirkgate	6	1·14
Calder	5	1·16
Alverthorpe	3	0·76
Whole City	44	1·00

DEATHS AT AGE PERIODS.

30-40 Years.	40-50 Years.	50-60 Years.	60-70 Years.	70-80 Years.	80-90 Years
3	9	9	13	8	2

SEX.

27 were females and 17 males.

ORGANS AFFECTED.

Carcinoma of Colon	8	deaths.
,, ,, Liver	7	,,
,, ,, Uterus	6	,,
,, ,, Breast	5	,,
,, ,, Stomach	5	,,
,, ,, Rectum	4	,,
,, ,, Bladder	2	,,
,, ,, Oesophagus	1	,,
,, ,, Ovaries	1	,,
,, ,, Pancreas	1	,,
,, ,, Groin	1	,,
Sarcoma of Spine	1	,,
,, ,, Mediastinum	1	,,
Multiple Sarcoma	1	,,

CORPORATION FEVER HOSPITAL.

The Hospital in Park Lodge Lane was occupied by patients throughout the year, except on two occasions when it was empty for a total period of 12 days. The number of patients in the hospital on any occasion varied from 1 to 12, the average being 5.

The following table gives the Hospital statistic for 1907 :—

Disease.	No. of Cases 1st Jan., 1908.	No. of Cases Admitted in 1908.	No. of Cases Discharged in 1908.	No. of Cases Dying in 1908.	No. of Cases remaining 31st Dec., 1908.
Scarlet Fever ...	5	9	13	0	1
Diphtheria ...	0	25	20	3	2
,, (Infective)	1	0	1	0	0
Enteric Fever ...	0	2	2	0	0
For Observation...	0	2	2	0	0
Total... ...	6	38	38	3	3

DISINFECTION.

Disinfection of Houses was carried out with Formalin Spray or Formalin Fumigation. Disinfection of Bedding, etc., was effected in a Washington-Lyon Steam Disinfector at the Corporation Fever Hospital.

Number of Houses Disinfected	170
Number of Rooms Disinfected	272
Number of Schools Disinfected	14
Number of Times Steam Disinfector Used ...	174

Number of Articles Disinfected.

Beds	155
Mattresses	131
Blankets	292
Sheets	164
Counterpanes	155
Pillows	266
Bolsters	111
Curtains	4
Carpets	61
Rugs	6
Boots	8
Articles of Men's Clothing	32
Articles of Women's Clothing	36
Articles of Children's Clothing	178
Miscellaneous	583
Total	2,191

In addition to the above, 734 articles of bedding and clothing were disinfected for the Hospital.

The City Accountant has kindly supplied the following return, shewing the cost of maintaining the Hospital during the year ended 31st December, 1908:—

	£	s.	d.
Salaries and Wages	253	7	10
Groceries, etc.	213	5	4
Soap and Cleansing Materials	2	15	0
*Drugs and Disinfectants	28	4	7
Coal, Gas, and Water	93	7	9
Printing, etc.	3	3	10
Furniture, Bedding, etc.	23	4	9
Rent of Telephones	10	10	0
Rates and Insurance	114	4	7
*Removal of Patients and Bedding ...	37	17	6
Repairs	42	6	3
Uniforms	5	0	0
Miscellaneous	7	18	1
	£835	5	6

* The cost of disinfecting houses after cases of infectious disease is included in these items.

The sum of £6 1s. 6d. was received in payment of maintenance of patients.

BACTERIOLOGICAL EXAMINATIONS.

Dr. Kaye, the County Medical Officer of Health, informs me that the following number of specimens were forwarded to the County Council Bacteriological Laboratory, at Wakefield, by medical practitioners in the City and myself during 1908:—

Sputum (for Tubercle Bacillus)	59
Throat Swabs (Diphtheria)	194
Blood Serum (Enteric Fever)	9
Urine	1
Miscellaneous	9
Total	272

FACTORY AND WORKSHOP ACT, 1901.

"The Medical Officer of Health of every District Council shall in his Annual Report, to them report specificially on the administration of this Act in Workshops and Workplaces, and he shall send a copy of his annual report or so much of it as deals with this subject to the Secretary of State."—Section 132.

Annual Report of the Medical Officer of Health for the year 1908, for the City of Wakefield, on the administration of the Factory and Workshop Act, 1901, in connection with

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)	12		
Workshops (including Workshop Laundries)	64	6	
Workplaces (Other than Outworkers' premises included in Part 3 of this Report)			
Total	76	6	None

2.—DEFECTS FOUND.

Particulars. (1)	Number of Defects. Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions. (5)
Nuisances under the Public Health Acts*:—				
Want of Cleanliness	4	4		
Want of Ventilation				
Overcrowding				
Want of Drainage of floors				
Other Nuisances	6	6		
Sanitary accommodation — insufficient				
Sanitary accommodation — unsuitable or defective	5	5		
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)				
Other offences (Excluding offences relating to outwork which are included in Part 3 of this Report.)				
Total	15	15	None	None

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

3.—Home Work.

Nature of Work.*	Outworkers' Lists, Section 107.										Inspections of Outworkers' Premises.	Outwork in Unwholesome Premises, Sect. 108			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Addresses of Outworkers		Prosecutions.								
	Twice in the year.			Once in the year.													
	Lists ◊	Outworkers		Lists.	Outworkers		Received from other Councils.	Forwarded to other Councils.	Failing to keep or permit inspection of lists	Failing to send Lists.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110)
		Contractors	Workmen.		Contractors	Workmen.											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wearing Apparel—																	
(1) Making, &c., ...	4	1	14	2		4		3			7						
(2) Cleaning and washing ...																	
Lace, lace curtains and nets							1										
Artificial flowers ...																	
Nets, other than wire nets ...																	
Tents																	
Sacks																	
Furniture and upholstery ...																	
Fur pulling																	
Feather sorting																	
Umbrellas, &c.																	
Carding, &c., of buttons, &c.																	
Paper bags and boxes																	
Basket making																	
Brush making																	
Racquet and tennis balls ...																	
Stuffed Toys																	
File making																	
Electro-plate																	
Cables and chains																	
Anchors and grapnels																	
Cart gear																	
Locks, latches, and keys ...																	
Pea picking																	
Total	4	1	14	2		4	1	3			7						

4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year. 1		Number. 2
Important classes of workshops.	Bakehouses (Factories)	2
	Bakehouses (Workshops)	30
	Dressmaking	20
	Millinery	18
	Tailoring	18
	Joinering	9
	Upholstering	2
	Cabinetmaking	2
	Boot Repairing	4
	Rag Sorting	4
	Various	30
	Total number of workshops on Register	139

5.—Other Matters.

Class. 1		Number. 2
Matters notified to H.M. Inspector of Factories:—		
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		—
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	Notified by H.M. Inspector	—
	Reports (of action taken) sent to H.M. Inspector	—
Other		
Underground Bakehouses (S. 101):—		
Certificates granted during the year		—
In use at the end of the year		3

Section 22 of the Public Health Amendment Act, 1890, is in force in Wakefield, and as far as possible the standard of sanitary accommodation of the various Workshops on the Register conforms, as regards sufficiency and suitability, with the Sanitary Accommodation Order of 1902. This Order requires one closet for every 25 persons employed, and separate accommodation for the sexes.

HOUSING.

During 1908 the Inspectors have continued the system of house-to-house inspection. Houses in the following streets and their adjoining yards have been thus inspected, and records of their condition kept:—

Trinity Church Gate.
South Street.
John Street.

Pincheon Street.
Mark Lane.
Tadman Street.
Tadman's Buildings.
Chald Lane.
New Street.
Bailey's Buildings.
Warrengate.

In all 584 houses were inspected and the following sanitary defects discovered:—

Overcrowded	31
Damp	22
Dilapidated	4
Dirty	26

For the remedying of these defects 180 informal notices were served on the owners and occupiers, and most of these appear to have been complied with, as it was only found necessary to serve 9 legal notices.

In addition to the above a very large number of houses were inspected and reported upon in connection with cases of infectious disease, phthisis, health visiting, upon complaint and otherwise.

The Closing Orders relating to the two houses, Nos. 11 and 13, Three Tuns Yard, and which were made in 1903, were revoked by the Council in June, 1908, as the houses had been made habitable. 4 houses were originally closed. Two of these have been demolished, and the free air space of the yard much improved in consequence.

NEW DWELLING-HOUSES.

According to information kindly supplied to me by the City Surveyor, there were 56 new dwelling-houses erected in the City in 1908, and in the following localities:—

Arlington Street, 2 houses.
Richmond Road, 1 house.
Fernandes Road, 1 house.
Dickenson Street, 1 house.
Ings Road, 2 houses.
Wauchope Street, 1 house.
Park Avenue, 3 houses.
Green Lane, 1 house.
Cotton Street, 9 houses.
West and Cambridge Streets, 7 houses.
Alverthorpe Road, 13 houses.
Dewsbury Road, 2 houses.
Balne Lane, 2 houses.
Scarborough Street, 1 house.
Brick Street, 2 houses.
Wilhelm Avenue, 2 houses.
Welbeck Street, 6 houses.

The following list gives the number of new dwelling-houses erected in each of the past 9 years:—

1908	56	1904	85
1907	28	1903	135
1906	19	1902	87
1905	51	1901	66
1900	162		

WATER SUPPLY.

With the exception of three farms which derive their water supply from wells, all the houses in the City are supplied with water from the Corporation mains. The following reports on analyses made during 1908 by Dr. Chaplin, the City Analyst, shew that the water maintains its high standard of purity, and that the filtration and chemical treatment have been very successful in counteracting the natural plumbo-solvent action of the water, derived, as it is, from peaty moorland. No cases or suspected cases of lead poisoning have come under my notice.

No. I.

REPORT ON THE ANALYSIS OF WATER TAKEN AS IT FLOWED FROM THE RINGSTONE MAIN INTO THE RESERVOIR AT ARDSLEY, 12TH MAY, 1908.

The sample contains in grains per gallon:—

Chlorides equal to Common Salt	1.48
Nitrogen as nitrates and nitrites, equal to Nitric Acid	None
Poisonous Metals	None
Free Ammonia	0.048
Albuminoid Ammonia	0.0067
Oxygen absorbed by organic and other oxidizable matter	0.05
Degrees of hardness (each degree representing a soap-destroying power equivalent to one grain of chalk per gallon)	2.84
Total Dissolved Solid Matter	4.65
Suspended Matter very small, containing a few animalculæ	
Colour of Column two feet in depth	Brownish, faintly turbid
Smell when warmed to 100deg. Fahrenheit	Peaty
Reaction	Acid
Lead taken up in 12 hours ...	1.68 grains per gallon

The water is in better condition than at the corresponding time last year, both as regards organic content and capacity for dissolving lead.

(Signed) E. M. CHAPLIN, Ph.D., F.C.S.,
City Analyst.

No. II.

REPORT ON THE ANALYSIS OF A SAMPLE OF WATER DRAWN FROM LABORATORY TAP IN THOMPSON'S YARD, 12TH MAY, 1908.

The sample contains in grains per gallon:—

Chlorides equal to Common Salt	1.56
Nitrates equal to Nitric Acid	0.06
Silica	0.28
Oxides of Iron and Alumina	0.32
Sulphate of Lime	4.00
Sulphate of Magnesia	0.15
Carbonate of Magnesia	0.94
Matter Volatile at a low red heat	0.47
Total Dissolved Solid Matter	7.78
Yielding Free Ammonia	0.00056
Yielding Albuminoid Ammonia	0.00084

HARDNESS OF SAMPLE.

Permanent	4.2
Temporary	0.23
Total	4.43

The water when drawn was clear, and after prolonged standing only a minute amount of sediment was perceptible. This, on examination under the microscope, proved to be free from animalculæ.

The sample contains only the merest trace of organic impurity.

The water was alkaline, and this alkalinity was found to be due solely to the small proportion of alkaline carbonates in solution, no trace of caustic lime being present.

The analysis shows the water to be in excellent condition, and in every way suitable for the purposes of domestic supply.

(Signed) E. M. CHAPLIN, Ph.D., F.C.S.,
City Analyst.

COMMON LODGING-HOUSES.

There are 20 Common Lodging-Houses on the register, providing accommodation for 683 lodgers. Two lodging-houses ceased to be used as such during the year.

The Sanitary Inspectors made 864 visits during the year, and they were also visited by the Medical Officer. Generally speaking, the lodging-houses are satisfactorily kept, and year by year the less satisfactory houses are being got rid of. I paid a number of night visits to the lodging-houses, and as a result one lodging-house keeper (keeper of Springs Lodging-House) was on 24th April prosecuted for a contravention of Bye-law 4 (separation of sexes) on two occasions. He was convicted and fined. It is most important that night visits

to the lodging-houses should be made from time to time. Although I am aware that you have no direct legal powers in the matter, it might be worth your while to consider what is being done or what should be done to safeguard the lives of the inmates of such houses from the danger of fire. Considering the careless habits of many of the inmates of common lodging-houses it is surprising that fires are so rare. At the same time anyone acquainted with the structure and internal arrangements of many of the houses cannot but have grave misgivings as to the probable results of a conflagration.

HOUSES LET IN LODGINGS.

During 1908 more attention has been paid to this class of dwelling-house than has been the case hitherto, and an effort is now being made to more systematically enforce the bye-laws. There are 35 houses on the register, and the 83 sublet rooms accommodate, according to the standard set by the bye-laws, 301 persons stated as adults. The houses were visited by the Inspectors 76 times in the year, and a great many by myself. A printed copy of the bye-laws relating to houses let in lodgings was sent to the landlord of each house, in order that they might familiarise themselves with the legal obligations. This class of house appears to be on the increase in the City, and there are probably a great many more than those registered. A person who sublets a house is under no obligation to notify the Sanitary Authority, and it is only when the subletting is discovered that the regulations can be put into force. An amendment in the law is much needed here. No person should be allowed to sublet without notifying the Authority, just as the keeper of a common lodging-house has to do. The increase of such houses is very undesirable from a public health point of view. A few are fairly large houses, taken with the distinct purpose of subletting. One such house, or rather two adjoining houses, contained as many as 11 distinct families. The landlord, his wife, and 2 children (boy aged 14, and girl aged 7) occupied the kitchen in the house No. 1, while the rest of the house was sublet as follows :—

Ground Floor	(1)	Bed sitting-room, male lodger.
	(2)	Bed sitting-room, husband and wife.
First Floor	(1)	Sitting-room and bedroom, husband, wife, and child.
	(2)	Bed sitting-room, husband and wife.
Second Floor	(1)	Bed sitting-room, husband and wife.
	(2)	Bed sitting-room, husband, wife, and 2 children.

House No. 2.

Ground Floor (1) Kitchen, sitting-room, and bedroom on 1st floor, husband, wife, and child.

First Floor (1) Sitting-room and bedroom, husband, wife, and child.

(2) Bed sitting-room, husband and wife.

Second Floor, Bed sitting-room, husband, wife, and child.

There are, however, quite a number of smaller houses being sublet, and serious evils are more likely to arise in connection with such dwellings. In one locality, where there are rows of four-roomed through houses, chiefly occupied by coalminers, it is not uncommon to find the front or sitting-room sublet and occupied by one family who have the exclusive use of the front door. The door opening through into the kitchen or living-room is made fast (cutting off through ventilation), and the tenant proper retains the use of this room, the back door, and the two bedrooms, which are reached by a stair from the kitchen. The sublet room is simply a one-roomed dwelling, and of course tends to be overcrowded in itself, while the house as a whole often becomes seriously overcrowded. The room is also without a proper fireplace for cooking purposes, has no separate water supply, no sink, or separate closet accommodation, is very small, and, generally speaking, is less suited for its purpose than the old-fashioned one-roomed dwelling. These rooms are, as a rule, let furnished, and the rent exacted is a relatively high one, considering that the furniture is generally not worth much. I know two rooms, for each of which a weekly rent of 4s. 8d. is paid, although the furniture is not worth twenty shillings altogether, and the normal rent of the room should not be much over a shilling. In other words, these thriftless people are paying for their one miserable room as much as would secure them a decent 3 or 4-roomed house.

SLAUGHTER-HOUSES.

There are 23 slaughter-houses, including the Corporation slaughter-house, in use in the City. The Inspectors made 3,025 visits during the year. The question of registration and licensing of slaughter-houses came up for consideration during the year, and it was decided that in future all slaughter-houses should be registered or licensed as required by law, and that the licenses should be for periods of twelve months. In November the Sanitary Committee visited twelve of the less satisfactory slaughter-houses, and in most of these directions for structural improvements were given. Upon these directions being complied with the Committee will issue the licenses. This step, which I have advocated all along, will now place slaughter-house administration on a better basis, although it never will be satisfactory until slaughtering can be wholly limited to one adequate municipal building.

MEAT INSPECTION.

In accordance with the request of the Local Government Board I submit in the following table the particulars relating to seizures of meat made during 1908. In all, 54 carcases or parts of carcases were seized, as unfit for human consumption, and all were destroyed by magistrates' order. 17 of these were stated to be affected with tuberculosis, but in some cases the state of the carcase is not recorded, and the number of tubercular carcases is probably greater than stated. A great many of the carcases seized were those of animals brought from the railway station and suffering from injuries received in railway transit.

DISEASED OR UNSOUND MEAT SEIZED IN 1908.

Date.	Description of Carcase, (Kind of Animal, part of body).	Where Seized.	Condition of Carcase (Disease or condition leading to seizure).
January 13	Pig and Offals	Public Slaughterhouse	Tuberculosis.
,, 15	Sheep	Private do.	Unsound.
February 11	Sheep and Offals ...	Isolation do.	do.
,, 13	do. ..	do. do.	do.
,, 20	Carcase of Cow and Offals	Private do.	Tuberculosis.
,, 26	Sheep and Offals ...	Isolation do.	Unsound.
,, 27	Pig and Offals	Public do.	Not stated.
,, 27	Carcase of Beef and Offals	do. do.	Tuberculosis.
March 4	Sheep and Offals ...	Isolation do.	Unsound.
,, 5	do.	Public do.	Dropsy.
,, 5	Calf and Offals	do. do.	Unsound (slink).
,, 11	Carcase of Cow and Offals	do. do.	Tuberculosis.
,, 18	Calf	Isolation do.	Unsound.
,, 18	Sheep and Offals ...	do. do.	do.
,, 18	do. ...	do. do.	do.
,, 18	do. ...	do. do.	do.
,, 24	do. ...	do. do.	do.
,, 24	do. ...	do. do.	do.
April 3	Pig's Head	Shop	Not stated.
,, 10	Calf	Shop	Tuberculosis.
,, 11	Carcase of Beef and Offals	Isolation do.	Not stated.
,, 15	Two Pigs and Offals ...	Private do.	do.
,, 22	Sheep and Offals ...	Isolation do.	do.
,, 22	Calf	do. do.	do.
,, 29	Sheep and Offals ...	do. do.	Unsound.
May 12	do. ...	do. do.	Not stated.
,, 13	Two Hind Quarters of Beef	do. do.	Unsound (crushed)
,, 14	Pig and Offals	Private do.	Tuberculosis.
,, 21	Side of Pork ...	Shop	do.
	Leg of Pork ...		
	Joint of Loin of Pork		
	Head and Offals		
,, 27	Pig and Offals	Private do.	do.
,, 30	Calf	Public do.	Not stated.
June 11	20 Pieces of Beef	Shop	Unsound.
	Part of Liver ...		
	Part of Kidney ...		
	Heart Lungs ...		
,, 18	Carcase of Sheep and Offals	Isolation do.	do.
,, 18	do. Beef do.	Public do.	Tuberculosis.

DISEASED OR UNSOUND MEAT SEIZED IN 1908.—*Continued.*

Date.	Description of Carcase, (Kind of Animal, part of body).	Where Seized.	Condition of Carcase (Disease or condition leading to seizure.
July 31	do. Pig	Private Slaughterhouse	Not stated.
August 5	do. Sheep ...	Isolation do.	do.
Sept. 7	Carcase of 2 Pigs & Offals	Public do.	Tuberculosis.
,, 7	One Pig's Head & Offals	do. do.	Unsound (Pneumonia)
,, 7	Carcase of Sheep and Offals	Private do.	Tuberculosis.
,, 14	do. Pig do.	Public do.	do.
,, 16	do. 2 Pigs do.	do. do.	Not stated.
,, 16	Two Pig's Heads & Offals	do. do.	Tuberculosis.
,, 16	One do. do.	do. do.	Not stated.
,, 16	Carcase of Pig and Offals	Isolation do.	do.
,, 23	do. Beef do.	do. do.	Tuberculosis.
,, 29	do. do, do.	Private do.	Not stated.
,, 30	do. Pig do.	Public do.	Tuberculosis.
October 1	do. Beef do.	Isolation do.	Unsound.
,, 14	2 do. do. do.	do. do.	Not stated.
Novem. 12	do. Sheep do.	Public do.	Tuberculosis.
,, 12	do. Pig do.	Isolation do.	Not stated.
,, 18	do. Sheep do.	do. do.	do.
,, 26	do. do. do.	do. do.	do.
Decem. 3	do. do. do.		

In addition to the above 223 rabbits, 3 stones shrimps, 8 crates bananas, 2 boxes fish, and 5 stones tomatoes were voluntarily surrendered and destroyed.

Two prosecutions for selling or exposing for sale diseased or unsound meat took place during the year.

On June 3rd a butcher was convicted and fined £5, with £1 10s. costs, for exposing tubercular meat for sale in his shop and on a cart.

On July 1st another butcher was convicted and fined £1, with £1 16s. 0d. costs, for exposing unsound meat for sale in his shop.

In February I reported to the Sanitary Committee on the insanitary manner in which frozen or refrigerated meat is often conveyed into the City, and the chief purveyors of such meat, as well as the Railway Companies, were communicated with. It was pointed out to them that such meat should be conveyed completely wrapped up in stout sheeting, or if conveyed in the usual open-meshed material it should be put in clean vans and kept separate from other goods. Further, that it should not be deposited on dirty station platforms, but on to clean trolleys for immediate removal to the shop or place of storage. I believe that some improvement in this matter has resulted from the communications.

DAIRIES, COWSHEDS, AND MILKSHOPS.

There are registered in accordance with the Dairies, Cowsheds, and Milkshops Order (1885):—

Cowkeepers and Purveyors of Milk	24
Purveyors of Milk	17
Purveyors of Milk from places outside the City ...	19

The cowsheds and milkshops have been regularly inspected during the year. The Inspectors have made 69 visits, and I have also personally visited most of them. After much pressure one cowkeeper (Flanshaw) has given up the use of a very unsatisfactory shed, and erected in lieu of it a more up-to-date building. The condition of the cowsheds is no doubt gradually improving, but it is still difficult to get near the standard of ventilation in the building and cleanliness in the methods which are so necessary towards securing healthy cows and clean milk.

During the year there was published a very important report on the sources of milk contamination, embodying the results of investigations carried out by Dr. Thomas Orr, at Garforth Farm, Yorkshire, on behalf of the East and West Riding County Councils and the County Boroughs of Bradford, Hull, Leeds, Rotherham, and Sheffield. I extract the following from the summary of conclusions arrived at by the Committee representing the above authorities in this inquiry, and I do so because they fully justify the necessity of continued efforts to educate and press all concerned in the milk trade into more sanitary methods of handling that important commodity:—

"1. The investigation clearly shews that serious contamination "does take place to a great extent of a preventable character.

"2. Cow's milk freshly drawn from the udder by ordinary "methods contains bacteria. Such bacteria are more numerous in "the 'fore-milk' than in the milk given at a later stage of the milking "process.

"3. A very great increase in the number of bacteria in milk "takes place whilst the milk is being drawn from the udder, and "the milk continues to receive additions at every stage of its journey "to the consumer, and even after it has reached him. The degree "of contamination, however, at the different stages varies enormously.

"4. In general the greatest amount of contamination occurs "at the cowshed, and is largely attributed to—

"(a) The dirty condition of the cows' udders.

"(b) The imperfect cleansing of the cans or other "receptacles in which the milk is placed.

"The contamination in the latter case (b) is especially pronounced "in the warmer months of the year.

"5. The contamination occurring at the cowshed can be almost "entirely prevented by the adoption of the following measures:—

"(a) Washing of the udder and flanks of the cow with soap "and pure water, preferably water that has been boiled, before "milking. Obviously the milker must give similar attention to "his hands.

"(b) Efficient sterilisation of all vessels by steam, if "possible, or, failing that, by an abundance of boiling water. "The vessels before being sterilised should, of course, as is "generally recognised, be first well washed out with clean cold "water. In this respect the task of the farmer would be greatly "facilitated if the cans were efficiently cleaned by the retailer "before he returned them to the farmer.

"(c) Rejection of the first draw of milk from each teat.

"(d) Avoidance of any work raising dust immediately "before or during milking.

"(e) Removal of the milk of each cow, immediately after "it has been obtained, to the large can set aside for the reception "of the whole of the milk of the cows. Care should be taken "that this can, which usually holds the strainer, is protected from "dust or any other cause of contamination. This object, of "course, can be better attained if the receiving can is not allowed "to stand in the cowshed at all, but in a clean store conveniently "near.

"6. Ventilation of the cowshed, although of great importance "as regards the general health of the cows, has apparently, from the "results of the present investigation, no very direct bearing upon the "degree of contamination suffered by the milk in the cowshed. A "well-lighted cowshed is most desirable in the interests of cleanliness.

"7. The extent to which bacteria, present in the milk as it "leaves the cowshed, multiply before the milk is consumed, is mainly "a question of the temperature at which the milk is kept and the "time that elapses before consumption. The lower the temperature "and the shorter the interval of time the less do the bacteria "multiply.

"8. The valuable effects of cooling cannot be fully attained "unless the cooler itself during storage and use is effectively protected "from contamination.

"9. Contamination during railway transit is practically avoid-"able, if the milk cans are locked and provided with dust proof lids "of such a type as will protect the lip of the can from dust or other "contamination, and render it impossible for any milk shaken out of "the can to drain back into it.

"10. The dust-laden atmosphere of the railway station renders "it undesirable that the milk be poured from one can into another on "the platform or other open parts of the station.

"11. Additional contamination arises from—

"(a) Exposure to dust, for example, in retail shop, during "street delivery, or in consumer's house.

"(b) Imperfectly cleansed milk receptacles, such as retailers' "cans or consumers' vessels.

"In addition to the above points, Dr. Orr draws attention to "other possible sources of contamination, such as may arise from "neglect of systematic grooming of the cows, the unclean state of the "hands and clothes of the milker, the nature and contents of the "railway van, the unclean state of the retailers' clothes, and the "presence of flies. In the absence, however, of evidence indicating "the extent to which these may contribute to pollution, the Com-"mittee feel that they are not warranted in assigning to them the "same high importance as to those points with which they have "already dealt.

"The Committee desire to draw special attention to the experi-"ments of Dr. Orr with regard to the washing of cows' udders, and "also to that part of the report which deals with the conveyance of "milk in vessels which are not ventilated.

"The reason for drawing special attention to these matters is "that there is a widespread opinion in the country that it is a "dangerous thing (1) to wash cow's udder, and (2) that milk will not "keep except in a ventilated vessel. The experiments systematically "conducted by Dr. Orr for a period of about six months indicate "that a cow's udder can be washed with safety, and that one of the "greatest sources of contamination of milk at the farm can thus be "successfully combated. Again, if it can be shown that milk will "keep in vessels which are not exposed to the air by means of "ventilating openings, a fruitful source of railway contamination can "be dealt with satisfactorily, and a common excuse for the exposure "by the retailer or consumer of milk in an uncovered bowl will be "disposed of.

"In view of the above-mentioned facts the Committee are unani-"mously of opinion that a very great improvement in the cleanliness "of our milk supply might be effected if the attention and co-operation "of the various persons concerned were secured on the following "points:—

"*(a) On the part of the Milk-Producer.*

"The absolute necessity of cleaning the udder and flanks of "the cow and of washing and sterilising the receptacles in which "milk is placed.

"The desirability of rejecting the 'fore-milk' and of removing the milk when drawn, as rapidly as possible, to a dust-free atmosphere.

"The great improvement in keeping properties which may be effected by cooling the milk to 50°F. as soon as possible by means of a clean cooler suitably protected from dust or other contamination.

"The provision of cans with lids of such a type as to render contamination from without impossible. The cans in which milk is forwarded should be locked or sealed.

"*(b) On the part of the Railway Company.*

"The urgent necessity for rapid transit, especially during warm weather.

"The provision of special vans, kept scrupulously clean and reserved for the milk traffic.

"The necessity of maintaining the milk at a temperature not exceeding 50°F. during the time it remains in their charge.

"The provision of a special shed in which milk should be placed immediately on its arrival at the station. This shed should be kept clean and cool, and used only for milk traffic.

"*(c) On the part of the Retailer.*

"The undesirability of transferring the milk from the farmer's can, as is usual at present, in the station precincts.

"The prime importance of scrupulous cleanliness in all details of the handling of milk.

"The desirability of thoroughly cleansing the farmers' cans before returning them. This implies the necessity, after washing out with clean cold water, of maintaining the can, etc., for some time at steam heat, in order to ensure thorough cleansing and sterilisation, or, failing a supply of steam, a thorough scalding with an abundance of boiling water.

"The necessity of complete protection of all milk from dust prior to sale.

"The importance of keeping the milk at a temperature not above 50°F.

"*(d) On the part of the Consumer.*

"The necessity for scrupulous cleansing and scalding with boiling water of vessels in which milk is placed. The further necessity of protecting the milk from dust during storage, of keeping it as cool as possible, and certainly at a temperature not exceeding 50°F."

OFFENSIVE TRADES.

Tripe Boiling	6 work places.
Gut Scraping	1 work place.
Tallow Melting	1 work place.

These places have been regularly visited during the year (226 visits by the Inspectors), and no complaints regarding them have been received.

Fried Fish Shops and Ice Cream Shops have also been regularly inspected.

SANITARY CONVENIENCES.

During 1908 72 privy closets and 53 tub closets were converted into water closets, while 46 additional water closets were erected. In other words 171 sanitary closets took the place of 125 insanitary closets.

At the end of the year there were in the City:—

Water Closets (for dwelling-houses) ...	6,439
Privy Closets	398
Tub Closets	455
Trough Closets	461

NUISANCES.

Total Number of Nuisances in hand at end of 1907	23
,, ,, ,, ,, ,, ,, ,, ,, ,, 1908	26
,, ,, ,, ,, Reported during 1908	772
,, ,, ,, ,, Abated	769
,, ,, ,, Legal Notices served for abatement of Nuisances during 1908 ...	93
,, ,, ,, Informal ,, ,, ,, ,,	679
,, ,, ,, Smoke Observations made during 1908 ...	58
,, ,, ,, Legal Notices served for abatement of Smoke Nuisance during 1908 ...	9
,, ,, ,, Summonses or other Legal Proceedings ...	None
,, ,, ,, Drains Tested during 1908	583
,, ,, ,, Sink Wastes Disconnected during 1908 ...	42
,, ,, ,, ,, ,, Trapped ,, ,, ...	42

ANALYSIS OF FOODS AND DRUGS, 1908.

A.—Samples Taken.

Name of Article.	No. of Samples Taken for Analysis.	No. Found Adulterated.	Percentage Adulterated.
Milk	63	10	15·8
Butter	43	3	6·9
Cheese	15	1	6·6
Lard	1		
Whisky	5		
Rum	5		
Total	132	14	10·6

B.—Adulterated Samples.

Name of Article.	Nature and Amount of Adulteration.	Legal Proceedings.	Result.	
			Fine.	Costs.
Milk	Added Water 9 4 per cent....	Yes.	20/-	11/6
,, ...	,, ,, 7·06 per cent...	No.		
,, ...	,, ,, 5 06 per cent...	No.		
,, ...	,, ,, 4·77 per cent...	No.		
,, ...	,, ,, 3·53 per cent...	No.		
,, ...	,, ,, 2·7 per cent...	No.		
,, ...	,, ,, 2·12 per cent...	No.		
,, ...	,, ,, 1·2 per cent...	No.		
,, ...	Deficiency of Fat 16·7 per ct	No.		
,, ...	,, ,, ,, 6 per cent	No.		
Butter	Margarine 100 per cent. ...	Yes.	5/-	27/-
,, ...	,, ,, ,, ,, ... (Informal Sample)	No.		
,, ...	Slight excess of Water ...	No.		
Cheese... ...	Deficiency of Fat 25 per cent.	No.		

MEDICAL INSPECTION OF SCHOOL CHILDREN.

This subject is more fully dealt with in my Annual Report to the Education Committee, but as the work is essentially of a public health character, a few words of reference may not be inappropriate here.

The new Act, making medical inspection compulsory, came into force on January 1st, 1908. In the earlier part of that year, in conjunction with the Education Department, I worked up a system of medical inspection which, with some modifications, was approved by the Board of Education, and was started off at the beginning of September. The system provides for a medical inspection of each child three times during its school life, and provides for supplementary inspections in special cases. The inspections are made at the Town Hall, except in the case of outlying schools. Visits are also made to the schools both by myself and the lady health visitor, and arrangements have been made for the notification of all kinds of infectious and contagious diseases from the schools, and the visiting of these, as well as neglected children, at their own homes.

From the beginning of September up to the end of the year I inspected 1,058 children, all under six years of age, as well as a large number sent for special examination.

The few months' experience I have had of this comprehensive system of medical inspection goes to prove its great utility as a public health measure. At the same time I find that it takes up more time and involves more strain than can be well afforded from the regular duties of a medical officer of health. The clerical work attached to medical inspection, and required by the schedule of the Board of Education, proves a very serious additional item to the inspection itself. Then, of course, the work is in a sense endless, and goes on unremittingly throughout the year, irrespective of pressure of other duties.

LOCAL GOVERNMENT BOARD AND OTHER TABLES.

TABLE I.

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 1,000 Births Registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
†1898	36,210	1039	28·	184	177	696	19·2					
1899	36,671	1084	29·7	176	162	618	16·9					
1900	36,768	993	26·8	199	200	896	24·3					
1901	40,176	1190	29·6	220	185	814	20·2					
1902	40,600	1166	28·7	178	153	739	18·2					
1903	42,066	1107	26·3	145	131	950	22·5	390	281	1	670	15·9
1904	42,365	1107	26·1	187	169	914	21·6	335	243	4	675	15·9
1905	42,669	1127	26·4	119	106	828	19·4	371	257	1	572	13·4
1906	42,978	1000	23·2	127	127	883	20·5	390	269	7	621	14·4
1907	43,292	1025	23·6	127	124	945	21·8	435	314	6	637	14·7
Averages for yrs. 1898-1907.	40,379	1083	26·8	166	153	828	20·5					
1903	43,611	1050	24·0	143	136	946	21·6	391	282	2	666	15·2

* Rates in Columns 4, 8, and 13 calculated per 1.000 of estimated population.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums. A list of the institutions in respect of the deaths in which corrections have been made is given below.

Institutions within the District receiving sick and infirm persons from outside the District.	Institutions outside the District receiving sick and infirm persons from the District.	Other Institutions, the Deaths in which have been distributed among the several localities in the District.
West Riding Lunatic Asylum.	Carrgate Fever Hospital.	Leeds General Infirmary.
Union Workhouse and Infirmary.		
Clayton Hospital (H.M. Prison).		

† The West Riding Lunatic Asylum came within the City boundary in 1895, but from 1898 to 1902 inclusive, it is excluded from the population of Wakefield, as given in above table, and all the deaths in the Asylum are excluded during the same period

Table II.

Vital Statistics of Separate Localities in 1908.

Wards.	Population estimated at the middle of 1908.	Births Registered.	Birth Rate.	Deaths Registered.	Death Rate.	Deaths under 1 year of age.	Infantile Death Rate.	Tuberculosis Death Rate.	Phthisis Death Rate.	Zymotic Death Rate.	Scarlet Fever Death Rate.	Diphtheria Death Rate.	Enteric Fever Death Rate.	Diarrhœa Death Rate.	Measles Death Rate.	Whooping Cough Death Rate.	Cancer Death Rate.
St. John's	4,866	76	15·6	64	13·1	11	145	1·64	1·64	1·23	0·00	0·00	0·00	0·82	0·41	0·00	1·64
Northgate ...	11,371	241	21·1	148	13·0	30	124	1·04	0·96	0·70	0·00	0·26	0·08	0·35	0·00	0·00	0·70
Primrose Hill ...	5,647	155	27·6	104	18·4	20	129	1·94	1·77	3·18	0·00	0·35	0·00	1·94	0·53	0·35	0·70
N. Westgate ...	4,586	138	30·0	70	15·2	20	145	1·74	1·74	1·09	0·21	0·00	0·00	0·21	0·21	0·65	1·52
S. Westgate ...	3,679	90	24·4	64	17·3	15	165	0·81	0·81	1·63	0·00	0·00	0·00	0·00	1·35	0·27	0·81
Kirkgate	5,239	124	23·6	79	15·0	18	146	1·81	1·14	1·10	0·00	0·19	0·00	0·38	0·38	0·19	1·14
Calder	4,276	122	28·5	71	16·6	9	74	1·86	1·17	1·87	0·00	0·70	0·00	0·23	0·70	0·23	1·16
Alverthorpe ...	3,947	104	26·3	66	16·7	20	184	2·27	1·77	1·52	0·00	0·25	0·50	0·25	0·25	0·25	0·76
Whole City ..	43,611	1,050	24·07	666	15·2	143	136	1·55	1·33	1·44	0·02	0·22	0·06	0·55	0·38	0·20	1·00

The figures in above table refer to residents only.
Residents dying in Public Institutions are allotted to their respective Wards.
The Rates are rates per 1,000 of the population, except the Infantile Death Rate, which is a rate per 1,000 Births.

TABLE III.—Cases of Infectious Disease Notified during the Year 1908.

Notifiable Diseases.	Cases Notified in whole District.							Total Cases Notified in each Ward.								No. of Cases Removed to Hospital from each Ward							
	At all ages.	At ages—years.						St. John's.	Northgate.	Primrose Hill.	North Westgate.	South Westgate.	Kirkgate.	Calder.	Alverthorpe.	St. John's.	Northgate.	Primrose Hill.	North Westgate.	South Westgate.	Kirkgate.	Calder.	Alverthorpe.	Total Cases removed to Hospital.
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 & upwards																	
Smallpox																								
Cholera																								
Diphtheria (including Membranous Croup)	56		16	33	3	4		5	23	10	7	1	2	5	3	2	12	6	1		1	1	1	24
Erysipelas	23	1		3		18	1	3	3	3	3	4	3	1	3									
Scarlet Fever	41	1	19	20		1		7	11	3	8	3	7	2		2	4	2			2			10
Typhus Fever																								
Enteric Fever	15			3	4	8		1	5	2	3		1	2	1			1			1			2
Relapsing Fever																								
Continued Fever																								
Puerperal Fever	2				1	1					1			1										
Plague																								
Pulmonary Tuberculosis (voluntary)	42			6	3	31	2	5	10	2	6	4	2	7	6									
Totals	179	2	35	65	11	63	3	21	52	20	28	12	15	18	13	4	16	9	1		4	1	1	36

Table IV.

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

Causes of Death.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.							Deaths at all ages of "Residents" belonging to Wards, whether occurring in or beyond the district.								Total Deaths whether of Residents or Non-Residents 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.	St. John's Ward	Northgate Ward	Primrose Hill Ward	N. Westgate Ward	S. Westgate Ward	Kirkgate Ward	Calder Ward	Alverthorpe Ward	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Small-pox																
Measles	17	3	13	1				2		3	1	5	2	3	1	
Scarlet Fever ...	1	1									1					
Whooping-cough	9	4	5							2	3	1	1	1	1	1
Diphtheria, including Membranous Croup	10		7	3					3	2			1	3	1	3
Fever (Typhus ... / Enteric ... / Other continued ...)	3					3			1						2	2
Epidemic Influenza	7				1	5	1		1		2		1	2	1	1
Cholera																
Plague																
Diarrhœa	23	15	7				1	4	4	11			2	1	1	
Enteritis	2	1					1	1	1							
Puerperal Fever ...																
Erysipelas ...	2	1				1						1	1			
Phthisis (Pulmonary Tuberculosis)	58		2	1	5	48	2	8	11	10	8	3	6	5	7	59
Other Tuberculous Diseases ...	10	4	3			3			1	1			3	3	2	5
Cancer, Malignant Disease ...	44					26	18	8	8	4	7	3	6	5	3	18
Bronchitis ...	52	11	11	2		8	20	4	15	9	2	7	5	6	4	13
Pneumonia ...	51	11	15	2	3	19	1		18	4	3	5	9	7	5	27
Pleurisy	1					1				1						
Other Diseases of Respiratory Organs ...	9	1	4	1		3				4		1	1	3		5
Alcoholism / Cirrhosis of Liver	7					7		2	2	1		1	1			2
Venereal Diseases	3	3							1			1	1			3
Premature Birth	25	25							6	2	4	4	2	4	3	1
Diseases and Accidents of Parturition	6	3			1	2			4		1				1	2
Heart Diseases ...	58			1	1	33	23	6	14	4	6	9	7	9	3	29
Accidents	24	1	3	3	3	8	6	2	5	4		3	5	2	3	30
Suicides	7				1	4	2		2	3	1	1				3
Old Age	46					1	45	6	10	8	5	3	6	3	5	21
Diseases of the Nervous System	68	15	8	2	1	21	21	7	16	10	8	6	10	2	9	95
All other Causes	123	44	11	6	5	30	27	14	25	21	18	10	9	12	14	71
All Causes ...	666	143	89	22	21	223	168	64	148	104	70	64	79	71	66	391

Table V.

Infantile Mortality during the Year 1908.

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.	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 ...	25	5	10	7	47	15	17	10	6	9	12	7	6	3	6	5	143
	Uncertified																	
Common Infectious Diseases.	Small-pox ..																	
	Chicken-pox																	
	Measles													1		1	1	3
	ScarletFev'r															1		1
	Diphtheria including Membran'us Croup ..																	
	Whooping Cough ..											2			2			4
Diarrhœal Diseases.	Diarrhœa, all forms							2		2	2	3	1	1		1		12
	Enteritis Muco-enteritis..																	
	Gastro-enteritis							1										1
	Gastritis, Gastro-intestinal Catarrh							1	1				1					3
Wasting Diseases.	Premature Birth ..	13	1	7	1	22	2				1							25
	Congenital Defects	2	2			4					1							5
	Injury at Birth ..	2				2												2
	Want of Breast-milk Starvation						1											1
	Atrophy, Debility, Marasmus	2		2	3	7	2	4	4		2	1						20
Tuberculous Diseases.	Tuberculous Meningitis											1		1				2
	Tuberculous Peritonitis: Tabes Mesenterica ...							1									1	2
	OtherTuberculous Diseases ..																	
Other Causes.	Erysipelas ..						1											1
	Syphilis ..	1				1		1	1									3
	Rickets ...									2								2
	Meningitis (*not Tuberculous*) ..																	
	Convulsions	1			2	3	4		1	1	1	2	1					13
	Bronchitis ..				1	1	2		1		1	3	2			1		11
	Laryngitis .																	
	Pneumonia		1			1	1	2	2				2	2		1		11
	Suffocation, overlying .	1				1	1											2
	OtherCauses	3	1	1		5	1	5		1	1			1	1	1	3	19
		25	5	10	7	47	15	17	10	6	9	12	7	6	3	6	5	143

District of Wakefield City. Population estimated to middle of 1908, 43,611.

Births in the Year { Legitimate 994. Illegitimate 56. } Deaths in the Year of { Legitimate Infants 135 Illegitimate Infants 8

Deaths from all Causes at all Ages, 666.

Table VI.

Vital Statistics of England and Wales, Wakefield, and other Yorkshire Towns in 1908.

District.	Population	Birth Rate.	Death Rate.	Infantile Death Rate.	Zymotic Death Rate.	Phthisis Death Rate.	Respirat'y Death Rate (excluding Phthisis).	Scarlet Fever Death Rate.	Scarlet Fever Attack Rate.
England and Wales	35348780	26·5	14·7	121	1·29	—	—	0·08	—
Great Towns(76)	—	27·0	14·9	128	1·59	—	—	0·10	—
Smaller Towns(142)	—	26·0	14·0	124	1·26	—	—	0·06	—
England & Wales less the 218 towns.....	—	26·2	14·7	110	0·99	—	—	0·06	—
Leeds	477107	24·8	15·5	138	1·55	1·28	2·89	0·03	1·38
Bradford ...	292136	20·1	15·4	143	1·47	1·30	2·40	0·04	2·79
Huddersfi'ld	94777	24·39	17·09	112	1·65	1·32	2·68	0·03	0·926
Halifax ...	107500	19·7	14·5	101	1·0	1·35	2·3	0·03	1·7
Sheffield ...	463222	30·8	15·9	141	1·87	1·20	3·3	0·09	3·03
Rotherham	64000	32·75	15·62	149	3	0·97	2·78	0·04	2·0
Hull	271237	30·1	16·3	148	2·3	1·2	2·7	0·01	1·9
York.....	85861	25·53	12·9	104	1·14	0·873	1·86	0·0465	2·14
Keighley ...	45720	20·6	14·58	134	1·83	1·09	2·44	0·02	1·5
Dewsbury	26987	21·93	19	165	1·8	1·5	3·85	0·11	0·9
Batley	31720	27·0	17·9	161·8	2·5	1·0	2·9	0·03	1·5
Doncaster ..	31108	23·5	14·7	147	1·25	1·09	1·96	0·06	1·89
Brighouse	22365	20·21	14·21	103	1·2	1·43	2·9	0·00	1·07
Ossett	14428	22·10	15·94	181	0·83	0·97	3 7	0·06	2·00
Todmorden	26050	21·15	15·73	127	0·95	1·42	2·5	0·15	3·83
Barnsley ...	45500	35·69	18·68	161·94	3·23	1·25	3·21	0·27	5·2
Harrogate	32000	17·3	11·2	113·5	0·4	0·95	1·9	0·03	3·5
Goole	18582	36·2	16·7	151	3·7	0·9	2·5	0·05	3·3
Scarboro'gh	41250	18·7	11·63	88·9	0·7	1·23	—	0·024	1·1
Shipley ...	28545	18·1	13·9	144	1·1	0·9	2·5	0·1	3·2
Ilkley ...	8500	18	8	39·2	0·23	0·47	1	—	3·2
Mirfield ...	11126	23·8	14·8	70·56	0·72	0·8	1·9	0·0	2·1
Pudsey ...	13833	20·3	13·8	113	0·6	0·7	2·2	—·	1·9
Ripon ...	9000	19·7	11·3	73·03	0·5	1·0	1 2	0·0	1·6
Wakefield ..	43611	24·07	15·2	136	1·44	1·33	2·56	0·02	0·9

TABLE VII.

TABLE SHEWING BIRTHS AND VACCINATION RETURNS IN THE CENTRAL VACCINATION DISTRICT OF WAKEFIELD UNION.

Year.	Births Registered.	Successfully Vaccinated.	Insusceptible to Vaccination.	Died Unvaccinated.	Number exempted by conscientious objection Certificate.	Postponed by Medical Certificate.	Removed to other Districts.	Removed to places unknown, and cases that have not been found.	Percentage Successfully Vaccinated.*
1907	669	541	0	67	29	11	10	5	89·9
1906	657	538	3	64	14	23	6	9	90·7
1905	762	649	0	69	10	13	9	10	93·6
1904	597	479	2	70	9	17	7	12	90·8
1903	604	489	2	60	7	15	10	12	89·8
1902	637	551	3	44	3	16	6	9	92·9
1901	669	488	6	86	14	11	5	10	83·7
1900	613	481	3	77	4	22	9	6	89·6

* Children dying unvaccinated excluded.

The Central Vaccination District of the Wakefield Union only covers part of the City (1901 Census population 29,850).

METEOROLOGICAL TABLE FOR 1908.

MONTH. 1908	Barometer corrected and reduced to 32 deg. Fah. at mean sea level.					Temperature.												Rainfall.				Sunshine.	
	Mean. 8 a.m	Maximum Reading.	Date.	Minimum Reading.	Date.	Mean at.		Mean.		Approximate Mean.	Highest Maximum.	Date.	Lowest Minimum.	Date.	Sub-Soil 1 Foot.	Sub-Soil 2 Feet	Sub-Soil 4 Feet.	Sub-Soil 20 Feet.	Total in Inches.	Greatest quantity in 24 hours.	Date.	No. of days on which '01 or more fell.	
						8 a.m.	8 p.m.	Max. in Air.	Min. in Air.														
	Inches	Inches		Inches		Deg.	Deg.	Deg.	Deg.						Mean.	Mean.	Mean.	Mean.		Ins.			Hrs Min
January ...	30·109	30·536	24th	29·044	8th	33·3	35·2	39·9	29·7	34·8	55·2	17th	19·0	12th	35·1	36·6	41·6	48·5	1·01	0·31	8th	11	38 16
February ...	29·997	30·654	6 & 7	29·147	28th	38·5	39·6	45·9	35·4	40·7	51·0	21 st	25·8	28th	38·1	38·7	40·9	48·1	0·96	0·26	16th	13	64 00
March... ...	29·844	30·249	15th	29·157	9th	35·4	37·7	44·4	32·7	38·6	55·1	30th	27·4	4th	38·3	39·1	41·0	47·5	2·93	0·73	25th	22	90 35
April	29·961	30·496	7th	29·424	25th	39·9	40·4	48·4	35·7	42·0	57·9	2nd	21·3	23rd	43·0	43·4	42·6	47·0	1·99	0·57	28th	19	126 20
May	29·961	30·548	28th	29·279	6th	53·0	52·2	61·8	45·8	53·8	75·3	27th	38·7	23rd	51·4	50·1	46·0	46·5	2·03	0·49	3rd	17	154 40
June	30·087	30·464	27th	29·593	14th	55·3	56·2	65·1	48·0	56·6	76·0	3rd	38·5	21st	57·7	56·4	50·8	46·2	1·16	0·35	1st	9	190 35
July	29·989	30·475	29th	29·265	17th	58·2	59·5	67·7	52·1	59·9	82·6	2nd	42·3	7th	60·3	59·4	54·0	46·5	2·77	0·57	16th	14	166 40
August ...	29·961	30·379	2nd	29·313	28th	56·2	55·4	64·4	50·1	57·3	74·4	7th	40·1	11th	59·1	59·1	55·4	47·0	2·12	0·45	20th	16	180 22
September...	29·906	30·288	5th	29·085	1st	52·8	54·1	61·7	47·4	54·5	80·4	30th	36·8	11th	54·6	54·8	53·8	47·7	1·95	0·46	20th	17	95 21
October ...	30·143	30·540	22nd	29·858	10th	48·9	51·5	59·3	45·4	52·3	74·5	1st	33·8	24th	53·5	54·1	53·4	48·1	0·90	0·15	18th	15	81 45
November ...	30·005	30·418	30th	29·352	22nd	41·2	43·5	49·1	37·2	43·2	55·0	28th	21·4	9th	44·9	46·7	49·7	48·7	0·79	0·16	13th	13	32 10
December ...	29·870	30·410	1st	29·120	10th	35·9	37·7	41·9	32·2	37·0	51·1	21st	14·3	29th	40·1	42·0	45·9	49·0	1·08	0·39	15th	16	15 25
For the Year	29·977	30·654	Feb 6& 7	29·044	Jan. 8th	45·7	46·9	54·1	40·9	47·5	82·6	Jly. 2nd	14·3	Dec 29th	48·0	48·3	47·9	47·5	19·69	0·73	Mar 25th	182	1236 09

H. Stanley Haworth, Stanley Grange, Wakefield.

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