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CITY OF WAKEFIELD.

REPORT ON THE PUBLIC HEALTH

AND

SANITARY STATE

OF THE

CITY OF WAKEFIELD

FOR THE YEAR 1912,

BY

THOMAS GIBSON, M.D., C.M., D.P.H.,

MEDICAL OFFICER OF HEALTH.

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1913.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

PUBLIC HEALTH

AND

SANITARY STATE

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CITY OF WAKEFIELD,

FOR THE YEAR 1912.

CONTENTS.

Extract from the Local Government Board Order 1910.

Article XIX. of the above Order, which prescribes the duties of a Medical Officer of Health, makes the following requirements as to his Annual Report (Sub-section 14).

"He shall as soon as practicable after the Thirty-first day of "December in each year make an Annual Report to the Council, up "to the end of December, on the sanitary circumstances of the "District."

"In addition to any other matters upon which he may consider "it desirable to report, his Annual Report shall contain the informa- "tion indicated in the following paragraphs; together with such "information as We may from time to time require:—

"(a) An account of any influence threatening the health of "the District, the prevalence of infectious or epidemic diseases "therein, and the measures taken for their prevention.

"(b) An account of all general and special inquiries made "during the year.

"(c) An account of the work performed by the Inspector of "Nuisances during the year, including the statement supplied in "pursuance of Article XX. (16) of this Order.

"(d) A statement as to the conditions affecting the wholesome- "ness of the milk produced or sold in the District.

"(e) A statement as to the conditions affecting the wholesome- "ness of foods for human consumption, other than milk, produced or "sold in the District.

"(f) A statement as to the sufficiency and quality of the water "supply of the District and of its several parts, and in areas where "the supply is from waterworks, information as to whether the supply "is constant or intermittent.

"(g) A statement as to the pollution of rivers or streams in the "District.

"(h) A statement as to the character and sufficiency of the "arrangements for the drainage, sewerage and sewage disposal in all "parts of the District.

"(i) A statement as to the privy, water closet, and other closet "accommodation in the District, including information as to the "approximate number of each type of privy and closet.

"(j) A statement as to the character and efficiency of the "arrangements for the removal of house-refuse, and the cleansing of "earth-closets, privies, ashpits, and cesspools in the District.

"(k) A statement with regard to the housing accommodation "of the District as required by Article V. of the Housing (Inspection "of District) Regulations, 1910, and an account of any other action "taken by the Council under the Housing, Town Planning, etc., Act, "1909, bearing on the Public Health.

"(l) A statement as to the vital statistics of the District, "including a tabular statement, in such form as We may from time "to time direct, of the sickness and mortality within the District.

"(m) Where the Medical Officer of Health is appointed by the "Council of a County Borough, or by a Council having delegated "powers under the Midwives Act, 1902, a statement as to the "administration of that Act in the District."

SANITARY 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 consideration a Report on the Public Health and Sanitary State of the City of Wakefield for the year 1912.

With regard to vital statistics, you will note that the birth-rate is probably the lowest on record, but this is to some extent compensated by the unprecedented low infantile mortality rate. The general death-rate, too, is lower than in any of the preceding ten years, except in 1905, when the rate was slightly lower.

With the exception of Measles and Whooping Cough there has been no excessive prevalence of infectious diseases during the year; the number of cases notified under the Infectious Diseases Notification Act was 45 less than in 1911. The institution of compulsory notification of phthisis of course considerably increased the number of cases of that disease reported.

Many important matters connected with the public health have engaged your attention during the year, and the preliminary steps to institute a Tuberculosis Dispensary and the inauguration of a School for Mothers have been encouraging features of the year's work. General sanitary improvements in various directions have been pushed forward steadily and as fast as circumstances would allow.

The correlated work of medical inspection of school children was continued by me during the year, and full particulars will be found in the separate report presented to the Education Committee.

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 willing assistance they have at all times afforded me.

During the year I have also continued to meet with the same hearty co-operation from the medical practitioners in the City as they have invariably given me in the past.

I regret that the important meteorological table, which for many years has been supplied me by Mr. Stanley Haworth, does not appear in the present report. A change of residence necessitated a discontinuance of the records, but as Mr. Haworth's instruments have now

been purchased by the Corporation and placed in the Public Park, I hope the table will reappear in the next Annual Report. Mr. C. Clemesha Smith, the Waterworks Engineer, has, however, kindly furnished me with certain meteorological data which is given at the end of the report. I am indebted to Mr. H. Beaumont, the Superintendent Registrar, for the figures given in the Vaccination Table, and to the Medical Officers of many Yorkshire towns for the figures given in the table of comparative vital statistics.

I am,

Mr. Mayor and Gentlemen,

Your obedient Servant,

THOMAS GIBSON,

Medical Officer of Health.

28th June, 1913.

STATISTICAL SUMMARY.

Acreage	4,060
Population (estimated 1st July, 1912)	51,942
Number of Persons per Acre (Census 1911)	13
Number of Persons per House (Census 1911)	4·4
Rateable Value	£220,787
District Rate of 1d. in £1 is equal to	£890
Births	1,148
Birth-rate per 1,000 of Population	23·3
Natural Increase of Population	344
Deaths (Residents)	727
Nett Death-rate per 1,000 of Population	14·7
Deaths (Non-Residents)	377
Infantile Death-rate per 1,000 Births	89
Tuberculosis Death-rate ... ... per 1,000 of Population	1·66
Phthisis Death-rate ,, ,, ,,	1·17
Respiratory Diseases Death-rate (excluding Phthisis) ,, ,, ,,	2·68
Zymotic Death-rate ,, ,, ,,	1·09
Scarlet Fever Death-rate ,, ,, ,,	0·00
Diphtheria Death-rate ,, ,, ,,	0·14
Enteric Fever Death-rate ,, ,, ,,	0·00
Diarrhœal Diseases Death-rate ,, ,, ,,	0·12
Measles Death-rate ,, ,, ,,	0·56
Whooping Cough Death-rate ,, ,, ,,	0·26
Cancer Death-rate ,, ,, ,,	0·69
Heart Diseases Death-rate ,, ,, ,,	1·77
Number of Cases of Infectious Disease Notified under Infectious Diseases (Notification) Act	179
Number of Cases of Phthisis Notified	110
Rainfall in inches	31·39

PHYSICAL FEATURES.

The City of Wakefield is the County town of the West Riding of Yorkshire, and is situated in the heart of the Yorkshire Coal Fields. The City covers an area of 4,060 acres. The main axis of the City area runs North and South, and in this direction extends for a distance over four miles. The width of the area is greatest on the northern side, where the distance east and west is over three miles. The width of the southern prolongation (about three miles long) varies from a mile to just over a mile and a half. The area is roughly divided into two halves by the river Calder, which winds through the City from east to west, and is here spanned by the Kirkgate Bridge. North of the river lies the old and still the main part of the City, which rises up from the river flat to a height of 200 feet O.D. at St. John's. Up this rise and spreading out around it the population is closely aggregated. Outlying centres of population are to be found at Alverthorpe in the north west, at Thornes in the west, and at Belle Vue, Sandal and Newmillerdam in the south. Many parts of the City, particularly in Sandal Ward at the southern extremity of the City, are quite rural in character. A large proportion of the industries (foundries, mills, etc.) are carried on in the more low-lying parts near the River and up the Ings.

Geologically the City stands on the Middle Coal Measures. The course of the river Calder through the City marks out an alluvial tract consisting for the most part of sandy clay, and extending on the western side from the City boundary at Denby Dale Road to the extremity of the Corporation Sewage Works at Calder Vale on the eastern side. This low-lying tract includes the districts of Thornes, Thornes Lane, Thornes Lane Wharf, the lower part of Kirkgate and Calder Vale Road on the north side of the river, and Fall Ings on the south side. The tract also extends up the Ings and spreads out to include the New Brighton and Westgate Common districts. From here two narrow alluvial strips extend up the Alverthorpe Beck on the one hand, and up the Balne Beck on the other. On the south side of the river there is also an alluvial tract extending from the Barnsley Road near Brook House up on both sides of the Great Northern railway, but to a greater extent on the east as far as the Bull Bridge Beck. From the lower part of Kirkgate a tract of rock, white or grey friable sandstone, on the same horizon as the Woolley Edge Rock and above the equivalent of the Wathwood Coal, extends north as far as

Newton Bar and for a distance over a mile. At the broadest part, namely, between the top of Balne Lane and Eastmoor, it extends for a distance of three-quarters of a mile. The sandstone comes very near the surface, and is readily exposed by ordinary building excavations. The central part of the City stands on this rock. On the south side of the river, a considerable area of the district is over the Oaks Rock. On the north side this rock extends from a line drawn between the upper end of Cock and Bottle Lane on the west and Bull Bridge Beck at a point 300 yards north of Bull Bridge on the east and runs south, including that prominent feature in the landscape, Sandal Castle, and the area of Sandal Village and Milnthorpe. At the southern extremity of the district the Woolley Edge Rock appears, and on this stands the upper part of Newmillerdam (Hill Top). Gallows Hill stands on another part of the Oaks Rock, and there is also an area of sandstone extending between Belle Isle and the Barnsley Canal. Doncaster Road runs along the middle of this latter area of rock, and on it stands a considerable part of Belle Vue.

The City is wholly within the watershed of the river Calder. The principal branches of the river within the City are, on the north side, the Ings Beck, which divides into subsidiary branches the Alverthorpe and Balne Becks, and on the south side the Owler and Bull Bridge Becks. The Calder is canalised within the City. The town is a very old one, being mentioned in the Domesday Book. In former times chiefly residential, it is now also the centre of a great number of industries, such as woollen and worsted factories, iron works of different kinds, glass bottle works, chemical works, malting and brewing, flour mills, and coal mining. There is only one working coal shaft within the City, but a number of coal pits are in the neighbourhood.

There is a corn and cattle market, the latter a very large one. The town contains many important institutions and offices, such as the County Hall of the West Riding of Yorkshire, the West Riding Lunatic Asylum, H.M. Prison, the Clayton Hospital and Dispensary, and the Workhouse and Infirmary of the Wakefield Union.

Particulars of the eleven Wards into which the City is divided was given in the Annual Report for 1911.

POPULATION.

The population of Wakefield is estimated by the Registrar-General at the middle of 1912 at 51,942, which represents an increase of 344 on the estimated population of the previous year. The increase is calculated on the ratio of increase which was obtained during the decade preceding the census of 1911.

The natural increase of the population in 1912, that is the excess of births over deaths, is 421.

The following table gives the population figures obtained at the last census:—

CENSUS 1911.

	Area in Statute Acres (Land and Inland Water)	Families or Separate Occupiers.		POPULATION.				Institutions Large Establishment Vessels, etc. 1911 (included in Cols. 4 & 6.)	
				1901	1911				
		1901	1911	Persons	Persons	Males.	Fem'ls	No.	Population.
1	2	3	4	5	6	7	8	9	10
City of Wakefield.	4,060	9823	10816	48256	51511	25799	25712	51	4337
Alverthorpe ...	...	...	942	...	4037	1976	2061	...	...
Belle Vue ...	...	...	1182	...	5395	2765	2630	5	29
Calder ...	...	...	998	..	4144	2034	2110	7	20
Eastmoor ...	...	...	975	...	6455	3274	3181	1	2101
Kirkgate ...	...	...	1089	...	4856	2345	2511	7	17
Northgate ...	...	...	1025	...	4790	2374	2416	16	330
North Westgate	...	...	1078	...	5523	3133	2390	1	820
Primrose Hill ..	...	...	1083	...	5457	2750	2707	7	649
St. John's ...	...	...	1057	...	4622	2019	2603	4	213
Sandal	...	...	594	...	2554	1220	1334	...	...
South Westgate	...	...	793	...	3678	1909	1769	3	158

Population of Wakefield as Ascertained at the Various Census Periods.

Census.	Municipal Borough. Original Limits.	Municipal Borough. As Extended 9th Nov., 1895, and 9th Nov., 1900.	Municipal Borough. As Extended 9th Nov., 1909.	Ancient Parish.
1911	—	—	51511	—
1901	—	41413	48256	61938
1891	33146	38832	43914	56244
1881	30854	—	—	51140
1871	28069	—	—	43493
1861	23350	—	—	35739
1851	22065	—	—	33117
1841	—	—	—	29992
1831	—	—	—	24538
1821	—	—	—	22307
1811	—	—	—	18474
1801	—	—	—	16597

Population of Public Institutions (Middle of 1912).

	W.R. Asylum	Union Work-house	Clayton Hospital	H.M. Prison	Total
Persons belonging to the City of Wakefield (Including all persons admitted from addresses within the City of Wakefield and all officials, servants, etc , residing on the premises).	360	307	74	22	763
Persons not belonging to the City of Wakefield (Including all persons admitted from addresses outside the City of Wakefield). ...	1898	153	33	639	2723
Total	2258	460	107	661	3486

The following table gives the estimated population of the wards at the middle of 1912. The figures in the first column include the population of the public institutions. Those in the second column are exclusive of the non-resident population in public institutions, and are the figures on which the various statistical rates in this Report are calculated.

WARD	Gross Estimated Population.	Net Estimated Population.
St. Johns	4664	4631
Northgate	4831	4831
Eastmoor	6495	4597
Primrose Hill	5497	5344
North Westgate	5563	4924
South Westgate	3707	3707
Kirkgate	4884	4884
Calder	4175	4175
Alverthorpe	4065	4065
Belle Vue	5449	5449
Sandal	2612	2612
Whole City	51942	49219

MARRIAGES.

The number of marriages celebrated in Wakefield during 1912 was 423, giving a marriage rate of 16 persons married per 1,000 of the population. The average for the preceding 9 years is 17 persons married per 1,000 of the population.

The rates for these 9 years is as follows:—

1911	15	1906	16
1910	14	1905	18
1909	17	1904	13
1908	16	1903	21
1907	18		

BIRTHS.

During 1912 the births of 1,156 children were registered as having occurred within the City. Of these (5 illegitimate and 3 legitimate) were children of non-residents born in the Workhouse, leaving 1,148 births properly belonging to the City. The birth-rate is 23·3 per 1,000, as compared with 24·3 in the previous year. The birth-rate is not only 1 per 1,000 lower than the previous year, but it is probably the lowest rate recorded for the City.

TABLE GIVING THE AVERAGE ANNUAL BIRTH-RATE IN EACH OF THE FOUR DECENNIAL PERIODS 1867-1906, AND THE ANNUAL BIRTH-RATES SINCE 1907.

Period.	Birth Rate per 1,000 of Population.
1912	22.2 (23.3)
1911	23·2 (24·3)
1910	23·1 (24·1)
1909	22 4
1908	24·4
1907	23 9
1897—1906	27·4
1887—1896	29·1
1877—1886	34·0
1867—1876	38·4

NOTE.—The rates within brackets are rates obtained by calculating the resident births on the resident population. The other rates are obtained by calculating the total births registered on the total population.

TABLE SHEWING NUMBER OF BIRTHS AND BIRTH-RATES IN THE WHOLE CITY AND WARDS DURING 1912.

WARD.	Total.	Males.	Females.	Illegitimate.	Percentage Illegitimate Births	Birth Rate per 1,000 of population.
St. John's	77	37	40	5	6·5	16·6
Northgate	91	50	41	3	3·3	18·8
Eastmoor	138	76	62	12	8·7	30·0
Primrose Hill.....	136	70	66	8	5·8	25·4
North Westgate.....	122	54	68	8	6·5	24·7
South Westgate.....	93	39	54	4	4·3	25·6
Kirkgate	120	64	56	4	3·3	24·5
Calder.....	89	43	46	2	2·2	21·3
Alverthorpe	90	41	49	2	2·2	22·1
Belle Vue	131	67	64	2	1·5	24·0
Sandal	61	30	31	0	0·0	23·3
Whole City	1148	571	577	50	4·3	23·3

The birth-rate was highest in Eastmoor Ward (30·0), and lowest in St. John's Ward (16·6). Eastmoor Ward had also the highest rate of illegitimacy.

ILLEGITIMACY.

The number of illegitimate births in 1912 is 50, or 4·3 per cent. of the total births, and represents an illegitimate birth-rate of 1 per 1,000 of the population, which is about the average for the whole country. Whilst the percentage rate is higher than those of the three preceding years it is under the average for the eight preceding years (4·7).

1912	...	4·3	per cent	of the	births	illegitimate.
1911	...	3·8	,,	,,	,,	,,
1910	...	3·3	,,	,,	,,	,,
1909	...	4·4	,,	,,	,,	,,
1908	...	5·3	,,	,,	,,	,,
1907	...	5·1	,,	,,	,,	,,
1906	...	6·0	,,	,,	,,	,,
1905	...	5·5	,,	,,	,,	,,
1904	...	4·1	,,	,,	,,	,,

NOTIFICATION OF BIRTHS.

Under the Notification of Births Act (1907), which was adopted by the Wakefield City Council in 1908, all births have to be reported to the Medical Officer of Health within 36 hours of their occurrence. The object of the Act is to provide the Sanitary Authority with such information of the occurrence of births as will secure the early visiting by the lady health visitors of those homes where skilled advice as to the rearing of infants is likely to be needed. Notification also enables us to assist the County Authority in carrying out their supervisory duties over the midwives. The medical men and midwives practising within the City are kept supplied with stamped letter cards, upon which they either themselves notify the births they attend or hand them to the occupiers of the houses, who in turn fill in the particulars and forward the letter cards to the Sanitary Department.

Number of Births Notified during 1912.

Number notified by medical men	422
,, ,, ,, midwives	310
,, ,, ,, head of household or other person	339
Total	1,071

122 births (10 per cent.) were not notified. Of these 109 had been attended by medical men, five by an unregistered midwife, two by midwives living outside the City, two by apparently neither a

doctor nor midwife, and with regard to four no information could be obtained. The percentage of unnotified births is lower than it has been since the Act came into force in 1908. The percentage of unnotified births was 14·5 in 1909, 11·5 in 1910, and 12 in 1911.

Of 1,063 births 558 (52·5 per cent.) were attended by midwives and 505 (47·5 per cent.) were attended by medical men. With regard to eight no information was obtained.

STILL-BIRTHS.

The Notification of Births Act requires the notification of still as well as live births, provided the still-born child has reached the 28th week of pregnancy.

During 1912, 56 still-births were notified, 46 attended by medical men and 10 by midwives.

In order to check the notifications, I have also been supplied by the Curators of the various burial-places in the City with particulars of all still-born children brought for interment. During 1912, the interment of 58 still-born children were reported from the following burial-places:—

Corporation Cemetery	43
Alverthorpe Church Yard	13
Sandal Church Yard	2

12 of the still-born children interred had not been notified. Of these 11 had been attended by medical men and 1 by a midwife. In the case of 10 notified still-births, no report as to interment was received.

DEATHS.

1,078 deaths were registered in Wakefield during 1912, comprising 701 persons belonging to the City (residents) and 377 persons not belonging to the City (non-residents). Of the non-resident deaths, 371 took place in public institutions and 6 in private dwellings or elsewhere 26 deaths of Wakefield residents were returned by the Registrar-General as having occurred outside the City, and these added to the 701 resident deaths registered in Wakefield make a total of 727 resident deaths. Four of the deaths registered in Wakefield had no definite address, and have been included among the Wakefield deaths. The nett death-rate (*i.e.*, the death-rate obtained by calculating the resident deaths on the resident population only) is 14·7 per 1,000 of the population. The death-rate obtained by calculating the resident deaths on the total population (as required by the Local Government Board up to 1909) is 13·9 per 1,000 of the population.

Of the 727 resident deaths, 348 were males and 379 were females.

All the deaths, except one, were certified by medical men or by the Coroner.

161 (22 per cent.) of the resident deaths occurred in public institutions, 149 in public institutions within the City and 12 in public institutions without the City. 84 (11·5 per cent.) of the resident deaths took place in the Union Workhouse Infirmary. Eight of the Workhouse deaths were persons who had been admitted from common lodging-houses.

The death-rate for 1912 is 1·7 per 1,000 lower than that for 1911 (16·4), and slightly lower than that for 1910 (15·0). Having regard to the alteration made in calculating the death-rate since 1910, the death-rate for 1912 is really lower than any of the preceding 10 years, except that of 1905, which was slightly lower.

TABLE SHEWING NUMBER OF DEATHS (RESIDENTS) IN VARIOUS AGE PERIODS DURING 1912 AND DURING 1911.

Age Period.	1912	1911
Under 1 Year...	103 (–63)	169
1–2 Years	46 (– 2)	48
2–5 Years	41 (+3)	38
5–15 Years	37 (+8)	29
15–25 Years	40 (+15)	25
25–45 Years	111 (+28)	83
45–65 Years	166 (—32)	198
65 Years and over	183 (—29)	212
All Ages...	727 (—75)	802

The above table shows that there were 75 fewer deaths in 1912 than in 1911. The decrease took place amongst persons in the extremes of life, infancy and old age, while in the intervening period there was an increase. The most marked decrease was during the first year of life.

The following table gives the principal diseases which show an increased or diminished mortality in 1912 as compared with 1911.

INCREASED.	DIMINISHED.
Measles	Cancer
Whooping Cough	Diarrhœa
Diphtheria	Congenital Debility, Malformations and Premature Birth
Influenza	
Bronchitis	Heart Disease
Pneumonia	Tubercular Diseases
Nephritis.	Old Age.

Respiratory Diseases (including Phthisis) caused 26 per cent. of the total mortality. Respiratory Diseases (excluding Phthisis) caused 19 per cent. of the mortality. Pneumonia caused 8·8 per cent., Bronchitis 8·5 per cent., and Phthisis 7·9 per cent. of the mortality. Heart Diseases caused 12 per cent., Tubercular Diseases (including Phthisis) 9·7 per cent., Old Age 6·2 per cent., Nephritis 4·6 per cent., Cancer 4·4 per cent., Accidents 4·2 per cent., Congenital Debility and allied conditions 4·1 per cent., Measles 3·8 per cent., Whooping Cough 1·8 per cent., and Influenza 1·2 per cent. of the total mortality.

During the first year of life the chief causes of death were Premature Birth (15·5 per cent.), Atrophy Debility and Marasmus (11·6 per cent.), Convulsions (9·7 per cent.), Bronchitis (8·7 per cent.), Pneumonia (7·7 per cent.), Congenital Malformations (7·7 per cent.), Whooping Cough (6·8 per cent.), Atelectasis (5·8 per cent.), Tubercular Diseases (5·8 per cent.), and Non-Tubercular Meningitis (3·6 per cent.).

During the second year of life the chief causes of death were Measles (30·4 per cent.), Pneumonia (26 per cent.), and Tubercular Diseases (13 per cent.).

Between the second and fifth year of life the chief causes of death were Measles (29·2 per cent.), Pneumonia (14·6 per cent.), Accidents (14·6 per cent.), and Diphtheria (9·7 per cent.).

Between the ages of 5 and 15 years the chief causes of death were Tubercular Diseases (29·7 per cent.), Heart Diseases (16·2 per cent.), Accidents (13·5 per cent.), and Pneumonia (10·8 per cent.).

Between the ages of 15 and 25 years the chief causes of death were Tubercular Diseases (42·5 per cent.), Accidents (17·3 per cent.), and Pneumonia (10 per cent.).

Between the ages of 25 and 45 years the chief causes of death were Tubercular Diseases (16·2 per cent.), Pneumonia (11·7 per cent.), and Heart Diseases (9 per cent.).

Between the ages of 45 and 65 years the chief causes of death were Heart Diseases (16·9 per cent.), Cancer (11·4 per cent.), Bronchitis (11·4 per cent.), Nephritis (11·4 per cent.), Pneumonia (7·8 per cent.), and Tubercular Diseases (4·8 per cent.).

Over 65 years of age, the chief causes of death were Old Age (24 per cent.), Heart Diseases (19·6 per cent.), Bronchitis (13·6 per cent.), Cancer (6 per cent.), and Nephritis (4·3 per cent.).

Of the 727 deaths, 14 per cent. occurred during the first year of life, 6·4 per cent. during the second year of life, 5·6 per cent. between 2 and 5 years of age, 5 per cent. between 5 and 15 years of age, 5·5 per cent. between 15 and 25 years of age, 15·2 per cent. between 25 and 45 years of age, 22·8 per cent. between 45 and 65 years of age, and 25 per cent. over 65 years of age.

INQUESTS.

Inquests were held on 68 of the resident deaths, and all except 5 were held in the City. There were also 31 inquests held on non-residents who died in the City.

INQUESTS ON RESIDENTS.

Natural Causes (Disease)	31	
Injuries (Accidental)	25	
,, (Manslaughter)	1	
Drowning (Accidental)	2	
Suicide by Drowning	3	7
,, ,, Hanging	2	
,, ,, Poisoning (Strychnine)	1	
,, ,, Cut Throat	1	
Murder by Drowning	1	
Death under Anæsthetic during operation ...	1	

Amongst the accidental deaths were 3 children aged 3, 4, and 6 years who died from burning, and two both aged 3 years who died from scalds. Of the former one child ignited her dress from an unprotected fire, another set her flannelette nightgown on fire whilst playing with a candle and matches, and the third set herself on fire in bed, where she was playing with matches. One of the two children who died from scalds fell into a pan of boiling fat; the other fell over a fireguard and upset a pan of boiling water.

INQUESTS ON NON-RESIDENTS.

Clayton Hospital	24
W.R. Asylum	4
H.M. Prison	2
Workhouse	1
	31

TABLE SHEWING NUMBER OF RESIDENT DEATHS AND DEATH-RATES IN WARDS IN 1912.

WARD.	Number of Deaths.	Death Rates per 1,000 of Population.
St. John's	51	11·0
Northgate...	87	18·0
Eastmoor	63	13·7
Primrose Hill	83	15·5
North Westgate	77	15·6
South Westgate	84	22·6
Kirkgate	74	15 2
Calder	63	15·1
Alverthorpe	45	11·0
Belle Vue	79	14·5
Sandal	21	8·0
Whole City	727	14·7

It will be noted that the death-rate was highest in South Westgate and Northgate Wards, and lowest in Sandal, Alverthorpe, and St. John's Wards.

TABLE SHEWING NUMBER OF DEATHS IN PUBLIC INSTITUTIONS WITHIN THE CITY IN 1912.

Institution.	Total.	Residents.	Non-Residents.
W.R. Asylum	283	17	266
Union Workhouse	137	84	53
Clayton Hospital	93	43	50
H.M. Prison	2	0	2
Corporation Fever Hospital ...	5	5	0
Total	520	149	371

INFANTILE MORTALITY.

There were 1,148 births (residents) in 1912, and 103 children under one year of age died during the year. The infantile mortality is therefore 89 per 1,000 births.

Of the 103 infants that died 52 were males and 51 females. Only one was illegitimate.

The following table gives the average annual infantile death-rate in Wakefield and in England and Wales in each of the four decennial periods 1870-1909, and in the years 1910, 1911, and 1912.

Period.	Average Annual Infantile Death Rate.	
	Wakefield.	England and Wales.
1912	89	95
1911	143	130
1910	108	106
1900—1909	143	132
1890—1899	175	153
1880—1889	154	142
1870—1879	171	149

TABLE SHEWING INFANTILE DEATH-RATES IN THE MUNICIPAL WARDS DURING THE YEARS 1904-1912.

WARD.	1912	1911	1910	1909	1908	1907	1906	1905	1904
St. John's	65	134	76	38	145	100	95	65	135
Northgate ...	121	155	97	109	124	152	175	109	163
Eastmoor ...	65	123							
Primrose Hill ...	81	156	122	98	129	147	96	146	198
North Westgate ...	115	118	72	112	145	113	117	92	100
South Westgate ...	140	169	97	176	165	67	80	107	131
Kirkgate	58	169	150	93	146	127	115	125	117
Calder	56	168	141	96	74	103	108	99	221
Alverthorpe... ...	44	182	159	123	184	131	170	74	211
Belle Vue... ...	160	122	79	96	97	113	166	84	170
Sandal	49	86							
Whole City ...	89	143	108	105	136	124	127	105	169

INFANTILE MORTALITY IN WAKEFIELD AND ENGLAND AND WALES.

1878 - 1912.

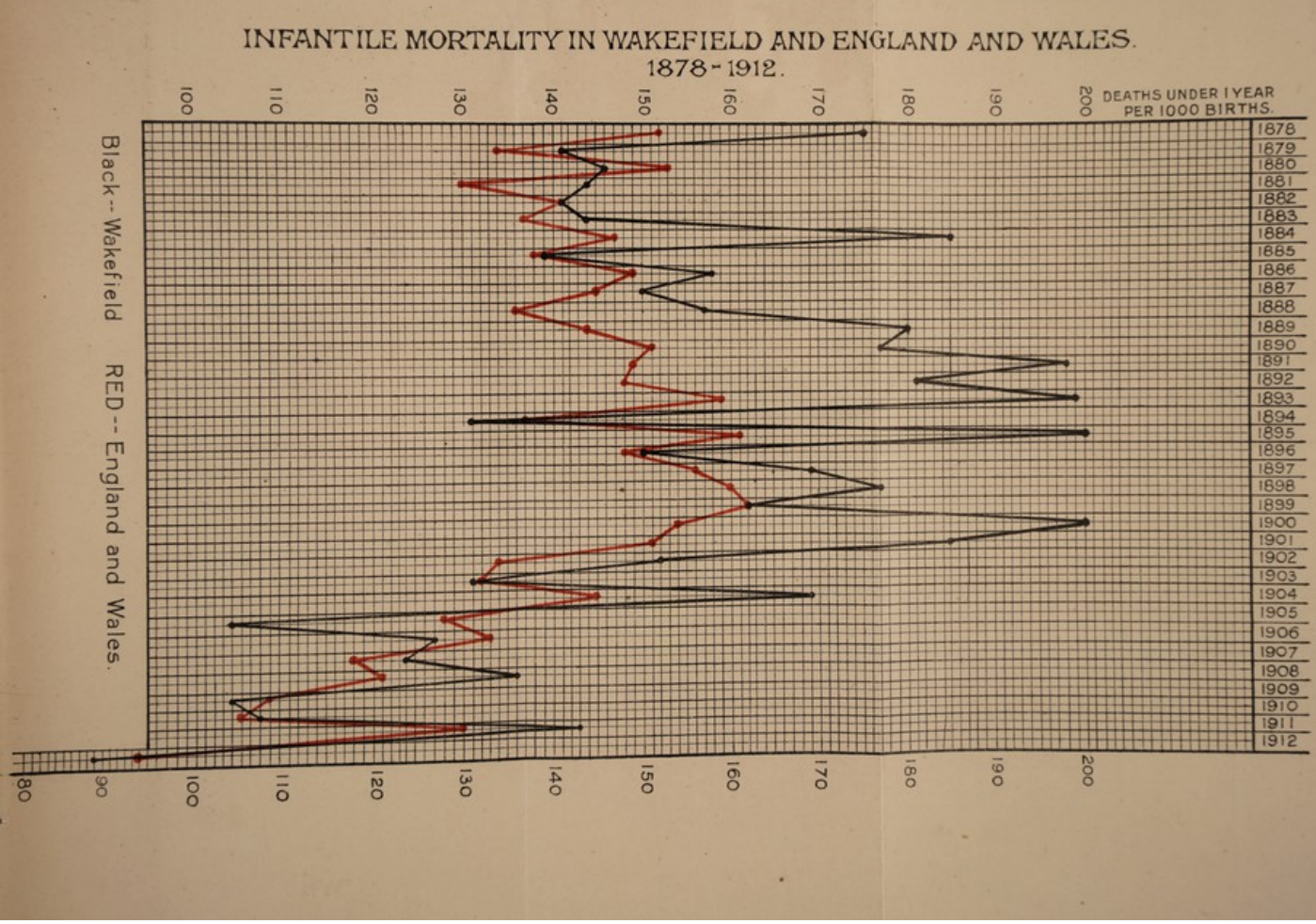

TABLE SHEWING THE INFANTILE MORTALITY IN EACH OF THE FOUR QUARTERS OF 1912.

1912.	Infantile Deaths per 1000 Births
1st Quarter	83
2nd Quarter	114
3rd Quarter	92
4th Quarter	71

TABLE SHEWING NUMBER OF CHILDREN DYING IN VARIOUS PERIODS OF THE FIRST YEAR OF LIFE IN 1912.

Period.	Number of Deaths.	
Under 1 week	32	
1–2 weeks...	6	43
2–3 weeks	2	
3–4 weeks...	3	
1–3 months		12
3–6 months		10
6–9 months		20
9–12 months		18

Causes of Infantile Deaths in 1912.

Disease.		Number of Deaths.		Percentage.
	Premature Birth	16		15·5
	Atrophy, Debility & Marasmus	12		11·6
	Convulsions	10		9·7
	Bronchitis	9		8·7
	Pneumonia	8		7·7
Congenital Malformations.	Congenital Heart Disease	4	8	7·7
	Spina Bifida	2		
	Congenital Absence of large areas of skin ...	1		
	Imperfect Development	1		
	Whooping Cough	7		6·8
	Atelectasis	6		5·8
Tubercular Diseases.	Meningitis (Tuberculous)...	2	6	5·8
	Tuberculosis of Peritoneum	1		
	Tuberculosis of Intestine...	1		
	Tuberculosis of Lungs ...	1		
	Tuberculosis of Glands ...	1		
	Meningitis (Non-Tuberculous)	4		3·6
	Enteritis	2	3	2·9
	Diarrhœa	1		
	Gastritis	1		0·9
	Measles	1		0·9
	Laryngitis	1		0·9
	Suffocation by Overlying ...	1		0·9
	Rupture of liver by Overlying	1		0·9
	Injury at Birth...	1		0·9
	Dentition	1		0·9
	Enlarged Thymus Gland ...	1		0·9
	Cerebro-Spinal Fever	1		0·9
	Influenza	1		0·9
	Middle Ear Disease	1		0·9
	Multiple Abscesses	1		0·9
	Pemphigus	1		0·9
	Congenital Diseases	1		0·9

Remarks.

The infantile mortality for 1912 (89) is the lowest on record for the City. The rate in 1911 was 143, and the average rate for the preceding 10 years was 130.

Writing some years ago when the infantile mortality was continuing at a high level, and before the Corporation had instituted those special measures for the reduction of infantile mortality which have met with such gratifying success, I suggested that we should aim at bringing the mortality down to 100. At that time I was not sanguine enough to anticipate that within a few years I should have to record an infantile mortality of less than 90. But this has actually been the case in 1912, and I think the City is to be congratulated on the achievement. Of course one must admit that the weather conditions during the year were highly favourable to a low infantile mortality by keeping down the prevalence of summer diarrhœa. But in former years there have been cool wet summers without anything like a low infantile mortality, and I think the Corporation are entitled to take a good deal of credit for the notable improvement. It is also true that the infantile mortality for England and Wales has also during 1912 reached the record low level of 95. This must be largely attributed to the great interest which is now taken in the health of infants in the country generally, and to the very extensive use which is now being made of health visitors by sanitary authorities. Still Wakefield is even better than the country as a whole, and as I have pointed out before that in the years preceding the institution of health visiting, the Wakefield infantile death-rate was much worse than that of the country generally. This is very clearly shown in the diagram illustrating the infantile mortality in Wakefield and in England and Wales since 1878.

The mortality was highest in the second quarter of the year (114), and lowest in the fourth quarter (71). It was lowest in Alverthorpe Ward (44), and highest in Belle Vue Ward (160).

30 per cent. of the deaths occurred during the first week of life, and over 40 per cent. within the first month of life. These figures are very significant. They show a higher percentage of deaths during the first few weeks of life than was formerly the case, and conversley a decreased percentage during the later periods of infantile life. This points to the influence which health visiting is exerting, inasmuch as that influence will show itself least on the mortality occurring during the earlier periods and most on the later.

The table giving the causes of death shows that there has been a reduction almost throughout. The most notable reduction is in the case of diarrhœa. In 1911 there were 42 deaths from diarrhœa, in 1912 there were only three.

Premature birth was numerically the chief cause of death, but it was lower in 1912 than in the preceding year. The deaths from

tubercular disease were 6, as compared with 13 in 1911. The deaths from bronchitis and pneumonia were also reduced, although the weather conditions would have explained an increase. There was also a notable reduction in the number of deaths from wasting diseases. There was a slight increase in the number of deaths certified to be due to convulsions, but as I have frequently pointed out, the term "convulsions" is really a symptom, and may be due to a variety of causes.

HEALTH VISITING.

The system of health visiting was continued and considerably extended during the year. Owing to the increased duties attendant on the compulsory notification of pulmonary tuberculosis, a third health visitor was appointed in June. For the purposes of health visiting and the correlated work connected with medical inspection of school children, the City area was divided into three districts, and a health visitor allotted to each. In her district each visitor carries out duties (1) in connection with the home visiting of infants notified under the Notification of Births Act, (2) in connection with the medical inspection of school children, (3) in connection with the investigation and supervision of cases notified under the Tuberculosis Regulations.

The advantages of this co-ordination of the various duties in the district system are many. By confining her activities to a comparatively small area the amount of necessary travelling is greatly reduced. At the same time, a number of visits for different purposes can often be made whilst visiting one street or yard or even one house, with a resulting economy of time. But the two outstanding advantages are that the system permits each health visitor to obtain a more intimate knowledge of the families in her district, and the people themselves are saved to a large extent any annoyance that might result from the separate visits of different health officials. Over inspection—or rather overlapping methods of inspection—is perhaps an increasing evil in connection with public health work, and every care should be taken to reduce it as far as possible.

In connection with infant visiting, 5,372 home visits were made during 1912, 905 being primary visits and 4,467 re-visits.

Great assistance was also rendered by the voluntary health visitors, and we would be glad to add to their number.

THE MOTHERS' CLUB.

The institution of a School for Mothers or, as we prefer to call it, by the homelier title of a Mothers' Club, marks a new and, I believe, an important departure in our educative work amongst the mothers of the City.

The home visiting has proved itself of great value, and must continue to be an important part of any scheme for the reduction of infantile sickness and mortality, but I have long felt that some more systematic method of imparting instruction to mothers—particularly to young mothers—was needed. The great amount of ignorance with regard to the care of young children and matters of domestic hygiene is only too apparent to those working amongst the poor. Our Education Authorities have lately recognised this, and have sought to remedy it so far as they could by including in their school curricula courses of instruction on these subjects for the older girls. An excellent memorandum for the guidance of teachers has been issued by the Board, of Education, and no doubt such teaching will greatly help to prepare the girls for their future responsibilities. At the same time for most girls there is a considerable interval between leaving school and marriage, and having regard to the employment, etc., of many girls in this interval, it must be admitted that much of the school instruction will be forgotten long before the time arrives for putting it into practice. It seems to me therefore that the most effective time for imparting instruction of this kind is when the girl enters into a home of her own, and particularly at the time when her first baby has arrived. Faced, as she now is, with the responsibilities and difficulties of motherhood, she is ready and generally thankful to receive such practical guidance and advice as she is now privileged to obtain, not only when the health visitors come to the house, but also by attending the Mothers' Club. It was with these ideas in my mind that I brought the subject before the Sanitary Committee, and received their hearty support to the scheme.

By the kindness of the Corporate Property Committee we were allowed the use of a large room in the Town Hall, and the first meeting was held on the 15th April.

The meetings were held every alternate Monday afternoon up to the end of July, and was resumed early in October. At the first meeting some 37 mothers with their babies attended, and throughout the year the attendance was well maintained. At each meeting a short address is given on some appropriate subject by the Health Visitors as well as by other ladies and by myself. The following addresses were given during 1912:—

1.	Giving the Baby a good start ...	Dr. Gibson.
2.	Feeding of Infants	Miss Hardy.
3.	Clothing of Infants	Miss Bell.
4.	How to Feed after Weaning	Miss Hardy.
5.	Children's Ailments	Miss Bell.
6.	Summer Diarrhœa	Miss Hardy.
7.	The Healthy Home (2 addresses) ...	Dr. Gibson.
8.	How to Clothe the Baby	Miss Bell.
9.	Clothing of Older Children	Mrs. Willis.
10.	Health of School Children	Miss Bradford.
11.	Dietaries—Cheap and good	Miss Relf.

A number of practical demonstrations were also given in connection with the above addresses.

Each baby is also weighed, and the weight recorded week by week on a card kept by the mother. Advice as to feeding, etc., is given in individual cases, but when medical treatment is required the mother is advised to consult a doctor. It is not advisable to give medical advice or treatment at the Club, the object of which is to help to keep the infants in good health and to prevent sickness.

At the end of each meeting a cup of tea and simple refreshment is given to the mothers. This has been the means of creating a pleasant social atmosphere, and whilst I am sure most of the mothers would gladly have come without it, it has certainly rendered the meetings more attractive. Here I must gratefully acknowledge the generosity of the Ex-Mayoress (Mrs. Henry White), who provided this refreshment at her own expense up to the end of her year of office, and who by her frequent attendance at the meetings and in many other ways did a great deal to make the new venture a success. The present Mayoress (Mrs. Lodge Hirst) has also given us her hearty support in the most practical fashion, and along with other ladies has provided the teas at these meetings.

We are also deeply indebted to the many ladies who have come to help at the meetings of the Club, and who have helped us in visiting at the homes. These voluntary helpers have not only rendered in themselves a very great service, but they have made the official work far more pleasant and, I feel sure, far more effective.

I should like also to acknowledge the part taken in starting the Club by our late Health Visitor, Miss Hardy (now Mrs. Willis), on whose capable shoulders most of the organisation fell, and also the enthusiastic way in which the Club has since been managed by Miss Bell and her colleagues.

That the Mothers' Club is doing and will continue to do a great service to the community, I am quite sure. It is concentrating its efforts on the young and educable mothers, and whilst we have plenty of evidence as to good results already achieved, its effects can only fully show themselves in years to come.

I have one suggestion to make in connection with this important work of educating mothers, and this the institution in the medical inspection room of something on the lines of a permanent health exhibition. As you are aware it has now become the fashion to hold Health Weeks in various towns, and a Health Exhibition is often arranged at the same time. No doubt much good is done in this way, but I believe that a suitably arranged permanent exhibition in a place such as the medical inspection room, which is visited by hundreds of mothers and children every year, would prove far more

useful. We have already prepared a few exhibits, and these could be added to from time to time at no great expense, but suitable glass cupboards to contain the exhibits would be necessary.

Miss Bell has furnished me with the following report on her work as a Health Visitor during 1912. Owing to changes in the staff, reports from the other health visitors were not available.

"I beg to submit to you a brief report on my work as Health "Visitor and School Nurse for the year 1912. During that time I "have paid 3,029 visits.

"Of these visits 1,605 were to infants.

129 to persons suffering from Phthisis.
596 to school children.
228 to schools.
133 for miscellaneous purposes.

"In addition to these visits 52 half-days were spent at the Town "Hall or Schools assisting at the Medical Inspection of School "Children and 13 at the Mothers' Club. Visits were paid to 30 "houses to enquire as to the cause of non-notification of births.

"Infant Visiting.

"301 notification of births were received from you for visiting, "and to these infants 292 primary visits were paid, nine infants "having died before the first visit, eight infants left the City, seven "removed to another district in the City, and four removed and were "unable to be traced. This left a total of 273, and to these and to "other infants already on the register 1,605 re-visits were paid.

"School Work.

"The 596 visits to the homes of school children were for the "following purposes:—

To give advice where the children were suffering from Whooping Cough and to get particulars of the case	111	visits.
To give advice where the children were suffering from Mumps and to get particulars of the case	37	,,
To give advice where the children were suffering from Measles and to get particulars of the case	216	,,
To give advice where the children were suffering from Ringworm and to get particulars of the case	50	,,
Homes where children were neglected	46	,,

"240 visits were made to different school departments, and "1,215 children were examined. In addition to these visits the 12 "school departments in the No. 1 district were visited, and a syste- "matic examination of all the school children made to ascertain the

"general condition of clothing, etc., and a special search was made "for any suspicious cases of ringworm. 2,178 children were thus "examined.

"Visits were paid to the homes of the children who were found "defective, and the parents were advised in necessary cases to procure "medical advice, and also with regard to cleanliness and clothing to "remedy the defects by all means in their power.

"An outbreak of chicken-pox in an Infant Department necessi- "tated a further inspection of all the children in that department.

"Of the 129 visits to persons suffering from Phthisis, 48 were "primary and 91 were re-visits. This includes a number of visits "paid to arrange for disinfection of the house after death or removal "of a patient.

"258 visits for miscellaneous purposes include those made to "enquire into the circumstances attending the death of infants under "two years of age and to see that proper treatment has been procured "for children found to be defective at medical inspection.

"DEATHS.

"Of the infants on my visiting list 23 have died during the year "1912. 9 died before the first visit was paid. The causes of death "of the others were as follows:—2 Congenital Heart Disease, 3 "Whooping Cough and Pneumonia, 1 Bronchitis, 1 Convulsions "during Dentition, 2 Premature Birth, 1 Enlarged Thymus Gland, "1 Tubercular Phthisis, 1 Tubercular Meningitis, 1 Tubercular "Glands, 1 Enteritis.

"One child was found dead in bed in mother's arms, and was the "subject of an inquest. This only emphasises the importance of "allowing babies to sleep in a cot and not in bed with the parents. "The infant not only runs the risk of being suffocated, but is also "deprived of the amount of fresh air necessary for its proper growth "and development.

"The Health Visitor is well received by the mothers as a rule, "in fact the mothers quite expect a visit soon after the arrival of a "new baby. In many cases the Health Visitor is called in to see a "baby where a visit was not thought necessary. In one case the "Health Visitor was asked by a grandmother to call and see a baby "who was not thriving. A visit was paid. It was the fifth child (all "living), but it did not seem to thrive. She was breast feeding. She "was advised to give cow's milk in addition, and a leaflet was left "explaining how to prepare it, and also to take the baby out more. "She followed out the advice given, with very good results. When "the next visit was paid there was a marked improvement in the "child, and the mother was very grateful for the little help given.

"MOTHERS' CLUB.

"In April, 1912, a Mothers' Club was formed, and meetings are "held every fortnight on Monday afternoon from 3 to 4 p.m. These "meetings are especially for young mothers, and are intended to "afford them opportunities for gaining information and guidance "with regard to the welfare of their children and themselves.

"A short address is given at each meeting by the Medical Officer "of Health, the Health Visitors and others. The infants are weighed "from time to time and a weight card given to the mother. Tea is "provided, and our best thanks are due to the ladies and gentlemen "who have so generously provided it during the past year and also to "the ladies who have helped us at these meetings. During 1912 we "had 13 meetings, with an average atttndance of 20. The mothers "appreciate the meetings, and there is a marked improvement in the "babies both as regards cleanliness and health.

"By the kindness and generosity of many friends we were able "to give a Christmas Treat on December 18th, which was much "enjoyed both by the mothers and babies."

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 1912 there were 54 deaths from these diseases, giving a zymotic death-rate of 1·09 per 1,000 of the population, as compared with 1·84 in the previous year and 1·37 the average for the preceding 10 years. The zymotic death-rate is therefore below the average. About half the mortality was caused by Measles

1912	... ...	1·09	1906	... ...	1.48
1911	... ...	1·84	1905	... ...	1·06
1910	... ...	1·15	1904	... ...	2·13
1909	... ...	0·39	1903	... ...	1·17
1908	... ...	1·46	1902	... ...	2·35
1907	... ...	0.71	1901	... ...	2·14

Zymotic Diseases and Deaths in 1912.

Zymotic Disease.	Number of Cases Notified.	Number of Deaths.	Case Mortality, per cent.
Smallpox	—	—	—
Scarlet Fever	54	—	—
Diphtheria	68	7	10·3
Enteric Fever	17	3	17·6
Diarrhœa	—	6	—
Whooping Cough	—	13	—
Measles	—	28	—

Zymotic Mortality in Wards in 1912.

Ward.	No. of Deaths.	Death Rate.
St. John's	1	0·21
Northgate	7	1·44
Eastmoor	4	0·87
Primrose Hill... ...	10	1·87
North Westgate ...	9	1·82
South Westgate ...	9	2·42
Kirkgate	3	0·61
Calder...	5	1·19
Alverthorpe	0	0·00
Belle Vue	5	0·91
Sandal	1	0 38
Whole City ...	54	1·09

SCARLET FEVER.

SCARLET FEVER STATISTICS, 1875-1912

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.
1912	54	1·03 (1·09)	27	50·0	0·0	0·0	0·0	0	0.00 (0.00)
1911	138	2·67 (2·82)	73	52·9	0·72	0·0	1·5	1	0·02 (0·02)
1910	150	2·92 (3·30)	100	66·6	3·3	2·0	2·6	5	0·09 (0·10)
1909	40	0·92	16	40·0	2·5	0·0	6·2	1	0 02
1908	41	0·95	10	24·4	2·4	3·2	0·0	1	0 02
1907	46	1·07	14	30·5	0·0	0·0	0·0	0	0·00
1906	194	4·54	67	34·5	3·5	2·3	4·6	6	0·14
1905	191	4·51	19	9·9	3·1	3·4	0.0	6	0·14
1904	37	0·88	2	5·4	5·4	5·7	0·0	2	0·05
1903	108	2·58	4	3·7	1·8	1·9	0·0	2	0·05
1902	198	4·75	70	35·3	4·7	5·4	2·8	9	0·21
1901	150	3·71	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

NOTE.—The rates within brackets are those calculated on the nett population.

During 1912, 54 cases of Scarlet Fever were notified, giving an attack-rate of 1·09 per 1,000, which is much lower than both the rate in the preceding year (2·82) and the average rate for the preceding 10 years (2·63).

The incidence of the disease was heaviest in the first quarter of the year, and least in the last. Over 60 per cent. of the cases occurred in Primrose Hill, Alverthorpe, and Belle Vue Wards, the highest attack-rate being in Alverthorpe Ward. Half the cases were treated in hospital and half at home. The disease continued to be of a mild type, and no deaths occurred.

NUMBER OF CASES NOTIFIED IN EACH MONTH AND QUARTER OF 1912.

Month.	Number of Cases.		Month.	Number of Cases.	
January ...	14		July ...	3	
February ...	5	20	August ...	2	12
March ...	1		September ...	7	
April ...	10		October ...	3	
May ...	2	13	November ...	4	9
June ...	1		December ...	2	

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

WARD.	No. of Cases.	Attack Rate per 1,000 of population.	No. of Deaths
St. John's	1	0·21	—
Northgate	5	1·03	—
Eastmoor	6	1·30	—
Primrose Hill	12	2·24	—
North Westgate	3	0·60	—
South Westgate	1	0·26	—
Kirkgate	1	0·20	—
Calder	2	0·47	—
Alverthorpe	11	2·70	—
Belle Vue	10	1·83	—
Sandal	2	0·76	—
Whole City	54	1·09	0.0

Sex.

Of the 54 cases 20 were males and 34 were females.

Age Period.	Number of Cases.
1—5 Years	9
5—15 ,,	38
15—25 ,,	5
25—45 ,,	2

Class of House Invaded.

Three cases occurred in public institutions, two in the City Fever Hospital (a nurse and a ward maid) and one in the Asylum (a nurse). The remaining 51 cases occurred in 43 ordinary dwelling-houses as follows:—

Size of House.	Number of Houses invaded.	Percentage of Houses invaded.	Number of Cases.	Percentage of Cases.
2 Roomed ...	5	12 per cent.	5	10 per cent.
3 ,, ...	8	19 ,, ,,	14	27 ,, ,,
4 ,, ...	10	23 ,, ,,	10	20 ,, ,,
5 ,, ...	16	37 ,, ,,	18	35 ,, ,,
7 ,, and over ...	4	9 ,, ,,	4	8 ,, ,,

36 houses had one case each, 6 houses had two cases, and 1 house had three cases. 69 per cent. of the houses were four-roomed or more. 33 of the houses were through and 10 were back-to-back houses. Most of the invaded houses were free from sanitary defects.

Interval between Date of Onset and Notification.

The interval between date of onset and receipt of notification varied from the same day to 27 days, the average being 4 days. 65 per cent. of the cases were notified within 3 days of the onset. A large number of cases were reported in the first place by telephone, and I am greatly indebted to the medical men who took the trouble to give me such prompt information.

ISOLATION.

50 per cent. of the cases were removed to hospital, and 50 per cent. isolated at home. Nearly all the cases admitted to hospital were removed within an hour or two of receiving the notification. The period of detention in hospital varied from 29 to 68 days, the average being 39 days.

The period of isolation among the home-treated cases (taking the interval between the date of notification and the date of disinfection) varied from 28 to 43 days, the average being 34.

With regard to isolation, our rule is to secure the removal to hospital of all cases that cannot properly be isolated at home. At the same time even if the patient can be properly isolated at home we do not refuse hospital isolation if the relatives wish it, as they often do.

SECONDARY CASES.

The term "secondary case" is applied to a case of the disease occurring in a house subsequent to the primary case, and presumably infected by it. In 1912 there were eight secondary cases (15 per cent.) occurring in seven houses. Six houses had each one secondary case and one house had two secondary cases. Of the seven houses four were three-roomed dwellings and three were five-roomed.

INTERVALS BETWEEN THE ONSETS OF PRIMARY AND SECONDARY CASES.

2 Days	1 case	11 Days	1 case
3 ,, ...	2 cases	12 ,, ...	1 ,,
5 ,, ...	1 case	14 ,, ...	1 ,,
9 ,, ...	1 ,,		

INTERVALS BETWEEN NOTIFICATION OF PRIMARY CASE AND ONSET OF SECONDARY CASE.

Secondary case sickened 15 days before primary case notified	1 case.
,, ,, ,, 4 ,, ,, ,, ,, ,,	1 ,,
,, ,, ,, 3 ,, ,, ,, ,, ,,	1 ,,
,, ,, ,, 2 ,, ,, ,, ,, ,,	1 ,,
,, ,, ,, 1 day ,, ,, ,, ,,	1 ,,
,, ,, ,, same day as primary case notified	1 ,,
,, ,, ,, 2 days after notification of primary case.	1 ,,
,, ,, ,, 12 ,, ,, ,, ,, ,,	1 ,,

The interesting point about the above table is that, with two exceptions, all the secondary cases had sickened either before the notification of the primary case was received or on the same day. One secondary case occurred two days after the notification of the primary case, and two days after the removal of the primary case to

hospital. The case which occurred 12 days after the notification was that of a mother who elected to nurse her child—affected with Scarlet Fever—at home. When the mother sickened both she and the child were removed to hospital.

RETURN CASES.

There were no return cases in 1912.

SCHOOLS.

Out of the 54 cases, 34 were children attending the following public elementary schools:—

Westgate Council (Junior)	8 cases.
Belle Vue Council (Infant)	5 ,,
Cathedral (Infant)	3 ,,
Sandal Council (Mixed)	2 ,,
St. Mary's (Mixed)	2 ,,
St. Mary's (Infant)	2 ,,
Alverthorpe Council (Mixed)	1 case.
Sandal Council (Infant)	1 ,,
Cathedral (Boys)	1 ,,
Trinity (Girls)	1 ,,
Cathedral (Girls)	1 ,,
Trinity (Infants)	1 ,,
Thornes Lane (Mixed)	1 ,,
Thornes Lane (Infant)	1 ,,
St. Austin's (Infant)	1 ,,
St. Andrew's (Infant)	1 ,,
Alverthorpe Church (Infant)	1 ,,
Sandal Endowed (Infant)	1 ,,

There were also two cases attending the Girl's High School, and one attending the Grammar School.

Two cases of the disease were discovered through home visits made by the Health Visitors. One whose skin was beginning to desquamate, would have been sent back to school directly, had the Health Visitor not noted the suspicious signs and brought the child to my notice. Another case was reported from school as Measles, but the Health Visitor on visiting the house thought the symptoms were suspicious of Scarlet Fever, and I found on personal examination this to be the case.

DIPHTHERIA.

DIPHTHERIA STATISTICS, 1890—1912.

Year.	No. of Cases Notified.	Attack Rate per 1000 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.
1912	68	1.30 (1.38)	51	75.0	7	10.3	0.13 (0.14)
1911	39	0·75 (0·79)	12	30·7	4	10·2	0·07 (0·08)
1910	31	0·60 (0·64)	13	41·9	6	16·1	0·11 (0·12)
1909	69	1·59	24	34·7	5	7·2	0·11
1908	56	1·33	24	42·8	10	17·8	0.23
1907	19	0·44	6	31·5	5	26	0·11
1906	33	0·77	9	27·2	5	16	0·11
1905	27	0·63	1	3·8	8	31	0·19
1904	33	0·78	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	0·05
1901	52	1·25	5	9·6	5	10	0·17
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

NOTE:—The figures within brackets are rates calculated on nett population.

Death Rate from Diphtheria, and from Diphtheria and Croup combined 1867–1912

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
1912	0·13	0·13
1911	0 07	0·07
1910	0·08	0·11
1909	0·09	0·11
1908	0·20	0·23
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 and Sex.

During 1912, 68 cases of Diphtheria were notified. Of these 28 were males and 40 females.

Number of Cases and Deaths in Wards.

Ward.	Number of Cases.	Attack Rate per 1,000 of Population.	No. of Deaths
St John's	6	1·29	—
Northgate	10	2·07	2
Eastmoor	12	2 61	1
Primrose Hill	8	1·49	—
North Westgate ...	9	1·80	2
South Westgate ...	1	0·26	—
Kirkgate	3	0·61	—
Calder	3	0·71	1
Alverthorpe	1	0·24	—
Belle Vue	11	2·01	—
Sandal	4	1·53	1
Whole City ...	68	1·38	7

NUMBER OF CASES AT AGE PERIODS.

Age Period.	No. of Cases.
1—5 Years	19
5—15 Years	34
15—25 Years	6
25—45 Years	9

NUMBER OF CASES NOTIFIED IN EACH MONTH AND QUARTER OF 1912.

January	13			July	4		
February	11	31		August	4	8	
March	7			September	0		
April	2			October	11		
May	4	11		November	4	18	
June	5			December	3		

CONDITION OF HOUSES INVADED.

Of the 68 cases, 67 occurred in dwelling-houses and one (a nurse) in the City Fever Hospital.

The 67 cases occurred in 61 dwelling-houses. 56 houses had one case each, 4 houses had two cases each, and one house had three cases.

Of the 61 dwelling-houses invaded, 44 were through houses and 17 back-to-back. With four exceptions all were working-class houses. The houses may be classified as follows according to size.

2	Roomed	4	houses invaded.
3	,,	13	,, ,,
4	,,	27	,, ,,
5	,,	11	,, ,,
6	,,	3	,, ,,
7	,, and over	3	,, ,,

All the houses, except five were provided with ordinary water closets. Three had privy closets. In two cases there were trough closets.

In 11 houses drainage and other defects were noted, but the bulk of the houses did not show any sanitary defects.

RETURN CASE.

There was only one return case which related to a home-treated case. The primary case (a child) had been liberated from isolation

and the house disinfected nine days before the secondary case (a domestic servant) showed signs of the disease. The primary case had been swabbed before liberation and one negative report obtained.

Secondary Cases.

There were five secondary cases occurring in four houses as follows:—

(1). 4-roomed house. Through. The secondary case sickened four days after the primary case, and on the same day as the latter was notified and removed to hospital.

(2). 2-roomed. Back-to-back. The secondary case sickened two days after the primary case, and both were notified on the same date and removed to hospital together.

(3). 5-roomed. Through. The secondary case sickened five days after the primary case, and both were notified on the same date and removed together to hospital.

(4). 5-roomed. Through. Two secondary cases occurred, both having sickened two days after onset of primary case, and all three were notified on the same date and removed to hospital together.

Notification.

The period of time elapsing between the onset of the disease and the notification of the case varied from 1 to 27 days, the average being 5 days. Only 43 per cent. of the cases were notified within three days of the onset.

Bacteriological Examinations.

In 37 cases the diagnosis was confirmed by bacteriological examination of throat or nasal swabs at the County Hall Laboratory, an exceptionally large number of swabs—346—were sent into the laboratory during the year. A large proportion of these were from doubtful cases which turned out to be non-diphtheritic, and a large number of swabs were taken from convalescents before discharge from hospital.

Antitoxin.

Antitoxin was gratuitously supplied by the Corporation for the use of general practitioners on three occasions during the year. In each case 6,000 units of antitoxin were supplied. Antitoxin continued to be used in the City Hospital for cases of diphtheria admitted within three days of the onset.

Isolation.

51 (75 per cent.) of the cases were removed to hospital. The 17 case treated at home were mostly in the larger kind of house, and generally under satisfactory conditions.

DIPHTHERIA AND SCHOOLS.

Of the 68 cases notified 37 were in attendance at the following public elementary schools:—

Westgate Council (Junior)	... ...	6 cases.
Eastmoor Council (Junior)	... ...	5 ,,
Sandal Council (Infant)	... ...	5 ,,
Sandal Council (Mixed)	... ...	3 ,,
Wesleyan (Infant) ...	... ...	3 ,,
Clarendon Street (Infant)	... ...	3 ,,
Ings Road Council (Mixed)	... ...	2 ,,
Trinity (Infant) ...	... ...	2 ,,
Eastmoor Council (Senior)	... ...	1 case.
Alverthorpe Church (Mixed)	... ...	1 ,,
Belle Vue Council (Infant)	... ...	1 ,,
Cathedral (Girls) ...	... ...	1 ,,
St. Mary's (Mixed) ...	... ...	1 ,,
St. Mary's (Infant) ...	... ...	1 ,,
Thornes Lane (Infant)	... ...	1 ,,
Clarendon Street (Girls)	... ...	1 ,,

There was also one case attending the Girls' High School, and one attending a private school.

Five out of the six cases amongst children attending Westgate School occurred during the month of October and all in the old Infant Department, which has now been incorporated in the Junior Department. After two or three cases had been notified my attention was specially directed to the school, and I discovered a chronic nasala diphtheria case or "carrier" attending the school. The child had been affected with a persistent discharge from the nose for some time, and upon bacteriological examination it was found to contain the diphtheria bacilli in a virulent form. Two other "carrier" cases (both nasal) were discovered amongst school children, but although they harboured bacilli proved to be virulent, they were not associated with any outbreak of the disease. One child reported from school as "Mumps" proved to be really suffering from diphtheria, and she ultimately died from the disease. It is now a routine practice for a Health Visitor to visit all cases of children reported as being absent from school on account of "Mumps." The object of doing so is to give advice as to the precautions necessary if the case is really one of Mumps, but still more to ascertain if the case appears to be one of Mumps at all. Any glandular swelling in the neck is popularily called "Mumps," although the swelling is often associated with throat affections. During the past few years, a number of cases of diphtheria have been brought to light through being reported as "Mumps" from the schools.

MORTALITY.

Seven of the cases died, giving a case mortality of 10·3 per cent., as compared with an average annual case mortality of 14·0 per cent.

during the previous 10 years. Five of the cases died in hospital and two at home.

The particulars of the seven deaths are as follows:—

DEATHS FROM DIPHTHERIA.

No.	Sex.	Age.	Locality.	Place of Death.	Date of Death.	Day of Disease.	No. of Days after Notification.	No. of days after removal to Hospital	Cause of Death as Certified.
1	F	9	Marlborough St.	Hospital	26/1/12	8th	6	6	Diphtheria-Cardiac Paralysis.
2	M	4	Providence St.	Hospital	8/2/12	12th	6	6	Diphtheria-Cardiac Paralysis.
3	M	4	Manygates Lane	Home	8/6/12	3rd	1	—	Diphtheria.
4	F	4	Back Hatfeild Street	Home	9/6/12	6th	Notified after death	—	Diphtheria.
5	F	7	Stanley Main St.	Hospital	19/6/12	4th	1	1	Diphtheria— Pharyngeal and Nasal.
6	F	5	Henry Street	Hospital	24/10/12	9th	3	3	Diphtheria— Laryngeal Obstruction, Tracheotomy, Toxaemia
7	M	2	Railway Terrace, Thornes Lane	Hospital	21/12/12	3rd	2	2	Diphtheria— Laryngeal & Tracheal, Tracheotomy.

Remarks.

Diphtheria showed an increased prevalence during 1912. The attack-rate was 1·3 per 1,000, as compared with 0·75 in the previous year and 0·89 the average annual attack-rate for the ten preceding years. The mortality, 0·13 per 1,000, was also higher than that of the preceding year (0·07), and somewhat higher than the average for the preceding ten years (0·10).

The prevalence was highest during the first quarter of the year, during which period 45 per cent. of the total cases occurred. The prevalence fell during the second and third quarters, and rose again somewhat in the last quarter. The prevalence was greatest in Eastmoor, Northgate, and Belle Vue Wards, and lowest in South Westgate and Alverthorpe Wards.

As usual the incidence was heaviest amongst children between 5 and 15 years, and heavier amongst girls than boys. The girls formed about 59 per cent. of all the cases, and this excess comes out about the same over a number of years. The incidence was mainly on the better type of artisan's dwellings. 72 per cent. of the invaded houses comprised four rooms or more.

A larger percentage of the cases were removed to hospital than in any previous year. This is a satisfactory feature, as there can be no question but that the hospital is far and away the best place for most cases of diphtheria, not only to prevent the spread of the disease, but even more in order to give the patient the best chance for recovery. There is no infectious disease (with the exception of enteric fever) where skilled nursing is so essential as in diphtheria, and even mild cases require the greatest care and attention. In considering the mortality from the disease the regrettable feature is the comparative lateness of the diagnosis in many cases. If we are to pull down the mortality, it is necessary to get early diagnosis and early treatment. The antitoxin treatment is essentially the treatment for diphtheria, but to secure satisfactory results the treatment must be given not later than three days from the beginning of the illness. Yet during 1912 less than half the cases (43 per cent.) were notified within three days of the onset. It is a common occurrence for a few days to have elapsed before the doctor is called in. The parents imagine the child has a cold, or an ordinary sore throat, or perhaps, from the glandular swellings in the neck, that it is a case of mumps, and so the golden time for effective treatment is allowed to slip past. In many cases one cannot justly blame the parents. For instance it not infrequently happens that a child is liable to simple throat attacks, and on previous occasions a doctor may have been consulted. But the very fact of recurrent sore throat attacks renders the child more susceptible to diphtheritic infection, and when infection does occur, the parents think it is one of the customary attacks and neglect to call in the doctor at an early stage. It would be almost too much to demand

that parents should consult a doctor for every case of sore throat, but this would seem almost essential to securing an improvement in the early diagnosis of diphtheria. One, however, sees plenty of cases where the symptoms of the disease were sufficiently marked to have alarmed the parents much earlier than they did. No doubt the educative agencies at work will in time bring about an improvement in this respect. The close touch with which the Sanitary Department now comes into contact with school children through medical inspection and the associated work of health visiting is bound to have a beneficial influence. It has certainly proved itself a helpful agency in bringing many cases to our notice, which otherwise might have escaped detection.

It might be well to make some observations with regard to "carrier" cases, several of which had to be dealt with during the year. A "carrier" case is a person who harbours the infection of disease, without themselves necessarily suffering from the disease. It is true that the person may have actually had an attack of the disease, and continued to retain the infection for, it may be, a prolonged period, after recovery from the disease itself. Other cases, however, may not have had the disease at all, but still by contact with actual cases or otherwise they have acquired and retained the infection. In both classes the persons are capable of transmitting the disease to others, and so must be regarded as dangers to the public health. In a certain number of cases the germs are inert, but usually they are virulent, and capable of setting up the disease in a healthy person. It is in connection with diphtheria that "'carrier cases'" most commonly occur, but they are also to be found (as shown in my last Report) in connection with Enteric Fever.

Now in practice one finds great difficulty in dealing with these cases. Most of them are quite well in health, and it is most difficult to convince the relatives or in the case of adults the persons themselves that precautions are necessary. It is necessary for the protection of the public health that such cases should be subjected to treatment for the eradication of the infection, and that they should be isolated until this is effected. The fact that the eradication of the infection is often a long and tedious process greatly adds to the difficulties. A parent may be persuaded to isolate his child, apparently in the best of health, for a week or even a fortnight, but when it comes to a longer period they become less amenable to persuasion, and very often the advice is ignored as foolish and unnecessary. Similarily, objection is often made to the disinfection of the bedding, etc., used by such cases, although one generally by insistent tact secures this being done. When there is accommodation at the Hospital (such cases requiring separate wards from those used by actual cases) I generally try to get them in, for this is the most effective way of dealing with them.

The important role which "carrier cases" play in the dissemination of infectious disease has only been recognised within recent years, thanks to the investigations of bacteriologists, and so far no specific legal powers for dealing with them have been conferred on Sanitary Authorities. It seems to me that the time has come when statutory authority should be given for taking reasonable measures to prevent the spread of disease by these cases. The Infectious Disease (Notification) Act, 1889, requires the notification of all persons *suffering from* certain infectious diseases, and all the important legal powers designed to prevent direct personal infection, and which are given in the Public Health Act, 1875, and subsequent Acts, are based on the fact of a person *suffering* from an infectious disease. In order to give us effective powers the words "*or in an infectious condition*" should be added to the words "*suffering from.*" Possibly some modification of the restrictions might be required in connection with "carrier cases," in order that they might not be unduly oppressive, but my experience clearly shows that further powers of this kind are needed. With regard to the disinfection of bedding and other infected articles, the existing powers are probably quite sufficient.

ENTERIC FEVER.

ENTERIC FEVER STATISTICS, 1888 to 1912.

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.
1912	17	0.33 (0·34)	3	38	3	18	0·05 (0·00)
1911	21	0·40 (0·43)	13	62	3	14	0·05 (0·06)
1910	6	0·11 (0·12)	4	66	2	33	0·04 (0·04)
1909	5	0·11	3	60	1	20	0.02
1908	15	0·35	2	13	3	20	0·07
1907	8	0·19	3	37	2	25	0·04
1906	14	0·32	2	14	3	21	0·07
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	0·67	1	4	8	28	0·16
1901	51	1·23	14	27	16	31	0·31
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

NOTE.—For the year 1912, 38 per cent. of home cases treated in City Hospital, 9 of the 17 cases occurred in the Asylum. The three deaths occurred in Asylum and all were those of non-residents.

Death-Rate from Enteric Fever.

1867—1912.

Period.	Average Annual Death Rate per 1,000 of population.
1912	0·05 (0·00)
1911	0 05
1910	0·04
1909	0·02
1908	0·07
1907	0 04
1897—1906	0·18
1887—1896	0·22
1877—1886	0·21
1867—1876	0·73

Number of Cases and Sex.

During 1912, 17 cases of Enteric or Typhoid Fever were notified. 5 were males and 12 females.

Number of Cases and Deaths in Wards.

Ward.	Number of Cases.	Attack Rate per 1000 of population.	No. of Deaths
St. John's	1	0·21	—
Northgate	—	0·00	—
Eastmoor	8	1·74	3
Primrose Hill	2	0·37	—
North Westgate	4	0·81	—
South Westgate	—	0·00	—
Kirkgate	—	0·00	—
Calder	—	0·00	—
Alverthorpe	1	0·24	—
Belle Vue	1	0·18	—
Sandal	—	0·00	—
Whole City	17	0·34	3

NUMBER OF CASES AT AGE PERIODS.

Age Period.	No. of Cases.
1—5 Years	1
5—15 Years	1
15—25 Years	7
25—45 Years	6
45—65 Years	2

REMARKS.

The attack-rate of Enteric Fever in 1912 (0·34) is lower than it was in 1911 (0·40) and is slightly lower than the average for the preceding 10 years (0·36).

The death-rate is the same as last year (0·05), but as all the deaths were those of non-residents in the Asylum none of the deaths will be included by the Registrar-General in the Wakefield statistics.

As I mentioned before, more than half the cases (9 out of 17) occurred in the West Riding Asylum, although one of these cases was notified from the Clayton Hospital, and the 3 deaths occurred in the Asylum—all non-residents.

CONDITION OF HOUSES INVADED.

The 8 cases which occurred outside the Asylum were located in 8 separate dwellings. Of these 7 were through houses and 1 was back-to-back.

The 8 houses were of the following size:—

3	Roomed	1
4	,, ...	4
5	,, ...	1
6	,, ...	1
7	,, and over	1

7 of the houses were provided with water-closets and 1 with a privy. Drainage defects were discovered at 4 of the houses, and 1 was overcrowded.

OCCUPATION OF PATIENTS.

Asylum Patients	5	Sewage Works Timekeeper	1
Asylum Nurses	4	School Child	1
Housewives	4	Child of Clerk	1
Railway Engine Cleaner	1		

Source of Infection.

The Asylum cases appeared to have been due in the first instance to "carrier" cases in that institution. With regard to the other cases, no definite source of infection could be traced except in one, where the patient admitted that he had drank water taken direct from the river Calder about the time when infection must have occurred.

ERYSIPELAS.

29 cases of Erysipelas were notified during 1912, most of them elderly people, and one death from this disease occurred.

PUERPERAL FEVER.

Five cases of Puerperal Fever were notified, and five deaths occurred. There was, however, one case (septicæmia following a miscarriage) not notified, so that there were actually six cases with five deaths, a very high case mortality.

INFECTIOUS DISEASES MADE NOTIFIABLE DURING 1912.

During 1912 the City Council, with the approval of the Local Government Board, added the following diseases to the list of compulsory notifiable diseases, namely:—Acute Polio-Myelitis, Cerebro-Spinal Fever and Ophthalmia Neonatorum. These diseases became notifiable on and after 15th June, 1912.

On the 1st September the Local Government Board by Order made two of these diseases, namely—Acute Polio-Myelitis and Cerebro-Spinal Fever—compulsory notifiable throughout the country.

Acute Polio-Myelitis.

The reason for adding this disease to the list of notifiable diseases is that during the last year or two outbreaks have occurred in certain parts of the country—particularly in Devonshire, Cornwall, and Midland Counties. By making the disease notifiable a sanitary authority gets early information of the disease becoming epidemic, and is enabled to take such steps as may be necessary to cope with it. Only two cases, both young children, were reported in Wakefield during the year. There were no fatal cases.

The following is a copy of the Local Government Board Circular, which explains the disease very fully.

"MEMORANDUM ON ACUTE POLIOMYELITIS.

"This disease has long been known under the name 'Infantile "paralysis' as a form of paralysis of which sporadic cases occur, "chiefly in children and less frequently in adults.

"In recent years it has occurred in epidemic form in America, in "Australia, and in some parts of Europe. A number of local out-"breaks have also occurred in this country.

"The virus of the disease has not been identified; but it passes "through the finest filter; and the filtrate when inoculated into "monkeys produces poliomyelitis in them.

"The virus attacks the nervous system, causing inflammation of "the grey matter of the spinal cord, especially of its anterior cornua. "Microscopically the characteristic lesions found are hyper-æmia, a "well-marked exudation of lymphocytes around the blood vessels and "degeneration of the large motor cells in the anterior horns. Less "often the whole cord, grey and white matter, may become involved "and a transverse myelitis result. In some cases the brain may be "primarily or secondarily affected. Hence the suggested name of "Polio-encephalo-myelitis. The meninges also may become impli-"cated in the morbid process.

"The symptoms vary with the localization of the virus, and may "be very diverse in character: in certain cases of the disease the "difficulty of diagnosis is great.

"There is no characteristic skin eruption. Usually an initial "febrile attack occurs, the temperature seldom rising above 102 deg. "—103 deg. Fah.: commonly there is malaise and drowsiness, "accompanied by headache and occasionally by vomiting: there may "be nasal and pharyngeal catarrh. The patient is fretful, and objects "to being moved. Rigidity of the muscles of the neck and spine "frequently occurs and the head may be retracted: there may be "pain or tenderness over the spine. Kernig's sign is often present. "Plantar, patellar, or abdominal reflexes are commonly absent: the "patellar reflex may, however, be exaggerated in the early stage. "Paralysis, mainly of the flaccid type, supervenes shortly after the "appearance of these primary symptoms. It affects one or more "groups of muscles, especially of the limbs, but may involve any "part of the muscular system.

"This is the common form of the disease, but occasionally a "child may go to bed apparently well and be found in the morning to "be suffering from paralysis.

"There is little difficulty in recognising the above forms of the "disease. But apart from the above symptoms or in addition to "them, there may be symptoms caused by implication of the medulla, "brain meninges or special nerves; and in such cases, especially when "the meninges are implicated, confusion in the differential diagnosis "between poliomyelitis and cerebro-spinal fever is apt to occur. The "meningeal type may also be confused with tuberculous meningitis "or septic meningitis. In such cases the previous medical history of "the patient, and the absence of other similar cases in the vicinity "may aid a correct diagnosis.

"The symptoms of Poliomyelitis, before the onset of paralysis, "have frequently been attributed to Influenza. Cases at this stage

"have also been diagnosed as Sunstroke, Enteric Fever, Food Poison-
"ing, and a number of other diseases.

"The occurrence of cases of Poliomyelitis in which no paralysis
"supervenes has been established, the symptoms of these mild or so-
"called abortive attacks being similar to those ushering in the graver
"forms. Such symptoms, if they occur in patients having association
"with paralytic cases, should arouse suspicion.

"The fatality of Poliomyelitis has varied within wide limits in
"the epidemics of the last five years. Commonly 10 to 12 per cent.
"of the attacks prove fatal: but in such an estimate much depends
"on the proportion of mild or so-called abortive cases which have
"been recognised.

"Over half the patients who survive an attack of Poliomyelitis
"are crippled for life.

"The disease is most prevalent in the summer and least prevalent
"in the winter months. It appears to have no special relationship to
"social or sanitary conditions; and, so far, has been oftener recognised
"in sparsely populated districts than in large towns.

"In monkeys experimentally inoculated with the disease the
"incubation period is stated to vary from 3 to 46 days, the general
"period being about 11 days. Clinical evidence points to an incuba-
"tion period in the disease when naturally acquired by man of four or
"five days, though shorter and much longer incubation periods are
"recorded.

"Experimental research on monkeys has shown that the virus is
"present in the naso-pharyngeal mucous membrane; and that it can
"be communicated experimentally through the respiratory and diges-
"tive tracts.

"Careful observation of localised outbreaks furnishes circum-
"stantial evidence of the transmission of the disease from person to
"person, including its transmission by a healthy "carrier."

"The disease presents an erratic character as regards infectivity.
"In some instances it has developed after only slight or temporary
"contact with a patient suffering from Poliomyelitis, and multiple
"attacks in households are not uncommon. In other instances
"children have been known to sleep in the same bed with a patient
"and to escape infection.

"The examination by competent bacteriologists of the spinal
"fluid obtained by lumbar puncture affords material aid in the differ-
"ential diagnosis between Cerebro-Spinal Fever and Poliomyelitis.
"In the former the presence of the diplococcus intracellularis of
"Weichselbaum is characteristic of the disease, in the latter this
"organism is never present in the spinal fluid, but there is in it an
"excess of lymphocytes.

"As the disease can be recognised with certainty by histological "examination of the cord, this procedure should be adopted in fatal "cases in which there is a suspicion of Poliomyelitis. Pieces of the "cervical and lumbar enlargements—if not the whole cords—should "be forwarded to a competent pathologist in 10 per cent. formalin.

"Owing to possible confusion between Cerebro-Spinal Fever and "Poliomyelitis, they should be considered together, and both should "be added to the schedule of diseases compulsorily notifiable under "the Infectious Diseases (Notification) Act; as the first step towards "administrative control. This is necessary in order to obtain early "information of the presence of one or other of these diseases in a "district.

"The possibility of administrative control over Poliomyelitis is "greatly increased by active co-operation between the medical officer "of health and the medical practitioners in a district. In view of the "the difficulty in diagnosing certain forms of Poliomyelitis, medical "practitioners should be invited to confer with the medical officer of "health as to cases of aomalous illness; thus the medical officer of "health may be enabled to assist the practitioner with information as "to similar cases which may be in his possession.

"The Sanitary Authority should be prepared to give facilities "for the examination by competent bacteriologists of material derived "from the sick.

"It is important that precautionary measures should be taken "in all suspected cases. As it has been shown experimentally that "the virus is present in the nasal mucous memberane, an antiseptic "solution should be applied by means of a spray to the throats and "nasal passages, not only of the patients, but of all persons brought "into contact with them. The virus can be killed experimentally by "a one per cent. solution of peroxide of hydrogen, or by a solution of "permanganate of potassium—1 : 500.

"All discharges from the patient as well as all articles which may "be soiled by such discharges should be immediately disinfected."

"The sick should be isolated from the healthy, and if appropriate "isolation and nursing cannot be obtained at home the patient should "be treated in an isolation hospital. The sick-room and its contents "should be disinfected at the end of the illness.

"No child should be allowed to attend school from an infected "family.

CEREBRO-SPINAL FEVER.

This disease was made notifiable for the same reason as given in connection with Acute Poliomyelitis. Only one case was notified, a child of 9 months. The illness began on the 1st September and the child died 26 days later.

The following Circular of the Local Government Board fully explains the disease:—

"MEMORANDUM ON CEREBRO-SPINIAL FEVER.

"Cerebro-spinal fever, known also as epidemic cerebro-spinal "meningitis, spotted fever, and by many other less frequently used "names, has recently attracted renewed attention in this country by "reason of the serious mortality occasioned by disease of this class "in New York and in certain localities on the Continent of Europe. "Interest in this malady has been further stimulated by the public "notice which has been taken of the recent identification of a case in "the neighbourhood of London, and of several cases, four of which "terminated fatally at Irthlingborough in Northamptonshire.

"Cerebro-spinal fever is not of rare occurrence in the United "Kingdom. In the course of the last forty years this malady is "known to have been prevalent in a considerable number of different "localities in England and Wales, several of these outbreaks having "taken place in recent years. In some instances they have formed "the subject of investigation by a Medical Inspector of the Local "Government Board whose report has usually been made public. "Occurrences of cerebro-spinal fever have also been observed in "Scotland and in Ireland. There is indeed, as will appear later, "reason for belief that this disease is even less uncommon in this "country than the foregoing particulars would seem to indicate.

"The late Mr. Netten Radcliffe defined cerebro-spinal fever as

> "An acute, epidemic disease, characterised by profound "disturbance of the central nervous system, indicated at the onset "chiefly by shivering, intense headache or vertigo, of both, and "persistent vomiting; subsequently by delirium, often violent, "alternating with somnolence or a state of apathy or stupor; an "acutely painful condition with spasm—sometimes tetanoid—of "certain groups of muscles, especially the posterior muscles of "the neck, occasioning retraction of the head; and an increased "sensitiveness of the surface of the body. Throughout the "disease there is marked depression of the vital powers; not "unfrequently collapse; and in its course an eruption of vesicles, "pethical or purpuric spots, or mottling of the skin, is apt to "occur. If the disease tend to recovery, the symptoms gradually "subside without any critical phenomena, and convalescence is "protracted; if to a fatal termination, death is almost invariably "preceded by coma. After death the enveloping membrances o "the brain and spinal cord are found in a morbid state, of "which the most notable signs are engorgement of the blood "vessels, usually excessive, and an effusion of sero-purulent "matter and beneath the archnoid."

"To the clinical manifestations of the disease, indicated in this "definition, may be added the presence of Kernig's sign and of tache "cérébale.

"Local prevalence of a malady distinguished by the foregoing "features would, no doubt, attract attention and would, it may be "presumed, lead to early recognition of its true nature. But, while "these features are characteristic of cerebro-spinal fever of typical and "severe sort, experience has taught us that this fever may and does "appear in milder or in anomalous forms which render identification "difficult, and which lead to its being mistaken for other ailments of "more common occurrence in this country. Illustration of this is "afforded by certain localised outbreaks of cerebro-spinal fever in the "eastern counties in 1890, where this disease was generally mistaken "for sunstroke or for enteric fever, or was looked upon as a new form "of illness; by the prevalence of what would seem to have been "cerebro-spinal fever in Northamptonshire in 1890-91, where the "malady was for the most part diagnosed as pneumonia or as sore "throat; and by the occurrence of cerebro-spinal fever in Irthling-"borough in the present year, where many of the persons attacked "were regarded as suffering from influenza. In these anomalous "forms of cerebro-spinal fever, many or even most of the symptoms "associated with the recognised type of the disease may be absent, "while, in mild cases, they may be so slight or of such brief duration "as to escape notice. It is, however, for such cases that it is "necessary to be on the outlook, whether in relation with a definite "occurrence of cerebro-spinal fever in a locality, or by reason of the "prevalence in a particular neighbourhood of illness not clearly "referable to definable cause. In these circumstances, there would "be advantage in the local medical officer of health endeavouring to "secure, by arrangement with the medical men practising in his "district, information as to the existence of cases of the kind in "question.

"Failure to recognise cerebro-spinal fever is also apt to happen "when the malady is of the 'fulminant' variety, in which death "ensues rapidly. In these instances the disease has been mistaken "for typhus fever, idiopathic tetanus, or malignant measles.

"An important aid to diagnosis may be found in examination of "cerebro-spinal fluid, withdrawn from the lower part of the spinal "canal by lumbar puncture, for the presence of the 'diplococcus "meningitidis intracellularis' of Weichselbaum; a micro-organism "which is now generally regarded as the specific cause of cerebro-"spinal fever.

"Whether cerebro-spinal fever is spread by direct infection from "person to person is matter of uncertainty; indeed there is as yet no "definite knowledge as to the way or ways in which its transmission "may take place. Since, however, the possibility of direct personal "infection cannot, on the evidence available, be excluded, it will be "wise to endeavour to secure, as far as practicable, the isolation of the

"sick from the healthy. It will also be advisable to apply suitable "measures of disinfection to premises that have been occupied by the "sick, and to articles that may have been in relation with them.

"In view of the fact that the presence of Weichselbaum's dip- "lococcus has been observed in the mucus of the nose and mouth, not "only of the sick, but also of those attending on the sick, there may "be advantage in resorting to periodical ablutions of the nasal and "buccal passages of the sick and their attendants."

OPHTHALMIA NEONATORUM.

Ophthalmia Neonatorum or Inflammation of the Eyes of the newly-born usually commences on the 2nd or 3rd day after birth, and if neglected may cause serious damage to the eyes. It has been found that about one-third of the children in Blind Schools have lost their vision through this disease. There are besides a great number of persons who have had their sight more or less impaired through the disease, and during medical inspection of school children one is constantly seeing instances of this kind. The disease must therefore be regarded as a serious one, but it is at the same time an essentially preventable disease. When proper precautions are observed at the time of birth, the disease hardly ever occurs. And when the disease has occurred if proper medical treatment is secured at the beginning and the treatment thoroughly carried out the serious results which I have mentioned would but seldom be seen. In view of these facts the Wakefield City Council decided to make the disease a notifiable one, and so enable the Medical Officer and Health Visitors to get early into touch with the cases, and to see that proper treatment is secured. The Midwives, as well as the medical men, in the City were circularised, and the objects of the notification explained. Three cases were notified, and all recovered without any damage to the eyes. Earlier in the year, however, a case occurred where the eyes were so badly damaged that vision was practically lost.

MEASLES.

MEASLES DEATH-RATE, 1867-1912.

Period.	Average Annual Death Rate per 1,000 of Population
1912	0·54 (0·56)
1911	0 23 (0·24)
1910	0·27 (0·29)
1909	0·02
1908	0·39
1907	0·04
1897—1906	0·40
1887—1896	0·29
1877—1886	0 21
1867—1876	0·11

NOTE.—The rates within brackets are calculated on the nett population.

During the year 1912 there were 28 deaths from Measles, giving a death-rate of 0·56 per 1,000 of the population, which is more than double that of the previous year (0·24) and is also higher than the average for the preceding ten years (0·35).

SEX.

16 were males and 12 females.

DEATHS AT AGE PERIODS.

0—1 year ...	... 1	2—5 years ...	... 12
1—2 years ...	... 14	5—15 years ...	... 1

DEATHS IN MONTHS.

January ...	... 2	June	... 3
February ...	... 4	July	... 5
March ...	... 5	August ...	... 2
April	... 6	October ...	... 1

OCCUPATION OF FATHERS.

Coal Miners ...	... 11	Drayman ...	... 1
Labourers ...	... 11	Canal Boatman	... 1
Prison Warder...	... 1	Butcher's Assistant	... 1
Basket Maker ...	... 1	Rag Sorter ...	... 1

CAUSES OF DEATH AS CERTIFIED.

Measles, Pneumonia	... 23 deaths.
Measles, Bronchitis	... 4 „
Measles	... 1 „

REMARKS.

Measles during 1912 were even more prevalent than during the preceding year, and school attendance was much affected in consequence. 487 cases of the disease were reported from the schools (as compared with 317 cases in 1911), and the average weekly number of children absent on account of Measles was 68 (45 cases and 23 contacts). When the schools opened in January 44 children (32 cases and 12 contacts) were absent. The number then decreased to 28 by the middle of June, but in July there was a large and rapid increase, reaching to 245 exclusions (174 cases and 71 contacts), when the schools closed for the summer holidays. During the autumn the number gradually decreased, and when the schools closed in December only 7 children (6 cases and 1 contact) were absent on account of Measles.

The disease was most prevalent amongst children attending the Infant Departments of the following eleven schools, namely:—St. Michael's, St. Andrew's, St. Austin's, Sandal Endowed, St. Mary's, Thornes Lane, Clarendon Street, Eastmoor Council, Westgate Council, Sandal Council, and Belle Vue Council. The schools most severely affected were Belle Vue Council, Sandal Council, Sandal Endowed, Westgate Council, and Clarendon Street. With the exception of Belle

Vue Council the schools were mainly affected during the first seven months of the year. Belle Vue was the only school affected to any extent after the Summer holidays.

The control of Measles is one of the most difficult problems. Here we have a disease intensely infectious at an early stage in its development and before the most obvious sign of the disease, namely the rash, is present. It spreads with the greatest facility amongst young children, especially when the children are aggregated in schools, and only to a less extent when they freely commingle in the streets and homes. The opportunities that occur for the dissemination of the disease outside the school often seriously hamper our efforts to control the disease by measures acting through school attendance. A good illustration of how the disease spreads among young children, apart from school attendance, is shown by the experience of Belle Vue Infant School, where the disease spread rapidly among the children attending that school during the Summer holidays. The victims of the disease lived largely in the densely populated streets in the neighbourhood of the school.

In many of the schools the disease spread with such lightning-like rapidity that the attendance was hopelessly reduced before anything possibly could be done. Indeed I could not satisfy myself that the closure of any school would be likely to materially affect the spread of the disease, and none were, as a matter of fact, closed. In five instances, however, where the disease was mainly confined to a class, I advised the closure of the particular class for a short period, during which the starting of a second crop might be expected. The following is a list of these closures:—

NAME OF SCHOOL. Department.	Date of Closure.	Date of Re-Opening.	Duration of Closure.
St Andrew's Infant Depart. (Babies' Class)	29th January	5th February	7 days including 5 school days
Westgate Council Infant Dep'tment (1st Class)	11th March	18th March	7 days including 5 school days
St. Austin's Infant Depart. (Babies' Class)	11th March	18th March	7 days including 5 school days
Eastmoor Council Infant Dep'tment (2nd Class)	11th March	18th March	7 days including 5 school days
Sandal Council Infant Department (Babies' Class)	8th July ...	26th July	3 weeks with 4 weeks school holidays immediately following

However disappointing one may regard our efforts to stay the spread of Measles, I feel sure that our system of following up the cases and advising the parents as to precautions is having a salutary effect on the individual cases. The real gravity of the disease is more appreciated and greater care is shown by a large number of the parents. It is now far commoner to find a medical man called in to attend a case of Measles than used to be.

Although there was an increased mortality during the year, one would have expected a still higher rate, considering the large number of cases. We had nearly 500 cases of the disease reported from school, and one might reasonably estimate that as many more children under school age would be affected. This would give 1,000 cases—probably an under-estimation—but on this number the case mortality works out at 2·8 per cent.

At the same time with proper care many of the children could have been saved. It will be noticed that nearly all the children died from some pulmonary complication, and that the bulk of the cases occurred in poor homes.

The following leaflet is now left at each house from which a case of Measles is reported:—

SANITARY DEPARTMENT.

ADVICE TO PARENTS WITH REGARD TO MEASLES.

Measles should be regarded as a serious disease, and every child affected with it should receive the greatest possible care and attention. Remember that in Wakefield Measles causes five times as many deaths as Scarlet Fever, and more than three times as many deaths as Diphtheria. You are, therefore, earnestly urged to carry out the advice given in this leaflet.

1. TO PREVENT THE SPREAD OF THE DISEASE.

Keep in mind the fact that A CHILD IS NOT BOUND TO HAVE MEASLES, but if he does get it, the older he is the better is his chance of recovery. Everything possible should therefore be done to prevent children—especially young children—catching the disease. A CHILD SHOULD BE SEPARATED FROM OTHER CHILDREN AS SOON AS THERE IS ANY SUSPICION OF MEASLES. The disease is most catching at the very beginning and for three or four days before the rash comes out. It begins with all the signs of a bad cold. The child becomes feverish and fretful, the eyes get red and watery, the nose runs, and there is a troublesome cough. These signs should make you suspicious of Measles, especially if the disease is about. If possible the child should be put in a bedroom by himself. If this is not possible, he should certainly have a bed to himself, and other children should be kept away from him as much as possible.

All utensils, for example, cups, spoons, etc., as well as towels, sponges, etc., should be kept separate for the patient's use, and should be disinfected from time to time. All bedding or body clothing should be soaked in disinfectant for an hour before being washed. (In the case of persons unable to purchase disinfectants orders may be had from the Sanitary Inspectors or Health Visitors or at the Sanitary Department, Town Hall). THE CHILD MUST NOT MIX WITH OTHER CHILDREN UNTIL AT LEAST THREE WEEKS FROM THE BEGINNING OF THE ILLNESS, and must not return to the Day School, Sunday School, or attend any gathering of children for four weeks. All other children in the family who are attending an Infant School Department, must not attend the Day School, Sunday School, or any gathering of children for three weeks from the beginning of the last case of illness. Older children may continue to attend school if they have previously had an attack of Measles, but should be kept at home if they show any signs of the disease.

2. TO SECURE THE RECOVERY OF THE PATIENT.

A DOCTOR SHOULD ALWAYS BE CALLED IN. No matter how mild the attack, the CHILD SCHOULD BE KEPT IN BED for a week—longer in severer cases—and should not be allowed out of doors for about three weeks, according to the weather. IF A CHILD IS ALLOWED TO GO OUT TOO EARLY, ESPECIALLY IN WET OR COLD WEATHER, INFLAMMATION OF THE LUNGS, A VERY SERIOUS COMPLICATION, MAY SET IN. The child must also be carefully clothed with woollen garments next the skin. In the house the air should be kept sufficiently warm, but at the same time kept fresh by proper ventilation, without draughts. A stuffy, closed-up room is bad. Remember that Measles often weakens a child's general health for a long time, and great care has to be taken after the illness is over. If the child does not "pick up," the doctor should again be consulted. Consumption and other diseases often start after an attack of Measles.

THOMAS GIBSON, M.D.,

Medical Officer of Health.

WHOOPING COUGH.

WHOOPING COUGH DEATH-RATE, 1867-1912.

Period.	Average Annual Death Rate per 1,000 of the population
1912	0·25 (0·26)
1911	0·15 (0·16)
1910	0·35 (0 37)
1909	0·14
1908	0·20
1907	0·25
1897—1906	0·30
1887—1896	0·33
1877—1886	0·37
1867—1876	0·19

NOTE.—The figures within brackets refer to rates calculated on the nett population.

During 1912 there were 13 deaths from Whooping Cough, giving a death-rate of 0·26 per 1,000 of the population, which is higher than the rate for the previous year (0·16), and slightly higher than the average for the preceding 10 years (0·23).

SEX.

Five were males and eight were females.

DEATHS AT AGE PERIODS.

0—1 year	7	2—5 years	2
1—2 years	3	5—15 years	1

DEATHS IN MONTHS.

March	1	July	1
May	4	August	1
June	4	September	2

OCCUPATION OF FATHERS.

Coal Miner	2	Telephone Inspector ...	1
Labourer	2	Traveller	1
Bricklayer	1	Engineer	1
Foundry Fettler ...	1	House Painter	1
Engineman	1	Professional Musician ...	1
Basket Maker	1		

CAUSES OF DEATH AS CERTIFIED.

Whooping Cough, Pneumonia	6 deaths.
Whooping Cough, Bronchitis	2 ,,
Whooping Cough, Convulsions... ...	4 ,,
Whooping Cough	1 ,,

Remarks.

Whooing Cough, like Measles, showed an increased prevalence during the year. 251 cases of the disease were reported from the schools (as compared with 56 in 1911), and the average weekly number of children absent on account of Whooping Cough was 41 (37 cases and 4 contacts). When the schools opened in January there were no children absent on account of Whoping Cough. A few cases were reported in January and February, and still more in March and April. In May the disease became distinctly prevalent, reaching a total of 79 children excluded (60 cases and 19 contacts) at the end of the month. At the end of June the weekly figure rose to 99, and by the middle of July the highest figure of the year, namely, 123 exclusions (110 cases and 13 contacts) was reached. After the summer holidays 86 children were still absent, but the numbers gradually fell till by the middle of November only a dozen children were absent. When the schools closed in December 10 children (all cases) were reported absent on account of whooping cough.

The disease was most prevalent amongst children attending the Infant Departments of the following seven schools, namely:—Clarendon Street, Westgate Council, Thornes Lane, Trinity, Sandal Council, Wesleyan, and St. Michael's. Westgate Council and Clarendon Street were the schools most severely affected.

Like Measles, the control of Whooping Cough is a worrying problem. The insidious nature of the malady on the one hand and its chronicity on the other constitute great difficulties, and I do not see that we are at all likely to overcome them. We can only do the best we can. The following up of reported cases is certainly a most beneficial step.

The following leaflet is now left at each house from which a case of Whooping Cough is reported.

SANITARY DEPARTMENT.

ADVICE TO PARENTS WITH REGARD TO WHOOPING COUGH.

Whooping Cough should be regarded as a serious Disease, and every child affected with it should receive the greatest possible care and attention. Remember that in Wakefield Whooping Cough causes more than three times as many Deaths as Scarlet Fever, and more than twice as many Deaths as Diphtheria. You are, therefore, earnestly urged to carry out the advice given in this leaflet.

1. TO PREVENT THE SPREAD OF THE DISEASE.

Keep in mind the fact that A CHILD IS NOT BOUND TO HAVE WHOOPING COUGH, but if he does get it, the older he is the better is his chance of recovery. Everything possible should therefore be done to prevent children—especially young children—catching the

disease. EVERY CHILD SUSPECTED OF WHOOPING COUGH SHOULD BE SEPARATED AT ONCE FROM OTHER CHILDREN, for the disease is infectious from the first, even before the "whoop" is heard. The disease usually begins with signs of a cold, a dry hacking cough and some feverishness. These signs may last for a week or longer before the real cough comes on. The child then begins to have regular fits of coughing, often more frequent at night. These attacks are often severe, causing the child to become blue in the face, are generally, but not always, accompanied by the crowing sound or "whoop" which gives the name to the disease, and end with the spitting up of phlegm or with vomiting. Between the attacks the child may appear fairly well. Whooping Cough should be suspected if a child has severe fits of coughing, especially at night, and the opinion of a doctor should be sought. A child with Whooping Cough should, if possible, have a separate room, and should be kept away as much as possible from other children. All matters coughed up or vomited should be burnt or after disinfection washed down the water closet. All utensils, for example cups, spoons, etc., as well as towels, sponges, etc., should be kept for the patient's use, and should be disinfected from time to time. All bedding or body clothing should be soaked in disinfectant for an hour before being washed. (In the case of persons unable to purchase disinfectants, orders may be had from the Sanitary Inspectors, Health Visitors, or at the Sanitary Department, Town Hall). THE CHILD MUST NOT MIX WITH OTHER CHILDREN UNTIL THE SEVERE ATTACKS OF COUGHING HAVE CEASED, AND THE "WHOOP" DISAPPEARED. As the disease often lasts for a long time, this may be difficult, but at the same time it is a necessary precaution. The child must not return to the Day School or Sunday School, must not travel in tram cars, railway carriages or other public vehicles, nor attend any gathering of children, until all these signs have disappeared, which generally is not less than six weeks. All other children in the family who are attending an Infant School Department, must not attend the Day School, Sunday School, or any gathering of children for four weeks from the beginning of the last case of illness. Older children may, however, continue to attend School, but should be kept at home if they show any signs of the disease.

2. TO SECURE THE RECOVERY OF THE PATIENT.

A DOCTOR SHOULD ALWAYS BE CALLED IN. At first the patient should be kept in bed, and the bedroom should be kept as fresh and well ventilated as possible without draughts. Later when all feverishess has passed off, the child may be allowed out in the fresh air, if the weather is suitable. The clothing should be warm, with woollen next the skin, and IN COLD WEATHER PARTICULARLY GREAT CARE SHOULD BE TAKEN TO KEEP THE BODY AND LIMBS FROM CHILL. The child should never be allowed to get

wet. Children suffering from Whooping Cough are very liable to take Inflammation of the Lungs, especially if they have been exposed to a chill.

Remember that Whooping Cough often weakens a child's general health for a long time, and great care should be taken after the illness is over. If the child does not "pick up," the doctor should again be consulted. Consumption and other diseases often start after an attack of Whooping Cough.

THOMAS GIBSON, M.D.
Medical Officer of Health.

ZYMOTIC DIARRHŒA.

ZYMOTIC DIARRHŒA DEATH-RATE, 1867-1912.

Period.	Average Annual Death Rate from Zymotic Diarrhœa per 1,000 of population.
1912	0·11 (0-12)
1911	1·20 (1 26)
1910	0·21 (0 23)
1909	0·07
1908	0·53
1907	0·32
1897—1906	0·81
1887—1896	0·57
1877—1886	1·10
1867—1876	0·32

During 1912 there were only six deaths from Zymotic Diarrhœa and Enteritis, giving a death-rate of 0·12 per 1,000 of the population, which is only one-tenth of the rate in the preceding year (1·26), and is one-fourth of the average rate for the preceding ten years (0·5). It is the lowest recorded death-rate for the City, with the exception of that of 1909 (0·07).

Three were males and three females. Three were under one year of age, two between 1 and 2 years, and one was 25 years of age. The deaths occurred in the following months:—(One in each), February, June, July, August, September, and November. The deaths occurred in the following localities:—Holly Street; Milton Street; Hallilay Row; Hesling's Yard, Charles Street; and Connor's Buildings, Hardy Croft. Three were children of coal miners, one a child of foundry labourer, and one of a joiner.

The low prevalence of summer diarrhœa during 1912 is largely due to the cool wet weather which prevailed. In the preceding year we had just the reversed conditions—a dry hot summer and a high prevalence of summer diarrhœa. Therefore, the fact that we have a

low rate to report for the year under review should not lull us into a position of false security, but the preventative steps, fully set forth in my last report, should be carried on continuously.

TUBERCULAR DISEASES.

TUBERCULOSIS DEATH-RATE IN WAKEFIELD, 1871 to 1912.

Period.	Death Rate per 1,000 of the Population.
Year 1912	1·57 (1·66)
,, 1911	1·78 (1·88)
,, 1910	1·48 (1·57)
,, 1909	1·80
,, 1908	1·58
,, 1907	1·96
,, 1906	1·69
,, 1905	1·58
,, 1904	1·80
,, 1903	1·74
,, 1902	1·91
,, 1901	1·97
Decennium 1891-1900 (Average Annual) ...	2·3
,, 1881-1890 ,, ,, ...	2·6
,, 1871-1880 ,, ,, ...	3·7

Note.—The rates within brackets are calculated on the nett population.

During 1912 there were 82 deaths from Tubercular Diseases (38 males and 44 females), giving a death-rate of 1·66 per 1,000 of the population, which is lower than the rate for the preceding year (1·88), and also lower than the average rate for the preceding 10 years (1·75).

The 82 deaths are classified as follows:—

Tuberculosis of Lungs (Phthisis)	58
Tubercular Meningitis	13
Tubercular Peritonitis	2
Tubercular Disease of Intestines	1
Tubercular Disease of Hip Joint	2
Tubercular Disease of Spine	1
Tubercular Disease of Glands	1
Tubercular Abscess	1
Acute Miliary Tuberculosis	2
General Tuberculosis	1

Tubercular Diseases other than Phthisis.

In 1912 there were 24 deaths from tubercular diseases other than phthisis (10 males and 14 females), giving a death-rate of 0·48 per 1,000 of the population, which is lower than the rate for the preceding year (0·66).

Year.	Death-rate from Tubercular Diseases other than Phthisis per 1,000 of population.
1912	0·46 (0·48)
1911	0·62 (0·66)
1910	0·43 (0·46)
1909	0·58
1908	0·23
1907	0·51
1906	0·56
1905	0·47
1904	0·55

Tubercular Meningitis.

There were 13 deaths from tubercular meningitis, as compared with 18 in the previous year. The deaths occurred at the following age periods:—

0—1 year	2	5—15 years	2
1—2 years	3	15—25 years	3
2—5 years	2	25—45 years	1

Abdominal Tuberculosis.

There were only three deaths from abdominal tuberculosis, as compared with eight in the previous year. There were two deaths from Tubercular Peritonitis (at ages of 6 months and 4 years), and one death from Intestinal Tuberculosis (at age of 1 year 9 months).

Tuberculosis of Joints and Bones.

There were 2 deaths from Tubercular Disease of Hip Joint (at ages of 23 and 25 years) and one death from Tubercular Disease of Spine (at age of 55 years).

Generalised Tuberculosis.

There were 2 deaths from Acute Miliary Tuberculosis (at ages of 1 year 5 months and 2 years) and 1 from General Tuberculosis (at age of 1 year 6 months).

Other Forms of Tuberculosis.

There was one death from Tuberculosis of Glands (at age of 8 months) and one death from Tubercular Abscess (at age of 35 years).

Remarks.

It is gratifying to be able to record a decrease in the mortality from non-pulmonary tuberculosis, especially in view of the fact that in the previous year there had been a decided increase.

PHTHISIS.

Phthisis or Tubercular Disease of the Lungs caused 58 deaths during 1912, giving a death-rate of 1·17 of the population, which is lower than that of the preceding year (1·22) and lower than the average for the preceding ten years (1·25).

DEATH-RATE FROM PHTHISIS, 1897—1912.

Year.	Death Rate per 1,000 of Population.
1912	1·11 (1·17)
1911	1·16 (1·22)
1910	1·05 (1·11)
1909	1·22
1908	1·35
1907	1·45
1906	1·13
1905	1·11
1904	1·25
1903	1·38
1902	1·28
1901	1·42
1900	1·06
1899	1·12
1898	1·72
1897	1·12

Phthisis Deaths in Wards in 1912.

Ward.	No. of Deaths.	Death Rate per 1000 of population
St. John's...	4	0·86
Northgate	10	2·07
Eastmoor	4	0·87
Primrose Hill	6	1·12
North Westgate	8	1·60
South Westgate	6	1·78
Kirkgate	5	1·02
Calder	5	1·19
Alverthorpe	4	0·98
Belle Vue	4	0·73
Sandal	2	0·76
Whole City	58	1·17

Number of Deaths at Age Periods.

Under 1 year ...	1	25—35 years ...	17
1—2 years ...	1	35—45 „ ...	9
2—5 „ ...	—	45—55 „ ...	4
5—15 „ ...	9	55—65 „ ...	4
15—25 „ ...	12	Over 65 „ ...	1

Deaths in Months.

January ...	6	July ...	3
February ...	7	August ...	6
March ...	2	September ...	6
April ...	10	October ...	6
May ...	3	November ...	5
June ...	—	December ...	5

Deaths and Notifications.

Of the 58 deaths 46 had been notified, and 12 not notified. The following table gives the period elapsing between the date of notification and the date of death.

Died within a month of notification	12
„ between 1 and 2 months after notification	6
„ „ 2 „ 3 „ „ „	6
„ „ 3 „ 4 „ „ „	3
„ „ 4 „ 5 „ „ „	2
„ „ 5 „ 6 „ „ „	4
„ „ 6 „ 7 „ „ „	2
„ „ 7 „ 8 „ „ „	2
„ „ 8 „ 9 „ „ „	2

Died between	9	and	10	months	after	notification	...	2
,,	,,	11	,, 12	,,	,,	,,	...	1
,,	,,	12	,, 15	,,	,,	,,	...	—
,,	,,	15	,, 18	,,	,,	,,	...	2
,,	,,	18	,, 24	,,	,,	,,	...	—
,,	,,	24	,, 30	,,	,,	,,	...	—
,,	,,	30	,, 36	,,	,,	,,	...	1
,,	78	months	after	notification	...	...	...	1

It will be observed that fully 70 per cent. of the cases notified were dead within 6 months of the notification.

AGES AT DEATH.

The ages at death ranged from 6 months to 69 years, the average being 29 years.

For males, the minimum age was 6 months, the maximum 69 years, and the average 34 years.

For females, the minimum age was 1½ years, the maximum 57 years, and the average 25 years.

SEX.

28 were males and 30 females.

OCCUPATIONS.

The occupations of the 28 males were as follows:—

Labourers	...	...	4
Teamer	...	...	3
Blacksmith	...	...	2
Engineering Fitter	...		2
Machine Driller	...	...	1
Boiler Rivetter	...	...	1
Joiner (Journeyman)	...		1
Woollen Spinner	...	...	1
Cab Driver	...	...	1
Coal Miner	...	...	1
Bottle Washer	...	...	1
Milk Dealer	...	...	1
Glass Bottle Blower	...		1
Motor Car Driver	...		1
Professional Singer	...		1
Book Publisher	...	...	1
Teacher	...	...	1
Child of Colliery Labourer			2
,, ,, Coal Miner	...		1
,, ,, Cab Driver	...		1

The occupations of the 30 females were as follows:—

Wife of Labourer	...		2
,, ,, Upholsterer	..		1
,, ,, Coal Miner	...		1
,, ,, Boiler Rivetter	...		1
,, ,, Jeweller (Master)			1
,, ,, Canal Boatman	...		1
,, ,, Joiner (Journeyman)	...	...	1
,, ,, Butcher	...		1
,, ,, Woollen Merchant			1
Child of Labourer	...		2
,, ,, Clerk	...	...	1
,, ,, Glass Bottle Blower	...		1
,, ,, Police Constable			1
,, ,, Blacksmith	...		1
,, ,, Fitter	...	...	1
,, ,, Coal Miner	...		1
Unmarried. Rag Sorter	...		1
Unmarried. Worsted Rover	...		1
Unmarried. Cotton Warper	...		1
Unmarried. Reeler in Worsted Mill	..	...	1
Unmarried. School Teacher	...		1
Unmarried. Cook (Domestic)	...		1
Unmarried. No occupation	...		6

Duration of Illness.

The duration of illness was stated to range from one month to 11 years, the average period being 2 years.

Nature of Onset.

In most cases the onset was gradual. Very often it was described as "cold upon cold." In five cases the disease was stated to have started with an attack of pleurisy, in two cases after influenza, in two cases after whooping cough, in one case after confinement, in one case after pneumonia, and in two cases with hæmoptysis.

Family History.

Out of 42 cases, where fairly reliable information was obtained, there was a family history of phthisis in 25 (60 per cent.) and no history of the disease in 17. In former years the percentage of cases without family history of the disease has generally been greater than the percentage with such histories. In many cases there was direct exposure to the infection. For instance, a young woman had slept with a consumptive almost up to the date of the latter's death, and it was not surprising that she herself contracted the disease. A man who died towards the end of the year from phthisis, lost his wife from the same disease nine months before. Another death was that of a man who lost his wife 3 years ago and a child 2 years ago, both from phthisis, and a brother of his is suffering from the disease. There was also another death of a man, whose wife had died from phthisis 4 years before. In one family where a young girl died from phthisis, the paternal grandfather and two sisters had previously died from the disease, and a brother was threatened with it. There was also the case of a young mother who lost a baby from phthisis six months before her own death.

Housing Conditions.

14 (26 per cent.) of the deaths took place in public institutions, 12 in the Workhouse, and 2 in the Asylum. Two of the Workhouse cases had been admitted from Common Lodging Houses.

Particulars were obtained as to 48 houses, in which cases had died or from which they had been removed to public institutions. 31 (65 per cent.) of these were through houses and 17 back-to-back.

2 roomed	...	4	5 „	...	8
3 „	...	17	6 „	and over ...	6
4 roomed	...	13			

With four exceptions all were working-class dwellings.

NOTIFICATION OF PHTHISIS.

The Public Health (Tuberculosis) Regulations, 1911, came into force on 1st January, 1912.

These regulations, which are supplementary to those issued in 1908 requiring the notification of poor law cases and to those issued in 1911 requiring the notification of hospital cases, require the notification of all other cases of pulmonary tuberculosis coming under the observation of medical practitioners. This year is therefore the first in which all cases of pulmonary tuberculosis have been compulsorily notifiable. Since 1899 there has been a voluntary system of notification of phthisis in the City, and up to 1911 some 505 cases had been notified, or an average of about 42 per annum.

During 1912 under the compulsory system, 110 cases were notified. Of these 80 were notified under the General Order, 6 under the Hospital Order, and 24 under the Poor Law Order.

The following is a brief summary of the information received with regard to the 110 cases:—

1. Sex.

58 males and 52 females.

2. Ages.

Under 1 year ...	2	25—45 years ...	45
1—5 years ...	2	45—65 ,, ...	17
5—15 ,, ...	20	Over 65 years ...	2
15—25 ,, ...	22		

3. Occupations.

The occupations of the 58 males were as follows:—

Labourer	8	Lamplighter ...	1
Teamer	3	Asylum Attendant ...	1
Coal Miner	4	Teacher	1
Blacksmith	2	Overlooker ...	1
Mechanic	2	Brewery Labourer ...	1
Iron Planer	1	Iron Driller ...	1
Shopkeeper	1	Book Publisher ...	1
Commercial Traveller ...	1	Motor Car Driver ...	1
Wire Drawer	1	Boiler Maker ...	1
Farm Labourer	1	Glass Bottle Blower ...	1
Telegraph Operator ...	1	Milk Dealer ...	1
Corporation Labourer ...	1	Joiner	1
Fish Hawker	1	Cab Driver ...	1
Bricklayer's Labourer ...	1	No occupation ...	1
Road Foreman	1	Occupation unknown ...	1
Maltster's Labourer ...	1	Children of Labourers ...	6
Insurance Agent	1	Children of Coal Miners ...	2
Basket Maker	1	Child of Signalman ...	1
Sack Mender	1	Child of Store Keeper ...	1

The 52 females had the following occupations:—

Wives of Labourers ...	5	Mat Maker	1
,, ,, Coal Miners ...	3	Milliner	1
Wife of Milk Salesman	1	Midwife	1
,, ,, Gardener ...	1	Children of Labourers ...	5
,, ,, Cattle Dealer ...	1	Children of Coal Miners ...	2
,, ,, Upholsterer ...	1	Child of Dyer	1
,, ,, Joiner	1	,, ,, Police Constable	1
Millworkers	11	,, ,, Blacksmith ...	1
Machinist	1	,, ,, Signalman ...	1
Rag Gatherer	1	,, ,, Platelayer ...	1
School Teacher	1	Unknown	9
Music Teacher	1		

4. Family History.

Out of 109 cases where information was obtained 55 had a definite history of tuberculosis in the family and 54 had no such history. Some of the cases, although there was no tubercular family history, had been in contact with phthisical persons.

The following are a few examples of families giving a tuberculous history:—

(1). Mother's brother notified as phthisis. Father's two brothers died of phthisis. Sister died of tubercular meningitis. Brother also affected with the disease.

(2). Father and mother both died of phthisis. Sister also notified as suffering from the disease.

(3). Mother notified as having phthisis. Nine of patient's brothers and sisters have died chiefly from various forms of tubuerculosis.

(4). Maternal aunt, paternal aunt, and two brothers died of phthisis.

(5). Paternal grandfather and two sisters died of phthisis, one brother notified as suffering from phthisis, and one sister has a "weak chest."

5. Duration of Illness.

The duration of illness before the date of notification as given by the patients or their relatives varied from a few weeks to 12 years. The average duration was 1½ years.

6. Nature of Onset.

In 109 cases the nature of the onset was given as follows:—

Gradual and Indefinite	59
With Repeated Colds	14
,, Bronchitis	10
,, Pleurisy	7
,, Influenza	6
,, Pneumonia	3
,, Whooping Cough	2

With Asthma	2
,, Anæmia	2
,, Hæmoptysis	2
,, Croup	1
,, Accident	1

7. Housing Conditions.

15 of the cases were notified from the Workhouse, 13 of which had been admitted from ordinary dwellings and two from Common Lodging Houses. Two cases were reported from Sanatoria, both having been admitted from private dwellings. One case was reported from the Clayton Hospital, as having been admitted from a Common Lodging House.

Of 104 ordinary dwellings 63 were through and 41 back-to-back houses.

2 Roomed	21	5 Roomed	14
3 ,, ...	23	6 ,, and over ...	11
4 ,, ...	35		

There was an average population of 4·5 persons per house.

30 of the cases had the sole use of a bedroom and 79 had not 57 of the cases had the sole use of a bed and 52 had not. In two instances the patient's bedroom was occupied by other members of the family both by day and night. In one case—that of a young man of 20—his father occupied the bedroom by day, while the patient, his mother, and sister slept in it by night. In the other case—that of young girl—her father occupied the bedroom by day, while the patient, her mother, and two sisters slept in it at night. Better conditions than these for propagating tuberculosis could not be imagined, and at the time of writing this report, one of the sisters mentioned in the second family, has started with the disease.

Sanitary defects were specially noted in connection with 27 of the houses:—Bad ventilation 6, bad lighting 3, dampness 11, uncleanliness 4, and overcrowding 3.

These defects were duly dealt with.

8. Notification and Deaths.

37 deaths occurred during 1912 amongst the 110 cases notified.

Died within a month	6
,, between 1 and 2 months	12
,, ,, 2 ,, 3 ,, ...	4
,, ,, 3 ,, 4 ,, ...	3
,, ,, 4 ,, 5 ,, ...	1
,, ,, 5 ,, 6 ,, ...	2
,, ,, 6 ,, 7 ,, ...	3
,, ,, 7 ,, 8 ,, ...	1
,, ,, 8 ,, 9 ,, ...	4
,, ,, 9 ,, 10 ,, ...	1

Of these 3 deaths were certified as having died from diseases other than tuberculosis.

9. Bacteriological Examinations.

In 25 of the notified cases tubercle bacilli had been found in the sputum when examined at the County Hall.

PROCEDURE AFTER NOTIFICATION.

The steps taken during the year with a view of preventing the spread of phthisis were on the same lines as in former years. The homes of notified cases were visited by the health visitors, the home and personal circumstances ascertained, and advice both verbal and printed given with regard to precautions. The cases were regularly re-visited and kept under supervision. Any sanitary defects found were dealt with by the sanitary inspectors. Orders for the supply of disinfectants were freely granted, and the rooms occupied by the patients, the bedding, etc., were disinfected whenever an opportunity occurred. 57 houses were disinfected during the year, 30 after deaths and 27 after removals.

PREVENTION AND CURE OF PHTHISIS.

In the year 1912 a notable development has taken place in regard to the institution of practical and strong measures for the prevention and cure of cases of tuberculosis. As already mentioned, all cases of pulmonary tuberculosis coming under the notice of medical men both in the course of private and public practice became compulsorily notifiable on and after 1st January, 1912 (The Public Health (Tuberculosis Regulations, 1911). The earlier Orders (dating from 1908), which first of all provided for the notification of Poor Law cases and later for the notification of hospital cases, also paved the way for this general order, which undoubtedly was essential to any systematic attack on the disease. The order not only provides for the notification of cases of the disease, but it specially empowers local authorities to provide treatment (in sanatoria, dispensaries, or otherwise), and to supply "such medical assistance, facilities, and articles as may be necessary for detecting pulmonary tuberculosis, for preventing the spread of infection, and for removing conditions favourable to the spread of infection."

The other great step was the institution of Sanatorium Benefit under the National Insurance Act, which came into force on the 15th July, 1912. Sanatorium Benefit includes treatment in sanatoria, or other institutions or otherwise, of insured persons when suffering from tuberculosis or such other diseases as the Local Government Board with the approval of the Treasury may select.

Apart, however, from these national measures, and indeed before the Insurance Act came on the scene, the Sanitary Committee of the Wakefield City Council had been seriously considering the question of dealing with the consumptives of the City.

In my Annual Report for 1910 I had suggested the establishment of a Tuberculosis Dispensary, and the suggestion met with the favourable consideration of the Committee, and the Chairman (Alderman Hudson) and myself were deputed to visit several of the existing Dispensaries and report. We did so, and on the 21st February, 1912, we presented a report describing the working of the Dispensaries we had seen and recommending the establishment of a Dispensary in Wakefield.

After full consideration the recommendations of the report were adopted, and the following report of the Committee was submitted to the City Council and approved, the sum of £600 being duly provided in the Estimates for the municipal year 1912-13.

"In recommending to the City Council the establishment of a "Tuberculosis Dispensary in Wakefield, the Sanitary Committee beg "to submit the following considerations:—

"1. Tuberculosis is the cause of an immense amount of sickness, "mortality, suffering, and poverty amongst the inhabitants, "especially the working-class inhabitants of the City. This "has been shown year after year in the Reports of the Medical "Officer of Health. During the year 1911 no fewer than "92 persons died in the City from various forms of tuberculosis, and "these deaths constitute 11 per cent. of the total mortality. Of the "various forms of Tuberculosis the greatest mortality is caused by "Tuberculosis of the Lungs, or Phthisis, and 60 persons, mostly in "the prime of life, died from this form of Tuberculosis during the "year 1911. It is impossible to say with any degree of accuracy to "what extent the disease prevails in our midst, but it certainly is no "exaggeration to say that there are at least 300 persons in the City "at the present moment suffering from Phthisis in one or other stage "of the disease.

"2. Tuberculosis is essentially a preventable disease, and as "such calls for the intervention of the Sanitary Authority. The "effective prevention of the disease requires a variety of measures, "but not the least important of these are the measures directed "against the spread of the disease from person to person. Amongst "the measures so directed the cure of cases in the earlier stages of the "disease must be regarded as a preventative measure of the highest "importance, for every case cured is a focus of infection, actual or "potential, removed.

"3. From the 1st of January last, every case of Pulmonary "Tuberculosis coming under the notice of a medical man must be "reported to the Medical Officer of Health. In making the notifica- "tion of the disease compulsory, the Local Government Board have "urged on Local Authorities the importance of taking effective steps "to stay the disease, and have expressly conferred on them the power

"to provide treatment either in Dispensaries, Sanatoria, or otherwise, and to employ all measures likely to cure and prevent the disease.

"4. The establishment of a Tuberculosis Dispensary in the City is, in the opinion of the Sanitary Committee, the first step that should be taken in an active campaign against the disease. Before making this recommendation, the Committee have made very searching inquiries into the work of existing Dispensaries, and have satisfied themselves that these dispensaries are calculated to achieve the objects which they have set before them. They are also supported by the fact that an increasing number of municipalities throughout the country are establishing Tuberculosis Dispensaries. Compared with other methods of dealing with the disease, such as sanatoria, the expenditure on a Dispensary will be comparatively small, and even this expenditure may be wholly or in part met by a grant from the Exchequer under the provisions of the Insurance Act.

"5. Briefly stated a Tuberculosis Dispensary will be a place in the City from which will radiate all the measures calculated to prevent personal infection of Tubercular Phthisis. It will provide for the medical examination of cases of suspected phthisis, and for the medical examination of the contacts of notified or discovered cases. It will thus seek to effect, what is one great desideratum in dealing with phthisis, namely, the recognition of cases in the early and curable stages of the disease. It will also provide for the treatment of such cases where the patients are unable to pay for the necessary medical attendance. At the commencement at any rate of the work of the dispensary it is only proposed to offer treatment by tuberculin injections in suitable cases. Arrangements will be made for certain attendances in the evening, so that working men, in the early stages of phthisis, will be able to have the benefit of this treatment without breaking their work. Associated with medical treatment will be close supervision of all cases, and their homes, both by the Medical Officer and Health Visitors, and the taking of all necessary steps both to effect, when possible, a cure and to prevent the spread of the disease. Sputum receptacles might be given to poor people, and in suitable cases open-air shelters might be lent out.

"6. In order to give effect to the scheme we suggest the following arrangements:—

"(a). That the work of the Dispensary be entrusted to the Medical Officer of Health.

"(b) That an Assistant Medical Officer of Health be appointed. It would be quite impossible for the Medical Officer of Health to undertake the considerable duties attached to the Dispensary, unless he is relieved of many of the duties he at present performs, *e.g.*, the medical inspection of school children.

"(c). That an additional health visitor or nurse be appointed to assist at the Dispensary, and in the investigation and supervision of cases at home.

"(d). That premises suitable for the Dispensary be secured in a central part of the City, and properly equipped for the purpose.

"ESTIMATED EXPENDITURE.

	£
Rent of Premises, Rates, etc.	50
Equipment of Dispensary	100
Tuberculin, etc.	100
Salary of Nurse	80
Salary of Assistant Medical Officer ...	250
Incidental Expenses	20
	£600."

In the meantime the scheme was submitted to a meeting of medical men practising in the City, who gave it their unanimous and hearty approval.

The way was now clear for starting the Dispensary, and premises were taken for the purpose, but the publication of the Interim Report of the Departmental Committee on Tuberculosis (Astor Report), followed by the Local Government Board Circular of the 14th May, brought matters to a standstill. The Astor Report recommended that the machinery necessary for administering Sanatorium Benefit should be provided by County Councils and the Councils of County Boroughs, and this recommendation received the approval of the Local Government Board. The result of this decision was that as Wakefield was a Non-County Borough, the County Council would be responsible for the Dispensary as well as the sanatorium provision necessary for the City. The City Council, however, felt that many advantages would accrue from having the Dispensary in their own hands, and indeed the Astor Report suggested that special arrangements might be made in the case of larger non-county boroughs who had provided or were willing to provide any part of the machinery. Application for this purpose was therefore made to the County Council, and after protracted negotiation, the County Council, with the approval of the Local Government Board, agreed to let the Dispensary work remain in the hands of the City Council. Meanwhile time had passed, and it was not till early in 1913 that the Dispensary was actually opened.

With regard to actual treatment in sanatoria, temporary provision was made by the County Council, and four Wakefield patients (all insured men) received treatment during the year). domicilary treatment was also provided in accordance with the Insurance Act.

CANCER.

During 1912 there were 34 deaths from Cancer and other forms of malignant disease, giving a death-rate of 0·69 per 1,000, which is less than half the death-rate for the preceding year (1·41) and less than the average for the preceding 10 years (0·88).

Deaths in Wards.

Ward.	No. of Deaths.	Death Rate per 1,000 of Population.
St. John's...	1	0·22
Northgate	2	0·41
Eastmoor	3	0·65
Primrose Hill	2	0·37
North Westgate	4	0·81
South Westgate	5	1·34
Kirkgate	5	1·02
Calder	7	1·67
Alverthorpe	1	0·44
Belle Vue	4	0·73
Sandal	—	0·00
Whole City	34	0·69

Deaths at Age Periods.

5—15 years	...	...	...	...	1	death.
25—35 ,,	...	...	...	...	1	,,
45—55 ,,	...	...	...	...	9	deaths.
55—65 ,,	...	...	...	...	12	,,
65—75 ,,	...	...	...	...	10	,,
75—85 ,,	...	...	...	...	1	death.

Sex.

20 were females and 14 males.

Organs Affected.

Carcinoma of Stomach ...	...	...	5 deaths.
,, ,, Rectum ...	...	...	4 ,,
,, ,, Intestines	...	...	3 ,,
,, ,, Liver ...	...	...	5 ,,
,, ,, Gall Bladder	...	...	2 ,,
,, ,, Liver and Pancreas		...	1 death.
,, ,, Pancreas ...	...	...	1 ,,
,, ,, Abdomen (organ unspecified)			1 ,,

Carcinoma of Œsophagus	...	...	1	,,
,, ,, Uterus	...	...	...	4	deaths.
,, ,, Mamma	...	...	...	1	death.
,, ,, Jaw	...	...	...	1	,,
,, ,, Tonsil	...	...	...	1	,,
Epithelioma of Tongue	...	...	...	2	deaths.
Sarcoma of Lungs	...	...	...	1	death.
,, ,, Parotid Gland	...	...	1	,,

Remarks.

Last year I had to record a marked increase in the Cancer mortality. This year I have to record an equally marked decrease, especially in connection with disease of the intestinal tract, and in the female of the uterus.

HEART DISEASE.

During 1912 there were 87 deaths from organic heart disease, giving a death-rate of 1·77 per 1,000, as compared with 1·98 in the previous year, and 1·5 the average for the preceding ten years.

Of the deaths 39 were males and 48 females.

THE CITY HOSPITAL.

There were 86 patients admitted during the year, and the number remaining in hospital from 1911 was 18, and included in the number under treatment.

Of the total 93 were discharged, 5 died, and 6 remained in hospital on January 1st, 1913.

CORPORATION FEVER HOSPITAL.

HOSPITAL STATISTICS, 1912.

Disease.	No. of Cases Remaining 31st Dec., 1911.	No. of Cases admitted 1912	Total under Treatment	No. of Cases Discharged 1912.	No. of Cases Dying 1912.	Percentage. Mortality.	Remaining 31st Dec., 1912.
Scarlet Fever	16	30	46	43	0	0·0	3
Diphtheria ...	1	52	53	45	5	9·4	3
Enteric Fever	1	4	5	5	0	0 0	0
Total ...	18	86	104	93	5	4·8	6

The average daily number of patients in the hospital was 10, the maximum being 23 (February), and the minimum 2 (July).

Typhoid Fever.

There were 4 cases admitted and 5 treated, and all recovered. One case was complicated with Pneumonia.

Female,	aged	26,	admitted	9th	day of	disease,	in	hospital	49	days.
„	„	29,	„	10th	„	„	„	„	46	„
„	„	10,	„	13th	„	„	„	„	32	„
Male	„	33,	„	6th	„	„	„	„	54	„

The average duration of stay in hosital was 45 days.

DIPHTHERIA.

There were 52 cases admitted, with a mortality of 9·6 per cent. There were 53 cases treated, with a mortality of 9·4 per cent. One case was admitted moribund, and died within 13 hours after admission. If this be deducted from the total deaths the percentage mortality would be 7·5 per cent.

Of the total number admitted, six cases were suffering from Laryngeal Diphtheria.

Tracheotomy was performed in four cases, with two deaths, giving a percentage mortality of 50 per cent.

PARTICULARS OF THE DEATHS.

(1). Girl, aged 9. Admitted 3rd day of disease with marked membrane on tonsils and palate. Death occurred on the 7th day from heart failure.

(2). Boy, aged 4. Admitted 7th day of disease with membrane on uvula and tonsils, and paralysis of palate which extended. He died on the 13th day from gradual heart failure.

(3). Girl, aged 7. Admitted 4th day of disease with extensive membrane on tonsils, palate and nose, and glands greatly enlarged. She died 13 hours after admission.

(4). Girl, aged 4. Admitted on 5th day of disease with laryngeal and nasal diphtheria. Tracheotomy was performed, but patient died from toxæmia 22 hours later.

(5). Boy, aged 3. Admitted (?) 2nd day of disease with laryngeal diphtheria. Tracheotomy was performed, with only partial relief, as the membrane extended down the trachea, and he died after being in hospital 2 days from acute heart failure.

RELATION OF DEATHS AND RECOVERIES TO THE DURATION OF ILLNESS PRIOR TO ADMISSION.

DAYS OF ILLNESS PREVIOUS TO ADMISSION.

Days.	0-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	21	53
Deaths	1	...	1	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...
Recoveries	...	...	7	11	6	6	3	4	4	...	1	...	...	...	2	...	2	1
Mortality Percentage ...	100·0	...	12·5	8·3	...	14·2	...	20·0	...	...	...	...	...	...	...	...	...	...

Many of the cases that were admitted on a late day of the disease had antitoxin before admission, and one case was admitted on the 53rd day with purulent nasal discharge, which on bacteriological examination showed virulent diphtheria baccilli. Eleven cases were treated with antitoxin, with an average dose of 7,000 units each.

The average duration of stay in hospital was 30 days. In those patients who died the average stay was 3 days 12 hours.

REVISION OF DIAGNOSIS.

Four cases admitted as Diphtheria were revised to Tonsillitis.

COMPLICATIONS AFTER ADMISSION.

Paralysis of Palate ...	2	Adenitis	1
,, ,, Pharynx ...	1	Albuminuria	2
,, ,, Lower Limbs	1	Otorrhœa	1

COMPLICATIONS BEFORE ADMISSION.

Rhinorrhœa	4	Ringworm	1
Paralysis of Palate ...	4		

SCARLET FEVER.

There were 30 cases admitted and 46 treated, and all recovered.

The following table shows the day of disease on which the 30 patients were admitted:—

1 day	1	5 days	3
2 days	10	6 ,, ...	1
3 ,, ...	4	14 ,, ...	1
4 ,, ...	9	20 ,, ...	1

The average duration of stay in hospital was 39 days, the minimum being 29 days and the maximum 68 days.

There were four cases admitted, which showed all the signs of Scarlet Fever on admission, but which never showed any subsequent peeling or desquamation.

The following table shows what complications occurred after admission:—

Otorrhœa	2	Adenitis (Secondary) ...	3
Rhinorrhœa	2	Rheumatism	2

Revision of Diagnosis.

Three cases admitted as Scarlet Fever were revised to Measles and two to Erythema.

Financial Statement.

The City Accountant has kindly supplied me with the following return, showing the cost of maintaining the hospital during the year ended 31st December, 1912:—

	£	s.	d.
Salaries and Wages	419	3	0
Groceries, etc.	333	3	1
Soap and Cleansing Materials ...	6	13	4
*Drugs and Disinfectants	43	6	7
Coal, Gas, and Water	104	9	9
Printing, etc.	10	7	11
Furniture, Bedding, etc.	59	12	0
Rent of Telephones	10	10	0
Rates and Insurance	135	7	3
*Removal of Patients and Bedding ...	87	7	6
Repairs	169	2	8
Uniforms	8	1	9
Repairs to Ambulance	5	13	9
Miscellaneous	9	1	4
	£1,401	19	11

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

The whole of the interior of the hospital was painted during the year, and part of the drainage was taken up and relaid. New slop sinks were provided for the wards. These items are included in repairs.

The sum of £23 2s. 0d. was received in payment of maintenance of patients.

Extension of the Hospital.

The question of extending and improving the hospital has been receiving the special consideration of the Committee during the year.

The Local Government Board has been consulted in the matter, and in the event of their approval being secured, no doubt the scheme will at once be proceeded with.

SANDAL HOSPITAL.

This hospital was not used during the year. It was, however, thoroughly overhauled and repaired and the outside painted in order that it might be kept in good condition and ready for use. The question of using it for a Tuberculosis Hospital has been under consideration.

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	214
Number of Rooms Disinfected	298
Number of Schools Disinfected	23
Number of School Class Rooms Disinfected...	98
Number of Times Steam Disinfector used ...	287

NUMBER OF ARTICLES DISINFECTED.

Beds	270
Mattresses	221
Blankets	514
Sheets	247
Counterpanes	272
Pillows	473
Bolsters	195
Curtains	239
Carpets	268
Rugs	131
Boots	6
Articles of Men's Clothing	99
Articles of Women's Clothing	101
Articles of Children's Clothing	421
Miscellaneous	889
Total	5,266

WAKEFIELD AND DISTRICT SMALLPOX HOSPITAL.

During the year negotiations were completed between the West Riding County Council and the Wakefield and District Smallpox Hospital Committee whereby the former body took over the Hospital for the purposes of a temporary sanatorium, conditional on vacating the Hospital in the event of a smallpox outbreak.

No cases of Smallpox occurred during the year.

BACTERIOLOGICAL EXAMINATIONS.

Dr. Kaye, the County Medical Officer of Health, informs me that during 1912 the following number of specimens were forwarded to the County Council Bacteriological Laboratory at Wakefield by medical practitioners in the City and myself:—

Sputum (Tubercle Bacillus)	108
Throat Swabs (Diphtheria)	346
Blood (Enteric Fever)	19
Urine (Enteric Fever)	13
Urine (Tubercle Bacillus)	6
Hairs (Ringworm)	402
Various (including Fæces, animal organs, etc.)	93
Total	987

These figures represent a considerable increase on former years. The services of the laboratory becomes more valuable year by year, and the work will continue to grow. The new measures in connection with tuberculosis require bacteriological assistance on a considerable scale.

FACTORY AND WORKSHOP ACT, 1901.

"The Medical Officer of Health of every District Council shall, in "his Annual Report to them, report specifically 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 1912, 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).....	29	6	None
Workshops (including Workshop Laundries)	275	14	None
Workplaces (Other than Outworkers' premises included in Part 3 of this Report)			
Total	304	20	—

Factories, Workshops, Laundries, Workplaces, and Homework.

2.—Defects Found.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
1	2	3	4	5
Nuisances under the Public Health Acts*:—				
Want of Cleanliness	14	14		
Want of Ventilation	2	2		
Overcrowding				
Want of Drainage of floors				
Other Nuisances	9	9		
Sanitary accommodation — insufficient	1	1		
Sanitary accommodation — unsuitable or defective	5	5		
Sanitary accommodation — not separate for sexes	1	1		
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouses (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	22	32		

*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.									Outwork in Unwholesome Premises, Sect. 108			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending lists.	Prosecutions.							
	Twice in the year.			Once in the year.											
	Lists	Outworkers		Lists.	Outworkers			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
Wearing Apparel—															
(1) Making, &c., ...	4	2	12												
(2) Cleaning and washing ...															
Household Linen															
Lace, lace curtains and nets															
Curtains & furniture hangings															
Furniture and upholstery ...															
Electro-plate. File making...															
Brass and brass articles ...															
Fur pulling															
Cables and chains															
Anchors and grapnels... ...															
Cart gear															
Locks, latches, and keys ...															
Umbrellas, &c.															
Artificial flowers															
Nets, other than wire nets ...															
Tents, Sacks															
Racquet and tennis balls ...															
Paper, etc., boxes, paper bags															
Brush making. Pea picking...															
Feather sorting...															
Carding, &c., of buttons, &c.															
Stuffed Toys- Basket making															
Chocolates and sweetmeats ...															
Total	4	2	12												

4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year.	Number.
Bakehouses (Factories)	2
Bakehouses (Workshops)	34
Dressmaking	23
Tailoring	20
Millinery	24
Boot Repairing	17
Joinery	14
Saddlery	5
Barley Dressing	4
Coach Building	4
Rag Sorting	4
Cycle Repairing	4
Hosiery	4
Upholstering	4
Various	30
Total number of workshops on Register	193

5.—Other Matters.

Class.	Number.
Matters notified to H.M. Inspector of Factories:—	—
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	6
Action taken in matters referred by H.M. Inspector 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	4

Section 22 of the Public Health Amendment Act, 1890, is in force in Waktfield, 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.

A. New Houses.

According to information kindly supplied to me by the City Surveyor there were 125 new houses erected in the City during 1912.

The following is a list of the houses erected in the various wards:—

Eastmoor Ward.	
Green Hill Road	7
St. John's Ward.	
Richmond Road	2
Bradford Road	1
Clifton Place	10
	13
North Westgate Ward.	
Flanshaw Lane	2
Benjamin Street	12
Dewsbury Road	2
Co-operative Street ...	1
Alverthorpe Road ...	1
	18
Kirkgate Ward.	
Ings Road	5
Calder Ward.	
Welbeck Street	11
Avondale Street	2
Barnsley Road	1
	14
Belle Vue Ward.	
Fieldhouse Street ...	10
Templar Street	11
Doncaster Road ...	6
Oakenshaw Street ...	6
	33

Northgate Ward.	
Nil.	
Primrose Hill Ward.	
Brunswick Street ...	6
Kay Street	2
Marsland Terrace ...	2
	10
South Westgate Ward.	
Denby Dale Road ...	1
Wauchope Street ...	1
Chald Lane	1
Horbury Road	2
	5
Alverthorpe Ward.	
Wellington Street ...	6
Flanshaw Lane	1
Wilhelm Avenue ...	1
Silcoates Street	1
	9
Sandal Ward.	
Manygates Lane	3
Castle Road	3
Woodcock Street ...	1
Barnsley Road	1
Chevet Lane	1
Ashdown Road	2
	11

The following list gives the number of new houses erected in each of the last 13 years:—

1912	... ... 125 houses.	1905	... ... 51 houses.
1911	... ... 173 „	1904	... ... 85 „
1910	... ... 115 „	1903	... ... 135 „
1909	... ... 63 „	1902	... ... 87 „
1908	... ... 56 „	1901	... ... 66 „
1907	... ... 28 „	1900	... .. 162 „
1906	... ... 19 „		

B. Housing Inspection.

Statistics of Housing Inspection, 1903-1912.

Year.	No. of Houses Inspected.	No. of Houses reported defective.	No. of Defects reported.	No. of Houses Unfit for Habitation.	No. of Houses Closed by Order.	No. of Houses Voluntarily Closed.	No. of Houses Demolished by Order.	No. of Houses Voluntarily Demolished	No. of Houses made Habitable.
1912	230	192	490	3	1	0	—	1	1
1911	472	257	604	10	1	3	—	1	5
1910	742	148	517	—	—	—	—	—	—
1909	790	101	—	8	3	—	—	—	5
1908	584	83	—	2	—	—	—	2	—
1907	902	221	—	3	—	—	—	—	3
1906	1283	—	—	14	14	—	—	—	4
1905	Special Report by Medical Officer of Health on 88 insanitary houses.								
1904	—	—	—	6	4	—	—	—	2
1903	Special Inspection by Medical Officer of Health of 272 houses.								
	—	—	—	13	12	—	—	—	—
Total ...	1906-12 5003			59	35	3	—	4	21

During 1912 systematic inspection of dwelling-houses in certain parts of the City were made in accordance with the Housing Regulations of the Local Government Board made under the Housing, Town Planning, etc., Act, 1909.

The inspections were principally made in Thornes Lane District, Yards off Kirkgate and Westgate and in Alverthorpe.

The following table gives the results of these inspections:—

	Total.	District No. 1.	District. No. 2.	District. No. 3.
Number of Houses Inspected	230	29	77	124
Defects Found:—				
Dilapidations	61	18	23	20
Dampness	64	8	13	43
Defective Lighting	33	1	6	26
Defective Ventilation	49	6	36	7
Dirty	- -	—	—	—
Overcrowded	—	—	—	—
Water not laid on	9	—	2	7
No Sink	10	—	7	3
Drainage Defects	55	2	9	44
Closet Defects	30	2	—	28
Ashes Receptacle Defects	17	—	11	6
Yard Surface Defects	87	2	7	78
Nuisances from keeping Animals	3	—	2	1
Other Nuisances or Defects	72	—	15	57
Total Number of Defects	490	39	131	320
Number of Houses showing Defects ...	192	19	68	105
Number of Defects for which Informal Notices were served	389	39	131	219
Number of Defects remedied in 1912 through Notices served in 1912 ...	183	10	52	121
Number of Defects remedied in 1912 through Notices served in 1911 ...	324	28	59	237
Total number of Defects remedied in 1912	507	38	111	358
Number of Defects for which Statutory Notices were served	17	1	—	16
Number of Defects not remedied at end of 1912	307	29	79	199
Number of Houses in which Defects not remedied at end of 1912	118	17	40	61
Number of Houses found not fit for habitation	3	1	—	2
Number of Houses voluntarily made fit ...	—	—	—	—
Number of Houses voluntarily closed ...	1	—	—	1
Number of Houses voluntarily closed and demolished	1	—	—	1
Number of Houses represented unfit for habitation (Section 17, Housing, etc., Act, 1909)	1	1	—	—
Number of Houses for which Closing Orders were made	1	1	—	—
Number of Houses closed under Closing Order	1	1	—	—
Number of Houses demolished under Demolition Order	—	—	—	—
Number of Houses for which Closing Order (made 1911) was determined ...	1	—	1	—

Most of the action taken for the repair of houses during the year has been done informally—that is by serving informal notices on the owners, and not legal notices under the Housing Acts. The advantages of the system are these (1) Where the owner is approached informally he is often more disposed to comply with the requirements than when he receives a legal notice. At any rate much resentment is avoided. (2) It is often possible to secure more extensive improvements by negotiation than by compulsion. Take Johnson's Place for example, or the yards in Church Street. Here by negotiation we were able to secure very great improvements, and I doubt if we could have got the same results by legal procedure. And incidentally I might mention that a great many yards in the City could be enormously improved on the same lines as were adopted in connection with Johnson's Place. By the sacrifice of a few houses here and there to let in air and light, and the thorough repair of the remaining ones, many of the unsatisfactory yards would assume quite a different appearance. And such improvements on the lines advocated by Mr. Nettlefold, of Birmingham, in his excellent Handbook on Housing can best be secured by negotiation with the owner.

Of course if the owner is not disposed to meet the Corporation, then resource must be made to legal procedure, but as I have said, this has not been necessary during the year under review. I must say, however, that there is one difficulty about the method of informal procedure which sometimes arises, and it is this. Occasionally an owner promises to carry out our requirements, but does so in a dilatory or incomplete manner. He may, however, do sufficient to make the subsequent serving of a legal notice rather awkward, although we are far from being satisfied with the improvement effected. If instead a legal notice had been served he would have been bound to have expeditiously carried out the specified repairs.

It will be noticed that at the end of 1912 there were 118 houses, for the defects of which notices had been served but not complied with. Many of these houses had been inspected in the last few weeks of the year, and there had not been sufficient time to get the work done. There were also some houses where special difficulties had been met with. For instance there were 17 houses in Railway Terrace, Thornes Lane, where the flooding of the cellars occurs at certain times, and although experiments had been tried to abolish this trouble, they had not been successful, up to the end of the year, and consequently the houses remained on the books. There were also houses where certain repairs had been carried out but all the requirements had not been complied with.

House Closure.

It will be noticed that only three houses were closed for human occupation during the year. In face of the great and increasing shortage of houses for the working-classes, house closure has to be

carried on with great discretion. Otherwise great hardships would be caused to many occupiers, and the evil of overcrowding would be aggravated. One may practically say that there are no empty houses in the City. If it gets to be known that a house is to be vacated, numbers of people are after it immediately. The lack of houses not only impedes sanitary improvements but it leads to other evils, *e.g.*, overcrowding, letting of furnished rooms, etc.

Overcrowding.

It will be noticed that not one of the 230 houses has been reported as overcrowded. This is somewhat remarkable, because in the course of other inspections we come across a considerable number of overcrowded houses, and as I have already said, overcrowding is undoubtedly increasing in the City. It is not uncommon to find two families occupying a house only sufficiently large to accommodate one of them, and in nearly every case it is alleged that the second family is there because they cannot get a house of their own. Sometimes the explanation is not the true one, but in many instances we have satisfied ourselves that houses have been genuinely sought for, but in vain.

At the time of writing (June, 1913) the City Council has decided to immediately proceed with a scheme for the erection of 100 houses for the Working Classes under Part III. of the Housing Act, and also to build as many more as may be required. The provision of these houses will not only meet an urgent demand on the part of the public, but will enable the Council to deal more effectively with cases of overcrowding and other insanitary conditions in dwelling-houses.

Number of Houses Inspected.

It will be noticed from the table given earlier in this section that a much smaller number of houses were inspected during 1912 than in former years. Having regard to the fact that the work done under the Housing Regulations is second to none in public health importance, I think it most necessary that an increased number of houses should be dealt with every year. It is, of course, impossible to get over as many houses now when the considerable requirements of the housing regulations have to be complied with, as it was in former years, when briefer reports sufficed, but at the same time more house inspection is to be desired, even if less important work has to be sacrificed.

HOUSES-LET-IN-LODGINGS.

There are 24 houses registered as houses-let-in-lodgings (*i.e.*, where furnished rooms are sublet to different families), comprising 89 rooms, and providing accommodation for 290 adult lodgers. In all probability, the number of sublet houses is much greater than these figures indicate because a person who sublets rooms is under no

obligation to notify the Sanitary Authority, and only those that the inspectors happen to discover get on to the official register. These houses are regularly inspected, and have to be kept in accordance with the bye-laws. As a rule they are kept clean, cleaner in fact than the average house occupied by the same class, but in many respects they are often open to criticism. For instance tenants occupying the upper rooms have often in order to reach their own rooms to pass through the room on the ground floor occupied by another family, and the water tap in the bottom room often supplies all the families. The upper rooms nearly always are without sinks and without proper provision for cooking.

COMMON LODGING-HOUSES.

At the end of the year there were 21 Common Lodging-Houses on the register. Three houses were added during the year and two ceased to be occupied. One other house was enlarged. Five of the houses are now licensed under the Public Health Acts Amendment Act (1907), the remainder being registered. The accommodation provided in the 21 houses is sufficient for 759 adult lodgers, which is 72 more than in the previous year. The inspectors made 568 visits to the lodging-houses during the year, and generally speaking they have been satisfactorily kept. The system of licensing has many advantages over mere registration, inasmuch as the continuance of the licence depends on the house being satisfactorily maintained, the keepers are kept, as it were, automatically up to the mark. The system of licensing is one which could advantageously be applied in various matters connected with the public health.

SLAUGHTERHOUSES.

There are 32 slaughterhouses on the register, including the public slaughterhouse. 10 of these are registered, and 21 are licensed. One old registered slaughterhouse was brought into use again during the year.

The meat inspector made 1,980 visits to the slaughterhouses during the year, and generally speaking they have been satisfactorily kept.

NUMBER OF ANIMALS SLAUGHTERED IN WAKEFIELD DURING 1912.

Where Slaughtered.	Beasts	Calves.	Pigs.	Sheep.	Total.
Corporation Slaughterhouse	2014	309	804	6126	9253
Private Slaughterhouses	1095	169	3394	2633	7291
Total for Year	3109	478	4198	8759	16544

On the whole there is a decrease of 205 animals slaughtered as compared with the figures in 1911. As a matter of fact there was an increase on the number of calves, pigs, and sheep slaughtered, and a decrease of 338 beasts slaughtered. This decrease is probably accounted for by the scare which accompanied the outbreak of foot and mouth disease.

INSPECTION OF MEAT AND OTHER FOODS.

It is the duty of the Food Inspector to systematically inspect the carcases of animals in the various slaughterhouses and generally all kinds of food exposed or deposited for sale.

During the year 127 seizures of diseased or unsound food were made:—

Meat	... ...	118 seizures.
Fish	... ...	4 „
Shrimps	... ...	1 „
Fruit	... ...	3 „
Sweets	... ...	1 „

In all cases the food seized was destroyed, generally at the Refuse Destructor, but only in 9 instances was the food formally condemned by a Magistrate. In all the other instances the food was voluntarily surrendered by the owners.

In none of the cases did the facts justify a prosecution. The butchers give us, as a rule, every assistance in connection with meat inspection, and frequently the meat inspector is called in by them when anything doubtful is noticed. This assistance and co-operation is all the more gratifying because it so often results in financial loss to the butchers.

It has often occurred to me that this co-operation would be further strengthened if a series of lectures and demonstrations to butchers and slaughtermen, particularly the younger men, could be arranged. An educational course of this kind would be to the mutual advantage of the butchers and the sanitary authority.

UNSOUND MEAT.

Animal.	Tubercular Disease.			Other Diseases or Unsoundness.			Grand Total.
	Whole Carcase Seizures.	Partial Seizures.	Total.	Whole Carcase Seizures.	Partial Seizures.	Total.	
Beasts	1	16	17	2	17	19	36
Calves	1	–	1	1	–	1	2
Pigs	9	36	45	1	19	20	65
Sheep	–	–	–	7	8	15	19
	11	52	63	11	44	55	118

TUBERCULAR DISEASE IN BOVINES.

	Whole Carcase Seizures	Partial Seizures	Total
Cows...	1	14	15
Other Bovines ...	1	2	3
	2	16	18

The above tables show that 17 or 0·54 per cent. of the cattle (excluding calves) slaughtered were affected with tuberculosis. Amongst pigs 45, or 1·07 per cent., were found tuberculous. Taking all the animals slaughtered in Wakefield during 1912, the percentage of seizures (all degrees) was 0·7. This includes a number of animals injured during transit by railway to the Wakefield Market.

MILK SUPPLY.

There are registered in accordance with the Dairies, Cowsheds, and Milkshops Order (1885) at the end of 1912:—

Cowkeepers and Purveyors of Milk residing within the City	32
Purveyors of Milk residing within the City	27
Purveyors of Milk in the City, but residing without the City	14

The cowsheds and milkshops have been regularly visited by the inspectors, and every effort made to maintain or improve their sanitary condition, and to secure a clean and wholesome milk supply.

In February, 1912, I presented the following report on the City Cowsheds to the Sanitary Committee:—

REPORT ON THE SANITARY CONDITION OF THE WAKEFIELD COWSHEDS.

At the end of 1911, I made an inspection of the cowsheds in the City, and I beg to submit the following report:—

There are at the present time 29 premises within the City on which dairy cows are kept for the purpose of supplying milk to the public. In addition there are three premises used by cattle dealers, from which milk in small and varying quantities is sold, when cows in milk happen to be there. These latter premises are not included amongst the regular cowsheds. During 1911 three premises ceased to be occupied by milk cows and one was added to the register.

The 29 dairy premises comprise 44 separate cowsheds, and at the time of my inspection (Nov.—Dec., 1911) were occupied by 341 cows. Nine of the premises are in the Sandal and Belle Vue districts, and the other 20 in the old area.

As a result of my inspection I found that 10 premises (comprising 13 sheds) were quite satisfactory, several of them indeed excellent places, 10 premises (comprising 16 sheds) were defective in some respects, while 9 premises (comprising 15 sheds) were more unsatisfactory.

The points to which attention was specially directed were these:—

1. The site of the cowshed, and its surroundings.
2. The general construction of the building
3. The air space and ventilation.
4. The lighting.
5. The drainage and water supply.
6. Cleanliness of the building, of the cows, and of the methods employed in connection with the milk.

Before reporting in detail on the various cowsheds, I might with advantage make some general remarks on the headings I have just given.

1. Site and Surroundings.

This is of course not a matter over which we have any real control, but it is one of some importance from a sanitary point of view. For instance it is not desirable for several reasons that cowsheds should be situated in a densely populated neighbourhood. There is always a certain amount of effluvium given off from cowsheds,

which may be a source of annoyance to near residents, and a congested neighbourhood is not favourable to efficient ventilation in the cowsheds themselves. There are also liable to be complaints in connection with manaure storage or removal. It is, on the other hand, a great advantage to the dairyman to have adjoining his cowshed a field into which he can readily turn his cows when the weather conditions are favourable.

Many of the cowsheds in Wakefield, the majority in fact, are fairly well situated, but the position of a few are open to criticism, and lead occasionally to complaints from the neighbours.

There is only one cowshed from which the cows are not as a rule turned outside during some part of the day throughout the winter months, and this particular cowshed is right in the heart of the City.

2. The General Construction of the Cowshed.

A large proportion of the cowsheds in Wakefield are old buildings, and whilst indeed many of them must be regarded as passable, they compare very badly with the few model cowsheds which have been erected within recent years. These latter have been erected in consultation with the Sanitary Departmnt, and they embody most of the modern requirements of a model cowshed. The more common defects in the older cowsheds are these:—Insufficient and wrongly-constructed openings for ventilation; lack of light; irregular surfaces on interior walls and often an excess of woodwork, militating against cleanliness; cramped gangways and badly-laid floors and channels; the presence of lofts, which reduce the air space, and when used for for forage cause a large amount of dust.

3. Ventilation and Air-space.

The adequate ventilation of cowsheds is a matter to which I attach much importance, but it is regrettable to find that many cowkeepers, I am glad to say not all, entertain a deep-rooted aversion to the free circulation of air through their mistals. They tell you that to get a full yield of milk from the cows they must be kept warm and that they cannot secure the needful warmth to comply with our suggestions as to ventilation. This is a very common opinion, and held by men of long experience in the milk trade. At the same time it is a wrong opinion. It has now been proved as conclusively as it is possible to prove anything, and proved by farmers themselves, that it is possible to freely ventilate cowsheds, even in these northern parts, without reducing in the slightest degree the yield of milk. I need not trouble you here with the evidence which is now available and which has been largely acquired on the north side of the Tweed, in parts where the weather conditions are at least as severe as we are accustomed to in Yorkshire. But I have obtained confirmatory evidence in Wakefield itself. There are cowsheds in Wakefield where the ventilation is

well attended to. I have made particularly inquiries as to the yield of milk in these sheds, with the result that I find the cows in these sheds yield a good average of milk, and that the dairymen have lost nothing by instituting adequate ventilation. In fact, the cows in the well-ventilated sheds are less susceptible to variations in the outside temperature and their milk yield is more uniform. Now, why should we attach so much importance to the ventilation of the cowsheds. Because it is necessary for the health of the cows, and this is a matter which not only concerns the cowkeeper and his customers. It vitally concerns the butcher and his customers. Of all animals susceptible to Tuberculosis, the dairy cow stands supreme. Tuberculosis is much rarer in ordinary stock cattle, and in sheep, which throughout their lives are kept in the open-air, it is practically unknown. There can be no question but that the excessive susceptibility of dairy cattle to Tuberculosis depends on the unhealthy conditions under which they are kept in cowsheds. The ill-lighted, ill-ventilated, and overcrowded cowshed is an ideal place for propagating the disease, and unless we can get dairymen and farmers, assisted as they should be by their landlords, to improve the sanitary conditions of their cowsheds, in respect of the points I have mentioned, we need never hope to eradicate tuberculosis from our cattle herds. It is unfortunately my duty from time to time to seize tubercular cows in our slaughterhouses, cows that have been bought apparently in good health in the open market, and for which good prices have been paid. Most of the cattle, one may say all of them, have acquired the disease very largely through being kept under insanitary conditions, and I do think it is an injustice that the butcher should have to pay the penalty, which should properly fall on the shoulders of those responsible for the conditions under which the disease is known to be propagated. I am quite aware that is a national rather than a local question, but at the same time it behoves every sanitary authority to do what it can to improve the sanitary condition of the cowsheds under their jurisdiction. I have referred to what one may call the business aspect of the matter, but tuberculosis in milk cows is through the milk itself a serious menace to the public health, as has been amply demonstrated in the recent report of the Royal Commission on Tuberculosis.

The Commissioners towards the end of their Report make the following remarks:—"Meanwhile we, in view of the evidence adduced "by us, regard ourselves as called upon to pronounce on administra- "tive measures required in the present for obtaining security against "transmission of bovine tubercle bacilli by means of food. In the "interests therefore of infants and children the members of the "population whom we have proved to be especially endangered and "for the reasonable safeguarding of the public health generally we "would urge that existing regulations and supervision of milk pro- "duction and meat preparation be not relaxed; that on the contrary

"Government should cause to be enforced throughout the kingdom "food regulations planned to afford better security against the infec- "tion of human beings through the medium of articles of diet derived "from tuberculosis animals."

"More particularly we would urge action in this sense in order "to avert or minimise the present danger arising from the consump- "tion of infected milk. And in this connection it may be convenient "for us to repeat certain facts observed by us in reference to the "conditions tending to the elimination by the cow of bovine tubercle "bacilli in her milk; facts in our opinion of such importance that "they formed the subject of our Third Interim Report."

"Bovine tubercle bacilli are apt to be abundantly present in milk "as sold to the public when there is tubercular disease of the udder of "the cow from which it was obtained. This fact is, we believe, gener- "ally recognised though not adequately guarded against. But these "bacilli may also be present in the milk of tubercular cows presenting "no evidence whatever of disease of the udder, even when examined "post-mortem. Further, the milk of tubercular cows not containing "bacilli as it leaves the udder may, and frequently does, become in- "fective by being contaminated with the faeces or uterine discharges "of such diseased animal. We are convinced that measures for secur- "ing the prevention of ingestion of living bovine tubercle bacilli with "milk would greatly reduce the number of cases of abdominal and "cervical gland tuberculosis in children, and that such measures "should include the exclusion from the food supply of the milk of the "recognisably tuberculosis cow, irrespective of the site of the disease, "whether in the udder or in the internal organs."

Now in my opinion amongst the many measures necessary to give practical effect to the Commissioner's recommendations none are of more importance than those which will secure such healthy conditions, particularly as regards air space and ventilation in cowsheds as will tend to keep the animals free from tuberculosis. As regards air space, 600 cubic feet per cow should be the minimum allowance. In cows kept in throughout the year, or not turned out for some time daily in winter, the regulations require 800 cubic feet, but there is only one cowshed in the city to which these regulations apply. But no matter how large the air space is, it cannot compensate for insufficient ventilation, and the means of ventilation must be adequate, and, above all, the openings must be so placed and so constructed as to introduce and remove the air without causing unnecessary draught. In many of the sheds the air inlets, generally of the "hit and miss" type, are situated so low down that the incoming air directly impinges on the hind quarters of the animals. Consequently these openings are found more often closed than open. The actual cubic space in the Wakefield cowsheds is as follows:—

23 cowsheds on 17 premises have a space of 600 cubic feet per cow, or over.

21 cowsheds on 12 premises have a space of less than 600 cubic feet.

Air space	1,000 cubic feet or over			per cow	...	2	sheds.
,,	,,	800-1,000	cubic feet	,,	,,	...	5	,,
,,	,,	700-800	,, ,,	,,	,,	...	4	,,
,,	,,	600-700	,, ,,	,,	,,	...	12	,,
,,	,,	500-600	,, ,,	,,	,,	...	5	,,
,,	,,	400-500	,, ,,	,,	,,	...	11	,,
,,	,,	300-400	,, ,,	,,	,,	...	5	,,

If we take 600 cubic feet as the minimum space allowable, there are 21 cowsheds in a more or less overcrowded condition. In 16 cowsheds the means of ventilation were noted as defective.

4. Lighting.

Good lighting is, of course, necessary for the health of the animals. It is also essential for cleanliness. Dark cowsheds are almost invariably dirty cowsheds. Most of the Wakefield cowsheds are fairly well lit. In only four instances was the lighting noted as defective.

5. Drainage and Water Supply.

Nearly all the Wakefield cowsheds are satisfactorily drained, in most cases into the public sewer. A few, situated considerable distances from a sewer, are drained into cesspools. Two of the Sandal cowsheds are at present drained into a beck, but when the proposed sewer from Newmillerdam is constructed, these will be able to connect up.

The water supply to most of the Wakefield cowsheds and dairies is from the Corporation mains, and therefore satisfactory. In the case of the two Sandal cowsheds the water supply is of an unsatisfactory character, and a third, also in Sandal, obtains the water from a well. In these cases a chemical analysis of the water is desirable.

5. Cleanliness of the Building, Cows, and Methods Employed in Connexion with the Milk.

Cleanliness in the milk trade is, I need hardly say, a matter of the utmost importance, and I think dairymen are more and more recognising this. At the same time there is plenty of room for further improvement. During my recent inspection, I only noticed in one or two sheds, provision made for the washing of the milker's hands, and in many cases the grooming of the animals' hind-quarters left much to be desired.

(Here followed detailed account of individual cowsheds).

RECOMMENDATIONS.

The problem before you is to devise some means of raising the sanitary standard of the cowsheds which have been found unsatisfactory. In a number of these where the defects are such as can be readily remedied no great difficulty presents itself. In others the difficulty is a very real one. Take some of the badly overcrowded cowsheds. To reduce the overcrowding, the occupier must find additional accommodation. Some of these cowsheds, too, can never be made quite satisfactory. The proper solution is obviously additional and, in some instances, new cowsheds. The law lays the whole burden of meeting sanitary requirements upon the occupier, but when it is a question of considerable expenditure of money, I am afraid one must not expect much from the occupiers. In my opinion the duty of providing properly constructed cowsheds should, as in the case of house property, be placed on the landlords, whilst the occupier should be responsible for keeping the buildings so provided in a sanitary condition.

However, in these cases where, in order to provide proper accommodation for milk cows, considerable reconstruction or additional accommodation is required, the landlords might very well be asked, either directly or through the occupiers, to assist in the matter. Possibly many of them on learning the facts, would be quite willing, or at any rate might be persuaded to provide the accommodation required.

I would therefore recommend:—

1. That the occupiers be notified as to defects found, and generally steps taken to secure their remedy.
2. That in cases of overcrowding, requiring for its abatement additional accommodation, and in cases where reconstruction is desirable, the owners, as well as the occupiers, should be written to. In this connection I would recommend that you adopt 600 cubic feet per cow as the minimum air-space compatible with keeping the air of the cowshed in a wholesome condition, as required by the regulations.
3. That analyses of the water supply be made where required.
4. That with the object of securing a higher standard of cleanliness in everything connected with the milk trade, the cowkeepers have their attention specially drawn to the various points of importance in this connection. I would suggest that a copy of the Board of Agriculture's leaflets on "Cleanliness in the Dairy" and "The Construction of Cowsheds," which embody a large amount of sound practicable advice, be sent to each dairyman in the City."

In making these recommendations I am far from suggesting that anything like drastic action should be taken. It will take consider-

able time and much patient effort to secure the improvements which seem so desirable, both on behalf of the public health and on behalf of the cowkeepers themselves, but I think it is well to formulate some definite policy, and to gradually and steadily work out its achievement.

APPENDIX.

THE EFFECT OF TEMPERATURE AND VENTILATION ON THE YIELD OF MILK.

By A. Lauder, D.Sc., and T. W. Fagan, M.A., Cantab.
(From the XXII. Report of the Edinburgh and East of Scotland College of Agriculture).

The experiment on the effect of temperature and ventilation on the yield and composition of the milk and on the health of the stock, carried out in 1908-09 in conjunction with the Highland and Agricultural Society, has been repeated during the past year, with practically identical results. Two equal lots of cows were selected from the herd, as nearly as possible similar in respect of age, yield, quality of milk, and period of lactation. The byre was divided by a wood-and-felt partition into two parts, one of which was freely ventilated even in the coldest weather, while in the other part the ventilation was greatly restricted, so as to keep the temperature as nearly as possible 10° higher than in the cold end, the average difference being about 9° F. The actual temperature depended, of course, on the external temperature, and varied with the weather. Self-recording thermometers were installed in each division of the byre, so that a continuous record of the temperature was obtained. Wet and dry bulb thermometers were also placed in each byre, and read night and morning, so that the relative humidity of the air could be estimated. The health of the cows was naturally better in the cool end of the byre, and this result was also the experience of the other centres where similar experiments were conducted. The preliminary experiments began in November, and the experiment was continued till the weather got so mild in the spring that it was impossible to maintain the requisite difference of temperature between the two byres.

It was pointed out in last year's report that the point at issue is not whether cows kept in a warm, well-ventilated byre give more and better milk than cows kept in a cold byre, but whether cows kept in a warm, moist, vitiated atmosphere give any more milk, or milk of better quality, than cows kept at a much lower temperature but in a purer atmosphere. The effect on the health of the stock must also be taken into consideration. In a warm, moist atmosphere the conditions are much more favourable for the development of bacteria than when the temperature is lower; indeed, in the former case we have the most favourable conditions for the transmission and encouragement of bacterial diseases.

The results of the experiments in 1908-09 showed that there was practically no difference, either in yield or the quality of the milk, between the two lots of cows. From the table it will be seen that the average yield in 1909-10 per cow per day in the cool byre was 27·54 lb., and in the warm byre 27·14 lb.; the average percentages of fat were 3·74 and 3·7 respectively. These results have been confirmed at the other centres where similar experiments will be published in the next volume of "Transactions of the Highland and Agriculture Society." It seems safe to conclude, therefore, that byres may be freely ventilated even in very cold weather without either impairing the yield or quality of the milk, and there is the further important consideration that the herd is being kept under much sounder hygienic conditions than in an ill-ventilated byre.

EFFECT OF FREE AND RESTRICTED VENTILATION ON THE YIELD AND QUANTITY OF MILK.

Date.	LOT 1. Cool (Free Ventilation).			LOT 2. Warm (Restricted Ventilation).		
	Average Weekly Temperature.	Total Weekly Yield in Pounds.	Average Percentage of Fat.	Average Weekly Temperature.	Total Weekly Yield in Pounds.	Average Percentage of Fat.
1909 Preliminary trials:	...	1322·5	3·86	...	1340	3·76
Dec. 5	55·7 F	1336·5	3·69	63·1 F	1312	3·74
12	53·3	1315	3·9	64·5	1313·5	3·66
19	43·3	1291·5	3·64	51·5	1274	3.7
26	49·7	1286	3·7	57·9	1262	3.6
1910 Jan. 2	...	1244·5	3·5	...	1237·5	3·53
9	47·3	1176·5	3·72	56·5	1218·5	3·6
16	46·8	1165	3·96	61·1	1236·5	3·65
23	44·7	1160	3·73	58·9	1202·5	3·71
30	48·2	1129·5	3·61	58·8	1112·5	3·58
Feb. 6	48·8	1097·5	3·6	58·5	1081	3·7
13	48·8	1084	3·58	56·8	1107	3·7
20	49·9	1115	3·78	59·2	1067	3·82
27	52·7	1131·5	3·76	60·2	1046·5	3·73
Mar. 6	53·4	1106	3·61	60·7	1058	3·9
13	51·9	1098·5	3·79	59·4	1011·5	3·5
20	54·9	1065	3·9	62·4	1001	3·6
27	54·2	1017	3·9	60·6	987	3·96
Apr. 3	51·5	1004	4·1	59·7	999	3·85
	Average temperature	Total yield in pounds	Average percentage of fat	Average temperature	Total yield in pounds	Average percentage of fat
	50·5 F	20,823	3·74	59·4 F	20,527	3·70

Lot 1.
Average per cow per day 27·54 lb.

Lot 2.
Average per cow per day 27·14 lb.

The Sanitary Committee visited a large number of the cowsheds, and, in accordance with the recommendations of the foregoing report, both owners and occupiers were approached in those cases where improvements were deemed necessary, but with disappointing results. Without exception the owners declined to do anything. They were quite aware that the responsibility rested on the occupier, and replied to that effect. In one case, to my knowledge, the tenant offered to pay a reasonable percentage on the capital outlay incurred by the landlord, but the latter still declined to do anything. So the condition of the cowsheds remains very much the same as before, although a number of minor improvements have been made by some occupiers. If the Milk Bill before Parliament passes in its present form, the hands of Sanitary Authorities will be much strengthened in this matter, for it contains a clause whereby owners can be compelled to contribute to the expenses of carrying out necessary structural alterations in cowsheds.

ANALYSIS OF FOOD AND DRUGS, 1912.

A.—Samples Taken.

Nature of Article.	No. of Samples Taken for Analysis.		No. Found Adulterated		Percentage Adulterated.	
	Informal	Formal	Informal	Formal	Informal	Formal
Milk	...	51	...	9	...	17·6
Condensed Milk ...	11	...	...	...	...	...
Cream	1	...	...	...	...	...
Butter	31	2	1	1	3·2	50 0
Cheshire Cheese ...	7	...	...	...	...	...
Lard	5	...	...	...	...	...
Sausage	1	...	...	...	...	...
Tinned Apricots ...	2	...	...	...	...	...
„ Pine Apple ...	2	...	...	...	...	...
White Pepper	6	...	...	...	...	...
Scotch Whisky	...	4	...	...	...	...
Boracic Ointment ...	12	...	3	...	...	...
White Precipitate Ointment ...	11	...	2	...	...	25·0
Camphorated Oil ...	9	...	...	...	...	18·1
Total	98	57	6	10	6 1	17·5

B.—Adulterated Samples.

Name of Article.	Nature and Amount of Adulteration.	Proceedings.	Fine.	Costs.	Remarks.
New Milk ...	Added Water 4·12 per cent				The Vendors were written to by the Town Clerk resulting in an interview in each case the explanations given were considered by the Committee and found satisfactory.
,, ...	,, ,, 7·65 per cent...				
,, ...	,, ,, 4·71 per cent...				
,, ...	,, ,, 1·65 per cent...				
,, ...	,, ,, 3·53 per cent...				
,, ...	,, ,, 7·53 per cent...				
,, ...	,, ,, 4·7 per cent...				
,, ...	Deficient in Milk Fat 3 % ...				
,, ...	,, ,, ,, 3 % ...				
Butter ...	Fat other than Butter Fat 100 per cent. ...				Informal Sample. The next sample was subsequently taken.
,, ...	Fat other than Butter Fat 100 per cent. ...	Yes	—	—	Absconded. Police not able to trace.
,, ...	Margarine				Enclosed in a wrapper marked 'Margarine.'
Boracic Ointment...	Made with Yellow Parafin instead of White Parafin...				Instructions given to the Town Clerk to write to the vendors stating these samples do not quite comply with the British Pharmocopeia, Satisfactory explanations given
,, ...	,, ,, ,, ,, ...				
,, ...	Somewhat deficient in Boracic Acid				
White Precipitate Ointment	White Parafin Ointment and some other ingredient				
,, ...	Somewhat deficient in Ammoniated Mercury ...				

Analyst's Remarks.

The following remarks are taken from the quarterly reports of the City Analyst (Dr. Chaplin):—

Report for First Quarter of 1912.

"I beg to report that during the quarter ending March 31st,

"1912, I have received 29 samples for analysis under the Sale of "Food and Drugs Acts, namely:—

New Milk	18
Butter	10
Cheshire Cheese	1
	29

"Of the eighteen milks, as many as seven were below the limit "allowed, two being deficient both in fat and non-fatty solids. One "of the remaining samples was of poor quality, but, on the other "hand, one was abnormally rich in fatty constituents, containing as "much as 7·8 per cent.

"Nine of the butters were taken informally, and one of them "proved to be margarine pure and simple; an official sample taken "from the same source also consisted solely of margarine.

"The sample marked Cheshire Cheese was found to contain 24·08 "per cent. of fat, which on analysis proved to be pure butter fat. "This was not a cheese I imagine that would appeal to the taste of "many, but the data yielded by the analysis bring it within the limits "allowed for Cheshire Cheese."

Report for Second Quarter of 1912.

"I beg to report that during the quarter ending 30th June, 1912, "I have received 27 samples for analysis under the Sale of Food and "Drugs Acts, namely:—

New Milk	11
Butter	14
Condensed Milk	1
Sausage	1
	27

"The milks as a whole were above the average, only three of "the eleven being of somewhat poor quality, though above the limits "allowed.

"The butters all showed the properties of genuine butter and "were free from any excessive percentage of water.

"The condensed milk was submitted for examination on account "of the unusual colour of the sample; the figures yielded by the "analysis proved this to be due to a slight charring of the milk "during its preparation.

"The sausage was examined for preserving agents, and boric acid "was found to be present to the extent of 0·4 per cent. In my "opinion this cannot be considered an undue proportion."

REPORT FOR THIRD QUARTER OF 1912.

"I beg to report that during the quarter ending 30 September, "1912, I have received 40 samples for analysis under the Sale of "Food and Drugs Acts, namely:—

FOOD.

Cream	1
Condensed Milk	10
Butter	9
Cheese	6
Lard	5

DRUGS.

Camphorated Oil	9
	40

"The whole of these samples were taken informally, and, with "one exception, proved to be genuine. The adulterated sample was "a Butter. The purchaser asked for butter, but on opening the "parcel it was found to be enclosed in a margarine wrapper, and the "analysis showed it to consist of margarine.

"During the present quarter the Board of Agriculture and "Fisheries have issued a circular intimating a change in the Sale of "Milk Regulations, 1901, in so far as they relate to skimmed or "separated milk. Under the 1901 regulations the proportion of "total solids in the milk was given as the figure upon which the "genuineness, or otherwise, of the sample was to be judged, and this "was fixed at 9 per cent. But it has been found that this standard "offers a very imperfect bar against the adulteration of skimmed "milk; by imperfectly skimming a normal milk it is quite possible "to add a considerable proportion of water without causing the "total solids to fall below 9 per cent.

"The new Regulations which came in force on September 1st last "take the proportion of non-fatty solids as the basis for calculation, "and have fixed the percentage at 8·7.

"A few days before the regulations became operative I received "a Separated Milk, which showed 10 per cent. of total solids, and "yet, judged by the new standard, would have been returned as "adulterated."

REPORT FOR FOURTH QUARTER OF 1912.

"I beg to report that during the quarter ending December "31st, 1912, I have received 59 samples for analysis under the Sale "of Food and Drugs Acts, namely:—

Foods.

Milk	22
Tinned Fruit	4
Pepper	6
Scotch Whisky	4

Drugs.

Boracic Acid Ointment	12
White Precipitate Ointment	11
	59

"Of these samples the milks and whiskies were divided in the "manner required by the Act; the rest were informally taken.

"'Twenty of the milks were above the limit fixed by the Board "of Agriculture, and for the most part were rather more than average "quality. Two were reported against, one being somewhat deficient "in fat and the other in non-fatty solids; in the latter case the "deficiency was equivalent to an admixture of 4·7 per cent. of water "with milk of the lowest quality.

"The tinned fruits were labelled 'Californian Apricots' and "'Pineapple,' and were examined for any preserving agents that "might be likely to be present. They were found to be quite pure.

"The Whiskies were all up to strength, and the Peppers also "were genuine.

'As regards the Drugs submitted, new ground has been broken, "so far as Wakefield is concerned. Both Boracic Acid and White "Precipitate Ointments are medicaments that should be compounded "with 9 parts of White Paraffin Ointment and one part of Boracic "Acid and White Precipitate respectively. Most of the ointments "analysed approached this standard as nearly as one could reasonably "expect; some containing a little more, and others a little less, than "'the 10 per cent. of the active constituent, exact uniformity in "such a mixture being hardly obtainable. Two of the samples, how-"ever, differed materially from the standard, one containing 8·54 "per cent. of Boracic Acid and the other 8·5 per cent. of White "Precipitate, instead of 10 per cent. as required. In three cases "the fat was at fault, two having been made with yellow paraffin "instead of white, the yellow being a cheaper variety of fat; and in "the other sample some other fat appeared to have been mixed with "the white paraffin, the nature of which it was not possible to deter-"mine, owing to the smallness of the sample."

COMPOSITION OF THE MILK SUPPLY.

Dr. Chaplin has kindly prepared the following table showing the average composition of milk samples examined by him during 1912:—

	Fat Percentage.	Non-Fatty Solids Percentage.
Genuine Samples	3·6	8·85
Adulterated Samples	3·0	8·18

The standard set up by the Board of Agriculture is Fat 3 per cent. and Non-Fatty Solids 8·5 per cent.

SALE OF MILK REGULATIONS, 1912.

These regulations made by the Board of Agriculture and Fisheries came into force in September, 1912, and require that a sample of skimmed or separated milk (not being condensed milk) shall contain not less than 8·7 per cent. of milk solids other than fat.

PUBLIC HEALTH (MILK AND CREAM REGULATIONS), 1912.

These regulations made by the Local Government Board came into force on 1st October, 1912. These regulations prohibited (1) the addition of any preservative substance to milk intended for sale for human consumption, (2) the addition of any thickening substance to cream or preserved cream, (3) the addition of any preservative to cream containing less than 35 per cent. by weight of milk fat, (4) the addition of any preservative to cream containing 35 per cent. or more of fat other than the preservatives specified, namely:—Boric acid, borax, a mixture of boric acid and borax, or hydrogen peroxide.

The regulations also provide that proper declaration stating the kind of preservative and the maximum amount present shall be made in the case of preserved cream.

WATER SUPPLY.

The water supply of Wakefield continues to maintain its excellent character for purity, as the following reports on analyses made by the City Analyst (Dr. Chaplin) will show. The treatment for counteracting the natural plumbo-solvency of the water, derived as it is from peaty moorland, also continues to be successful. The bacterial content also remains very low.

No. 1. (BEFORE TREATMENT).

REPORT ON THE ANALYSIS OF WATER TAKEN AS IT FLOWED FROM THE RINGSTONE MAIN INTO THE RESERVOIR AT ARDSLEY, 28TH NOVEMBER, 1912.

The sample contains in parts per 100,000:—

Chlorides equal to Common Salt	1·65
Nitrogen as nitrates and nitrites, equal to Nitric Acid	None
Poisonous Metals	None
Free Ammonia	0·061
Albuminoid Ammonia	0·0128
Oxygen absorbed by organic and other oxydizable matter	0·27
Degrees of Hardness (each degree representing a soap-destroying power equivalent to one grain of chalk per 100,000)	4·00
Total Dissolved Solid Matter	6·1
Suspended Matter ...	Small, containing Animalculæ
Colour of Column two feet in depth	Brownish, somewhat turbid
Smell when warmed to 100deg. Fahrenheit ...	Peaty
Reaction	Acid
Lead taken up in 12 hours ...	1·6 parts per 100,000

The analysis of this sample shows the raw water to be in a condition that may be considered normal.

No. 2. (AFTER TREATMENT).

REPORT ON THE ANALYSIS OF WATER TAKEN FROM THE LABORATORY TAP IN THOMPSON'S YARD, 28TH NOVEMBER, 1912.

The sample contains in parts per 100,000:—

Chlorides equal to Common Salt	1·81
Nitrogen as nitrates and nitrites, equal to Nitric Acid	0·30
Poisonous Metals	None
Free Ammonia	0·0056
Albuminoid Ammonia	0·004
Oxygen absorbed by organic and other oxydizable matter	0·02
Degrees of Hardness (each degree representing a soap-destroying power equivalent to one grain of chalk per 100,000)	6·88
Total Dissolved Solid Matter	8·4
Suspended Matter	Practically none
Colour of Column two feet in depth	Clear
Smell when warmed to 100deg. Fahrenheit...	No distinct
Reaction	Alkaline

The analysis shows this water to be in a better condition than at the corresponding time last year.

The proportion of organic matter is quite insignificant, and the action upon lead practically nil.

WELL WATER.

In my last report I stated that there were 23 dwelling-houses within the City supplied from wells. During 1912 the number has been reduced to three, namely:—2 farm houses in Park Lodge Lane and a cottage in Pledwick Lane, Sandal. Considering the extensive area of the City, it is very gratifying to be able to record that only three houses in the whole area are not supplied with the excellent water from the Corporation mains.

OFFENSIVE TRADES.

The following offensive trades are on the register:—

Tripe Boiling	7
Gut Scraping	1
Tallow Melting	1
Bone Boiling	1
	10

Although fish frying was added to the list of offensive trades in 1911, no bye-laws have yet been made for the regulation of the trade, and in the absence of bye-laws, no formal registration of fish frying premises has yet been made. The premises are, however, regularly inspected, and an effort is made to secure cleanliness and prevent nuisance from the frying process. There is, however, a great need for bye-laws

The inspectors paid 349 visits to offensive trade premises during the year.

SANITARY CONVENIENCES.

During 1912, 83 privy closets and 54 tub closets were converted into water closets, and 11 additional closets were erected. In other words 148 sanitary closets took the place of 137 insanitary closets.

NUMBER OF PRIVIES AND TUB CLOSETS IN THE CITY AT THE END OF 1912.

Ward.	Number of Privies.	Number of Tub Closets.	Total.
St. John's	24	4	28
Northgate	12	15	27
Eastmoor	1	49	50
Primrose Hill	18	10	28
North Westgate	9	6	15
South Westgate	4	15	19
Kirkgate	13	29	42
Calder	9	13	22
Alverthorpe	39	—	39
Belle Vue	394	—	394
Sandal	265	7	272
Whole City	788	148	936

The above figures show that in the old area of the City we are approaching within measurable distance of complete privy and tub closet abolition. At the end of 1912 only 129 privies and 141 tub closets remained. In Sandal and Belle Vue districts, however, some 659 privies and 7 tub closets still remained.

NUISANCES.

Total Number of Nuisances in hand at end of 1911	14
,, ,, ,, ,, ,, ,, ,, ,, ,, 1912	17
,, ,, ,, ,, Reported during 1912	462
,, ,, ,, ,, Abated during 1912	445
,, ,, ,, Legal Notices served for abatement of Nuisances during 1912	88
,, ,, ,, Informal Notices served for abatement of Nuisances during 1912	388
,, ,, ,, Summonses or other Legal Proceedings ...	1
,, ,, ,, Sink Wastes disconnected during 1912 ...	10
,, ,, ,, ,, ,, trapped during 1912 ...	33
,, ,, ,, Smoke Observations during 1912	96
,, ,, ,, Legal Notices served for Smoke Nuisance during 1912	4
,, ,, ,, Drains Tested during 1912	626

Although 88 legal notices for the abatement of nuisances were served, it was only necessary to prosecute in one case, where a person was charged with keeping swine within the distance from a dwelling-house specified in the bye-laws (50 feet) and also with keeping them so as to be a nuisance. He was convicted and fined 10/- and 20/- costs.

As the figures indicate, a great amount of work has been carried out by the Chief and Assistant Sanitary Inspectors, and it has been done with a minimum of friction.

The nuisance caused by offensive fumes proceeding from a burning heap of colliery refuse at Wrenthorpe Colliery, just outside the City, a nuisance which was referred to in my Annual Report for 1911, continued during the earlier weeks of the year, and as the Colliery Company was taking no effective steps to remedy the nuisance, at the middle of January the Council decided to apply to the High Court for an injunction. By the time, however, that the case came before the Court, the Company had covered the heap with a thick layer of sand, and the nuisance was materially minimised. The case was adjourned and was allowed ultimately to drop, as the sand treatment proved quite successful and the nuisance was abated. At the same time the fire was evidently smouldering underneath, but the sand, with constant attention, prevented the escape of fumes to the extent of causing a nuisance.

During the earlier part of the year the Sanitary Department became aware of a serious nuisance proceeding from recently established Chemical Works in Chald Lane. The works came under the Alkali Works Regulation Act, and the Government Inspector took the matter in hand and secured certain alterations in the works which greatly minimised the nuisance.

Effluvia nuisances from other works in the City have also been dealt with.

The customary summer complaints as to offensive smells from street gullies were not so numerous as might be expected from the weather. At the same time the practice of trapping gullies that are offensive is being continued.

The dust nuisance from the roads was likewise not so great, but a certain amount of tar-spraying was done. There can be no doubt but tar spraying does materially minimise the dust nuisance, and is therefore of benefit to the public health.

SEWERAGE AND SEWAGE TREATMENT.

I am indebted to J. P. Wakeford, Esq., City Surveyor, for the following notes on sewerage and sewage treatment, etc., during 1912.

"NEW SEWERS.

"Owing to the extended building operations in Manygates Lane "it has been necessary to extend the sewer in the vicinity of Sandal "Castle for a length of 96 yards.

"A further length of some 80 yards of 9 inch pipe sewer has also "been laid in this lane, but discharging into Barnsley Road near "the Three Houses Inn.

"A new sewer has been laid in Barnsley Road from Chevet Lane "in a northerly direction of 137 yards.

"Lawefield Lane sewer has been re-constructed for a length of "284 yards, the old egg-shaped pipes being removed and 18-inch "and 15-inch diameter circular pipes substituted.

"The sewers in Pilkington and Jessop Streets have been re-laid.

"Trapped Gullies.

The following trapped gullies have been inserted:—

Street.	Earthenware Gullies.	Cast-Iron Gullies.
Ings Road	—	1
Garden Street	2	—
Blenheim Road	1	—
Grantley Street	13	—
Russell Street	2	—
Vicarage Street	—	1
Holmfield Lane	—	1
Selby Street	1	—
Charles Street	—	1
Pilkington Street	5	3
White Swan Yard	1	1
Jessop Street	1	3
Back Hatfeild Street ...	4	—
New Brunswick Street ...	9	1
John Street	1	—
Back New Brunswick Street	1	—
Denstone Street	5	—
Brocksbank	—	1
	—	—
	46	13
	—	—

"Sewer Ventilating Columns.

"The Corporation have not erected any new sewer ventilating "columns during the past twelve months, but intend doing so in the "near future.

"New Sewage Works.

"The greater part of the constructional work in connection with "the remodelling of the Sewage Disposal Works is now completed, the "Liming Plant and Ferric House having been in operation for several "months. The Contractor has experienced much unforeseen difficulty "in procuring the media for the percolating filters, but it is expected "that the whole of the works will be completed in the course of the "next few months.

PAVING, &c., OF PRIVATE STREETS.

"During the past year Carter Street and a portion of Major "Street have been made up under "The Wakefield Corporation Act, "1887." These streets have been paved with Yorkshire setts at a "cost of some £1,400, the total length amounting to 358 yards.

TAR-SPRAYING OF ROADS.

"The weather during the tar-spraying season of 1912 was most "unfavourable to this class of work, and only a few of the roads "included in the Annual Estimates could be treated.

"The roads or parts of roads treated were as follows:—Bradford "Road, Snow Hill View, Barnsley Road, Dewsbury Road, Denby Dale "Road, Bond Street, Wentworth Street, St. John's North, Leeds "Road, Westfield Road, Eastmoor Road, and College Grove Road. "The total length of roads treated was 8,475 yards, with an area of "65,431 yards."

REFUSE DISPOSAL.

During the year 9,830 loads of refuse were destroyed at the Destructor, and 6,297 loads were disposed of on land.

The refuse taken to the land is mainly from the outlying parts of the City. It is used to fill up hollows in the land. The superficial soil is first removed, the refuse deposited, and then the soil is replaced over it. When proper care is exercised, the method cannot be considered an insanitary one.

The Destructor cells have not been working satisfactorily, and at the time of writing a Committee has been appointed to visit other destructors in the country, and report as to the kind of destructor best suited for Wakefield.

PUBLIC LAVATORIES.

Nothing has been done during the year to provide better lavatory accommodation for the public. The need for a female lavatory is specially great, but great difficulty has been experienced in getting a suitable site.

RAG FLOCK ACT.

Two samples of flock were taken under the Act during the year. In both cases the flock taken was the cheapest kind stocked by the upholsterers. One contained 26·6 and the other 17·5 parts of Chlorine per 100,000 parts of flock. The maximum amount of chlorine allowed is 30 parts per 100,000. There can be no question but that the Act has made for greater cleanliness in this article, at least until it reaches the home, where too often the standard of impurity will soon be exceeded.

LOCAL GOVERNMENT BOARD

AND OTHER TABLES.

TABLE 1.

Vital Statistics of Whole District during 1912 and previous Years.

Year.	Population estimated to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.‡		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 Year of age.		At all Ages.	
			Number. †	Rate.	Number. *	Rate.	of Non-Residents registered in the District.	of Residents not registered in the District	Number.	Rate p. 1000 nett Births	*Number.	Rate.
1	2	3	4	5	6	7	8†	9†	10	11	12	13
1907	42,746	1025	—	23·9	945	22·1	314	6	127	124	637	14·9
1908	42,963	1050	—	24·4	946	22·0	282	2	143	135	666	15·5
1909	43,182	969	—	22·4	903	20·9	300	3	102	105	606	14·0
1910	51,258	1187	1179	24·1	997	19·4	279	8	129	108	726	15.0
1911	51,598	1200	1188	24·3	1112	21·5	330	20	171	143	802	16·4
1912	51,942	1155	1143	23·3	1078	20·7	371	26	103	89	727	14·7

Notes.—This Table is arranged to show the gross births and deaths in the district, and the births and deaths properly belonging to it with the corresponding rates. For years before 1911 some of the corrected rates probably will not be available. The rates should be calculated per 1000 of the estimated gross population. In a district in which large Public Institutions for the sick or infirm seriously affect the statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

*In Column 6 are to be included the whole of the deaths registered during the year as having actually occurred within the district.

In Column 12 is to be entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are to be similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

†The Medical Officer of Health will be able from the returns made to him by the local Registrar of Deaths, as well as from the quarterly lists furnished by the Regisrar General, to fill in Column 8 in accordance with the rule in the next paragraph below. The Registrar-General, either directly or through the County Medical Officer of Health, will supply the Medical Officer of Health with the particulars of deaths to be entered in Column 9; and all such deaths must be included in this Column, unless an error is detected, and its correction has been accepted by the Registrar General. For Column 4 the Registrar General will furnish to the Medical Officer of Health, a Statement of the number of births needing to be added to or substracted from the total supplied by the local Registrar.

‡"Transferable Deaths" are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e g.*, casuals, must not be included in Columns 8 or 9, except in certain instances under 3 (b) below. The Medical Officer of Health will state in Column 8 the number of transferable deaths of "non-residents" which are to be deducted, and will state in Column 9 the number of deaths of "residents" registered outside the district which are to be added in calculating the nett death-rate of his district.

The following special cases arise as to Transferable Deaths:—

(1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.

(2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.

(3) Deaths from Violence are to be referred (*a*) to the district of residence, under the general rule; (*b*) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known; (*c*) failing this, to the district where death occurred, if known; and (*d*) failing this, to the district where the body was found.

Total population at all ages	51,511	At Census of 1911. (c. f. census vol. v.)
Number of inhabited houses	10,722	
Average number of persons per house (land and inland water)	4·4	
Area of District in acres	4,060	

TABLE II.—Cases of Infectious Disease Notified during the Year 1912.

Notifiable Diseases.	Number of Cases Notified								Total Cases Notified in each Ward.											Number of Cases Removed to Hospital from each Ward.										
	At all ages.	At ages—years.							Alverthorpe.	North Westgate.	South Westgate.	St. John's...	Eastmoor.	Northgate.	Kirkgate.	Primrose Hill.	Calder.	Belle Vue.	Sandal	Alverthorpe.	North Westgate.	South Westgate.	St. John's.	Eastmoor.	Northgate.	Kirkgate.	Primrose Hill.	Calder.	Belle Vue	Sandal.	Total Cases removed to Hospital.
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 & upwards.																							
Smallpox																															
Cholera, Plague																															
Diphtheria including Membranous Croup	68		19	34	6	9			1	9	1	6	12	10	3	8	3	11	4	1	7		4	7	9	3	7	3	8	2	51
Erysipelas	29	1			4	9	12	3	1	5	5	2	1	5	1	2	3	1	3												
Scarlet Fever	54		9	38	5	2			11	3	1	1	6	5	1	12	2	10	2	2	3			5	4		6		5	2	27
Typhus Fever																															
Enteric Fever	17		1	1	7	6	2		1	4		1	8			2		1		1	2										3
Relapsing Fever																															
Continued Fever																															
Puerperal Fever	5				1	4			1		1	1				1	1														
Cerebro-spinal Meningitis	1	1								1																					
Poliomyelitis	2	1	1											1					1												
PulmonaryTuberculosis	110	2	2	20	22	45	17	2	10	11	11	7	8	12	12	13	10	12	4												
OphthalmiaNeonatorum	3	3								1	1					1															
Totals	289	8	32	93	45	75	31	5	25	34	20	18	35	33	17	39	19	35	14	4	12		4	12	13	3	13	3	13	4	81

ISOLATION HOSPITAL—Name and Situation—City Hospital, Park Lodge Lane. Total available beds 32.
Number of Diseases that can be concurrently treated 2.

Table IIIa.— Causes of, and Ages at, Death during Year 1912.

Causes of Death.	Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.									Total Deaths whether of Residents or Non-Residents in Public Institutions in the District
	All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1	2	3	4	5	6	7	8	9	10	11
All causes { Certified (c) ...	726	102	46	42	37	39	112	167	181	520
All causes { Uncertified ...	1	1	—	—	—	—	—	—	—	—
Enteric Fever										3
Small-pox										
Measles	28	1	14	12	1					
Scarlet Fever										
Whooping-cough	13	7	3	2	1					1
Diphtheria and Croup ...	7			4	3					5
Influenza	9	1					4	2	2	2
Erysipelas	1								1	1
Phthisis (Pulmonary Tuberculosis)	58	1	1		9	12	26	8	1	54
Tuberculous Meningitis ...	13	2	3	2	2	3	1			8
Other Tuberculous Diseases	11	3	2	2		1	2	1		10
Cancer, Malignant Disease	34				1		1	21	11	25
Rheumatic Fever	3					1	1	1		
Meningitis	7	4	1	1	1					
Organic Heart Disease ...	87	4			6	3	10	28	36	33
Bronchitis	62	9	2	1	1	1	4	19	25	10
Pneumonia (all forms) ...	64	7	12	6	4	4	13	13	5	48
Other Diseases of Respiratory Organs	6	2					1	2	1	4
Diarrhœa and Enteritis ...	6	3	2				1			3
Appendicitis and Typhlitis	4				1	2	1			9
Cirrhosis of Liver	5						2	3		2
Alcoholism	4						2	2		
Nephritis and Bright's Disease	34			2		1	4	19	8	11
Puerperal Fever	5					1	4			2
Other Accidents and Diseases of Pregnancy and Parturition	5	2					3			1
Congenital Debility and Malformation, including Premature Birth ...	30	30								4
Violent Deaths excluding Suicide	31	2	1	6	5	7	1	5	4	36
Suicides...	8					2	3	2	1	2
Other Defined Diseases ...	188	23	4	4	2	1	28	41	85	245
Diseases ill-defined or unknown	4	2	1						1	1
	727	103	46	42	37	39	112	167	181	520
Sub-Entries. Cerebro-spinal Meningitis ...	1	1								
Sub-Entries. Poliomyelitis ...										
included Broncho-Pneumonia ...	23	5	7	4	2			4	1	4
in above Old Age	45							1	44	61
figures. *										

TABLE IIIA.

CAUSES OF DEATH IN THE CITY WARDS DURING THE YEAR 1912.

Causes of Death.	Total	Alverthorpe	North Westgate	South Westgate	St. John's	Eastmoor	Northgate	Kirkgate	Primrose Hill	Calder	Belle Vue	Sandal
Enteric Fever												
Small-pox												
Measles	28		3	3	1	3	5	1	6	2	4	
Scarlet Fever												
Whooping-cough	13		3	4				1	2	2	1	
Diphtheria and Croup	7		2			1	2			1		1
Influenza	9			1		2	1	2		1	1	1
Erysipelas	1								1			
Phthisis (Pulmonary Tuberculosis)	58	4	8	6	4	4	10	5	6	5	4	2
Tuberculous Meningitis	13	3	2	2	1		1	1	2		1	
Other Tuberculous Diseases	11	2	1	1		1	1	2			3	
Cancer, Malignant Disease	34	1	4	5	1	3	2	5	2	7	4	
Rheumatic Fever	3				1				1		1	
Meningitis	7		1	1		1	2		1	1		
Organic Heart Disease	87	5	3	8	4	7	9	7	16	13	9	6
Bronchitis	62	7	5	5	3	10	9	5	4	3	9	2
Pneumonia (all other forms)	64	4	8	9	2	11	8	6	3	5	7	1
Other Diseases of Respiratory Organs	6			4	1			1				
Diarrhœa and Enteritis	6		1	2				1	2			
Appendicitis and Typhlitis	4				1				1		2	
Cirrhosis of Liver	5			2	1		1		1			
Alcoholism	4			1			2				1	
Nephritis and Bright's Disease	34	3	5	3	4	4	2	3	1	5	4	
Puerperal Fever	5	1		1	1				1	1		
Other Accidents and Diseases of Pregnancy and Parturition	5		1	1	1		1		1			
Congenital Debility and Malformation, including Premature Birth	30	1	2	3	3	2	2	3	5		6	3
Violent Deaths, excluding Suicides	31	2	2	6	4	4	2	1	5	3	1	1
Suicides	8	1	1				1	1	1	1	2	
Other Defined Diseases	188	11	25	15	18	9	26	28	20	13	19	4
Diseases Ill-defined or Unknown	4			1		1		1	1			
	727	45	77	84	51	63	87	74	83	63	79	21
SUB-ENTRIES included in above figures												
Cerebro-Spinal Meningitis	1		1									
Poliomyelitis												
Broncho-Pneumonia	23	1	4	3	1	4	1	3	1	2	3	
Old Age	45	5	4	4	6	6	7	4	5	2	1	1

TABLE IV.

Infantile Mortality during the Year 1912.

Nett Deaths from stated Causes at various Ages under One Year of Age

Cause of Death.	Under 1 Week	1–2 Weeks	2–3 Weeks	3–4 Weeks	Total under 1 Month	1–3 Months	3–6 Months	6–9 Months	9–12 Months	Total Deaths under 1 Year.
All Causes (Certified	31	6	2	3	42	12	10	20	18	102
All Causes (Uncertified	1	—	—	—	1	—	—	—	—	1
Small-pox										
Chicken-pox										
Measles									1	1
Scarlet Fever										
Whooping Cough						2	2	1	2	7
Diphtheria and Croup										
Erysipelas										
Tuberculous Meningitis								1	1	2
Abdominal Tuberculosis								1	1	2
Other Tuberculous Diseases							1	1		2
Meningitis (*not Tuberculous*)							1	3		4
Convulsions		2	1		3	1	3	2	1	10
Laryngitis									1	1
Bronchitis						2		4	3	9
Pneumonia (all forms)							2	2	4	8
Diarrhœa									1	1
Enteritis						1			1	2
Gastritis						1				1
Syphilis										
Rickets										
Suffocation, overlying						1				1
Injury at Birth	1				1					1
Atelectasis	6				6					6
Congenital Malformations	5	2			7			1		8
Premature Birth	15			1	16					16
Atrophy, Debility, & Marasmus	4	1		1	6	4	1	1		12
Other Causes	1	1	1	1	4			3	2	9
	32	6	2	3	43	12	10	20	18	103

Nett Births in the year: Legitimate 1098; Illegitimate 50.
Nett Deaths in the year of: Legitimate Infants 101; Illegitimate Infants 2.

Table V.

City of Wakefield—Vital Statistics, 1902-1912.

Year.	Estimated Population.	Marriage Rate.	Birth Rate.	Death Rate.	Infantile Death Rate.	Tuberculosis Death Rate.	Phthisis Death Rate.	Other Tuberculosis 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.	Heart Disease Death Rate.	Respiratory Diseases other than Phthisis Death Rate.	Pneumonia Death Rate.	Bronchitis Death Rate.
1902	41,676	—	27·0	17·7	153	1·91	1·28	0·63	2·35	0·21	0·05	0·16	0·36	1·22	0·26	0·57	1·06	3·38	1·96	1·29
1903	41,888	21·7	26·4	15·9	131	1·74	1·38	0·36	1·17	0·05	0·02	0·14	0·28	0·45	0·31	0·76	1·21	2·86	1·36	1·24
1904	42,109	13·2	26·2	16·0	169	1·80	1·25	0·55	2·13	0·05	0·02	0·09	0·99	0·49	0·38	0·76	1·66	3·08	1·09	1·75
1905	42,314	15 5	26·6	13·5	105	1·58	1·11	0·47	1·06	0·14	0·19	0·07	0·33	0·05	0·21	0·85	1·41	2.34	0·99	1·20
1906	42,531	15·7	23·5	14·6	127	1·69	1·13	0·56	1·48	0·14	0·11	0·07	0·66	0·39	0·09	0·87	1·27	2·58	1·36	0·99
1907	42.746	17·8	23·9	14·9	124	1·96	1·45	0·51	0·71	0·00	0·11	0·04	0·32	0·04	0·25	0·67	1·61	3·18	1·29	1·66
1908	42 963	16·1	24·4	15·5	136	1·58	1·35	0·23	1·46	0·02	0·23	0·07	0·53	0·39	0·20	1·02	1·35	2·65	1·19	1·21
1909	43.182	17·1	22·4	14·3	105	1·80	1·22	0·58	0·39	0·02	0·11	0·02	0 07	0·02	0·14	0·83	1·64	2·70	1·06	1·39
1910	51.258	15·0	24·5	15·0	108	1·57	1.11	0·46	1·15	0·10	0·12	0·04	0·23	0·29	0·37	1·03	1·88	2·60	1·05	1·19
1911	51,598	14·7	24·3	16·4	143	1.88	1·22	0·66	1·84	0·02	0·08	0·06	1·26	0·24	0·16	1·41	1·98	2·39	1·10	1·12
Average 1902-1912	44,226	15·2	24·9	15·3	130	1·75	1·25	0·50	1·37	0·07	0·11	0·07	0·50	0·35	0·25	0·87	1·50	2·77	1·24	1·30
1912	51.942	16·0	23·3	14·7	89	1·65	1·17	0·48	1·09	0·00	0·14	0·00	0·12	0·56	0·26	0·69	1·77	2·68	1·30	1·25

NOTE.—The rates for 1910, 1911, and 1912 are calculated on the nett population. The nett population which is given for these years does not include non-residents in public institutions.

Table VI.

Vital Statistics of England and Wales, Wakefield, and other Yorkshire Towns in 1912.

District.	Population	Birth Rate.	Death Rate.	Infantile Death Rate.	Zymotic Death Rate.	Tuber-culosis Death Rate.	Phthisis Death Rate.	Respirat'y DeathRate (excluding Phthisis.)	Cancer Death Rate.
England and Wales	36539636	23·8	13·3	95	—	—	—	—	—
95 Great Towns ...	—	24·9	13·8	101	—	—	—	—	—
146 Smaller Towns ...	—	23·8	12·4	98	—	—	—	—	—
England & Wales less the 213 Towns ...	—	22·5	12·9	86	—	—	—	—	—
Leeds ...	447746	23 2	14·3	102	0·98	1·74	1·28	2·63	1·06
Bradford ...	289618	19·29	14·51	98	0·82	1·51	1·17	2·35	1·23
Huddersfi' d	109512	18·84	13·81	97	0·83	1·19	0·8	2·23	1·19
Halifax ...	101500	18·0	14·7	81	0·6	1·38	1·0	2·4	1·1
Sheffield ...	466408	27·7	14·3	107	1·5	1·6	1·2	3·0	0·9
Rotherham	63500	29·53	15·79	119	2·22	1·32	0·87	2·45	0·88
York.....	82863	22·9	13·8	97	0·84	1·54	1·11	2·27	0·89
Keighley ...	43750	20·82	13·89	100	1·32	1·29	0·7	2·37	0·93
Dewsbury	53630	22·35	15·4	102	1·15	1·26	0·8	2·96	1·08
Batley	36602	23·8	12 4	114	1·0	1·4	0·9	2·5	0 8
Doncaster ..	30721	22·2	14·7	114	1·2	1·1	0·81	2·2	1·4
Goole	20730	30·4	13·8	80	1·1	1·68	1·01	1·49	0·96
Hull	282988	27·7	14·4	101	1·08	1·36	1·05	0·14	1·06
Ilkley ...	8050	12·7	8·08	77	0·36	0·37	0·00	1·7	0·86
Mirfield ...	11748	17·0	12·5	80	0·25	0·51	0·34	1·95	1·61
Pudsey ...	14040	16·8	14·9	105	0·7	—	0·6	2·6	—
Normanton.	15300	31·8	13·2	127	2·0	1·6	0·8	—	0·78
Ripon ...	8218	18·6	13·0	—	0·24	0·72	0·6	1·3	0 12
Brighouse	20900	17·17	14·05	81	0·52	1·91	1·24	2·05	1·19
Harrogate	34400	14·5	9·3	64	0·26	0·58	0·44	1·3	0·84
Scarboro'gh	37084	16·42	14·19	77	0·46	1·24	0·81	2·18	1·75
Todmorden	25450	17·52	14·46	112	—	1·8	1·1	—	0·81
Wakefield ..	51942	23·3	14·7	89	1·09	1·66	1·17	2·68	0·69

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.*
1911	593	381	0	52	100	13	10	16	64·2
1910	652	477	0	67	66	10	6	5	81·5
1909	620	481	0	49	53	14	13	6	84·2
1908	683	507	1	68	44	13	14	2	82·4
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

* The percentage is calculated on the number of Births registered, with the number who died unvaccinated deducted.

NOTE.—The Central Vaccination District only covers part of the City of Wakefield (1901 Census Population, 29,850).

TABLE VIII.

Meteorological Table for 1912.

MONTH.	Rainfall. Field Head.		Temperature. Ardsley Reservoir.			
	Inches.	Number of Rainy Days.	Maximum.		Minimum.	
			Average.	Actual.	Average.	Actual.
			Degrees	Degrees.	Degrees.	Degrees.
January ...	3·50	18	40	49·5	32·5	19·5
February ...	1·44	15	44·5	56	34·5	14·0
March	2·30	20	48·5	57·5	37·5	29·5
April	0·31	4	55	68	38·5	28·5
May	3·30	11	59·5	71	44·5	39·0
June	3·42	19	63·5	73·5	49·0	44
July	3·83	14	66	81	53	46
August ...	6·07	23	60·5	65	48	40·5
September...	1·20	5	57·5	63·5	45·5	38
October ...	2·79	9	53·5	62	38·5	31·0
November ...	1·41	13	46·5	57	38	23
December ...	1·82	19	47·5	56	37	26·5
Total for Year	31·39	170	53·6	81·0	41·4	14·0