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CITY OF LEEDS.

REPORT

ON THE

Health and Sanitary Administration

OF THE CITY

FOR THE YEAR 1918.

BY

WILLIAM ANGUS, M.D., D.P.H.,

Medical Officer of Health.

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Expeditionary Force.*

CITY OF LEEDS.

*To the Chairman and Members of the Health Committee.
Gentlemen,*

I beg to present to you the Annual Report on the health of the City and the work of the Public Health Department for the year 1918. With the exception of a few paragraphs, the report is entirely the work of your late medical officer, Dr. William Angus. It was the last piece of work he undertook before his death and represents his final report to you and the City. His sudden and tragic death cut short a career of great promise. Dr. Angus was a brilliant exponent of his subject, a great administrator and organizer, and a loyal and devoted servant of the people. His loss is irreparable both to the medical profession and to the community at large. During his period of service great advances have been made in all departments of Public Health, particularly in that connected with Maternity and Child Welfare. The record which he leaves behind him of good work and honest endeavour in the interests of the community is one which will live in the annals of Public Health of Leeds.

The war which hampered our efforts and increased the difficulties of Public Health Administration has happily ended in victory and the termination of hostilities has made it possible to resume many of the activities which have been in abeyance for the past five years. Naturally it will take some time for things to return to normal, but with the staff once more at full strength one hopes to be able quickly to overtake the arrears of work and develop along fresh avenues of progress.

The year 1918 was in many respects unique. During it, the City was visited on three occasions by epidemic disease, namely:—Measles and Influenza (two outbreaks), which had the effect of raising the general death-rate of the City to 19.9, the highest recorded rate for nineteen years.

To me you have extended the honour of filling the vacancy caused by the death of Dr. Angus, and I should like to take this opportunity of thanking you for your confidence and to assure you that it shall be my endeavour to fulfil the duties of the office with credit.

I am, Gentlemen,

Your obedient servant,

*Public Health Department,
Market Buildings, Leeds,
November, 1919.*

J. JOHNSTONE JERVIS.

SUMMARY, 1918.

AREA OF CITY	26,263 Acres.	
POPULATION (estimated)	427,589	
	Average. 1918. 1908-17.	
BIRTH RATE (births per 1,000 living) ..	17·29	22·97
MARRIAGE RATE (persons married per 1,000 living)	15·49	16·15
DEATH RATE (deaths per 1,000 living) ..	19·95	15·69
NATURAL INCREASE OF POPULATION ..	-1,137	+3,275
(Excess of births over deaths in the year)		
INFANT MORTALITY RATE	133	131
(deaths under 1 year per 1,000 births)		
DEATH RATE from Pulmonary Tuberculosis	1·65	1·33
„ „ other forms of Tuberculosis	0·60	0·57
„ „ Diarrhœa and Enteritis (under 2)	0·34	0·62
„ „ Pneumonia and Bronchitis	3·33	2·72
„ „ Cancer	1·17	1·05
Number of cases of Scarlet Fever	570	1,199
„ „ Diphtheria	542	773
„ „ Typhoid Fever	42	104

PART I.

GENERAL STATISTICS.

Population.—Any estimate of the population for the year 1918 would have been of very doubtful accuracy even in normal times, for we approach the end of the ten years' interval between one census and the next. During these years of war only the Registrar General has had any data to go upon, and we can but accept the provisional figures supplied by him, based on the returns from the National Registration Act, 1915, and on certain figures obtained in connection with the rationing of food. Until the results of the 1921 census become known any accurate statement of the population is impossible, and the bulk of our vital statistics, being based on the population, are therefore, less reliable than usual.

The population used throughout this report, 427,589, is that supplied by the Registrar-General as his estimate for 1918. Another and larger population is recommended for use in the calculation of the birth rate, but this has not been used, so that our birth rate is almost certainly overstated. The population used excludes all non-civilian males whether serving at home or abroad.

Marriages.—During the year 1918, the number of marriages was as follows:—

Leeds Registration District	..	..	2,285
Hunslet	„	„	626
Bramley	„	„	518
Holbeck	„	„	281

This gives a marriage rate of 15.5, or practically the same as the average for England and Wales. There has been no repetition of the phenomenal figure of 1915, when the marriage rate jumped to 20, an increase of 25 per cent. on the average of the previous ten years.

Births.—The number of births registered in Leeds during 1918 was 7,609. If to this number be added 14 births belonging to the City but taking place outside, and from it deducted 231 births of parents who did not belong to Leeds, the result is a nett number of 7,392 births, or 174 fewer than in 1917. This is equal to a rate

MARRIAGE RATE.

Year.	Leeds.	England and Wales.
1908	16·2	15·1
1909	15·1	14·7
1910	15·6	15·0
1911	15·7	15·2
1912	16·0	15·5
1913	16·4	15·5
1914	16·6	15·9
1915	20·2	19·3
1916	15·5	14·9
1917	14·2	13·8
1918	15·5	15·3

BIRTH RATE.

Year.	No. of Births.	Birth Rate, LEEDS.	England and Wales.
1890-1894	62,270	33·2	30·5
1895-1899	63,873	31·5	29·6
1900-1904	64,791	30·1	28·4
1905-1909	59,117	26·9	26·7
1910-1914	53,267	23·6	24·2
1915	9,877	21·5	21·8
1916	9,432	21·1	21·6
1917	7,566	17·3	17·8
1918	7,392	17·3	17·7

of 17.3 births per 1,000 of the population, the same rate as was recorded for 1917. If the birth rate were calculated on the population suggested by the Registrar-General for this purpose, *i.e.*, 479,097—the estimated civilian population plus all those belonging to the City and serving in His Majesty's Forces at home and abroad—the figure would be 15.4, which is considerably below the rate calculated on the same basis for England and Wales.

The great fall in the birth rate, as compared with the average rate of 30.1 for the five years 1900-1904 and 23.6 for the period 1910-1914, calls for serious consideration. The fall which had been going on steadily since about 1880 had apparently stopped before the war, as during the four years 1911-1914, the rate had remained constant, round about 23, but it is very doubtful whether the rate will ever return from its present low level to that pre-war figure. The tendency to shirk the responsibilities of parenthood has apparently become accentuated by the conditions accompanying the war and now following in its train. The birth rate question is one of vital importance to the nation and a great deal might be said on it, but it seems well to defer judgment till there is a better opportunity of seeing how far the pendulum will swing back towards pre-war standards.

All that can be done at the moment is to redouble our efforts to conserve our diminished resources in child life, and for that purpose no expense should be spared in improving the housing and the sanitation of the community, in providing a pure milk supply, in stamping out venereal disease, in organising safe conditions for maternity and disseminating a knowledge of mother-craft among present and future mothers.

In considering the low birth rate, a further disquieting factor is the percentage of illegitimate births which during 1918 was 7.1. This is a high rate and the only consolation is that it is somewhat lower than the previous year's figure of 7.6 per cent. It is surely not too much to hope that in the better conditions promised under our schemes for reconstruction and resettlement, this figure will be greatly reduced. As the death rate of illegitimate is generally about double that of legitimate babies, a high proportion of illegitimacy is an important factor in keeping up the general infant mortality.

BIRTHS AND BIRTH RATE IN WARDS.

MUNICIPAL WARD.	Population Estimated.	Births.	Birth- rate.	Illegiti- mate Births.	Percentage of Illegitimate Births to Total Births.
Central	11,397	197	17·29	18	9·1
North	40,113	588	14·66	38	6·5
North-East	36,059	620	17·19	41	6·6
New Ward*	7,395	91	12·31	6	6·6
East	34,383	724	21·06	51	7·0
South	10,890	297	27·27	30	10·1
East Hunslet	31,285	686	21·93	37	5·4
West Hunslet	35,405	598	16·89	33	5·5
Holbeck	28,218	555	19·67	37	6·7
Mill Hill	4,843	69	14·25	7	10·1
West	18,047	360	19·95	45	12·5
North-West	27,920	458	16·40	55	12·0
Brunswick	21,724	335	15·42	32	9·6
New Wortley	14,907	316	21·20	22	7·0
Armley and Wortley	35,221	527	14·96	27	5·1
Bramley	23,026	322	13·98	14	4·3
Headingley	46,756	649	13·88	35	5·4

* Roundhay, Seacroft, Shadwell, and Crossgates.

Deaths.—

Number of deaths registered in Leeds during 1918 ..	8,611
Leeds residents dying outside the City	395
Total	9,006
Non-residents and soldiers dying in the City ..	477
Nett number of Leeds deaths.. .. .	8,529

As shown above, the nett deaths in 1918 numbered 8,529, which is equivalent to a rate of 19.9 per thousand living, the highest rate recorded since 1900. This circumstance is due to the phenomenal epidemics of Influenza in July and November of 1918, superimposed upon a severe outbreak of Measles in the first quarter of the year. These will be dealt with in the section of this report dealing with infectious diseases.

The distribution of the mortality throughout the year is shown below for the separate quarters, compared with corresponding figures for 1917, and the influence of the November wave of Influenza can be clearly seen :—

YEAR.	I.	II.	III.	IV.	TOTAL.
1918 ..	2,076	1,703	1,538	3,212	8,529
Death					
rate..	19.7	16.0	14.3	29.8	19.9
1917 ..	2,060	1,886	1,499	1,607	7,052
Death					
rate..	19.1	17.3	13.6	14.5	16.1

GENERAL DEATH RATE.

Year.	Population.	No. of deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1901	429,383	8,204	19·2	16·9
1902	431,043	7,699	17·6	16·3
1903	432,703	7,263	16·8	15·5
1904	434,363	8,039	18·6	16·3
1905	436,023	7,047	16·2	15·3
1906	437,683	7,350	16·9	15·5
1907	439,343	7,167	16·4	15·1
1908	441,003	7,430	16·6	14·8
1909	442,663	6,806	15·4	14·6
1910	444,323	6,711	15·2	13·5
1911	445,983	7,331	16·5	14·6
1912	447,746	6,396	14·3	13·3
1913	457,295	7,237	15·6	13·7
1914	459,260	6,885	15·0	14·0
1915	459,260	7,609	16·6	15·1
1916	446,349	6,946	15·6	14·0
1917	438,254	7,052	16·1	14·4
1918	427,589	8,529	19·9	17·6

MORTALITY RATE IN WARDS.

MUNICIPAL WARD.	Population Estimated.	Deaths.	Death-rate.
Central	11,397	304	26·67
North	40,113	698	17·40
North-East	36,059	684	18·97
New Ward*	7,395	91	12·31
East	34,383	827	24·05
South	10,890	311	28·56
East Hunslet	31,285	619	19·79
West Hunslet	35,405	579	16·35
Holbeck	28,218	599	21·23
Mill Hill	4,843	102	21·06
West	18,047	630	34·91
North-West	27,920	603	21·60
Brunswick	21,724	402	18·50
New Wortley	14,907	399	26·77
Armley and Wortley	35,221	594	16·86
Bramley	23,026	342	14·85
Headingley	46,756	745	15·93

* Roundhay, Seacroft, Shadwell and Crossgates.

In the table comparing the actual number of deaths due to various groups of diseases in 1917 and 1918, the feature that stands out prominently is the increase in the number of deaths due to Influenza which in average years accounts for less than 65. Along with the increase due to Influenza should be taken those due to Pneumonia as a considerable number of Pneumonia deaths certified as such were really due primarily to Influenza. Next in importance comes the increase due to Measles. Considering the fact that there was an epidemic of this disease in each of the years under consideration, it might have been expected that there would be little difference in the total deaths in the two years, but the epidemic of 1918—the most virulent and fatal epidemic of Measles that has

Death Rate.	DISEASES.	No. of Deaths in 1918.	Increase or Decrease Compared with 1917.
0.01	Enteric Fever	5	- 2
..	Smallpox	..	..
0.98	Measles	417	+ 140
0.04	Scarlet Fever	19	+ 12
0.30	Whooping Cough	130	+ 61
0.11	Diphtheria and Croup ..	47	- 13
3.28	Influenza	1,401	+ 1,342
0.01	Erysipelas	6	- 1
1.65	Phthisis (pulmonary tuberculosis)	705	+ 31
0.18	Tub. Meng. and Acute Hydroceph.	77	- 3
0.42	Other Tuberculous Diseases ..	180	- 20
1.17	Cancer, Malignant Disease ..	500	- 35
0.09	Rheumatic Fever	38	+ 3
0.27	Meningitis	117	- 17
1.45	Heart Disease	621	- 88
1.53	Bronchitis	653	+ 7
1.80	Pneumonia (all forms) ..	768	+ 203
0.21	Other diseases of respiratory organs,	88	- 9
0.45	Diarrhœa and Enteritis ..	191	- 40
0.03	Appendicitis and Typhlitis ..	14	- 15
0.04	Cirrhosis of Liver	19	- 4
0.00	Alcoholism	1	- 2
0.57	Nephritis and Bright's Disease	243	+ 23
0.01	Puerperal Fever	6	+ 1
0.04	Other accidents and diseases of Pregnancy and Parturition	19	+ 1
0.79	Congenital Debility and Malformation including Premature Birth	339	+ 48
0.50	Violent deaths, excluding Suicide	214	- 37
0.08	Suicides	35	+ 9
3.89	Other Defined Diseases ..	1,665	- 109
0.03	Diseases ill-defined or unknown	11	- 9
19.95		8,529	+ 1,477

occurred in Leeds for at least 30 years—swelled the total for the year enormously. The details of this epidemic will be found on p. 17. Along with Measles should be mentioned an increase of 61 deaths due to Whooping Cough. The two diseases frequently go hand-in-hand.

An analysis of the deaths according to age groups shows that the number of deaths contributed to the total by those aged between 15-25 and 25-45 is much higher than usual. This is no doubt due to the fact that Influenza selected for its victims persons in these two groups. As a result of the large number of deaths which took place in the middle years of life, the proportion of the total mortality contributed by babies under one year and old people over 65 is much lower than usual.

DEATHS IN AGE GROUPS, 1911-18.

Together with the percentage of the total deaths, represented by each group (in italics).

Year.	Under 1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
1911	1,679 <i>22.9%</i>	483 <i>6.6%</i>	380 <i>5.2%</i>	309 <i>4.2%</i>	303 <i>4.1%</i>	903 <i>12.3%</i>	1,589 <i>21.7%</i>	1,685 <i>23.0%</i>	7,331
1912	1,051 <i>16.4%</i>	311 <i>4.9%</i>	291 <i>4.5%</i>	286 <i>4.5%</i>	303 <i>4.7%</i>	906 <i>14.2%</i>	1,502 <i>23.5%</i>	1,746 <i>27.3%</i>	6,396
1913	1,469 <i>20.3%</i>	419 <i>5.8%</i>	344 <i>4.8%</i>	265 <i>3.7%</i>	292 <i>4.0%</i>	946 <i>13.1%</i>	1,684 <i>23.3%</i>	1,818 <i>25.1%</i>	7,237
1914	1,324 <i>19.2%</i>	469 <i>6.8%</i>	358 <i>5.2%</i>	269 <i>3.9%</i>	276 <i>4.0%</i>	923 <i>13.4%</i>	1,605 <i>23.3%</i>	1,661 <i>24.1%</i>	6,885
1915	1,253 <i>16.5%</i>	439 <i>5.8%</i>	389 <i>5.1%</i>	260 <i>3.4%</i>	318 <i>4.2%</i>	965 <i>12.7%</i>	1,850 <i>24.3%</i>	2,135 <i>28.0%</i>	7,609
1916	1,216 <i>17.5%</i>	391 <i>5.6%</i>	285 <i>4.1%</i>	240 <i>3.5%</i>	287 <i>4.1%</i>	885 <i>12.7%</i>	1,683 <i>24.2%</i>	1,959 <i>28.2%</i>	6,946
1917	1,023 <i>14.5%</i>	400 <i>5.7%</i>	422 <i>6.0%</i>	331 <i>4.7%</i>	302 <i>4.3%</i>	835 <i>11.8%</i>	1,734 <i>24.6%</i>	2,005 <i>28.4%</i>	7,052
1918	984 <i>11.5%</i>	474 <i>5.6%</i>	743 <i>8.7%</i>	514 <i>6.0%</i>	579 <i>6.8%</i>	1,214 <i>14.2%</i>	2,007 <i>23.5%</i>	2,014 <i>23.6%</i>	8,529

PART II.

INFECTIOUS AND OTHER DISEASES.

Influenza.—In this section of the report it seems well this year to begin with Influenza, inasmuch as this disease was responsible for the quite phenomenal mortality returns.

Influenza in this country is both epidemic and endemic, that is to say a certain number of cases keep cropping up every year between its times of epidemic prevalence. But in non-epidemic times there is no doubt that the term Influenza is very loosely used to cover many varieties of febrile affections, and appears most frequently in our death returns, as the terminal phase in chronic illness among elderly people. In epidemic times the clinical picture becomes much more familiar and well defined.

The last great epidemic of Influenza in this Country was in 1889-1891, but unfortunately there are no statistics available of Leeds mortality due to this disease for that period. Since 1891 the annual number of deaths ascribed to Influenza has varied from 121 to 20, generally being higher in cold, wet years when the mortality from respiratory diseases as a whole was high. In 1918 the epidemic was first heard of in Spain, from which fact it was generally spoken of as "Spanish Influenza," but there is no doubt that the disease was the same as had devastated the world on previous occasions.

Influenza first made its appearance in Leeds in the latter half of June. During the first fortnight of that month only one death was reported from this cause but for the next seven weeks the figures were as follows :—

WEEK ENDING.	DEATHS.	WEEK ENDING.	DEATHS.
June 22nd	2	July 20th	28
June 29th	14	July 27th	14
July 6th	44	August 3rd	3
July 13th	56		

The epidemic was therefore short and sharp. Many people were affected—it is impossible to estimate how many—but the attacks generally speaking, were not very severe, and the mortality was not high.

Then followed a quiet period of 10 weeks till the middle of October when the second wave of the epidemic fell upon the City.

The weekly mortality figures for the second epidemic were as follows :—

WEEK ENDING.	DEATHS.	WEEK ENDING.	DEATHS.
October 19th	.. 41	November 23rd	.. 159
October 26th	.. 101	November 30th	.. 119
November 2nd	.. 200	December 7th	.. 61
November 9th	.. 256	December 14th	.. 33
November 16th	.. 189		

On this occasion the epidemic lasted only a little longer—almost nine weeks—but the virulence of the disease was apparently much exalted and the mortality in consequence greatly increased. There is no previous record in the annals of the City of deaths from one disease occurring at the rate of 37 per day for a week and an average of 29 daily during a whole month. Most deaths were due to Pneumonia secondary to the Influenza, and many deaths really due to Influenza appeared in our returns only as Pneumonia or Bronchopneumonia. This is borne out by comparing the death returns for the corresponding periods of other years. The average mortality from Pneumonia, etc. during the last three months of the year for the previous five years was 346. During 1918 the figure was 618. The excess may very fairly be put down to the presence of the Influenza epidemic.

I estimate that during 1918 these two waves of Influenza were responsible for 1,544 deaths in Leeds, or a death rate of 15.7.

Analysis in detail of the mortality returns during both epidemics shews that more deaths of females than males occurred in the proportion of 55 to 45 in July and 59 to 41 in November. Whether the actual mortality rate among females was higher it is impossible to say as we do not know the relative numbers of each sex affected, nor at present have we any means of estimating the males and females in the population. But in the deaths from all causes in the City for the same period there is no preponderance of females.

The age distribution of the mortality in the two epidemics is shown for comparison.

	0-5	5-15	15-25	25-35	35-45	45-65	56+
July ..	7.1%	8.9%	21.8%	16.6%	7.7%	29.5%	8.3%
November	19.9%	10.5%	13.6%	18.7%	9.8%	16.9%	10.6%

The noteworthy points here are the heavier mortality on infants and young children in the later epidemic and the heavy toll levied on both occasions on those in the prime of life. Normally, the group 25-45 years contributes but 12 per cent. of our general deaths. To the mortality from Influenza it contributed over 25 per cent.

The higher mortality in the second epidemic was probably markedly due to the greater virulence of the disease, but was probably also caused by the epidemic coming at a time when owing to the colder weather, closed windows and warm vitiated and impure atmospheres are the rule. Such conditions lower the resistance of the individual to respiratory disease, and it was almost invariably secondary lung complications which caused death.

The highest death rate reached in Leeds was for the week ending November 9th, when it was 57.1, but this was exceeded in several other Cities as will be seen below.

Highest Weekly General Death Rates in 1918.

	DEATH RATE.		WEEK ENDING.
Nottingham ..	100.2	..	November 30th.
Sheffield ..	83.3	..	November 2nd.
Hull	79.6	..	November 2nd.
Leeds	57.1	..	November 9th.
London	55.5	..	November 2nd and 9th.
Manchester ..	54.2	..	November 30th.

Measures taken to deal with the Disease.—At an early period in the epidemic it was realised that the congregation of large numbers of people in schools and cinemas and other places of entertainment favoured the development of the disease and directly contributed to its spread. In consultation with the Medical Department of the Education Authority the day schools were closed for three weeks. Similar action was also taken with respect to the Sunday Schools. The Watch Committee was asked to close the cinemas

and theatres to children under 13 years of age. This was done and at the same time all places of amusement were put out of bounds to wounded soldiers and members of His Majesty's Forces.

Special handbills were printed giving simple directions as to how to treat the disease in its early stages and also how to prevent its spread. Upwards of 30,000 of these were distributed all over the City by members of the various troops of scouts. To the earnest co-operation of the scoutmasters and the willing assistance of the boys was due the expedition and despatch with which the City was covered. Five hundred larger bills containing similar information were displayed in the tramcars, public lavatories, waiting-rooms and public offices.

Members of the Health Visiting Staff were detailed to give assistance in the nursing of cases in homes where it was impossible to get such assistance. The Nursing Associations also devoted their entire staffs to this work but so extensive was the outbreak and so numerous were the cases that only a small proportion of the sufferers could be reached.

The City Hospital at Seacroft was approached with a view to opening certain wards for the reception of cases, and arrangements were all but completed for this being done when the nursing staff of the Hospital itself became involved to such an extent that the project became quite hopeless. In the circumstances, the Leeds General Infirmary and the Poor Law Infirmary were approached but owing to the depletion of their staffs were unable to lend any assistance.

To meet the situation vacant premises were secured at Weetwood Hall and transformed into a temporary hospital of 40 beds. This was opened for the reception of cases about the middle of November, and has been of the very greatest assistance in providing accommodation for sufferers who for any reason could not be nursed in their own homes. At the same time the Infants' Hospital, Wyther, was evacuated and opened for the admission of cases of children under 10 years of age.

By reason of the large number of deaths amongst expectant mothers, it became obvious that special provision would have to be made for them. The Maternity Hospital was approached with a view to the reservation of a certain number of beds for dealing

with such cases, and readily agreed to put what accommodation could be spared at our disposal. By this arrangement it has been possible to remove expectant mothers as soon as the disease was discovered from crowded and unsuitable homes to the hospital where they could be carefully tended until convalescence.

Supplies of disinfectants and sprays were obtained and stored at the Public Health Offices and distributed on application to institutions, factories and workshops and private dwelling-houses throughout the City.

From the commencement of the outbreak it became evident that the shortage of men for making coffins and digging graves for the disposal of the dead would interfere very seriously with rapid interment. As it transpired, this was exactly what happened, and for a time the situation became very serious, as many as three dead bodies lying in one little crowded home for as long a period as ten days. To meet the need and to prevent possible spread of infection as a consequence of delayed burial, one of the public mortuaries was opened for the reception of bodies. The people, however, showed a reluctance to send their dead to such a place and the Church was approached to provide mortuary accommodation in certain parishes. The Clergy showed the utmost willingness to help in this direction, and readily put three mission chapels at the disposal of the Health Authority. These were closed for services and opened for public mortuaries in the middle of November, and undoubtedly helped to ease the situation. Grateful acknowledgment is due to the Leeds Clergy for their timely assistance in this respect.

It is some consolation to know that as a result of the stimulus given to bacteriological research by this world-wide epidemic great advances have been made in our knowledge of the cause of Influenza. Formerly it was believed to be due to the B. Influenza of Pfeiffer, discovered by him during the last epidemic in 1889-1890. Many conflicting reports were received from investigators as to the presence or absence of this organism in cases affected in 1918, and the difference in the results would seem to have been due mainly to the stage of the disease at which the examination was made and the technique adopted.

The problem has been solved, however, by workers in the British Army Laboratory in France. Major Gibson and his co-workers have discovered that Influenza is due to a very minute organism, one of the filter passers, that is to say, it is so minute that it passes through the finest porcelain filter. The organism in question has been grown on the special culture medium devised by Noguchi, and experiment has shown that the organism thus grown can cause the disease on inoculation and the same organism can then be recovered from the bodies thus inoculated. It is tragic to record that just as Major Gibson had completed his cycle of proof that the real cause of Influenza was that discovered by him, he, himself, fell a victim to the disease and died. It is to be hoped that as the result of his discovery, it will become possible to devise some serum or vaccine which is efficacious for either the prevention or the treatment of the disease.

Before leaving the subject of Influenza it should be recorded, although outside the period dealt with in this report, that the third epidemic commenced at the beginning of February, 1919, and lasted for eight weeks. During this epidemic 487 deaths occurred. In other respects the disease was of the same type and affected individuals in a similar fashion at about the same age as in the previous epidemic.

Measles.—Next in importance to Influenza as a cause of mortality in 1918 was Measles. I purposely put Measles in the forefront, in dealing with infectious disease, to help readers of my report to realise that as a killing disease, Measles is of vastly greater importance to the community than Scarlet Fever, Diphtheria, Enteric Fever, either singly or taken together. The deaths and the annual death rate from Measles for the last ten years are shown in the table and it will be seen that the mortality fluctuated very definitely up and down, from year to year, except during the last three years. Measles is a disease which becomes epidemic roughly every two to two-and-a-half years. During an epidemic it attacks practically all the susceptibles, that is all young children who have not already suffered, and Measles behaved in this way in Leeds very regularly for many years. But in 1916 there was a sharp outbreak reaching its maximum in the first quarter of the year. In 1917 there was again an epidemic with its maximum in the second quarter, that is only fifteen months after the previous

outbreak. This outbreak of 1917 went on smouldering through the second, third and fourth quarters only to end in an acute flare-up in the first quarter of 1918, during which quarter there was the unprecedented number of 295 deaths from Measles alone. In the second quarter there were 99 deaths, and altogether 417 for the year.

MEASLES.

Year	Deaths	Death-rate LEEDS.	Death-rate England and Wales.
1908	181	0·40	0·22
1909	78	0·18	0·35
1910	160	0·36	0·23
1911	78	0·18	0·36
1912	159	0·36	0·35
1913	108	0·23	0·28
1914	218	0·48	0·24
1915	78	0·17	0·43
1916	149	0·33	0·15
1917	277	0·63	0·30
1918	417	0·98	0·28

AGES AT DEATH FROM MEASLES.

1918	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of Deaths	54	138	72	71	38	41	1	415

This is the highest number of deaths recorded from Measles in any one year as far back as our records go, and the same is true if we compare the total deaths in 1917 and 1918 together with any previous period of two years. It is necessary to do this to include comparison with an epidemic falling partly in one year and partly in another. The only comparable period is in 1893 and 1894 when the deaths numbered 630 as compared with 694 for 1917 and 1918.

It is impossible to point to any definite cause for this abnormal behaviour of Measles. As far as climatic conditions is concerned the first quarter of 1918 was not more severe than usual. It would seem probable that the general resistance of individuals as the result of war conditions, overcrowding, food restrictions, etc., was lower than usual and particularly so to respiratory diseases for both the killing diseases of 1918, namely Measles and Influenza were killed by respiratory complications.

The total number of notifications received was 6,719 and probably this represents about the total number of cases that occurred. The percentage mortality therefore, over all, was 6.2. This is high mortality for any disease, but when we look further into the matter and find that of those who get affected under the age of two years, 18 per cent. die, we must then realise what a deadly disease Measles is. The mortality from Measles after the age of four is comparatively low, therefore it cannot be too strongly emphasised how important it is to guard children of this age and under from risks of infection.

During the epidemic the whole of the Health Visiting staff were directed to confine their energies to visiting cases of the disease and to render all possible assistance in the home nursing of cases. The District Nursing Association also helped with the home nursing of cases according to the agreement entered into between them and the Health Committee for this purpose, but the shortage of Health Visitors and District Nurses made it quite impossible to deal anything like adequately with all the cases notified. Arrangements were made to admit cases from the worst homes into Seacroft Infectious Diseases Hospital, but there again, shortage of staff rendered it necessary to limit admissions only to the most urgent cases.

A circular letter was addressed to all medical men in the City informing them of the virulent character of the epidemic and asking

for their co-operation and help in giving advice to parents and guardians as to the care and nursing of infected children. The infant departments of schools were closed and children under thirteen years were excluded from picture theatres.

Measles is a disease which is very difficult to prevent as it is so highly infectious. On the other hand it is a disease from which children of the well-to-do never die, therefore we must regard it as a preventible disease. The way to prevent a high mortality is to improve the housing conditions so that children may be nursed in a well ventilated separate apartment and to educate the parents to take Measles seriously, to send for medical advice early and carry out careful nursing.

Whooping Cough.—The table shows that in 1918 no fewer than 130 lives were lost from Whooping Cough and that of these, 78 were in children under two years.

WHOOPING COUGH.

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1908	140	0·31	0·27
1909	83	0·19	0·20
1910	150	0·34	0·24
1911	147	0·33	0·21
1912	54	0·12	0·23
1913	94	0·20	0·14
1914	141	0·31	0·21
1915	158	0·34	0·21
1916	45	0·10	0·16
1917	69	0·16	0·13
1918	130	0·30	0·29

AGES AT DEATH FROM WHOOPING COUGH.

1918	0-1	1-2	2-3	3-4	4-5	5-10	Total.
No. of deaths	45	33	21	18	8	5	130

The moral is the same as that for Measles. Whooping Cough is a disease which is regarded too lightly. Again, it is a disease the infection of which is difficult to avoid, but death would but rarely occur if doctors and parents would realise the importance of fresh air, and the danger of overheating and bad ventilation.

Measles and Whooping Cough in Leeds last year were responsible for 547 deaths. In the last five years Scarlet Fever, Typhoid Fever and Diphtheria, have together caused only 431 deaths, and yet the latter diseases are still regarded the more important.

Scarlet Fever.—The incidence of this disease continued to be light during 1918 as in the previous year. The number of cases reported was equal to 1.33 per thousand of the population as compared with 1.44 for England and Wales and of the total cases, 86 per cent. were removed to the City Hospital at Seacroft. Removal to hospital is not insisted upon if reasonable accommodation and facilities for isolation are available at home.

The position in Leeds as regards scarlet fever in 1918 and the seven years preceding is shown by the following table:—

SCARLET FEVER.

Year.	Cases.	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1911	1,633	45	0.10	0.05
1912	1,227	40	0.09	0.05
1913	1,311	15	0.03	0.06
1914	1,346	30	0.07	0.08
1915	1,454	30	0.07	0.06
1916	881	23	0.05	0.04
1917	543	7	0.02	0.02
1918	570	19	0.04	0.03

Diphtheria.—There was nothing special in regard to the incidence or the severity of diphtheria last year.— There is still a regrettably high number of deaths mostly due to delay in applying energetic treatment. Medical advice is not sought until a day or two after the onset of the disease and in the successful treatment of diphtheria every day counts.

DIPHtheria AND CROUP.

Year.	Cases	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1911	1,165	154	0·35	0·13
1912	705	95	0·21	0·11
1913	880	89	0·20	0·12
1914	700	59	0·13	0·15
1915	402	51	0·11	0·15
1916	423	40	0·09	0·14
1917	549	60	0·14	0·13
1918	542	47	0·11	0·14

Enteric Fever.—This disease was once one of the most important with which Medical Officers had to deal and now, as the result of sanitation and public health control, it has faded away to practical insignificance. Last year in Leeds 42 cases only were recorded and there were five deaths.

ENTERIC FEVER.

Year.	Cases.	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1908	179	25	0·06	0·07
1909	217	40	0·09	0·06
1910	104	21	0·05	0·05
1911	119	22	0·05	0·07
1912	65	18	0·04	0·04
1913	85	19	0·04	0·04
1914	84	23	0·05	0·05
1915	106	21	0·05	0·04
1916	48	9	0·02	0·03
1917	37	7	0·02	0·03
1918	42	5	0·01	0·03

CASES OF ENTERIC FEVER MONTH BY MONTH.

Jan.	Feb.	March.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	7	5	3	3	1	3	5	5	4	1	4

Smallpox.—There were no cases during 1918, but in view of the very infectious nature of this disease and the fact that a large proportion of the community is growing up unvaccinated, we must still keep up to date our provision for dealing with an outbreak. If Killingbeck is to be used permanently for tuberculous cases, new arrangements and a new site will have to be provided for smallpox.

Erysipelas.—During the year 175 cases of Erysipelas were notified and 6 deaths were registered as due to this disease.

Puerperal Fever.—During 1918 there were 17 notifications of Puerperal Fever. Of these 8 took place in the practice of midwives, and the remainder in the practice of doctors or in institutions. There were six deaths. In addition three cases were heard of through a death having occurred from this cause in an institution. Failure to notify occurred through the authorities of the institution thinking that the case had been notified before admission, whereas the medical man outside had failed to notify pending more definite diagnosis of the case.

Cerebro-Spinal Meningitis.—This disease has never given any serious trouble in Leeds. During 1918 there were only 4 cases reported. Three of them were removed to hospital. Of the 4 cases, 1 died.

Acute Anterior Polio-Myelitis.—Only one case was notified, but it is almost certain many more cases occurred in the City. The fact that this disease is notifiable seems generally to be forgotten and, no doubt, the fact that so little is known of its mode of transmission and little can be done to prevent new cases arising, conduces to this forgetfulness.

OPHTHALMIA NEONATORUM.

The number of notifications received was 89 as compared with 109 the previous year. Of these 83 were visited and 65 of them occurred in the practice of midwives, and 18 in doctors' cases. Treatment was obtained at home in 60 cases and the remainder were treated at institutions. During the year arrangements were made for five beds to be available in the Maternity Hospital for the treatment of this infection of the eyes of the newly-born, and under this scheme the mother as well as the baby can be admitted

so that the necessity for weaning the child does not arise. Most of the other cases are treated as outpatients at the General Infirmary, but experience shews that it would be better to have a nurse set apart for the home treatment of these cases as it is impossible for a child to be taken to the outpatient department of the Infirmary as frequently as is necessary in the treatment of this serious disease. The child's mother is almost invariably still confined to bed when the disease is at its worst so that all the responsibility and work in connection with the case falls on relatives or friends.

DAY OF ONSET FROM BIRTH.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	5	5	5	9	14	7	13	5	3	8	8	4	3

The result of treatment was as follows :—

Number of cases visited	..	..	..	83
Recovery apparently perfect	..	..	..	75
Sight of one or both eyes permanently affected	..	..	..	2
Still under treatment	..	..	..	..
Died	..	..	..	5
Result not known	..	..	..	1

DIARRHŒA AND ENTERITIS.

The number of deaths due to this summer plague shews a pleasing diminution but there are still far too many cases and too many deaths. Summer diarrhœa is entirely a food infection, generally milk borne, and the infection of the milk occurs in the home or its surroundings. Summer diarrhœa is very closely analogous to bacillary dysentery and, like it, almost certainly may be caused by a variety of micro-organism, in the carriage of which the house fly is a most important agent. It can, therefore, be prevented by a higher standard of sanitation both inside the home as regards cleanliness and food storage, and outside the home by a higher standard of street cleansing, refuse removal, manure disposal, etc. Dysentery was controlled in the army only by sanitation. Summer diarrhœa at home can be controlled only in the same way.

DIARRHŒA AND ENTERITIS DEATHS UNDER TWO YEARS FROM
1908 TO 1918 WITH RATES PER 1,000 POPULATION.

Year.	Deaths.	Rate per 1,000 Population.
1908	405	0·90
1909	166	0·38
1910	252	0·57
1911	578	1·30
1912	114	0·25
1913	339	0·73
1914	287	0·63
1915	282	0·61
1916	214	0·48
1917	171	0·39
1918	146	0·34

The 146 deaths from diarrhœa and enteritis were of children aged as follows:—

Under one month ..	11	6-9 months ..	22
1-3 months ..	31	9-12 months ..	10
3-6 months ..	55	1-2 years ..	17

The incidence of diarrhœa month by month is shown in the small table.

DEATHS, TEMPERATURE AND RAINFALL IN EACH MONTH OF YEAR.

1918.	Jan.	Feb.	Mar.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths	4	10	7	7	4	6	8	41	33	12	9	5	146
Temperature °F.	39.68	45.42	45.65	47.27	59.28	60.10	64.28	64.79	55.90	51.32	43.56	43.41	51.87
Rainfall (inches)	1.94	2.41	0.95	0.99	2.98	1.21	5.09	2.07	6.71	2.17	0.84	4.21	31.57

BRONCHITIS AND PNEUMONIA.

These two diseases show high rates of mortality for the year because of their association with Influenza and with Measles, which were the chief killing diseases of 1918. The death rate from pneumonia was the highest ever recorded but, bearing in mind the nature of the Influenza epidemic, this fact is not surprising. Many cases of Influenza succumbed to a secondary attack of Pneumonia,

BRONCHITIS.

Year	Deaths.	Rate per 1,000 Population.
1908	636	1.42
1909	655	1.48
1910	541	1.22
1911	559	1.26
1912	576	1.29
1913	647	1.39
1914	539	1.18
1915	738	1.61
1916	620	1.39
1917	646	1.47
1918	653	1.53

AGES AT DEATH FROM BRONCHITIS.

1918	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	73	37	31	12	7	24	179	290	653

PNEUMONIA.

Year.	Deaths.	Rate per 1,000 Population.
1908	682	1·52
1909	618	1·40
1910	608	1·37
1911	612	1·38
1912	479	1·07
1913	585	1·26
1914	610	1·33
1915	725	1·58
1916	586	1·31
1917	565	1·29
1918	768	1·80

AGES AT DEATH FROM PNEUMONIA.

1918	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	80	77	130	52	62	117	155	95	768

and many such deaths were certified without mention being made of the primary cause. During the year the Local Government Board made notifiable acute primary Pneumonia and acute Influenzal Pneumonia, in order that attempts might be made to lessen the mortality from these causes, but the circumstances attendant on the Influenza epidemic which was raging at the time made it impossible for the Department to organize preventive measures on a

large scale, or to provide nursing or hospital treatment for many cases. Acute Pneumonia is one of the glaring examples of disease for which very inadequate provision is made at the present time. It is impossible for cases of acute Pneumonia to receive adequate care and to have the best chance of recovery in the home circumstances of most of our working-class population. Pneumonia is as much a case for hospital treatment as an acute surgical emergency, but has never yet been so regarded. Much greater hospital accommodation is needed in order to deal with medical diseases. At the same time a large development of a home nursing service available for other serious medical diseases which are not removed to hospital, is required.

CANCER.

From the table it will be seen how little variation there has been in the death-rate from Cancer during the last eleven years. It still ranks amongst the five most important causes of death.

Year.	Deaths.	Rate per 1,000 Population.
1908	463	1·03
1909	449	1·02
1910	397	0·90
1911	423	0·95
1912	430	0·96
1913	525	1·13
1914	457	1·00
1915	521	1·13
1916	500	1·12
1917	535	1·22
1918	500	1·17

VENEREAL DISEASES.

A really serious effort to combat these diseases is now being made. Death returns convey a very inadequate idea of the prevalence of Venereal Diseases. Gonorrhœa scarcely appears in the death returns at all, though it is probably the most crippling disease of the female sex and causes a great deal of disability amongst males. Syphilis is registered as a cause of death almost entirely amongst children. The figures for Leeds during the last six years are as follows :—

1913	..	..	59
1914	..	..	63
1915	..	..	48
1916	..	..	72
1917	..	..	74
1918	..	..	79

Of these 395 deaths, 268 are those of infants under one year. A large number of the deaths so certified as due to Syphilis occurred in public institutions, because there is not the same likelihood of the term Syphilis being avoided as in the case of a private patient. It is a matter of common knowledge that Syphilis is the cause of many diseases which invariably prove fatal sooner or later, but no echo of this is found in our statistical returns. Venereal disease is undoubtedly increasing and the cause of the increase is the lowering of moral standards which has taken place during war years.

The work at the Venereal Disease treatment centre in the Leeds General Infirmary continued during 1918 and the number of patients increased. The arrangements made at the Infirmary were but a makeshift, as it was impossible to provide better accommodation or more adequate staffing during the war. The inadequacy of the accommodation therefore prevented the number of patients taking advantage of the clinic being so high as it would otherwise have been. New arrangements are now in progress. A well-equipped Venereal Disease department will be organised. There will be more convenience for patients attending both at the actual clinics and for regular daily treatment, and it is hoped that the better facilities provided will lessen the proportion of patients who do not continue the treatment to a cure.

Arrangements were made for beds subsidised by the Corporation at the Maternity Hospital, to be available for the treatment of Venereal Disease in married expectant mothers during their pregnancy and after the birth of the child, and another institution, the Hope Hospital, was opened for the treatment of Venereal Disease in unmarried women. This latter institution is managed by a committee of the Diocesan Association largely subsidised by the Corporation. The number of cases dealt with at the treatment centre in Leeds was as follows:—

First cases:—Syphilis, 546, Gonorrhoea, 198. Conditions other than Venereal, 108, Total, 852.

Total number of attendances of all cases	9,842
Aggregate number of " In-patients days "	644
Total number of doses of Salvarsan substitutes ..	2,790
Total number of Pathological specimens, Spirochetes, 38, Gonococci, 55. Blood—Wassermann Reaction, 1,225.	

An equally important part of anti-Venereal Disease measures, must be an educational campaign. This has been organised and carried through in Leeds by the local branch of the National Council for Combating Venereal Disease, on which the Health Committee is well represented and to whose funds it contributes largely. During the year four meetings of the full Branch, eleven meetings of the Executive Committee and two meetings of the Finance Committee were held, and at two Branch Meetings the services of special speakers—Miss Peto and Mrs. A. C. Gotto, O.B.E.—were obtained. A special meeting of the medical practitioners in the City was held at the Leeds General Infirmary, at which a short address by Major Vining—the Medical Officer in charge of the Treatment Centre—was given, followed by a general discussion. A special meeting of factory welfare supervisors at the large munition and clothing factories was arranged and addressed by one of the members of the Medical Panel. In addition, upwards of 62 lectures were given to social organisations, including the Women's Co-operative Guild, Adult Schools, P.S.A.'s, Brotherhoods, Men's Meetings, Friendly Societies, etc. A mass meeting of women and girls employed in the National Ordnance and other controlled factories was arranged, and a large audience was addressed by Dr. Mary Scharlieb. A

special Works Campaign was also organised in January and dinner-hour and evening lectures given at many of the largest and most important works. Upwards of 4,000 individuals attended these lectures and literature to the extent of nearly 5,000 copies of various pamphlets issued by the National Council were distributed. A large number of books and pamphlets issued by the Council were purchased and sent to the Leeds Public Libraries for reference and circulation amongst the public. Upwards of 10,000 copies of a special issue of three pamphlets and leaflet were sent with a covering letter to the managers of all the important factories and workshops in the City for distribution amongst the employees. In addition, literature has been distributed at all lectures inaugurated by the Branch. A special poster giving information as to the facilities for treatment of venereal diseases in the City has also been displayed in public waiting rooms and lavatories in connection with railway stations, hotels, public-houses, etc.

Comparative Statistics of the larger English Cities, 1918.

	Population.	Birth rate.	Death rate.	Infant Mortality rate.	Death rate from		
					Phthisis.	Other Tuberculosis.	Diarrhœa and Enteritis under 2.
London	3,954,554	16·0	19·2	108	1·78	0·35	0·28
Birmingham ..	870,000	19·4	15·2	99	1·35	0·25	0·36
Liverpool	781,948	21·9	19·5	124	1·79	0·50	0·47
Manchester {	{ 665,807 } { 770,248 }	16·8	18·3	107	1·43	0·37	0·16
Sheffield .. {	{ 469,293 } { 523,129 }	20·6	20·5	129	1·41	0·43	0·37
Leeds	427,589	17·3	19·9	133	1·65	0·60	0·34
Bristol	338,174	16·1	17·3	95	1·36	0·33	0·23
Hull	241,651	19·4	21·9	125	1·66	1·52	0·31
Bradford .. {	{ 259,707 } { 290,992 }	13·3	19·2	123	1·42	0·32	0·16
Newcastle	278,107	23·3	17·3	107	1·41	0·50	0·3
Nottingham ..	235,707	15·9	21·3	124	1·30	0·51	0·28

PART III.

TUBERCULOSIS.

MORTALITY STATISTICS.

Deaths from all forms of Tuberculosis during 1918 numbered 962 which is equal to a rate of 2.25 per thousand living. This is higher than last year's rate (2.18) and is the highest since 1904 when it was 2.30. The sub-division of the deaths into those from pulmonary Tuberculosis or Consumption and those due to other forms of Tuberculosis according to the sexes affected, is shewn in the tables.

These mortality figures indicate that during the last five years very little headway has been made in the struggle to combat Tuberculosis. Instead of a fall there has been a steady increase in the death rate, but at the same time I do not think there is any call to be unduly pessimistic about the outlook nor to suggest that all the work that has been done and all the money that has been spent has been useless. There were many conditions during the war which favoured the high mortality from tuberculosis. Sanatorium and Tuberculosis hospital accommodation was very much reduced owing to the military occupation of institutions, consequently there was a shortage of beds, and cases which in institutions would have recovered sufficiently to survive for a few more years, died more rapidly at home. Owing to the shortage of houses and the influx of workers into industrial communities, there was much more over-crowding, with the result of greater opportunities for infection from one tuberculous subject to another, and a much greater tendency for the rapid progress of the disease in a person once infected. The general resistance of the population to disease was lessened by worry, by hard work, and by inevitable restrictions in diet. Many weaklings were pressed into industry, and many men under the rigour of army life and active service broke down owing to the flaring up of Tuberculous infection which had been latent.

PULMONARY TUBERCULOSIS.

YEAR.	MALES.		FEMALES.		TOTAL.	
	Deaths.	Death rate.	Deaths.	Death rate.	Deaths.	Death rate.
1908	368	1.72	253	1.08	621	1.38
1909	320	1.52	228	0.99	548	1.24
1910	302	1.43	208	0.90	510	1.15
1911	346	1.64	212	0.91	558	1.26
1912	342	1.61	229	0.98	571	1.28
1913	336	1.53	221	0.90	557	1.20
1914	330	1.52	239	0.99	569	1.24
1915	386	1.78	265	1.09	651	1.42
1916	412	..	283	..	695	1.56
1917	378	..	296	..	674	1.54
1918	369	..	336	..	705	1.65

PHTHISIS. DEATHS AT VARIOUS AGES.

1918.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	24	5	8	21	27	145	121	18	369
Females	15	16	26	47	58	121	45	8	336
TOTALS	39	21	34	68	85	266	166	26	705

PHTHISIS DEATHS IN WARDS.

WARD.	Deaths.	Rate per 1000 Population.	WARD.	Deaths.	Rate per 1000 Population.
Central ..	38	3·33	Mill Hill ..	11	2·27
North ..	68	1·70	West ..	58	3·21
North-East ..	53	1·47	North-West ..	45	1·61
New Ward ..	1	0·14	Brunswick ..	49	2·26
East ..	78	2·27	New Wortley	26	1·74
South ..	30	2·75	Armley and Wortley ..	40	1·14
East Hunslet	43	1·37	Bramley ..	21	0·91
West Hunslet	56	1·58	Headingley ..	47	1·01
Holbeck ..	41	1·45	Total ..	705	1·65

Non-Pulmonary Tuberculosis.—The distribution according to site of disease, age and sex are given in the following tables.

NON-PULMONARY TUBERCULOSIS. DEATHS.

1918.	Tubercular meningitis.	Abdomin- al.	Bones and Joints.	Other tuber- culosis.	Total.
Males ..	30	41	13	44	128
Females ..	47	35	16	31	129
Totals ..	77	76	29	75	257

AGES AT DEATH.

Ages.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	52	21	10	12	6	8	14	5	128
Females	44	19	18	11	7	23	4	3	129
Totals ..	96	40	28	23	13	31	18	8	257

The shortage of beds was very severely felt in Leeds during 1918. A comprehensive scheme for dealing with tuberculosis was drawn up by the Health Committee and passed by the City Council in March, 1918, but owing to restrictions on building and other causes it was quite impossible to proceed with it then. It was, therefore, arranged to carry on as before by co-operating with the Leeds Tuberculosis Association until such time as the new scheme could be proceeded with. At the time of writing—July—1919—that moment has now come. Besides providing modern and extended accommodation for cases of pulmonary tuberculosis plans have been considered for an institution to deal with surgical tuberculosis, *i.e.*, tuberculosis of the spine, hip joint, knee, glands, etc., all of which are very prevalent in this area. Such cases constitute a large proportion of the surgical work dealt with at the Leeds General Infirmary, but to get successful results by the most modern methods of treating these cases, they must be kept in institutions for a long time, even up to twelve months and the General Infirmary cannot afford beds for that length of time. We also require institutions of the open-air school type where children who are still only in the stage of suspected pulmonary tuberculosis may be admitted and by open air treatment and a healthy regime restored to vigorous health.

We must get our cases earlier and for that purpose the general public and general practitioners must have a better knowledge of what is being done in the City and of the facilities which are in existence for early diagnosis and treatment of tuberculous cases. As will be seen by reference to the table, only 1,238 notifications of pulmonary tuberculosis were received in Leeds last year, although there were 705 deaths. It is quite certain that the ratio of notifications to deaths should be very much higher than 12 to 7. No fewer than 152 cases of phthisis had never been heard of by the Department until the deaths appeared in the Registrar's Returns. Obviously little progress can be made until this state of affairs is remedied.

Notifications.—The following tables show the number of notifications of tuberculosis received during the year.

PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	6	24	79	135	187	158	100	77	20	786
Females ..	..	13	87	130	118	61	26	8	9	452
Totals ..	6	37	166	265	305	219	126	85	29	1,238

NON-PULMONARY.

Ages.	-1-	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	4	21	67	14	11	7	4	3	..	131
Females	2	21	54	15	8	5	2	3	..	110
Totals ..	6	42	121	29	19	12	6	6	..	241

Institutional Treatment.—During 1918 our available institutions for Tuberculosis were the wards set aside at the City Hospital, Seacroft and the Gateforth Sanatorium of the Leeds Tuberculosis Association. Armley House was occupied by the Military authorities as also was Killingbeck Sanatorium. The total beds available in these institutions were Seacroft an average of about 100 beds, and Gateforth an average of 60. The number of cases dealt with during the year was as follows :—

Institution.	Pulmonary Tuberculosis.		Other Forms of Tuberculosis.			
	Males.	Females	Males.		Females.	
			Under 15.	Over 15.	Under 15.	Over 15.
City Hospital, Seacroft ..	241	130	5	4	6	4
Gateforth Sanatorium ..	129	51	..	..	1	..

Besides these cases, 77 males and 60 females were admitted to Poor Law institutions suffering from Pulmonary Tuberculosis, and 5 males and 11 females suffering from other forms. Of the deaths from phthisis belonging to the City, 286 or 40.6 per cent. took place in public institutions. This is a percentage which one would like to see very much increased because there is no doubt that under the domestic conditions of many families in Leeds a case of Pulmonary Tuberculosis being nursed at home during the terminal phase represents a prolific source of infection.

PART IV. **MATERNITY AND CHILD WELFARE.**

Statistics of Infant Mortality.

The number of births registered in Leeds during the year was 7,609. When this number is corrected for non-residents the nett number of births belonging to Leeds becomes 7,392, as compared with 7,566 for the previous year. This is the lowest number of births that has ever been recorded in a year in Leeds.

The number of deaths of Infants under one year was 984, which is equal to a rate of 133 per thousand births as compared with 135 in the year 1917.

This is a very high rate of infant mortality compared with that in other towns, and it must be admitted that the reason why the infant death rate in Leeds should remain so high is obscure. The Health Department, and voluntary bodies in the City have not been behindhand in carrying out maternity and child welfare work, and our scheme of operations compares favourably with that of any other City in the Country, nevertheless the reduction in our infant death rate during recent years compares most unfavourably with that of other cities.

The percentage changes in the infant death rate in 1918 as compared with the average of the previous ten years are as follows :—

Under 1 week, decrease	2.7%	3-6 months, increase	8.9%
Under 1 month	2.7%	6-9 ,, ,,	17.3%
1-3 months	12.6%	9-12 ,, ,,	4.4%
Whole year increase, 1.5%.			

INFANTILE MORTALITY DURING THE ELEVEN YEARS 1908-1918 AT DIFFERENT PERIODS OF
THE FIRST YEAR OF LIFE.

YEAR.	Births in year.	Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.	
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
1908	..	313	26.3	536	45.0	309	25.9	320	26.8	289	24.2	198	16.6	1,652	139
1909	..	308	28.2	471	43.2	230	21.1	256	23.5	208	19.1	178	16.3	1,343	123
1910	..	299	27.8	499	46.3	259	24.1	244	22.7	223	20.7	208	19.3	1,433	133
1911	..	267	25.5	470	44.9	346	33.0	340	32.5	285	27.2	231	22.1	1,672	160
1912	..	263	25.6	424	41.3	187	18.2	162	15.8	137	13.4	138	13.5	1,048	102
1913	..	304	28.0	493	45.4	283	26.1	269	24.8	218	20.1	200	18.4	1,463	135
1914	..	277	26.0	455	42.7	236	22.2	252	23.7	201	18.9	180	16.9	1,324	124
1915	..	258	26.1	413	41.8	194	19.6	242	24.5	205	20.8	199	20.1	1,253	127
1916	..	247	26.2	437	46.3	220	23.3	234	24.8	156	16.5	169	17.9	1,216	129
1917	..	179	23.6	318	42.0	185	24.4	213	28.1	159	21.0	148	19.5	1,023	135
1918	..	189	25.6	316	42.7	154	20.8	199	26.9	175	23.7	140	18.9	984	133

It will be noted that all the increase in mortality is in the three months to twelve months age period, and the most marked increase in the six to nine months, yet this is the period in which most deaths are preventible by more efficient care of the child. The deaths in the first month or two of life are often due to causes operating before birth and much more difficult to deal with. Our policy has been to intensify our efforts, to appoint more health visitors and give each a smaller district. It is among those mothers who cannot or will not come to the centres that there is most room for improvement. These can be reached only by home visiting.

DEATHS FROM STATED CAUSES UNDER ONE YEAR OF AGE.

Causes of death.	Year 1917.	Year 1918.	Increase or decrease.
Smallpox	..	..	..
Chickenpox	..	1	+ 1
Measles	37	54	+17
Scarlet fever	..	..	..
Whooping cough ..	23	45	+22
Diphtheria and Croup	2	..	- 2
Influenza	1	49	+48
Erysipelas	2	2	- +
Tuberculous diseases	52	20	-32
Meningitis	11	11	- +
Convulsions	90	56	-34
Laryngitis	5	2	- 3
Bronchitis	110	73	-37
Pneumonia (all forms)	96	80	-16
Diarrhoea and Enteritis	152	129	-23
Gastritis	9	10	+ 1
Syphilis	50	51	+ 1
Rickets	8	4	- 4
Suffocation, overlying	8	9	+ 1
Injury at birth ..	9	11	+ 2
Atelectasis	32	11	-21
Congenital Malformations	28	32	+ 4
Premature birth ..	158	182	+24
Atrophy, Debility, and Marasmus ..	97	113	+16
Other Causes ..	43	39	- 4
Totals	1,023	984	-39

BIRTHS AND DEATHS UNDER ONE YEAR WITH RATES.—CALENDAR YEAR 1918.

WARD.	TOTAL BIRTHS.	Birthrate per 1,000 population.	No. of legitimate births.	No. of illegitimate births.	Total deaths under one year.	Deathrate per 1,000 births.	No. of legitimate deaths under one year.	Legitimate deathrate per 1,000 legitimate births.	No. of illegitimate deaths under one year.	Illegitimate deathrate per 1,000 illegitimate births.
Central	197	17.29	179	18	28	142	25	140	3	167
North	588	14.66	550	38	66	112	60	109	6	158
North-East	620	17.19	579	41	92	148	87	150	5	122
*New Ward	91	12.31	85	6	6	66	6	71	—	—
East	724	21.06	673	51	104	144	95	141	9	176
South	297	27.27	267	30	54	182	48	180	6	200
East Hunslet	686	21.93	649	37	90	131	79	122	11	297
West Hunslet	598	16.89	565	33	53	89	46	81	7	212
Holbeck	555	19.67	518	37	88	159	77	149	11	297
Mill Hill	69	14.25	62	7	8	116	7	113	1	143
West	360	19.95	315	45	71	197	60	190	11	244
North-West	458	16.40	403	55	50	109	40	99	10	182
Brunswick	335	15.42	303	32	46	137	35	116	11	344
New Wortley	316	21.20	294	22	53	168	48	163	5	227
Armley & Wortley	527	14.96	500	27	63	120	62	124	1	37
Bramley	322	13.98	308	14	34	106	29	94	5	357
Headingley	649	13.88	614	35	78	120	65	106	13	371
CITY	7,392	17.29	6,864	528	984	133	869	127	115	218

*Roundhay, Seacroft, Shadwell and Crossgates.

The number of illegitimate births is a little lower than last year, but it is still very high. The problem is a difficult one. There is no doubt that the increase in illegitimacy is, like the increase in Venereal Disease, due to a very definite lowering of moral standards that has taken place during war.

Proposals are now before you to deal with the unmarried mother and her child so as to prevent the appalling death rate which takes place amongst illegitimate children—practically double that of legitimate children—but it must be recognised that the only solution of this problem, as of the cognate one of Venereal Disease, lies in the country getting back as speedily as possible to a higher standard of right thinking and living.

SUPERVISION OF MIDWIVES.

Number of Midwives.—On December 31st, 1917, there were 64 Midwives on the local register, 19 of whom belonged to institutions. During the year 6 new Midwives notified their intention to practise.

The actual number of midwives who took cases in Leeds during the year was 59. Of these, 27 were bona-fide or untrained, and 32 trained; 19 of the latter being attached to institutions.

Untrained midwives practising in the City were 46 per cent. of the total midwives practising.

During 1918, 4,028 (or 53 per cent.) of the 7,609 births registered in the City were attended by midwives.

The following table gives an analysis of the cases attended by midwives (4,028) :—

TRAINED.			UNTRAINED.	
*32 midwives.			27 midwives.	
Total cases attended .. 1,867			Total cases attended .. 2,161	
Average per midwife 58 cases.			Average per midwife 80 cases.	
No. of Cases.	Practising on their own account.	Attached to institutions.*	No. of Cases.	Practising on their own account.
Over 300	1	—	Over 200	2
„ 250	—	1	„ 150	2
„ 150	—	2	„ 100	6
„ 100	1	3	„ 50	6
„ 50	4	—	„ 25	6
„ 25	3	—	„ 10	4
„ 10	3	4	„ 5	—
„ 5	—	3	Under 5	1
Under 5	2	5		

* Four permanent and 2 temporary district midwives (working in three districts of the City), attached to the Leeds Maternity Hospital, and 2 permanent and 9 temporary midwives attached to the West Riding Nursing Association, 1 midwife attached to St. Faith's Maternity Home and 1 to the Meanwood District Nursing Association, notified their intention to practise as midwives, making a total of 19 midwives attached to institutions (but one of the West Riding Nursing Association did not practise) leaving 14 trained midwives in practise on their own account.

Advising Medical Help.—In connection with 4,028 births attended by midwives, notification of having advised that medical help should be sent for were received in 548 cases. These may be classified as follows according to the reasons for sending :—

Illness during Pregnancy, Abortion or Miscarriage ..	17
Malpresentation	32
Delayed or Obstructed Labour	92
Ruptured Perineum	92
Retained Membrane or Placenta	20
Hæmorrhage	22
Convulsions, Eclampsia	5
Puerperal rise of temperature	28
Illness of Child	193
Other causes	47

Eight notifications of deaths of infants were received where no medical assistance had been obtained.

Still-births.—The total number of still-births notified during 1918 was 287 (or 4.0 per cent.) of the total births notified. Of these 126 were notified by midwives and enquiries were made by the Inspector of Midwives in 105 cases. In 24 cases a Coroner's inquest was held and was attended by the Inspector of Midwives.

The inspection of midwives' bags and books was carried out as usual, 35 inspections and 83 visits being made. Midwives were interviewed in connection with breaches of the rules and minor misdemeanour in 91 instances.

All cases of Puerperal Fever and high temperature were investigated and thorough disinfection of the midwife's person, clothing and maternity bag was carried out under the personal supervision of the woman inspector. During the year ten midwives were so dealt with.

ANTE-NATAL, NATAL AND POST-NATAL WORK.

The work carried on by the Department for maternity and child welfare may be divided into three parts.

(1) Ante-natal.—for the improvement of the health of the expectant mother and her unborn child ; (2) Natal.—for the improvement of the conditions of birth, including the supervision of midwives ; (3) Post-natal.—for the improvement of the health of young infants and nursing mothers.

Ante-Natal.—By ante-natal work it is hoped to reduce (1) the number of deaths of infants in the first few weeks of life ; (2) the number of still-births ; (3) the number of serious complications of labour and the maternal mortality associated therewith ; (4) the amount of ill-health during pregnancy.

It may be that the number of actual infant lives to be saved by ante-natal work is not very high, but the amount of sickness and chronic disability which can be prevented is undoubtedly large.

Our ante-natal work consists of two parts : ante-natal clinics held at ten centres in the City and home visiting to expectant mothers. The table shows the number of mothers attending each centre.

	No. on Register at beginning of year.	Registered during year.	Live Births.	On Register end of year.	Total attendance of mothers.
Ellerby Road ..	6	65	48	19	233
West Street ..	4	55	45	8	335
Burmantofts ..	6	27	25	7	227
Hunslet	8	55	38	23	252
University ..	8	23	22	6	219
Woodhouse ..	3	48	39	7	125
Holbeck	10	44	39	11	203
Armley	8	40	27	13	280
Chapelton ..	3	23	13	11	92
*St. Nicholas ..	..	5	..	4	..
Totals ..	56	385	296	109	1,966

* Opened in November.

The difficulty in obtaining medical staff during the war and the increasing number of children attending these infant clinics has made it difficult to provide regular medical attendance for expectant mothers. The increase in the number attending clinics such as Ellerby Road, where there has been a regular medical service, shows that there is plenty of scope for this work.

During the year the clinic nurses made 1,172 home visits to 441 expectant mothers, whilst the health visitors made 587 visits to 233 expectant mothers who did not attend the clinics.

Natal Work.—Of the 7,609 births which took place in the City last year, 1,008 occurred in institutions and nursing homes. This generally growing number of births taking place in institutions is all to the good, for there is no question that in a great number of the small houses, of which we have so many in Leeds—40 per cent. of our houses have not more than three rooms—there is not reasonable accommodation for the process of child birth under the best conditions for the mother and child; there is, therefore, room for expansion of maternity hospital facilities.

About 53 per cent. of the births in Leeds were attended by midwives. This is an increase of over 10 per cent. during the last five years, but it is still a much lower percentage than in most towns.

Post-Natal Work.—This comprises by far the greatest part of the infant welfare work being done at the present time. It is based on the early information of births obtained through the Notification of Births Act and consists broadly of two parts:—home visiting, and work at the Infant Welfare centres.

Notification of Births.—These numbered 6,892 (without still-births) in 1918 or 90.6 per cent. of the 7,609 total births registered, as compared with 7,017 or 90.7 per cent. in 1917.

Home Visiting.—Soon after a notification of birth is received the health visitor calls at the house to see how the mother and child are progressing and to advise on any difficulties of feeding or hygiene which may have arisen. The mother is told of the nearest

infant welfare centre and is advised to take her child there to be weighed regularly. If the mother does so the child is there kept under observation, but if not, then re-visits to the home are necessary, The data as regards home visits are as follows :—

Notifications of births received	..	..	..	6,892
Number of first visits paid	..	..	..	6,702
Number of re-visits	..	..	..	49,408

In addition the health visitor has many other duties such as the care of Ophthalmia cases, the visiting of cases of Measles, visiting by request of the Almoners at the Public Dispensary and the General Infirmary the homes of children who are in attendance there. Under this heading the number of visits paid last year was as follows :—

Ophthalmia cases	..	..	..	..	348
Medical Aid and Milk	..	..	..	..	553
Measles cases	..	..	..	..	12,142
Children's Homes	..	..	..	..	956

Under the Ministry of Health regulations for maternity and child welfare work it is expected that the health visitor should keep in touch with children from birth until they reach the age of five years or have gone to school. If this is to be done more health visitors are required, because the value of a health visitor depends very largely on her being able to remember and take a personal interest in all the young families in her district, if her district and, therefore, her visiting list is too large this personal interest is impossible and she becomes a mere official whose good influence is almost negligible.

Infant Welfare Centres.—During 1918 the work at the infant welfare centres progressed steadily. One new centre, St. Nicholas', was opened in November and another at Bramley has been opened since.

The general scheme of the work is the same. But in addition, owing to the shortage of the milk supply, the Centres have been utilized for the distribution of milk at reduced charges to infants and nursing mothers. The administrative work in connection with the milk distribution has been most successfully undertaken by the Leeds Babies' Welcome Association.

In every respect the number of children registered and the attendances made show an increase over last year. The number of new babies registered, namely, 2,390 is 31.4 per cent. of the total births in the City. This is very satisfactory, especially as more than half of these 2,390 are brought to the welcomes before they are three months old.

BABIES UNDER ONE REGISTERED DURING YEAR.

	0-1 month.	1-3 months.	3-6 months.	6-12 months.	Total.
Ellerby Road ..	40	155	31	44	270
Burmantofts, late St. Peter's Sq.	41	148	48	40	277
West Street ..	67	157	76	40	340
Hunslet	78	137	68	40	323
University, York Road	49	68	18	23	158
Woodhouse, late Buslingthorpe	39	71	44	52	206
Holbeck	54	166	57	53	330
Armley	65	141	56	63	325
Chapelton ..	11	63	34	32	140
*St. Nicholas } Hunslet Road }	4	7	4	6	21
Totals ..	448	1,113	436	393	2,390

* Opened November 9th, 1918.

ATTENDANCES MADE AT INFANT WELFARE CENTRES DURING YEAR
1918.

DISTRICT.	Expect- ant Mothers.	Babies under 1 year.	Babies 1—5 years.	Morning Consultation Hour.			Total Attend- ances.
				Mothers.	Babies under 1 year.	Babies 1—5 years.	
Ellerby Road ..	233	22,75	1,366	822	870	660	6,226
West Street ..	335	3,660	1,812	709	739	514	7,769
Burmantofts ..	227	2,910	1,359	1,845	856	368	7,565
Hunslet ..	252	3,091	1,869	2,355	761	651	8,979
University ..	219	1,565	1,225	1,056	991	1,078	6,134
Woodhouse ..	125	1,572	942	526	224	267	3,656
Holbeck ..	203	3,108	1,445	2,583	797	667	8,803
Armley ..	280	2,696	2,266	1,903	1,067	1,873	10,085
Chapelton ..	92	1,161	986	1,467	604	600	4,910
St. Nicholas* ..	..	147	73	42	14	12	288
	1,966	22,185	13,343	13,308	6,923	6,690	64,415

* Opened Nov. 9th, 1918.

In the table the term attendances refers to the afternoon consultation at which a doctor attends. The morning clinics are carried on by the nurses, when treatment of minor ailments according to the doctor's instructions is carried out and the mothers are instructed how to apply the treatment at home or to prepare a special form of food for their infants. There is no time to do these things during the afternoon consultations.

In addition to their work at the infant welfare centres the nurses visit the homes of those children who are not doing well, or who require special attention at home.

During the year the clinic nurses made 10,213 visits.

HOME VISITS PAID BY CLINIC NURSES DURING YEAR.

DISTRICT.	Babies under 1 year.	Babies 1—5 years.	Odd Visits.	Total Visits.	Expect- ant Mothers.	Total Visits to both.
Ellerby Road ..	364	250	112	726	112	838
West Street ..	611	402	30	1,043	166	1,209
Burmantofts ..	274	112	27	413	168	581
Hunslet ..	187	244	32	463	87	550
University ..	430	334	75	839	117	956
Woodhouse ..	1,033	1,226	434	2,693	157	2,850
Holbeck ..	315	334	40	689	142	831
Armley ..	228	362	29	619	65	684
Chapelton ..	1,349	1,078	212	2,639	157	2,796
St. Nicholas* ..	35	37	17	89	1	90
TOTALS ..	4,826	4,379	1,008	10,213	1,172	11,385

* Opened November 9th, 1918.

THE INFANTS' HOSPITAL, WYTHER.

The year as far as the Infants' Hospital is concerned was one of great activity. The number of children treated reached a total of 253, the largest since the opening of the hospital. Of these, the majority were discharged cured or improved, a result both gratifying and encouraging.

On two occasions during the year the hospital was closed for ordinary admissions and opened temporarily for the admission of special cases. Thus, in August and September two wards were set apart entirely for cases of Epidemic Diarrhœa, whilst during the prevalence of Influenza in the last quarter of the year the whole hospital was devoted to the treatment of cases of that disease in young children. The work accomplished was highly creditable and the results obtained were most satisfactory. On both occasions the hospital proved its value as an emergency centre for the treatment of cases of epidemic disease—other than the ordinary infectious diseases—affecting children. It must not be overlooked, however,

that the chief object of the hospital is to deal with infants suffering from dietic disorders, malnutrition, &c., and its work is preventive as much as curative. Gratifying though the results have been, one is, nevertheless conscious of failure to meet the needs of the sick and ailing children of the City. Success in this direction can not be achieved unless further accommodation is procured, and that is only possible with a larger institution. At present only the merest fraction of the cases requiring hospital treatment can be admitted, the remainder being left to run the gauntlet of death or of permanent disablement in dwellings crowded, ill-lighted, ill-ventilated and anything but suitable for nursing the sick. One hopes, however, that at no distant date the public will awaken to a sense of its responsibility with regard to the children, and make some endeavour to remove the reproach which assuredly lies upon the city at present, by reason of the absence of adequate institutional accommodation for the treatment of children.

SUMMARY OF CASES TREATED IN THE INFANTS' HOSPITAL, WYTHIER,
DURING THE PERIOD JANUARY 1st—DECEMBER 31st, 1918.

	Males.	Females.	Total.
Remaining in Hospital, December 31st, 1917	20	15	35
Admitted during the year ..	115	103	218
Discharged during the year ..	94	86	180
Died during the year	32	23	55
Remaining in Hospital, December 31st, 1918	9	9	18

Mortality Rate per cent, 21.7.

Average stay in Hospital was 50 days.

CLASSIFICATION ACCORDING TO AGE AND SEX.

Males.		Females.		Total Infants		Grand Total.
Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	
56	59	47	56	103	115	218

ANALYSIS OF CASES ADMITTED DURING 1918.

	Males.	Females.	Total.
Rickets	12	12	24
Marasmus	24	27	51
Debility and Wasting	15	12	27
Tuberculosis	7	6	13
Bronchitis.. .. .	4	1	5
Broncho-Pneumonia	2	1	3
Congenital Syphilis	1	5	6
Gastro-Enteritis	1	3	4
Neglect and Wasting	4	6	10
Epidemic Diarrhœa	13	4	17
Prolapsus Ani	2	3	5
Acute Enteritis	7	5	12
Empyema	1	1	2
Scurvy Rickets	1	..	1
Intestinal Parasites	..	1	1
Otitis Media and Acute Mastoid Disease	..	1	1
Laryngismus	1	..	1
Vulvitis	..	1	1
Influenza	14	11	25
Stomatitis.. .. .	2	..	2
Congenital Heart Disease ..	1	..	1
Tetany	1	..	1
Mental Deficiency	1	1	2
Ileo-colitis	..	1	1
Bronchiectasis	1	..	1
Other Diseases	..	1	1
Totals	115	103	218

ANALYSIS OF DEATHS.

Cause of death.	Under 1 year.		Over 1 year.		Total.
	Males.	Females	Males.	Females	
Congenital Syphilis ..	1	2	..	..	3
Marasmus	15	10	1	..	26
Pneumonia	1	1	..	..	2
Tuberculosis	1	1	1	2	5
Enteritis	2	1	..	..	3
Gastro-Enteritis	1	..	..	..	1
Neglect and Wasting ..	1	1	..	..	2
Epidemic Diarrhœa ..	6	1	..	1	8
Bronchitis	..	1	..	..	1
Influenza	..	..	2	2	4

PART V.

SANITARY ADMINISTRATION.

The most that can be said for the sanitary affairs of the City during 1918 is that the arrears of work left undone and defects unremedied continued to accumulate. The energy of the sanitary inspector in the future will have to be devoted to wiping off these arrears, but it must be admitted that there are many difficulties in the way. There is the shortage of workmen in all the building trades; the shortage of houses is well known so that dilapidated property, which ought to be condemned, must be allowed to stand; owners of property are not allowed to raise their rents and, therefore, are unable or unwilling to meet the greatly increased costs of repairs and renewals.

In spite of all these difficulties there are yet many respects in which the sanitary state of the City can be vastly improved,

particularly in the way of improved cleanliness of streets and yards, regular removal of offensive and dangerous material such as stable manure, and so on. It will be the duty of the inspector to see that however many defects of structure may remain in his district, there should be no defects from misuse.

WORK OF WOMEN INSPECTORS.

The work of the women sanitary inspectors is given below.

Infectious Diseases.—The following visits were made :—

To schools (on account of 362 cases)	..	647
To absent pupils		151
To factories		125
To workplaces including restaurants		39
To absent employees		25

Outworkers.—Visits paid to the homes of outworkers, 477. Of these, 138 were first visits and the remainder, 239, were additional for special reasons. In addition, 60 visits were paid to the premises of employers of outworkers.

Factories and Workshops.—The main work done by the women inspectors under this heading is shown in the table on pages 56 and 57. Some further duties are shown as follows :—

NATURE OF INSPECTION.	VISITS.	NUISANCES.	
		FOUND.	ABATED.
Factories on receipt of complaint	167	160	144
Workshops	61	7	6
Restaurants, Bakehouses ..	45	2	2
Workplaces on receipt of complaint	5	7	7

A notable feature of the work of factory and workshop inspection is the way the same factory is found in an insanitary condition time after time. A large number of small employers seem to take not the slightest interest in the condition of the sanitary accommodation provided for their workers. Particularly is this so in the small clothing factories.

SANITARY INSPECTION OF DISTRICTS.

	N.E.	S.E.	S.W.	N.W.	City Total.
Houses completely examined for—					
Infectious disease	370	392	238	300	1,300
Alleged nuisances	200	679	586	703	2,168
Routine inspection	202	36	11	51	300
Premises examined only as to—					
Occupants	135	354	311	281	1,081
Buildings and offices ..	467	210	295	143	1,115
Drainage	164	236	205	110	715
Nuisances found in above or other houses—					
Dirty houses	160	87	35	297	579
Overcrowded houses	28	21	23	24	96
Dampness or dilapidation ..	236	408	283	258	1,185
Drain or closet defects ..	2,046	3,171	1,496	1,537	8,250
Defective ashpits or bins ..	221	533	111	174	1,039
Other nuisances	869	555	425	886	2,735
Outside nuisances found (gullies, etc.)	1,037	1,331	441	775	3,584
Total nuisances found ..	4,597	6,106	2,814	3,951	17,468
Additional visits paid to houses for—					
Infective disease	721	769	636	765	2,891
Nuisances	2,104	5,287	2,743	1,582	11,716
Completion of reports ..	16	72	112	4	204
To inspect work in progress	253	682	578	995	2,508
Other causes	1,003	2,006	893	1,894	5,796
Drains tested	416	825	617	450	2,308
Defects found in ditto.	79	267	372	148	866

SANITARY WORKS CARRIED OUT DURING 1918.

NATURE OF WORK.	N.E.	S.E.	S.W.	N.W.	City Total.
Houses cleansed	128	52	20	255	455
Overcrowded houses dealt with	6	12	5	23	46
Defective spouting, &c., repaired	342	453	226	271	1,292
Urinals cleansed or repaired ..	8	7	4	2	21
Privies or ash places repaired ..	10	3	20	17	50
Privies or pail closets converted	..	3	1	..	4
Waterclosets erected	5	1	..	13	19
New dry ashpits	..	..	..	1	1
Ashbins provided	95	177	44	92	408
Trough closets converted into W.C.'s	11	12	7	..	30
Closets cleansed (limewashed), etc.	208	102	20	66	396
Drainage works carried out ..	289	302	523	249	1,363
Cesspools filled up	..	12	..	3	15
Public or private wells abolished	..	..	..	..	..
Houses supplied with towns' water	1	..	8	..	9
Trough and water closets repaired	594	847	428	412	2,281
Other house nuisances remedied	1,008	1,585	926	1,454	4,973
Total houses for which above work was done	2,594	3,294	1,301	3,421	10,610
Houses in which all defects found have been remedied	2,532	3,253	1,034	3,408	10,227
Offensive accumulations removed and stopped gullies cleansed	668	742	318	405	2,133
Pollution of streams remedied ..	..	..	..	..	..
Other non-domestic nuisances re- moved	44	117	10	51	222
Total nuisances abated	3,213	4,244	2,086	3,137	12,680

FACTORIES AND WORKSHOPS.

1.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories	483	64	..
(Including Factory Laundries.)			
Workshops	232	47	..
(Including Workshop Laundries.)			
Workplaces	153	11	..
Total	868†	122	..

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.	
	Found.	Remedied.	Referred to H.M. Inspector.		
<i>Nuisances under the Public Health Acts :—*</i>					
Want of cleanliness	92	87	..	..	
Want of ventilation	21	13	..	..	
Overcrowding	..	..	..	..	
Want of drainage of floors ..	..	..	..	..	
Other nuisances	44	44	..	..	
Sanitary accom- modation.	{ insufficient ..	5	4	..	..
	{ unsuitable or defective..	68	65	..	..
Sec. 22 in force.	{ not separate for sexes ..	2	2	..	..
<i>Offences under the Factory and Work- shop Act :—</i>					
Illegal occupation of underground bakehouse (S. 101)	2	..	..	..	
Breach of special sanitary require- ments for bakehouses (SS. 97 to 100)	36	35	..	..	
Other offences	..	..	..	..	
Total	270	250	..	..	

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

† Exclusive of 3,821 visits to 692 bakehouses by ward inspectors.

3, 4, 5.—OTHER MATTERS.

Homework :—	Number of		
	Lists.	Outworkers.	
<i>List of Outworkers (S. 107) :—</i>		C.	W.
(No homeworkers on our register except amongst those engaged in making wearing apparel) *		..	..
Lists received twice in the year	334	522	737
„ once in the year	22	14	33
Addresses of) received from other Authorities ..		114	
outworkers) forwarded to other Authorities ..		13	
Notices to occupiers as to keeping or sending lists ..		427	
Prosecutions.. ..		..	
Inspection of Homeworkers' premises		377	
<i>Homework in unwholesome premises :—</i>			
Instances		..	
Notices		..	
Prosecutions.. ..		..	
<i>Homework in infected premises :—</i>			
Instances		..	
Orders made (S. 110)		..	
Prosecutions (SS. 109, 110)		..	
[Infectious cases removed, disinfection both of places and material carried out under ordinary powers.]			
<i>Workshops on the Register (S. 131) at the end of year :—</i>			
Ordinary (190 trades)		1,607	
Domestic (3 trades)		4	
Bakehouses on register as workshops		172	
Do. domestic		520	
Total number of workshops on Register		2,303	
<i>Matters notified to H.M. Inspectors of Factories :—</i>			
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		..	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5).	Notified by H.M. Inspector ..	94	
	Reports (of action taken) sent to H.M. Inspectors..	..	
Other		..	
<i>Underground Bakehouses (S. 101) :—</i>			
Certificates granted during the year		..	
In use at the end of 1918		38	

* Two of the above lists (containing 3 workpeople) received twice a year homeworkers engaged in sack making. All others in wearing apparel.

The above table is that required by the Home Office and represents work done by the male workshops inspector and by the women inspectors.

LODGING-HOUSES, CANAL BOATS, VANS, etc.

Common Lodging-Houses.

Number registered—

Men's	26	Beds available	1,649	}	..	..	31
Women's	2	"	99				
Routine visits paid to C.L. Houses	..	..	..	..	..	..	80
Visits as to infective disease	..	..	..	..	..	..	—
Visits as to suspected smallpox	..	..	..	..	..	..	—
Visits as to drain tests and abatements	..	..	..	..	..	..	4
							—
Total visits	..	..	..	..	..	..	84
							—

Nuisances found :—				FOUND.		ABATED.
Dirty closets	..	..	..	8	..	7
Defective drains	..	..	..	1	..	1
Other nuisances	..	..	..	20	..	20
				—		—
Total	..	..	..	29	..	28
				—		—

In addition to the Common Lodging-Houses enumerated on the table there are two lodging-houses for men and one for women which are under the control of the Salvation Army and the Church Army. These contain altogether 302 beds for men.

Houses Let in Lodgings.

				HOUSES.		ROOMS.
Registered during 1918, let as furnished rooms				—	..	—
Removed from register	..	..	..	—	..	—
On register at end of 1918	..	..	..	54	..	179
Houses let in lodgings visited though not registered	..	..	..	348	..	1,182
Houses examined (new lodgings)	..	..	..	4	..	12
Drain testings (4 defects found)	..	4				
Re-testings on completion of work	..	2				
Visits for Abatement	..	3				
„ Infectious disease	..	—				
„ Additional inspection	..	3,476				
Visits to soldiers' billets	..	—				

Nuisances—					FOUND.	ABATED.
Dirty or bad bedding	..	..	..	..	29	29
Dirty rooms	..	..	..	..	22	22
Overcrowding	..	..	..	..	4	4
Dirty closets	..	..	..	..	8	7
Insufficient closet accommodation	..				—	—
Other nuisances	..	..	..	..	—	—
Structural defects	..	..	..	..	44	43

At the request of the University Authorities all lodgings are inspected by the Public Health staff before the houses are placed on the register of approved lodgings for the use of students.

New houses inspected during 1918 4 with 12 rooms to let.

Houses previously examined, retested 8

Total visits to these houses .. 24

Canal Boats.

Registered during the year 1918	..	..	..	—
Re-registered „ „	..	..	..	—
Transferred to fresh owners	..	..	..	3
Struck off register (on revising register)	..	..	..	7
Remaining on register at end of year	..	..	..	191
Visits of inspection to wharves and locks	..	..	..	142
Complete inspections of boats (80 boats)	..	..	..	89
Cases of infectious disease	..	..	..	—
Cases of overcrowding	..	..	..	—
Dirty cabins	..	..	..	—

Vans and Tents.

Visits to vans during 1918	..	..	..	121
„ „ tents „ „	..	..	..	—
„ „ suspected cellar dwellings	..	..	..	2
Additional visits to camping grounds	..	..	..	17
Visits for infectious diseases	..	..	..	—
Ice cream carts inspected on fair grounds	..	..	..	—

Nuisances—					FOUND.	ABATED.
Dirty camping grounds	..	..	..	..	1	—
Dirty closet	..	..	..	..	1	—
Camping grounds with no accommodation for van dwellers	..	..	..	..	—	—
					—	—
Total	..	..	..	..	2	—
					—	—

SMOKE INSPECTION.

	1917.	1918.
Complaints received	25	20
Furnaces inspected	8,203	8,736
Observation of chimneys (1 hour each) ..	2,023	2,051
Average duration of dense smoke per observation of one hour	1 min. 24 secs.	1 min. 18 secs.
Number of chimneys found emitting dense smoke three minutes per hour	70	73
Notices served on manufacturers	4	8
Notices served on stokers	20	21
Prosecutions	none	none
Smoke prevention appliances adapted to furnaces	56	48
Chimneys newly erected	11	6
Furnaces in connection with new chimneys..	31	25

In spite of this formidable array of figures, representing visits paid and work carried out generally in order to reduce the amount of smoke pollution, there is still a deplorable amount of smoke in our Leeds atmosphere, and it is obvious that our sanitary powers for dealing with the emission of smoke are not nearly strong enough. Over 40 per cent. of our furnaces in Leeds are exempt from the law because they are connected with forges, steelworks, etc. The more general use of electricity for power purposes and of a cheap form of gas, such as producer gas, should do much to reduce the smoke pollution from factories. Forges and steelworks, however, will either have to be legislated against or removed from populated areas.

SUPERVISION OF THE FOOD SUPPLY.

Inspection of Cows and Cowsheds.—During 1918, 174 visits were paid to cowsheds and 3,269 examinations of cows were made. Three cows were found with tuberculous udders and four with udder disease not tuberculous.

Thirty-nine visits were paid to farms outside the City and 583 examinations of cows made. Two cows were found with tuberculous udders and four with udder disease not tuberculous.

In the absence of Mr. Dixon, our regular veterinary assistant, this work was carried out by Mr. Bowman. At the time of writing this report Mr. Dixon has returned from the Army and resumed his duties in the department. I should like to take this opportunity of acknowledging the good work which Mr. Bowman has accomplished during the last three years whilst Mr. Dixon has been absent on military service.

Summary of Work done.

(a) By Veterinary Inspector

Visits to cowsheds within the City	..	..	174
Cows examined	..	..	3,269
Visits to cowsheds outside City	..	..	39
Examinations of cows made	..	..	583

(b) By Food and Drugs Inspectors.

Visits to milkshops	..	..	393
Visits to cowsheds	..	..	440
Visits to railway stations	..	..	329
Farms or milkshops visited <i>re</i> infectious disease			79
Number of Milk Retailers in City	..	..	557
Number of cowsheds in City	..	..	133
New cowsheds built	..	..	—
Cowsheds improved or reconstructed	..	..	—

The position with regard to the milk supply is very unsatisfactory. For a long time it has been much below the quality desirable from a public health point of view, and during the last two years it has also been deficient in quantity. From all appearances it will again be deficient in quantity next winter. Steps are being taken to deal with possible shortage and prevent any children being deprived of the quantity of milk needful for their healthy existence.

In Leeds the only powers which we have to control the conditions at a farm where milk is produced are those of regulations made under the Dairies, Cowsheds and Milkshops Order of 1885. These regulations were made in the year 1886 and do not give any power to deal with milk which is dirty because of contamination in the cowshed. Everyone who is at all familiar with the conditions amongst farmyards and cowsheds knows how open to contamination milk is at every stage in its production. This state of things will, it is hoped, be remedied by the coming into force of the Milk and Dairies

SAMPLES OF FOOD SENT TO THE CITY ANALYST FOR
EXAMINATION DURING 1918.

Article.	Genuine.	Adul- terated.	Total.	Taken formally.		Taken informally.	
				Genuine.	Adul- terated.	Genuine.	Adul- terated.
Milk	180	113	293	179	89	1	24
Skim-Milk	2	2	4	2	2	..	..
Butter	1	..	1	1	..	..	..
Margarine	1	..	1	1	..	..	..
Whiskey	1	1	2	1	1	..	..
Rum	1	..	1	..	..	1	..
Sugar.. ..	6	1	7	6	..	..	1
Vinegar	1	..	1	1	..	..	..
Condensed milk ..	5	..	5	..	..	5	..
Treacle	2	..	2	..	..	2	..
Potted salmon ..	1	..	1	1	..	..	..
Bread improver ..	1	..	1	..	..	1	..
Rice and milk ..	1	..	1	..	..	1	..
Tea	1	..	1	..	..	1	..
Cheese	1	..	1	..	..	1	..
Sweet-leaf (sugar substitute) ..	1	..	1	..	..	1	..
Cream of tartar substitute ..	..	1	1	..	..	..	1
Flour	1	..	1	..	..	1	..
Yorkshire pudding powder	..	1	1	..	..	..	1
TOTAL ..	207	119	326	192	92	15	27
				284		42	

SUMMONSES ISSUED DURING 1918, UNDER THE SALE OF FOOD
AND DRUGS ACT.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
7	Milk ..	11% added water	3 0 0	defendant ill; summons withdrawn
13	Do. ..	6.5% do.	..	
17	Do. ..	24% do. 6.7 fat removed	3 0 0	
44	Do. ..	17% added water	..	to pay 4s. 6d. costs
47	Do. ..	14.5% do.	5 0 0	dismissed under Probation Act
53	Do. ..	10.5% do.	..	
54	Do. ..	29% do.	0 10 0	dismissed under Probation Act
55(c)	Do. ..	16% do.	..	
55(s)	Do. ..	14% do.	1 0 0	
57	Do. ..	5% do. 20% fat removed	2 0 0	
62(c)	Do. ..	10% added water	1 0 0	to pay 17s. costs
62(s)	Do. ..	33% do.	3 0 0	
73	Do. ..	16% do.	1 0 0	
74	Do. ..	36% do.	5 0 0	
75	Do. ..	5% do. 5% fat removed	..	
76	Do. ..	11.5% added water	1 0 0	
79	Do. ..	11% do.	2 0 0	
84	Do. ..	10% do.	..	to pay 4s. 6d. costs
85	Do. ..	17% do.	2 0 0	fourth conviction
86	Do. ..	9% do.	7 0 0	
88	Do. ..	9% do. 6% fat removed	..	to pay 15s. costs
89	Do. ..	6% added water 16% fat removed		
100	Do. ..	31% added water	2 0 0	and 8s. 6d. costs
108	Do. ..	9% do.	2 0 0	
133	Skim-milk	65% do.	0 10 0	
138	Do. ..	47.5% do.	1 0 0	
141	Milk ..	29.5% do.	10 0 0	
150	Do. ..	51% do.	10 0 0	
			£ 62 0 0	

Act, which was postponed on account of the War. More serious than the question of dirt is that of tubercle bacilli in milk, and there, too, our powers are very feeble indeed owing to the fact that the Tuberculosis Order was suspended at the outbreak of war and has not yet been brought again into force. Inspection of cows with a view to detecting tuberculous infection has been continued in Leeds all through the war, but save with the goodwill of the owner,

we have practically no power to stop a tuberculous animal being still used as a source of milk supply if the animal be sold outside our own area. The farmers in this part of the country seem very slow to take up the question of making their herds tubercle free, although we are prepared, through our Veterinary Officer, to do all the tuberculin testing free of charge. This is the only way to get a tubercle-free milk supply and the country must take it up as a national problem.

The question of milk adulteration is also becoming more and more difficult, for every new judgment of the High Court has the effect of making it harder for a local authority to protect the public against fraudulent adulteration of milk. Reference to the tables will show the extent to which watered milk is sold in Leeds. With the price of milk what it is, it is quite futile to attempt to put a stop to adulteration so long as prosecutions are hedged about with so many difficulties and the fines imposed are so small.

MEAT INSPECTION.

The work of the meat inspectors is shown in the following table.

MEAT, ETC., DESTROYED BY CONSENT.

	1918.	1917.	1916.	1915.
Beef	186,852 lbs.	72,960 lbs.	79,463 lbs.	79,528 lbs.
Veal	7,185 "	2,384 "	3,492 "	3,085 "
Mutton	9,496 "	5,874 "	6,776 "	5,375 "
Bacon and Ham ..	18,793 "	2,123 "	..	..
Pork	3,032 "	3,179 "	3,912 lbs.	4,226 lbs.
Offals	12,520 "	12,804 "	13,217 "	18,506 "
Horse Flesh ..	3,496 "	..	..	..
Tripe	..	..	..	19 lbs.
Rabbits	17,927 lbs.	8,458 lbs.	10,656 lbs.	3,789 "
Venison	..	..	240 "	..
Fowls and Ducks	841 lbs.	635 lbs.	173 "	..
Turkeys	..	..	..	194 lbs.
Rooks	..	..	..	240 "
Winged Game, &c.	78 lbs.	..	..	..
Eggs	1,738	2,000	7,602	1,102
Cheese	34 lbs.	70 lbs.	30 lbs.	..
Fish	87,602 "	37,254 "	25,753 "	17,276 lbs.
Shellfish	23,552 "	24,218 "	12,875 "	13,352 "
Oysters	4,000	2,000	3,000	4,500
Scallops	..	..	..	2,000
Shrimps	..	..	..	1,478 lbs.
Fruit	1,904 lbs.	7,062 lbs.	15,238 lbs.	21,126 "
Vegetables	89,059 "	49,943 "	43,225 "	18,506 "
Inedible fungi ..	543 "	25 "	..	..
Butter	6,886 "	..	..	..
Margarine	512 "	..	..	..
Flour	13,162 "	..	..	..
Chocolate	100 "	..	..	..
Liquid Eggs	225 "	..	..	..

By the direction of the Public Health Department and with the consent of the local Food Committee, the ham, bacon, butter, margarine and fat were sent to the refiners; the flour was used for animal food; the fish was sterilized and used as poultry food and the meat was as far as possible subjected to special treatment in order to recover the fat and other valuable products.

Every Sunday morning one of the inspectors patrols the Bank district, East End and Prospect Row for the purpose of inspecting the contents of the hawkers' carts—rabbits, vegetables and meat. Open shops and slaughter-houses are also inspected in a similar fashion.

SUMMARY OF INSPECTION.

Public Abattoirs	2
Private slaughter-houses—(Registered)	59
(Licensed)	9
Knackers' Yards	2
Visits to Markets, Shops and Stations	8,947
Visits to Slaughter-houses	8,003

BAKEHOUSES.

OVERGROUND.		UNDERGROUND.		
Employees Workshop beyond family.	Domestic Bake-houses.	Employees Workshop beyond family.	Domestic Bake-houses.	Total Visits to all.
364 in 157	497	33 in 15	23	3,821

**WORK DONE UNDER THE HOUSING AND TOWN PLANNING
ACT, 1909.**

	1918.	1917.
House-to-House Inspection	300	17
Special Examinations for Sections 15 and 17 of The Housing, Town Planning, Etc. Act, 1909	184	170
Houses represented during 1918	1	
Houses repaired or otherwise altered with- out representation.. .. .	59	
Houses to be yet represented	124	
Total	<u>184</u>	
Number of Dwelling-Houses which, on Inspection, were considered to be in a state so Dangerous as to be Unfit for Human Habitation	184	170
Representations	1	34
Closing Orders	—	
Houses repaired without closing orders	—	
Houses demolished or disused without a closing order	—	
Representations not yet dealt with or work in progress	1	
Total	<u>1</u>	
Closing Orders on Above Representations	—	5
Closing orders on property previously repre- sented	—	
Houses repaired and orders determined	—	
Houses demolished or permanently disused	—	
Still in force as closing or demolition orders	—	
Demolition Orders	—	3
Houses previously represented now made Fit for Habitation	—	19
Houses demolished or permanently disused	—	15
Closing Orders determined	—	4

AMBULANCE WORK AND DISINFECTION.

The following cases were removed by the Ambulances to the City Hospitals, Seacroft, during 1918 :—

Smallpox	—
Scarlet Fever	520
Diphtheria	493
Typhoid Fever	38
Tuberculosis	147
Other Diseases	129
Total	1,327

In addition to the above, 48 persons were conveyed home by ambulance from Seacroft hospital and 28 other journeys were made.

Disinfection.—The following work was done by the Disinfecting Staff :—

Houses disinfected	2,058
Rooms disinfected (stripped 90, limewashed 90) ..	4,392
Beds and mattresses disinfected	3,777
Articles of bed clothing disinfected	16,780
Articles of wearing apparel disinfected	22,196
Miscellaneous articles disinfected	6,552

Also 450 infected persons or contacts went, or were taken to one or other of the sanitary depots to have a disinfecting bath and disinfection of clothing carried out.

At the Sanitary Laundry at Beckett Street, 67,213 articles of bedding, clothing, etc., have been washed and disinfected.

Medicine bottles sterilized for the Tuberculosis Dispensary, 18,130.

LOCAL GOVERNMENT BOARD TABLES.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1918 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.			
		Un-corrected Number.	Nett.		Number.	Rate.	Of Non-residents registered in the District.	Of Residents registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Net Births.	Number.	Rate.
1912	447,746	10,367	10,309	23.1	6,204	13.9	275	467	1,051	102	6,396	14.3
1913	457,295	10,947	10,877	23.4	7,231	15.6	281	287	1,469	135	7,237	15.6
1914	459,260	10,749	10,652	23.3	6,874	15.0	313	324	1,324	124	6,885	15.0
1915	459,260	9,990	9,877	21.5	7,557	16.5	298	350	1,253	127	7,609	16.6
1916	446,349	9,572	9,432	21.1	6,867	15.4	302	381	1,216	129	6,946	15.6
1917	438,254	7,738	7,566	17.3	6,962	15.9	307	397	1,023	135	7,052	16.1
1918	427,589	7,609	7,392	17.3	8,452	19.8	318	395	984	133	8,529	19.9
Area of District in acres (land and inland water)		21,593			Total population at all ages			..	445,550		At Census, 1911.	
					Total families or separate occupiers			..	102,514		1911.	

In November, 1912, by the addition of Roundhay, Seacroft, Shadwell and Crossgates, the area was increased by 4,670 acres and the population by 7,398 (Census 1911).

TABLE II.

CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE CALENDAR YEAR 1918.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.						TOTAL CASES NOTIFIED IN EACH LOCALITY. (e.g. Parish or Ward) of the District.														Total Cases re- moved to Hos- pital.					
	At all Ages.	At Ages—Years.					Central.	North.	North-East.	New Ward.	East.	South.	East Hunstlet.	West Hunstlet.	Holbeck.	Mill Hill.	West.	North-West.	Brunswick.	New Wortley.		Armley and Wortley.	Bramley.	Headingley.		
		under 1.	1 and 5 years.	5 and 15 years.	15 and 25 years.	25 and 45 years.																			45 and 65 wards	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Cholera (C) Plague (P) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Diphtheria (including Mem- branous croup) ..	542	..	151	308	51	28	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas	175	3	4	13	14	45	69	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Scarlet fever	570	1	101	383	61	21	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Measles	6,641	293	3,802	2,406	99	39	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
German Measles	73	6	23	56	6	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Enteric fever	42	..	2	10	9	19	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Relapsing fever (R) Continued fever (C)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Puerperal fever	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Cerebro-spinal Meningitis ..	4	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Polionyelitis	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Ophthalmia Neonatorum ..	89	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pulmonary Tuberculosis ..	1,238	6	37	166	265	524	211	29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Other forms of Tuberculosis	241	6	42	121	29	31	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Continued High Temperature	3	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
TOTALS	9,641	405	4,162	3,443	536	723	316	56	291	785	689	298	653	230	502	764	677	121	498	678	662	494	928	313	1,058	1,486

Isolation Hospital or Hospitals. Sanatoria, &c.—City Fever Hospital, Seacroft.

CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR 1918.

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 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.	
All causes	Certified	8,526	983	474	743	514	579	1,214	2,007	2,012	1,974
	Uncertified	3	1	..	..	..	..	..	..	2	..
1. Enteric Fever		5	..	..	..	..	1	4	..	..	4
2. Small-pox		..	..	..	..	..	..	..	..	..	..
3. Measles		417	54	138	181	42	1	1	..	..	47
4. Scarlet Fever		19	..	2	8	7	2	..	..	..	15
5. Whooping Cough		130	45	33	47	5	..	..	..	..	12
6. Diphtheria and Croup		47	..	2	21	23	..	1	..	..	36
7. Influenza		1,401	49	53	153	141	187	368	281	169	172
8. Erysipelas		6	2	..	..	1	..	..	..	3	4
9. Phthisis (Pulmonary Tuberculosis)		705	6	13	20	55	153	266	166	26	248
10. Tuberculous Meningitis		77	3	10	22	31	8	2	1	..	11
11. Other Tuberculous Diseases		180	11	18	32	37	28	29	17	8	72
12. Cancer, malignant disease		500	..	..	..	3	2	45	270	180	149
13. Rheumatic Fever		38	..	..	1	6	14	7	8	2	7
14. Meningitis		117	11	8	10	8	4	5	14	57	85
15. Organic Heart Disease		621	..	..	2	6	25	83	247	258	76
16. Bronchitis		653	73	37	31	12	7	24	179	290	16
17. Pneumonia (all forms)		768	80	77	130	52	62	117	155	95	100
18. Other diseases of respiratory organs		88	4	3	6	4	3	11	23	34	27
19. Diarrhoea and Enteritis		191	129	17	13	2	3	3	5	19	13
20. Appendicitis and Typhlitis		14	..	..	1	5	2	2	4	..	28
21. Cirrhosis of Liver		19	..	..	..	..	1	4	7	7	12
21a. Alcoholism		1	..	..	..	..	..	..	1	..	..
22. Nephritis and Bright's Disease		243	2	2	1	8	13	28	101	88	75
23. Puerperal Fever		6	..	..	..	..	..	6	..	..	9
24. Other accidents and diseases of Pregnancy and Parturition		19	..	..	..	..	5	13	1	..	13
25. Congenital Debility and Malformation, including Premature Birth		339	327	6	4	1	1	..	..	..	117
26. Violent Deaths, excluding Suicide		214	17	10	27	23	14	26	52	45	145
27. Suicide		35	..	..	..	1	3	11	19	1	9
28. Other Defined Diseases		1,665	169	45	33	41	38	158	451	730	472
29. Diseases ill-defined or unknown		11	2	..	..	..	2	..	5	2	..
Totals		8,529	984	474	743	514	579	1,214	2,007	2,014	1,974
Sub-Entries, included in above figures.	14 (a). Cerebro-spinal Meningitis	1	..	..	..	..	..	1	..	..	1
	28. (b) Poliomyelitis	3	..	1	..	..	1	1	..	..	1

TABLE IV.

INFANT MORTALITY. CALENDAR YEAR 1918. NETT DEATHS FROM STATED CAUSES
AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
All causes { Certified { Uncertified	188 1	68 ..	30 ..	29 ..	315 1	154 ..	199 ..	175 ..	140 ..	983 1
Small-pox	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	1	..	1
Measles	..	..	1	..	1	..	3	15	35	54
Scarlet fever	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	1	1	9	6	19	10	45
Diphtheria and Croup	..	..	..	..	..	..	..	..	..	..
Influenza	..	2	2	..	4	9	13	12	11	49
Erysipelas	..	..	..	..	..	1	..	..	1	2
Tuberculous Meningitis	..	..	..	..	..	..	..	2	1	3
Abdominal Tuberculosis	..	..	..	..	..	2	3	4	1	10
Other Tuberculous Diseases	..	..	..	..	..	..	..	4	3	7
Meningitis (not Tuberculous)	..	2	..	..	2	..	4	3	2	11
Convulsions	10	6	..	1	17	10	7	13	9	56
Laryngitis	..	..	..	..	..	..	..	..	2	2
Bronchitis	..	1	1	1	3	14	20	17	19	73
Pneumonia (all forms)	..	..	..	..	..	4	20	29	27	80
Diarrhœa	..	5	1	5	11	31	55	22	10	129
Enteritis	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	1	..	1	3	4	2	..	10
Syphilis	2	8	3	4	17	13	12	6	3	51
Rickets	..	..	..	..	..	..	1	3	..	4
Suffocation, overlying	1	..	..	1	2	6	1	..	..	9
Injury at birth	10	1	..	..	11	..	..	..	..	11
Atelectasis	8	..	..	..	8	2	1	..	..	11
Congenital Malformations	12	7	5	1	25	4	2	1	..	32
Premature birth	118	22	10	11	161	16	5	..	..	182
Atrophy, Debility and Marasmus	26	8	6	3	43	24	31	12	3	113
Other Causes	2	6	..	1	9	6	11	10	3	39
Totals	189	68	30	29	316	154	199	175	140	984

TABLE

Showing the results of the experiments conducted at the
 Agricultural Experiment Station, during the year 1901.

No.		Date		Description		Remarks	
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31
32	32	32	32	32	32	32	32
33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55
56	56	56	56	56	56	56	56
57	57	57	57	57	57	57	57
58	58	58	58	58	58	58	58
59	59	59	59	59	59	59	59
60	60	60	60	60	60	60	60
61	61	61	61	61	61	61	61
62	62	62	62	62	62	62	62
63	63	63	63	63	63	63	63
64	64	64	64	64	64	64	64
65	65	65	65	65	65	65	65
66	66	66	66	66	66	66	66
67	67	67	67	67	67	67	67
68	68	68	68	68	68	68	68
69	69	69	69	69	69	69	69
70	70	70	70	70	70	70	70
71	71	71	71	71	71	71	71
72	72	72	72	72	72	72	72
73	73	73	73	73	73	73	73
74	74	74	74	74	74	74	74
75	75	75	75	75	75	75	75
76	76	76	76	76	76	76	76
77	77	77	77	77	77	77	77
78	78	78	78	78	78	78	78
79	79	79	79	79	79	79	79
80	80	80	80	80	80	80	80
81	81	81	81	81	81	81	81
82	82	82	82	82	82	82	82
83	83	83	83	83	83	83	83
84	84	84	84	84	84	84	84
85	85	85	85	85	85	85	85
86	86	86	86	86	86	86	86
87	87	87	87	87	87	87	87
88	88	88	88	88	88	88	88
89	89	89	89	89	89	89	89
90	90	90	90	90	90	90	90
91	91	91	91	91	91	91	91
92	92	92	92	92	92	92	92
93	93	93	93	93	93	93	93
94	94	94	94	94	94	94	94
95	95	95	95	95	95	95	95
96	96	96	96	96	96	96	96
97	97	97	97	97	97	97	97
98	98	98	98	98	98	98	98
99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100