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CITY OF MANCHESTER.

REPORT

ON THE

Health of the City of Manchester,

1912.

BY

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PUBLIC HEALTH OFFICES,
MANCHESTER,
August 15th, 1913.

MY LORD MAYOR, ALDERMEN, AND MEMBERS
OF THE COUNCIL.

I have the honour to present my Annual Report on the Health of Manchester for the year 1912.

The death-rate was 16·2 per 1,000, being the next lowest rate yet attained.

As compared with the year 1911, however, 1912 shows a marked increase in the death-rates from Pneumonia and Bronchitis. The improvement shown is chiefly in the first five years of life.

A comparison of the death-rates for 1910-1912 with those for 1900-1902 shows that great advance has occurred not only over the whole City, but also in every district.

Infantile mortality in 1912 was much lower than in any previous year, a fact due mainly to the cold and wet summer, but by no means entirely.

General reduction of infantile mortality has occurred throughout the country, no doubt due largely to the stimulus of the Local Government Board.

Steady progress is being made in the care of infants, and of children under 5 years of age. The staff of Health Visitors is becoming more efficient under the skilful guidance of Miss Howard, and the Mothers' Guild is doing excellent work in the poorer quarters of the City.

There is, however, still room for much improvement. The methods pursued can be improved. The staff of Health Visitors needs strengthening so as to deal with the notifications received under the Notification of Births Act over a wider area. Measures are required to secure the training of Health Visitors so as to render them better fitted, on appointment, for their important duties.

The education of young women in domestic management admits of, and calls for, much more strenuous effort.

A summary of the work carried out by the Health Visitors will be found in the body of the Report.

The principal feature of the year is the effort initiated for the more effectual control of Tuberculosis.

Notification is now extended by an Order of the Local Government Board to all forms of Tuberculosis, and the staff has been increased to meet the increased demand for administrative effort.

Under the National Insurance Act, the Corporation is expected to provide for the treatment of all forms of Tuberculosis, and a scheme has been prepared, after much care and work on the part of the Sanitary Committee, which has received the approval of the City Council, the Local Insurance Committee, the Local Government Board, and the Insurance Commissioners.

It will be a great relief when this scheme has been carried into effect, and is in full operation.

There can be no doubt that it will greatly aid in the reduction of Tuberculosis, or that the provisions of the Insurance Act will have this effect generally.

Good work continues to be done under the Milk Clauses.

But no less important for the welfare of infants and young children are the efforts being made, with the assistance of the Veterinary Surgeon, to improve the storage and removal of horse manure.

As regards infectious disease other than Tuberculosis, Enteric Fever and Scarlet Fever show a low mortality for Manchester. There is, however, still room for considerable improvement in respect of Enteric Fever, and attention is directed to the report by Dr. Cunningham on the connection between this disease and the consumption of mussels. Effectual legislation is much needed in respect of the trade in shell-fish. Particulars as regards cases of fever treated in hospital will be found in the reports of the Medical Superintendents. A great improvement has been effected in the removal of patients by the provision of motor ambulances and of bedding by a motor bedding van.

An outbreak of food poisoning occurred in the district of Openshaw, which is reported upon by Dr. McClure.

The origin of the outbreak could not be completely cleared up, but effectual measures were taken in respect of the particular shop involved.

Similar establishments require very close supervision.

In spite of the Local Powers enjoyed by Manchester, the death-rates from both Measles and Whooping Cough were much in excess of the average.

The prevalence of Pneumonia and Septic Disease in Manchester continues to receive attention, and demands further investigation. Much work is still needed to secure a sufficient degree of cleanliness in private houses, in work-shops, and in the methods of dealing with deposits of refuse outside the homes.

Specific Disease is now receiving general attention. After careful investigation and cautious social enquiry, some line of public action may be found practicable.

Excellent work continues to be carried on by the Ophthalmic Nurses, as shown in Dr. Cunningham's report.

Acute Poliomyelitis and Cerebro-Spinal Fever are notifiable, and a report on the subject by Dr. McClure will be found in the body of the Report.

The report on the work of the Midwives Supervising Committee by Dr. Douglas shows that the supervision of Midwives and the administration of the Act is carried out no less efficiently than in previous years.

The two Nurses appointed to assist the Executive Officer and perform special duties have proved of eminent service to the Committee.

The special work carried out by Professor Delépine for the Public Health Office is given in a separate table.

No special comment appears to be required by the other sections of the Report, except that on Housing. The Housing Sub-Committee continue to carry on a very large amount of work.

The conservancy system has almost disappeared from Manchester, and during the last 10 years a vast amount of re-drainage of houses and repairing of yards and passages has been effected.

In the result, the houses in the poorer parts of the City are drier and cleaner. As a consequence of the alterations effected by the Housing Sub-Committee, the aspect of the central districts has been entirely changed. Doubtless many departments of the Corporation have contributed to the improvement of the Public Health, but the work of the Housing Sub-Committee calls for special mention.

Many matters still call for active work.

The widespread prevalence of verminous conditions among the children is one which ought to call forth strenuous endeavour. It is probable that no small amount of disease owes its persistence to this cause.

The subject of Smoke Abatement is receiving special attention, and the appointment of a Smoke Abatement Board as a Sub-Committee of the Sanitary Committee, on which gentlemen eminent for their knowledge of engineering, physics, and chemistry have been elected, as well as the Chairmen of the Corporation Committees concerned, is likely to lead to the adoption of valuable measures for the improvement of the Manchester atmosphere.

It would, however, be too much to expect that their deliberations will lead to great immediate consequences.

Even now, after so much has been effected, the unceasing pursuit of disease, dirt, and unwholesome habitations remains the most urgent duty.

Trusting that your deliberations in the coming year will be still more fruitful than in the past, I beg to thank you for your continued support.

My thanks are due also to the various officers in my department and to my fellow officials, who have given me much assistance.

I have the honour to be,

My Lord Mayor, Aldermen, and Members
of the Council,

Your obedient Servant,

JAMES NIVEN.

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ANNUAL REPORT.

STATISTICAL.

The following are general statistics for the year 1912 :—

Area of the City in acres		20,799
Estimated population at the middle of 1912	Males 348,136; Females 376,032	724,168
No. of persons per acre		35
No. of families or separate occupiers at the Census taking, 1911		152,317
Persons married per 1,000 of population in the Manchester, Chorlton, and Prestwich Unions		17·10
Births in the City of Manchester	Males 9,323; Females 8,846	18,169
Annual birth-rate per 1,000 of population		25·09
Deaths	Males 6,155; Females 5,559	11,714
Recorded annual death-rate per 1,000 of population	Males 17·68; Females 14·78 persons	16·18
Factor for correcting general death-rate		1·0799
Corrected death-rate		17·47
Deaths under 1 year of age per 1,000 births		122·30
Excess of registered births over deaths		6,455
Estimated increase of population during the year		7,434
Percentage mortality occurring in public institutions		30·54

The usual summary of statistical data is given on the first page of the report. The birth-rate has undergone a still further decline. The death-rate is also lower than it was in 1911, but does not quite reach the low-water mark of 1910. This, however, was too low, owing to over-statement of the population. The tendency is downwards, and there is every indication of a further fall during the present year.

The number of deaths of children under 1 year of age per 1,000 births was considerably lower than in any previous year, owing mainly to the cold summer, and consequent diminution of diarrhœal fatality. At the same time it is probable that the great reduction shown is part of a steady decline of infantile mortality, and indicates increased care of infants. The natural rate of increase

of the population is under 9 per 1,000, a figure which, notwithstanding the fall in the birth-rate, we cannot feel satisfied with. The estimated increase of the population exceeds the natural rate of increase, another circumstance which is unsatisfactory.

Among the most important factors affecting the health of the population are the prices of provisions and coal. There was in 1912 a rise of prices in flour, meat, and coal. The number of paupers, however, was diminished. The facts are shown on Table I.

TABLE I.—TOWNSHIP OF MANCHESTER.—PRICES PAID BY THE GUARDIANS FOR FLOUR, BUTCHERS' MEAT, AND COAL, ALSO THE AVERAGE WEEKLY NUMBER OF PERSONS IN RECEIPT OF RELIEF, DURING THE YEARS 1887–1912.

YEAR ENDING	PRICES OF PROVISIONS					PAUPERISM		CITY BIRTH-RATE PER 1,000
	Flour per Sack of 280lbs.	Butchers' Meat, per lb.			Coal, per ton	Average number of Paupers relieved in each week		
		Beef		Mutton		Indoor	Outdoor	
		Coarse	Fine		Engine House			
1887	25/2 to 30/6	-/3¾	-/6½	-/6½	5/6 8/4	3123	877	33·9
1888	24/- to 29/3	-/3¾	-/6½	-/6½	5/5 8/3	3130	713	33·3
1889	24/11 to 31/2	-/4½	-/6½	-/6½	5/8 8/7	3037	632	33·1
1890	24/9 to 29/11	-/5	-/7	-/7	7/- 9/9	2998	498	31·8
1891	27/3 to 28/11	-/4¼	-/6½	-/6½	8/8 11/2	3118	466	33·8
1892	26/4 to 28/5	-/4	-/6¼	-/6¼	7/6 10/2	3251	551	33·4
1893	21/8 to 25/1	-/3⅞	-/6¼	-/6¼	6/5 10/0	3277	586	33·4
1894	17/2 to 23/9	-/3¾	-/6	-/6	7/1 10/10	3328	395	31·8
1895	15/6 to 21/-	-/3¾	-/6	-/6	5/6 10/3	3343	618	33·4
1896	16/6 to 24/-	-/3⅝	-/5¾	-/5¾	5/7 9/1	3348	533	32·8
1897	17/3 to 33/9	-/3½	-/5⅝	-/5⅝	5/9 8/8	3476	697	32·9
1898	26/7 to 33/8	-/3½	-/5⅝	-/5⅝	6/2 8/4½	3519	732	32·3
1899	20/11 to 23/-	-/3½	-/5⅝	-/5⅝	7/5 9/11	3232	597	32·2
1900	20/9 to 22/9	-/3½	-/5⅝	-/5⅝	11/9¾ 14/2½	3189	686	32·4
1901	21/4 to 23/3	-/3⅜	-/5⅝	-/5⅝	11/8 15/2	3403	817	28·7
1902	20/11 to 24/3	-/3⅜	-/5¼	-/5¼	9/3 13/5½	3492	752	33·0
1903	21/10½ to 23/3	-/4	-/6	-/5½	9/- 12/11¼	3521	812	31·7
1904	23/- to 28/6	-/4	-/6	-/6	8/2 11/11	3486	1459	31·1
1905	23/- to 23/9	-/4⅛	-/6	-/6	7/6 10/9	3489	1588	30·1
1906	20/6 to 26/-	-/4¼	-/6	-/6	8/6 11/9	3359	1257	30·1
1907	20/3 to 25/6	-/4	-/6	-/5¼	11/2 14/5	3354	909	29·4
1908	25/6 to 29/6	-/4⅛	-/6	-/5	11/2 14/6	3597	1199	30·0
1909	26/3 to 27/10½	-/3½	-/5½	-/4	9/9 13/3	3875	2049	28·5
1910	26/3 to 27/4	-/3¾	-/6	-/4¼	9/6 13/3	3987	1570	27·8
1911	25/4½ to 28/3	-/3¾	-/6¼	-/4¼	10/4 13/8	3839	1178	25·9
1912	25/10 to 28/6	-/3⅞	-/6¼	-/5½	12/2 16/3	3640	973	25·1

Pauperism may be expected to fall as the Insurance Act comes into fuller operation. But some of the benefit will be lost if the prices of common articles of consumption continues to rise. As will be noted later on, the price of building materials has greatly advanced, with consequent contraction in the number of new dwellings erected. This will have the effect of raising rents and increasing overcrowding.

The number and distribution of deaths occurring in institutions is shown in Table 2. The number of deaths in 1912 was greater than the number in 1911 in these institutions—the Manchester Workhouse, St. Mary's Hospital, and the Hospital of the South Manchester Union.

It was smaller in Ancoats Hospital, Northern Hospital, Booth Hall Infirmary, and the Royal Infirmary.

The total number in all institutions was somewhat greater than in the previous year.

These deaths constituted 30·54 of the total, a percentage rather more than that of the previous year.

TABLE 2.—POPULATIONS—DEATHS OF MANCHESTER RESIDENTS (INMATES), 1912, IN PUBLIC INSTITUTIONS.

Township	Name of Institution	Census Population, 1911	Deaths, 1912
ANCOATS	Ancoats Hospital	100	183
	Workhouse Casual Wards (Tame Street)	335	...
CENTRAL	New Bridge Street Workhouse	263	1
	St. Mary's Hospital	90	139
	Lock Hospital	29	...
	Eye and Ear Hospital	5	3
	Wood Street Mission	...	...
	Chetham Hospital	...	...
	Skin Hospital	29	...
ST. GEORGE'S	Girls' Home (Charter Street)	...	...
CHEETHAM	His Majesty's Prison	1,048	6
	Boys' Refuge	172	...
	Northern Hospital (late Clinical)	58	38
	Jewish Hospital	28	24
CRUMPSALL	Manchester Workhouse	3,126	868
	Prestwich Workhouse	583	2
BLACKLEY	Booth Hall Infirmary	331	284
	Litchford Hall	...	2
MOSTON	St. Mary's Home	...	1
	St. Joseph's Home	...	...
	St. Bridget's Orphanage	...	...
NEWTON	Monsall Hospital	265	165
	Little Sisters of the Poor (Culcheth Hall)	...	15
CLAYTON	Clayton Hospital	57	13
ARDWICK	Industrial School	200	...
	Nicholls Hospital	...	...
OPENSHAW	Crossley's "Home of Peace"	6	...
RUSHOLME	St. Joseph's Girls' School	174	1
	St. Mary's Home	...	...
CHORLTON-ON-MEDLOCK	Royal Infirmary	454	362
	St. Joseph's Boys' School	384	...
	Royal Eye Hospital	121	2
	Little Sisters of the Poor (Plymouth Grove)	...	20
	Cancer Hospital	23	24
	Ear Hospital	14	6
HULME	Hulme Barracks	...	3
MOSS SIDE	"The Home," Whalley Road	...	1
WITHINGTON	South Manchester Workhouse	2,965	1,112

TABLE 2 (continued).—POPULATIONS—DEATHS OF MANCHESTER RESIDENTS, 1912, IN PUBLIC INSTITUTIONS.

Township	NAME OF INSTITUTION	Census Population, 1911	Deaths, 1912
OUTSIDE CITY	Macclesfield Asylum	...	3
	Cheadle Asylum	...	5
	Whittingham Asylum	...	11
	Winwick Asylum	...	26
	Baguley Sanatorium	...	4
	Prestwich Asylum	...	50
	Pendlebury Hospital	...	69
	Salford Royal and Hope Hospitals	...	9
	Mauldeth Hospital for Incurables	...	3
	Blackburn, Langho Colony	...	6
	Meathop Sanatoria	...	2
	County Asylum, Lancaster	...	50
	Patricroft Workhouse	...	4
	Salford Union Hospital	...	3
	Oldham Hospital	...	2
	Ramsgate Hospital	...	2
	Rochdale Workhouse	...	5
	David Lewis Epileptic Colony	..	2
	Barnes Convalescent Home	...	6
	Stockport Etchells Convalescent Home	...	2
	Other Hospitals, each having 1 death	...	28
	Other Workhouses, each having 1 death	...	10
	TOTAL DEATHS		3,577

It is usual to give in this place a summary of the number of deaths due to the more outstanding causes. It will be seen that during 1912 there was a marked increase in fatalities ascribed to Measles, Whooping Cough, Pneumonia, and Bronchitis. From Phthisis, however, there was a slight reduction. The mortality from Tuberculosis continues to decline, though more slowly than is desirable or than we may anticipate. The greatest fall in the year comes under the head of Diarrhœa.

The chief causes of death during the year were as follows :—

	1911	1912		1911		1912
Phthisis	1116	1107	Premature Birth	392		389
Tuberculosis of Organs other than the Lungs	369	397	Nephritis and Bright's Disease	327		302
Diseases of the Heart	1115	1182	Convulsions	112		79
Cerebral Hæmorrhage, Apoplexy, Hemiplegia	440	477	Inflammation of the Brain	164		130
Pneumonia	1235	1358	Diarrhœa and Dysentery	1149		272
Bronchitis	1074	1237	Measles	337	490	
Digestive Organs	435	434	Scarlet Fever	45	51	
Atrophy, Debility (chiefly in infants)	418	329	Whooping Cough	140	298	
Old Age	457	410	Diphtheria	88	97	
				610		936
			Influenza	80		96
			Malignant Disease	750		721

If we compare the death-rates per 1,000 of total population under a number of heads with the average for the years 1902–1911, we see that there is an aggregate gain of 2·21 per 1,000 for the year over the average.

The chief gains are in respect of Diarrhœal diseases, Tuberculous Disease, Diseases of the Nervous System, Diseases of the Circulation, Chest Diseases, and Diseases of the Digestive System.

The chief losses were in respect of Measles, Cancer, and Old Age.

Gains in 1912 *per* 1,000 *persons living, as compared with the average for the* 10 *years,* 1902-1911—(See Table K).

Influenza	0·02
Scarlet Fever	0·10
Diarrhœal Diseases	0·60
Diphtheria	0·06
Enteric Fever	0·05
Erysipelas	0·01
Pyæmia	0·02
Phthisis	0·27
Tubercular Diseases (other)	0·10
Alcoholism	0·02
Premature Birth	0·10
Nervous Diseases	0·28
Heart and Blood Vessel Diseases	0·25
Bronchitis	0·13
Pneumonia	0·12
Respiratory Diseases (other)	0·03
Digestive System	0·27
Total	2·43

Losses in 1912.

Measles	0·12
Whooping Cough	0·02
Cancer	0·13
Rheumatic Fever	0·03
Old Age	0·12
Total	0·42
Balance of Gain from above Causes	2·01
Do. All Causes	2·21

The following table enables us to examine the death-rates in the different Sanitary Divisions and districts, broken up into their constituent parts, according as the deaths occurred at home, in workhouse hospitals, or in other institutions.

As regards the total death-rates in the different divisions and districts, considerable alterations are introduced into the death-rates by the discrepancies between the enumerated and the calculated populations.

So far as the distribution of the deaths is concerned, the main feature of 1912 is that the death-rate in the Union Hospitals is relatively increased, while the proportions occurring at home and in institutions are relatively diminished.

TABLE 3.—1912.—DEATH-RATES* IN THE HOMES OF THE PEOPLE, IN WORKHOUSES, AND IN HOSPITALS FOR THE VARIOUS DIVISIONS OF THE CITY.

STATISTICAL DIVISIONS		Estimated Populations to middle of 1912	Death-rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Workhouses	Death-rate per 1000 of persons dying in Hospitals	Total death-rate per 1000	Mean death-rate 1902–1911
City of Manchester.	...	**724,168**	**11·24**	**3·16**	**1·78**	**16·18**	**18·39** ++
I. Manchester Township..		114,784	13·29	7·57	2·93	23·79	25·03
II. North Manchester		201,689	11·05	1·43	1·54	14·02	15·24
III. South Manchester		407,695	10·75	2·78	1·57	15·10	17·63
I.	Ancoats	40,718	13·70	6·21	3·17	23·09	25·07
	Central	22,308	10·89	10·31	3·41	24·61	26·58
	St. George's	51,758	14·01	7·46	2·53	24·00	24·29
II.	Cheetham	43,027	9·09	1·37	1·72	12·18	11·92
	Crumpsall	10,292	8·55	1·55	0·68	10·79	13·41
	Blackley	14,002	10·86	0·93	1·29	13·07	16·66
	Harpurhey	17,167	11·07	2·16	1·92	15·15	13·31
	Moston	24,703	10·36	0·69	0·77	11·82	11·88
	Newton	41,755	12·07	1·39	1·72	15·18	18·12
	Bradford	25,288	12·22	2·25	2·02	16·49	19·73
	Beswick	11,625	14·28	1·46	1·89	17·63	18·47
	Clayton	13,830	12·51	1·01	1·01	14·53	14·16
III.	Ardwick	39,709	11·74	3·20	2·17	17·10	17·60
	Openshaw	31,155	11·04	2·34	1·70	15·09	18·50
	West Gorton	26,913	12·41	3·90	1·78	18·10	16·63
	Rusholme and Kirk....	41,131	8·00	1·09	1·34	10·43	14·89
	Chorlton-on-Medlock ..	54,599	10·93	5·09	2·02	18·04	19·25
	Hulme	63,177	14·82	4·76	1·98	21·56	22·48
	Moss Side.....	34,329	9·38	0·93	1·46	11·77	13·38
	Withington.....	52,424	8·32	0·99	0·90	10·21	10·61
	Gorton	43,193	9·89	2·13	1·18	13·20	16·82
	Levenshulme	21,065	9·07	1·28	0·81	11·16	10·71

* In this table, *every death* occurring in a Public Institution has been referred to the District from which the patient originally came.

‡ The average rates for the City and South Manchester are exclusive of Moss Side, Withington, Gorton, and Levenshulme.

The highest death-rates occurred in the Central, St. George's, and Ancoats Districts of the Manchester Township, and the next highest in the District of Chorlton-upon-Medlock.

As already stated, the figure for infantile mortality is far the lowest yet recorded, the greatest reduction being at 3–5 months. There is, however, a marked reduction at 0–2 and 6–11 months.

TABLE 4.—INFANTILE MORTALITY.

Deaths per 1000 *births at the ages* 0–2 *months,* 3–5 *months, and* 6–11 *months, in successive years.*

YEARS	Months of Age			
	0–2	3–5	6–11	Under 1 year
1891-95 (mean)	82·79	40·99	62·97	186·75
1896	78·71	38·11	59·31	176·13
1897	82·31	42·43	69·89	194·63
1898	86·64	42·72	66·51	195·87
1899	88·14	46·49	70·79	205·42
1900	81·42	42·42	64·91	188·75
1901	88·90	42·96	66·60	198·46
1902	73·49	32·23	45·73	151·45
1903	79·91	36·37	52·25	168·53
1904	84·37	42·01	60·34	186·72
1905	78·42	34·05	46·28	158·75
1906	78·65	35·77	54·68	169·10
1907	73·91	30·46	43·07	147·44
1908	76·20	30·09	46·16	152·45
1909	73·20	25·37	36·98	135·55
1910	67·50	23·90	40·44	131·84
1911	79·50	31·81	44·80	156·11
1912	65·31	19·70	37·26	122·30

It is not yet possible to show the death-rates at different age periods.

As regards sex, the reduction in mortality affects males and females about equally, as will be seen from the following figures :—

TABLE 5.

Annual Death-rates—Male and Female.

	Male	Female
1905	19·45	16·31
1906	20·65	17·47
1907	19·52	16·40
1908	19·87	16·47
1909	18·88	16·62
1910	17·37	14·51
1911	18·74	15·64
1912	17·68	14·78

Vital Statistics of the Sanitary Divisions of the City.

If we turn to Table G, 1912 (Appendix, page 176), we find that the reduction in the birth-rate is general. The districts in which it is best sustained are, on the whole, the poorest districts of the City, excepting the Central District, which has always a low birth-rate. The highest birth-rates in 1912 occurred in Beswick, Ancoats, St. George's, Bradford, and Hulme. Taking the main divisions it is higher in the Manchester Township than in North Manchester, and higher in North Manchester than in South Manchester.

The highest death-rates occur in the three Central Districts, and in Hulme. After these, the districts showing the highest death-rates in 1912 are West Gorton, Chorlton-upon-Medlock, and Ardwick in South Manchester; Beswick, Bradford, Newton, and Harpurhey in North Manchester. Substantial improvement, however, is shown in the Ancoats and Central Districts.

The figures showing the natural rate of increase also deserve attention. However much we may deplore the continued decline of the birth-rate, it is believed by not a few that this decline leaves the mother free to devote more care to the smaller number under her charge, and in this way tends to diminish the death-rate. Be this as it may, a high rate of natural increase means the successful struggle for existence of the class inhabiting the district in which it persistently occurs.

These rates are highest in 1912 in the following districts of North Manchester in descending order—Beswick, Bradford, Moston, Clayton, Cheetham, and Newton Heath; of South Manchester—in Gorton, Openshaw, Levenshulme, and Ardwick.

The rate of infantile mortality is generally taken as an index of the sanitary condition of a district (Table H). As usual, the Manchester Township has by far the highest rate, viz., 150 deaths under 1 year per 1,000 births. The rates in the three districts comprising the Manchester Township do not differ much. In North Manchester the highest rate of mortality is in Bradford, then in Beswick, Clayton, Moston, and Newton Heath.

In South Manchester the highest rates are in West Gorton, Hulme, Chorlton-upon-Medlock, and Openshaw.

Illegitimate infants always sustain a high rate of mortality, and attention is directed to the high rate of illegitimacy in Clayton, Openshaw, and Bradford.

The rate of illegitimacy does not differ materially from the average rate for a number of years. It will be seen that the rates of infantile mortality were throughout low when compared with those for the ten years 1902-11.

From Table L it will be seen that the proportion per cent. of unregistered deaths was very small. The percentage of deaths certified upon a Coroner's inquest was higher than in other recent years. The districts furnishing the highest percentages of inquests were the Central District, West Gorton, Beswick, Chorlton-upon-Medlock, and Ancoats.

Causes of Death.

The principal causes of death in 1912 have already been given. The death-rates from the more common causes of death for the whole City and for each of its main divisions are given in Table K.

When we compare the rates in 1912 for the whole City with the average rates for 1902-11, we perceive that the greatest improvements have occurred under the heads of Tuberculosis of the Lungs and other forms of Tuberculosis, Diseases of the Digestive Organs, Diarrhœa, and Nervous Diseases.

Distinct improvement is manifested under the heads Pneumonia, Bronchitis, Other Respiratory Diseases, Heart Disease, Scarlet Fever, Enteric Fever, Diphtheria, Septic Diseases, Alcoholism, and Prematurity.

Turning for the moment to Table J, we find that the number of deaths under one year per 1,000 births is high under the heads of Measles and Whooping Cough, higher than in other recent years from Lung Diseases, and under the heading "Found dead in bed," and somewhat higher under Prematurity. It is comparatively low from Diarrhœa, Tuberculous Disease, Convulsions, and Atrophy. A comparison between the rates of infantile mortality at successive periods from various causes is shown in the following figures :—

TABLE 6.

Infantile Mortality in the City of Manchester per 1,000 *live births.*

YEARS	1891–95	1896–00	1901–05	1906–10	1911	1912
All Causes	186·46	192·16	172·78	147·28	156·11	122·30
Measles	3·91	6·15	4·12	4·40	4·36	6·11
Whooping Cough	7·34	6·43	5·79	5·40	2·85	5·61
Other Common Infectious Diseases	1·32	0·57	0·76	0·76	0·32	0·55
Diarrhœal Diseases	23·17	38·35	29·50	19·93	45·04	10·95
Tuberculous Diseases	11·32	9·63	7·67	5·58	4·14	3·58
Convulsions	16·68	9·55	9·00	5·90	5·17	3·36
Other Nervous Diseases ..	4·49	4·36	3·33	2·30	2·80	2·20
Lung Diseases other than Phthisis	36·29	33·53	31·10	27·29	25·72	27·41
Premature Birth	17·52	19·65	21·28	21·07	21·09	21·41
Atrophy, etc.	29·24	32·71	28·71	23·98	20·13	17·01
Suffocation	0·86	0·27	0·37	0·98	2·15	1·10
Found dead in bed (overlaid	6·19	5·81	4·63	4·03	4·68	4·90

Returning to Table K for a comparison of the three main divisions of the City, we find that the death-rates from all causes follow the usual order, that of the Manchester Township being much the highest.

As regards individual causes of death, the Manchester Township has much the highest death-rates from Tuberculous Disease, Bronchitis, Pneumonia, Urinary Diseases, Alcoholism, Diarrhœa, Nervous Diseases, Measles, Whooping Cough, and Prematurity, while its death-rate is in excess also under Heart Disease, Diphtheria, Scarlet Fever, Erysipelas, Cancer, and old age.

North Manchester has the highest death-rates under the head of Enteric Fever and other Respiratory Diseases, South Manchester under Influenza and Rheumatic Fever.

Comparison of infantile mortalities in the main divisions of the City (Table J) shows that the Manchester Township has by far the highest mortality rates from Diarrhœa, Lung Disease, Premature Birth, and under the heading "Found dead in bed." North Manchester shows the highest mortality-rate under Convulsions, while the highest rates from Measles and Tuberculous Diseases occur in South Manchester.

A sub-division of the causes of infantile mortality in three periods of the first year of life is given in Table D, and the deaths occurring from the same causes in each of the first 5 years of life are shown in the same table. This presents no feature different from the same table in previous years. The high relative incidence of Diarrhœal mortality on the first three months of life deserves to be noted, as do the distributions of mortality from different forms of Tuberculosis.

Comparison with previous Years.

Comparison of the death-rates in 1912 from the more familiar infectious diseases with those holding in previous years is given in Table E of the Appendix, and Table F furnishes a like comparison from the principal causes of death.

The reduction in the total death-rate goes on satisfactorily. As regards infectious diseases, it will be seen that there has been a great diminution in mortality, extending over a long series of years, in respect of Scarlet Fever, Enteric Fever, Typhus Fever, and Smallpox.

This may fairly be placed to the account of administration, although we cannot be said to rest on a secure foundation. Much is known about Enteric Fever, but owing to the tendency of the infecting organisms to persist in individuals over long periods of years, and to the multiplicity of the sources of infection, we cannot anticipate that the disease will be entirely extirpated at an early period.

Of the nature of Scarlet Fever we know much less, and are, therefore, less able to be confident as to the continuance of the improvement hitherto attained.

Moreover, this disease is subject to waves of 5 or 6 years' duration, and, though we may more or less determine their course, especially while in the trough of the wave, it is only by incessant vigilance and care that we can make an impression on them.

On the other hand, notwithstanding the great amount of scientific and other work expended on Diphtheria over a long period, there has been no improvement in the death-rate during the last 40 years. What is most needed here is early diagnosis and prompt treatment.

As to Diarrhœa, again, a disease fatal chiefly in infancy, the course of the death-rate has been fluctuating and uncertain.

From the experience of the five years 1906–10 it appeared as if, at last, we were in a fair way to show, as the result of our efforts in sanitary improvements and instruction, a decided diminution in fatality, when the warm summer of 1911 brushed aside all these expectations. It is true, in 1912, the death-rate is lower than it has ever been in former years. If, however, we are right as regards the methods by which this fatality can be diminished, it is clear that a great deal still remains to be done.

There seems to be no doubt that there is a distinct improvement in the death-rate from Whooping Cough, which is probably due mainly to greater care bestowed by mothers on their infants, and partly, perhaps, to the operations of the Housing Sub-Committee, and consequent improvement in the lighting of houses and movement of air about them.

Under Measles there would appear to be some advance in the decade 1901–10, which again may be due to the same factors.

Measles is one of the diseases in which the distribution of mortality appears to run parallel to the distribution of poverty. Possibly, therefore, improvement in the circumstances of the working community has to do with the improvements shown. The mortality during 1912 was, however, higher than in any year since 1906.

Turning to Table F, in which are shown the death-rates under the principal causes of mortality, we find that since 1891 a great reduction has occurred in the death-rate from Phthisis and other Respiratory Diseases; also under the head of Diseases of the Nervous System.

From Tuberculous Disease other than Phthisis progress is also very marked.

The same cannot be said for Diseases of the Circulation. The sudden change shown in the period 1891–95 is due to transference of deaths from the heading "Nervous Diseases" to the heading "Diseases of the Circulation." Since that period up to the last two years no improvement is manifest in respect of diseases of the Circulation. This is the more remarkable as there has been so great an improvement in respect of respiratory diseases. One is inclined to suspect that the prevalence of Sepsis has to do with the continuance of a high fatality from Heart Disease.

Great improvement is manifest in respect of Diseases of the Digestive System, due largely, no doubt, to greater care bestowed on infants and young children.

Diseases of the Urinary System show an increased death-rate, in association with the somewhat increased death-rate from Diseases of the Circulation.

From Diseases of the Generative System the death-rate remains stationary, and is, probably, in part due to Cancer.

The Cancer death-rate shows an almost steady increase since 1881, with slight fluctuations, and has doubled during that period. Part of this increase is due to improvements in diagnosis, part to alteration in the age constitution of the population, but enough remains to make this increase a serious and menacing fact.

The following table gives a comparison of the mean death-rates at an interval of ten years for each of the Sanitary Divisions and Districts. The death-rates are calculated for three years on the populations of the districts at the middle of 1901 and 1911. Probably this figure will give an accurate and fairly just measure of the progress achieved: —

TABLE 7.

MEAN BIRTH AND DEATH RATES 1900-1-2 AND 1910-11-12, CALCULATED ON THE POPULATIONS IN THE MIDDLE OF 1901 AND 1911.

STATISTICAL DIVISIONS	MEAN BIRTH-RATES		MEAN DEATH-RATES	
	1900-1-2	1910-11-12	1900-1-2	1910-11-12
City of Manchester	**30·32**	**26·03**	**20·65**	**16·45**
I. Manchester Township	32·37	30·81	27·75	24·04
II. North Manchester	32·37	26·59	18·06	14·35
III. South Manchester	28·57	24·36	19·10	15·27
I. Ancoats	35·01	33·03	27·53	24·09
I. Central	27·34	24·36	29·69	24·81
I. St. George's	32·90	31·90	26·95	23·67
II. Cheetham	32·44	24·56	13·94	11·79
II. Crumpsall	23·53	19·58	14·48	13·59
II. Blackley	26·35	22·65	16·45	13·02
II. Harpurhey	33·37	26·11	17·66	15·06
II. Moston	31·30	26·66	14·41	11·62
II. Newton	30·60	25·87	20·13	15·99
II. Bradford	37·92	31·62	22·79	17·72
II. Beswick	35·96	33·55	22·34	17·85
II. Clayton	34·28	29·57	19·73	13·82
III. Ardwick	34·10	28·19	21·31	17·78
III. Openshaw	34·27	28·22	20·22	15·98
III. West Gorton	34·39	28·50	20·30	17·40
III. Rusholme and Kirk.	25·14	20·37	14·69	10·89
III. Chorlton-upon-Medlock	23·30	21·38	20·20	18·28
III. Hulme	32·48	29·77	24·80	20·76
III. Moss Side	16·59	15·87	13·17	11·70
III. Withington	19·69	19·03	11·86	10·07
III. Gorton	36·09	28·20	19·71	14·08
III. Levenshulme	29·89	23·86	11·56	10·89

Comparison of Death-rates in the 95 Great Towns.

The Annual Summary of the Registrar-General enables us to compare the birth-rates and death-rates of the 95 great towns for the year 1912, the latter crude and corrected. The birth-rate is now below that for many other towns. The death-rate for Manchester is exceeded by those for only five of the other great towns, with the exception of Middlesbrough, all in Lancashire.

Notwithstanding the low rate of infantile mortality, only 11 other great towns have higher rates.

A comparison in respect of individual causes of death is given only for infectious diseases. From Enteric Fever 24 other towns, from Scarlet Fever 28, from Measles 13, from Whooping Cough 15, from Diphtheria 35, and from Diarrhœa 9 have higher rates than Manchester.

Mortality in Age Groups.

It is not yet possible to give death-rates at groups of ages which can be accepted as accurate.

The number of deaths, however, can be given for a few of the more important causes of death in successive years, as follows :—

Table 8.—*Deaths in Groups of Ages.*

Causes	0 —				5 —			
	1909	1910	1911	1912	1909	1910	1911	1912
Phthisis	33	29	17	21	59	46	49	41
Pneumonia { Lobar ..	64	54	57	49	27	16	10	23
Pneumonia { Broncho	461	450	437	562	24	24	20	22
Bronchitis..	255	295	317	277	12	4	8	9
Heart Disease and Diseases of Circulation	13	10	14	13	29	37	31	36
Pneumonia	70	31	26	44	9	8	13	9
Other Tubercular Diseases	236	226	214	211	77	88	68	84
All Causes..	3,893	4,050	4,417	3,766	507	448	456	483

TABLE 8.—*continued.*

CAUSES	15 —				25 —			
	1909	1910	1911	1912	1909	1910	1911	1912
Phthisis	155	161	186	155	508	479	517	519
Pneumonia (Lobar ..	29	24	32	25	100	98	162	131
Pneumonia (Broncho	7	11	7	6	36	45	32	30
Bronchitis..	6	7	3	8	72	71	46	64
Heart Disease and Diseases of Circulation	42	47	59	61	232	218	137	219
Pneumonia	24	3	8	6	51	29	26	44
Other Tubercular Diseases	25	34	32	40	19	44	27	40
All Causes..	458	472	520	495	1,673	1,647	1,735	1,731

CAUSES	45 —				65 +			
	1909	1910	1911	1912	1909	1910	1911	1912
Phthisis	316	315	319	334	44	40	48	37
Pneumonia (Lobar ..	118	117	144	118	50	48	77	54
Pneumonia (Broncho	58	67	66	72	50	52	46	73
Bronchitis..	347	262	320	352	435	366	380	527
Heart Disease and Diseases of Circulation	724	686	648	683	653	667	596	667
Pneumonia	86	34	40	58	42	27	23	32
Other Tubercular Diseases	13	19	23	17	4	6	6	5
All Causes	2,795	2,622	2,790	2,787	2,263	2,125	2,354	2,452

From these figures we see that there is a marked improvement in 1912 in the mortality of persons under 5 years of age—an improvement which does not extend into other age periods.

From Phthisis there is improvement up to the age of 25 and after 65, but from 25 to 65 there is an increase in the death-rate. As regards other tuberculous diseases there is improvement under 5 years of age, but not in subsequent age periods.

Under Lobar Pneumonia there is considerable fluctuation at different age groups, though the general effect is that the average is maintained. Under Broncho-Pneumonia, however, there is excessive mortality under the age of 5, due no doubt to the prevalence of Measles, though not entirely, as there is excess also at ages above 45.

From Diseases of the Circulation mortality is in excess at the age groups 5–14 and 15–24.

INFECTIOUS DISEASES.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, are as follows: Smallpox, Scarlet Fever, Diphtheria, Membranous Croup, Typhus Fever, Enteric or Typhoid Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Erysipelas, and Asiatic Cholera, to which has been added locally Ophthalmia Neonatorum, Cerebro-Spinal Fever, and Poliomyelitis. The following cases were notified in 1912, and is compared with the average of the previous ten years:—

	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Aver'ge for 10 Years	1912
Smallpox	27	422	134	6	5	5	...	...	...	..	60	1
Scarlet Fever ...	2,282	2,012	2,063	1,975	3,075	2,732	2,893	3,700	2,324	1,939	2,500	1,840
Diphtheria..... Memb. Croup	422	620	474	530	551	499	546	598	498	472	521	474
Typhus Fever ...	...	...	...	...	...	1	...	20	2	10	3	...
Enteric Fever ...	378	387	325	345	384	265	393	369	358	256	346	242
Relapsing Fever	...		...	...	1	...	...	...	...	...	...	...
Puerperal Fever	47	30	42	82	106	95	101	84	131	130	85	124
Erysipelas	253	291	266	351	383	337	364	371	407	442	347	396
Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	246	443	...	503
Cerebro-Spinal Fever	...	...	...	...	...	...	...	...	...	...	...	6
Poliomyelitis ...	...	...	...	...	...	...	...	...	...	...	..	55
	3,409	3,762	3,304	3,289	4,505	3,934	4,297	5,142	3,966	3,692	3,862	3,641

The number of deaths for eleven years from the more common diseases is shown in the following table, also the average for the previous ten years :—

From	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Aver'ge for 10 Years	1912
Measles	242	345	425	231	475	229	366	396	291	337	334	490
Scarlet Fever ...	146	97	85	78	108	102	92	164	74	45	99	51
Diphtheria..... Memb. Croup	123	136	99	127	119	106	123	113	101	88	114	97
Enteric Fever ...	66	93	66	55	83	37	75	88	61	51	68	47
Smallpox	...	24	9	...	...	...	...	...	...	...	3	1
Influenza	80	62	97	95	90	111	132	135	80	80	96	96
Whooping Cough	242	213	280	195	193	314	220	129	397	140	232	298
	899	970	1,061	781	1,068	899	1,008	1,025	1,034	741	946	1080

The attack-rates per 1,000 of the population from the notifiable infectious diseases other than Tuberculosis, Ophthalmia Neonatorum, Acute Poliomyelitis, and Cerebro-Spinal Fever, are shown for 1912, along with the attack-rates in England and Wales and in other large towns, in the following table, excerpted from the report of the Local Government Board, on notification statistics.

At the foot of the table are given figures for Manchester calculated in a somewhat different manner, and corrected for errors in diagnosis so far as ascertained.

It will be seen that the attack-rate from Scarlet Fever was somewhat under the average for the whole country, but in excess of that for Salford.

	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Erysiplas
England and Wales	2·98	1·24	0·23	0·06	0·63
London	2·51	1·57	0·16	0·08	0·91
Liverpool	3·80	1·31	0·13	0·05	1·15
Birmingham	7·05	1·17	0·13	0·09	0·91
Sheffield	3·79	1·18	0·36	0·12	0·97
Leeds	2·75	1·59	0·15	0·07	0·64
Newcastle	4·43	1·86	0·30	0·02	0·58
Hull	1·16	1·12	0·48	0·08	0·75
Leicester	5·62	0·96	0·24	0·04	0·72
Salford	2·36	1·05	0·32	0·11	0·77
Manchester..	2·92	0·80	0·38	0·19	0·61
Manchester corrected figures .. (Cases commencing in 1912 after rejection of cases notified in error.)	2·74	0·71	0·36	0·17	0·55

It cannot, however, be considered a high attack-rate.

The attack-rate from Diphtheria is considerably lower than for England and Wales generally, and also lower than that for any of the towns selected for comparison.

Under Enteric Fever, however, we do not obtain the same result, the rate in Manchester being much higher than that for England and Wales, and higher than that of the other towns with the exception of Hull; Sheffield and Salford come next.

There are no doubt various contributory causes, such as consumption of contaminated mussels, lateness in notification of cases, and others, although the great improvements which have occurred in Manchester should be attended with an improvement in the incidence from Enteric Fever. There is such an improvement, but it is not so great as that which has occurred in other towns. Nevertheless, the death-rate from this formidable disease again touches its lowest point in 1912.

From Puerperal Fever the attack-rate is three times as great as that given for England and Wales generally, and is much higher than the rate for the other towns. Probably this is due largely to activity of administration and to the notification of many cases which would not have been notified some years ago. On the other hand, this does not account for the whole of the difference between the figures for Manchester and those for other localities. The death-rate appears at present to be stationary; and though it is lower in 1912 than in 1911, one cannot rely on the maintenance of this improvement. It must be admitted that Manchester suffers severely from Septic Disease, due principally so far as one can judge to the standard of living, which is by no means easy of modification. Perhaps, also, the principles of asepsis in midwifery are not so generally carried out as is desirable.

Under the heading of Erysipelas, Manchester does not come off so badly, only Newcastle having a lower attack-rate.

It is difficult to reconcile these figures, unless on the supposition that Erysipelas is due largely to the habits of the people, while Puerperal Fever is due more to extraneous agencies.

The attack-rate from Ophthalmia Neonatorum was 1·06, from Cerebro-Spinal Fever 0·01, and from Acute Poliomyelitis 0·08.

SMALLPOX.

There was one case of Smallpox notified during the year 1912.

SCARLET FEVER.

By Dr. W. St. C. McClure.

The comparatively small number of cases notified during 1912 has been already mentioned. The course of the disease during the year was, in other respects, the same as usual, as the following figures show.

The following table shows the course of the disease :—

Table 1.—Scarlet Fever, 1912.—Attacks in Weeks according to Date of Rash.

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Jan. 6	30	April 6	25	July 6	31	Oct. 5	41
,, 13	31	,, 13	23	,, 13	27	,, 12	45
,, 20	35	,, 20	33	,, 20	38	,, 19	52
,, 27	44	,, 27	34	,, 27	26	,, 26	57
Feb. 3	37	May 4	30	Aug. 3	25	Nov. 2	58
,, 10	22	,, 11	31	,, 10	30	,, 9	49
,, 17	28	,, 18	32	,, 17	19	,, 16	41
,, 24	27	,, 25	29	,, 24	34	,, 23	47
March 2	23	June 1	28	,, 31	41	,, 30	34
,, 9	30	,, 8	29	Sept. 7	33	Dec. 7	41
,, 16	36	,, 15	34	,, 14	46	,, 14	31
,, 23	38	,, 22	33	,, 21	52	,, 21	39
,, 30	24	,, 29	32	,, 28	59	,, 28	46
Total...	405	Total...	393	Total...	461	Total...	581

City Total, 1,840.

During 1912 the rate of attack from Scarlet Fever was lower than in the towns used for comparison, and was highest in North Manchester.

Table 2.—Scarlet Fever Attacks, 1912.—Rates per 1,000 living, as compared with the Mean for Five Years.

	1907	1908	1909	1910	1911	Mean	1912
Twelve Towns *	3·50	3·58	4·16	3·83	3·43	**3·70**	2·75
City of Manchester	†4·25	†4·39	†6·15	†3·46	†2·91	**†4·23**	†2·74
Manchester Township	3·99	4·63	4·13	1·95	1·72	**3·28**	2·74
North Manchester	5·06	4·91	6·43	3·90	2·90	**4·64**	3·38
South Manchester	†3·86	†3·98	†6·71	†3·74	†3·31	**†4·32**	†2·38

* These are Blackburn, Bolton, Bradford, Burnley, Halifax, Hull, Leeds, Liverpool, Oldham, Preston, Salford, and Sheffield.

† Exclusive of Withington.

ATTACKS PER 10,000 OF THE POPULATION IN 1912 AND 21 PREVIOUS YEARS.

Year ..	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
	48	50	58	43	39	44	33	16	27	46	49
Year ...	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
	42	36	37	34	52	43	44	62	35	29	27

The following figures show the distribution of the attacks and the proportion treated in Hospital. The following districts are seen to have been most severely visited in 1912: Harpurhey, Blackley, Beswick, West Gorton, Clayton, and Levenshulme.

TABLE 3.—1912—SCARLET FEVER ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

	DISTRICTS	ATTACKS	ATTACK RATE PER 1,000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Manchester Township	Ancoats	120	2·95	4·2	95·0
	Central	41	1·84	4·9	87·8
	St. George's	153	2·96	4·6	85·0
North Manchester	Cheetham	88	2·05	3·4	75·1
	Crumpsall	25	2·43	4·0	84·0
	Blackley	89	6·36	2·2	68·6
	Harpurhey	128	7·46	2·3	78·1
	Moston	79	3·20	3·8	56·9
	Newton Heath ..	127	3·04	3·2	85·0
	Bradford	41	1·62	9·8	87·8
	Beswick	58	4·99	—	94·8
	Clayton	46	3·33	4·3	65·2
South Manchester	Ardwick	90	2·27	3·3	89·0
	Openshaw	43	1·38	—	65·1
	Gorton (West) ...	102	3·79	2·9	88·2
	Rusholme & Kirk	108	2·63	1·9	63·9
	Chorlton-on-Med.	84	1·54	1·2	69·1
	Hulme	161	2·55	1·2	80·1
	Moss Side	79	2·30	1·3	67·1
	Gorton	109	2·52	2·8	68·0
	Levenshulme	69	3·28	—	62·3
City of Manchester ...		**1,840**	**2·74**	**2·8**	**77·5**

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

The case fatality is lower than the mean for the past ten years.

Year.....	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Mean	1912
Case fatality per cent.	6·2	4·7	4·1	3·5	3·6	3·6	3·6	4·1	3·4	1·8	3·9	2·8

The comparative severity of attacks in infancy is again shown in the following table :—

TABLE 4.

SCARLET FEVER.—NUMBER OF ATTACKS, AND OF DEATHS; ALSO THE CASE FATALITY PER CENT. AT DIFFERENT AGES, FOR THE TWENTY-ONE YEARS 1891–1911, AND FOR 1912.

AGES	1891-1911			1912		
	ATTACKS	DEATHS	CASE FATALITY PER CENT.	ATTACKS	DEATHS	CASE FATALITY PER CENT.
Under one year ...	507	93	18·3	8	1	12·5
1 to 2 years ...	1,612	250	15·5	20	1	5·0
2 to 3 ,, ...	3,133	378	12·1	108	3	2·8
3 to 4 ,, ...	4,267	413	9·7	189	17	9·0
4 to 5 ,, ...	4,771	356	7·5	220	5	2·3
5 to 6 ,, ...	5,037	218	4·3	241	7	2·9
6 to 7 ,, ...	4,541	150	3·3	205	3	1·5
7 to 8 ,, ...	3,956	98	2·5	161	5	3·1
8 to 9 ,, ...	3,235	60	1·9	133	3	2·3
9 to 10 ,, ...	2,685	50	1·9	111	2	1·8
10 to 15 ,, ...	7,713	116	1·5	275	2	0·7
15 to 20 ,, ...	2,333	48	2·1	83	...	...
20 to 25 ,, ..	1,028	17	1·7	35	1	2·9
25 to 35 ,, ...	965	33	3·4	41	...	...
35 to 45 ,, ...	248	8	3·2	10	1	10·0
45 to 55 ,, ..	78	3	3·8	...	...	...
55 to 65 ,, ...				...	...	...
Over 65 ,, ...				...	...	...
All Ages	46,109	2291	5·0	1,840	51	2·8

Table 5 gives a comparison of the death-rates from Scarlet Fever in different localities, and shows that the death-rate was slightly above that of the country generally.

TABLE 5.—SCARLET FEVER MORTALITY, 1912.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1907	1908	1909	1910	1911	Mean	1912
England and Wales.....	0·09	0·08	0·09	0·06	0·05	**0·07**	0·05
95 Great Towns	0·12	0·10	0·11	0·08	0·06	**0·09**	0·06
London.....	0·14	0·11	0·08	0·04	0·04	**0·08**	0·04
Manchester City.....	0·18†	0·16†	0·27†	0·12‡	0·06	**0·16**	0·07
Manchester Township	0·20	0·18	0·25	0·15	0·08	**0·17**	0·13
North Manchester	0·22	0·14	0·28	0·13	0·08	**0·17**	0·09
South Manchester	0·14†	0·16†	0·28†	0·08‡	0·05	**0·14**	0·04
146 Smaller Towns	0·08	0·07	0·09	0·06	0·06	**0·07**	0·05
Rural Districts.....	0·06	0·05	0·06	0·05	0·04	**0·05**	0·04

† Exclusive of Moss Side and Withington.

‡ Exclusive of Moss Side, Withington, Gorton, and Levenshulme.

The percentage of cases removed to hospital in each year since 1895 has been as follows :—

TABLE 6.—SCARLET FEVER.

		1895	1896	1897	1898	1899	1900	1901	1902	1903
Manchester Township.	Removal to Hospital, per cent...	82·0	83·5	89·2	85·8	87·2	88·0	88·5	88·8	91·9
	Death-rate per 1,000	0·37	0·41	0·27	0·11	0·08	0·16	0·24	0·21	0·14
Entire City.	Removal to Hospital, per cent...	71·3	73·9	79·7	73·1	74·4	80·9	82·3	81·2	83·4
	Death-rate per 1,000	0·33	0·37	0·23	0·12	0·08	0·19	0·23	0·27	0·17

		1904	1905	1906	1907	1908	1909	1910	1911	1912
Manchester Township.	Removal to Hospital, per cent...	88·6	82·3	75·1	74·5	72·7	66·1	79·6	88·0	89·2
	Death-rate per 1,000	0·17	0·15	0·27	0·20	0·18	0·25	0·15	0·08	0·13
Entire City.	Removal to Hospital, per cent...	79·8	72·9	66·3	65·0	68·8	58·1	74·5	76·0	77·5
	Death-rate per 1,000	0·15	0·13	0·19	0·18	0·16	0·27	0·10	0·06	0 07

Hospital Treatment of Scarlet Fever Cases.

1,426 patients, or 77·5 per cent., of the notified cases were removed to Hospital.

Isolation is the chief means we have of checking the spread of the disease. The question which has been raised from time to time, is the value of removal to a hospital as opposed to treatment at home.

The size of the house, the number of occupants, and the number of susceptible persons exposed to infection in hospital and home cases respectively are factors which must be taken into account when considering this question.

In the following analysis, which relates to the year 1912, return cases are included, but not overlooked cases, which are dealt with separately.

From Table I. it will be seen that the proportionate number of persons per room, in houses where the primary case was removed to hospital, was considerably greater than in cases where the patient was kept at home.

Table I.

No. of Persons per room	Primary Cases removed to Hospital		Primary Cases treated at Home	
	No. of Houses with persons per room	Per cent.	No. of Houses with persons per room	Per cent.
Under 1	214	19·6	191	58·7
1–1½	497	45·4	121	37·2
1½–2	275	26·0	9	2·7
2 and over	108	9·9	4	1·2

More important, perhaps, in so far as the occurrence of subsequent cases is concerned, is the number of susceptible persons remaining in the affected households.

A susceptible person is taken to be a person under the age of 15 years, who is said not to have had Scarlet Fever, as determined by the Inspector's enquiries.

The number of secondary cases will depend, up to a certain point, upon the number of susceptibles exposed to infection. The value of hospital isolation cannot be judged solely by the number of secondary cases which occur, for it

is conceivable that susceptible material might be altogether absent, say, in home cases, under which circumstances no subsequent cases would occur, and misleading conclusions might be deduced.

Table II. shows the number of houses in each group, with one or more or no susceptibles, as the case may be.

TABLE II.

No. of Susceptibles	Hospital Cases		Home Cases	
	No. of Houses with Susceptibles	Per cent.	No. of Houses with Susceptibles	Per cent.
0	195	17·7	176	53·8
1	295	26·9	95	29·0
2	262	23·8	34	10·4
3	181	16·5	12	3·6
4 or more	164	15·0	10	3·0

It will be seen that when the primary case was treated at home the greater number of households contained no susceptible persons, and when the two groups are compared the difference in this respect is marked.

The total number of susceptibles in each group, and the number subsequently infected, was as follows :—

	No. of Susceptibles	No. infected	Per cent.
Hospital Cases	2,079	210	10·1
Home Cases	243	32	13·1

These figures, which include return cases, point to the conclusion that some advantage was gained by the removal of patients to hospital.

If the same rate of incidence among susceptibles in home cases had prevailed in hospital cases, there would have occurred 272 subsequent cases instead of 210. These figures, moreover, do not represent the full saving. When the nature of the home, the overcrowding, and impossibility of isolation which is present to so much greater an extent in hospital cases is taken into account, it seems probable that if such cases were left at home the rate of incidence among the remaining susceptibles would more nearly approach that which is found to occur among the contacts of overlooked cases, namely, about 35 per cent.

The data here used are for one year only, but somewhat similar figures in previous Annual Reports point to the same conclusions.

Overlooked Cases.

An overlooked case is taken to mean one that, so far as could be ascertained, was not isolated for at least one week after the onset.

By this definition many primary cases, which immediately cause a secondary one, are excluded, and this masks somewhat the true infectivity-rate during the first week.

During the year 103 overlooked primary cases were discovered. Twenty-six occurred in households with no susceptible contacts, consequently no secondary cases arose, and these are excluded from further consideration.

The remaining 77 cases gave rise to 65 secondary cases in 47 houses.

The total number of susceptibles exposed to infection was 190; of these 66, or 34·7 per cent., subsequently contracted the disease.

By noting the percentage number of susceptibles infected week by week, some idea may be formed of the infectivity of overlooked cases.

Disturbing factors which must be taken into account are that a proportion only of overlooked cases are discovered, and that overlooked cases must be responsible for a certain amount of infection outside the home which cannot be traced.

The number of susceptibles exposed to infection will diminish so soon as the overlooked case is discovered and isolated, so that in estimating the number of susceptibles exposed week by week, those in households where the infecting case has been isolated must be subtracted.

In this way the following figures are obtained. For comparison, figures obtained in a somewhat similar manner by Dr. Niven (Annual Report, 1901) and Dr Arnold for 1907 are shown.

The rates per 1,000 on susceptible persons under 15 years of age for overlooked cases :—

	Total subsequent incidence	Up to 6 days	— 14	— 21	— 31	— 41	42 and upwards
Annual Report, 1901	448·4	316·7	174·5	88·8	31·5	..	8·06
Dr. Arnold, 1907 ..	510·0	312·0	213·3	121·2	64·5	..	..
1912	347·3	236·8	169·8	66·6	43·4	..	5·00

The figures for 1912 are low compared with those for 1901 and 1907, but it is seen that the relative weekly variation in each group is approximately the same. Especially striking is the drop at the end of the second week, after which the infectivity rapidly diminishes.

The infectivity of Scarlet Fever varies from time to time, being apparently more potent in one year than in another. The incidence upon the general population in 1901 was 4·9 per 1,000; in 1907, 4·3 per 1,000; and in 1912, 2·74 per 1,000. It would seem, therefore, that the infectivity of Scarlet Fever was lower generally in 1912 than was the case in the other years under consideration.

In addition to those overlooked cases which are discovered, it is probable that a considerable number of cases are unrecognised throughout the entire illness, and overlooked altogether.

Evidence in support of this view is forthcoming from the history of members of a family who have, within a short period previous to the onset of a notified case in the same household, suffered from Sore Throat, Fever, or some such symptoms suggestive of a mild attack of Scarlet Fever. 53 such cases came to our notice during the year. In each instance a letter was sent to the medical attendant asking for his opinion and diagnosis.

DIPHTHERIA AND MEMBRANOUS CROUP.

The usual tables for this disease are again given.

The following table shows the number of cases notified each year for the last ten years:—

1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
—	—	—	—	—	—	—	—	—	—
620	474	530	551	499	546	598	498	472	474

The distribution of the disease throughout the year is shown in the following table, from which we perceive that the disease was most prevalent in the fourth quarter.

Table I.

Diphtheria, Meme. Croup, 1912.—Attacks in Weeks, according to date of onset.

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Jan. 6	7	April 6	9	July 6	5	Oct. 5	11
,, 13	10	,, 13	5	,, 13	14	,, 12	18
,, 20	16	,, 20	11	,, 20	4	,, 19	16
,, 27	10	,, 27	12	,, 27	5	,, 26	15
Feb. 3	14	May 4	6	Aug. 3	3	Nov. 2	16
,, 10	6	,, 11	7	,, 10	6	,, 9	14
,, 17	9	,, 18	8	,, 17	8	,, 16	18
,, 24	9	,, 25	2	,, 24	6	,, 23	12
March 2	8	June 1	5	,, 31	6	,, 30	13
,, 9	6	,, 8	12	Sept. 7	7	Dec. 7	10
,, 16	9	,, 15	10	,, 14	8	,, 14	11
,, 23	7	,, 22	9	,, 21	7	,, 21	5
,, 30	5	,, 29	8	,, 28	9	,, 28	7
Total...	116	Total...	104	Total...	88	Total	166

City total, 474.

Table II

Shows the Attack Rate per 1000 living for the year 1912, compared with the mean of five years—Diphtheria and Membranous Croup.

	1907	1908	1909	1910	1911	Mean	1912
*Twelve Notification Towns ...	1·19	1·25	1·44	1·20	1·50	**1·32**	1·17
City of Manchester	†0·78	†0·83	†0·98	†0·74	†0·71	**†0·81**	†0·71
Manchester Township.....	0·69	0·88	0·89	0·83	0·60	**0·78**	0·51
North Manchester	1·12	0·83	0·98	0·73	0·57	**0·85**	0·66
South Manchester	†0·60	†0·81	†1 03	†0·72	†0·82	**†0·80**	†0·79

* These are in Lancashire and Yorkshire. † Exclusive of Withington.

Table III.

Diphtheria, Memb. Croup, 1912.—Number of Attacks, of Deaths, and Case Fatality at Different Ages, for the Twenty-one Years 1891-1911, and for 1912.

Ages	1891-1911			1912		
	Attacks	Deaths	Case Fatality*	Attacks	Deaths	Case Fatality*
Under one year ...	254	171	67·3	11	7	63·6
1 to 2 years ...	802	430	53·6	23	12	52·1
2 to 3 „ ...	868	361	41·6	43	8	18·6
3 to 4 „ ...	1057	358	33·9	62	19	30·6
4 to 5 „ ...	1045	295	28·2	58	15	25·8
5 to 6 „ ...	891	231	25·9	65	15	23·1
6 to 7 „ ...	623	125	20·3	39	5	12·8
7 to 8 „ ...	486	83	17·1	45	4	8·9
8 to 9 „ ...	401	66	16·5	27	5	18·5
9 to 10 „ ...	315	44	14·0	14	2	14·3
10 to 15 „ ...	891	59	6·6	39	2	5·1
15 to 20 „ ...	458	25	5·5	20	...	...
20 to 25 „ ...	387	12	3·1	8	...	...
25 to 35 „ ...	534	18	3·4	17	...	...
35 to 45 „ ...	215	5	2·3	1	...	...
45 to 55 „ ...	99	7	7·1	2	1	50·0
55 to 65 „ ...				...	...	...
Over 65 „ ...				...	...	...
All ages	9326	2290	24·6	474	95	20·0

* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The case fatality at all ages since 1901 has been as follows :—

1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
—	—	—	—	—	—	—	—	—	—	—	—
28·8	29·4	21·9	20·7	22·4	21·1	20·4	21·8	17·9	19·9	16·5	20·0

From the following table we see that the apparent incidence of the disease was greatest in the districts of Openshaw, Clayton, and Bradford, whilst it visited most severely Gorton, Levenshulme, Ardwick, and Rusholme.

TABLE IV.

DIPHTHERIA AND MEMBRANOUS CROUP, 1912.—ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS		ATTACKS	Deaths	ATTACK RATE PER 1000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Manchester Township	Ancoats	20	6	0·49	30·0	90·0
	Central	15	4	0·67	26·7	73·3
	St. George's	23	9	0·44	39·2	78·2
North Manchester	Cheetham	27	1	0·63	3·7	59·3
	Crumpsall	4	2	0·39	50·0	75·0
	Blackley	8	1	0·57	12·5	25·0
	Harpurhey	11	1	0·64	9·1	54·5
	Moston	8	...	0·32	...	50·0
	Newton Heath	21	3	0·50	14·3	71·4
	Bradford	31	6	1·23	19·4	77·4
	Beswick	5	3	0·43	60·0	100·0
	Clayton	19	8	1·37	42·1	73·7
South Manchester	Ardwick	32	10	0·81	31·2	75·0
	Openshaw	47	9	1·51	19·2	61·7
	Gorton (West)	12	2	0·45	16·7	58·3
	Rusholme&Kirk.	32	8	0·78	25·0	46·9
	Chorlton-on-Med	27	4	0·49	14·8	70·4
	Hulme	45	9	0·71	20·0	71·1
	Moss Side	25	2	0·73	8·0	44·0
	Gorton	42	6	0·97	14·3	42·8
	Levenshulme	20	1	0·95	5·0	35·0
City of Manchester		**474**	**95**	**0·71**	**20·0**	**62·8**

† Corrected : the fatal cases are those actually occurring amongst the cases notified.

The figures given below show that in 1912 Manchester had a higher death-rate from Diphtheria than prevailed over England generally, but one equal to the rate for the 95 great towns.

TABLE V.

DIPHTHERIA, MEMB. CROUP MORTALITY, 1912.—RATE PER 1000 LIVING COMPARED WITH MEAN OF FIVE YEARS.

	1907	1908	1909	1910	1911	Mean	1912
England and Wales	0·16	0·15	0·14	0·12	0·13	**0·14**	0·11
95 Great Towns	0·17	0·16	0·15	0·12	0·15	**0·15**	0·13
London	0·16	0·15	0·13	0·09	0·14	**0·13**	0·10
Manchester City	*0·18	*0·20	*0·19	‡0·16	0·12	**0·17**	0·13
Manchester Township	0·21	0·23	0·19	0·18	0·15	**0·19**	0·17
North Manchester	0·19	0·16	0·15	0·12	0·07	**0·14**	0·12
South Manchester	*0·16	*0·21	*0·21	‡0·18	0·14	**0·18**	0·13
146 Smaller Towns	0·15	0·16	0·16	0·11	0·12	**0·14**	0·11
Rural Districts	0·15	0·15	0·14	0·12	0·11	**0·13**	0·10

* Exclusive of Moss Side and Withington.

‡ Exclusive of Moss Side, Withington, Gorton, and Levenshulme.

ENTERIC FEVER.

By Dr. Barbara Cunningham.

The number of cases of Enteric Fever which occurred in Manchester in 1912 was somewhat lower than that in 1911, and the death-rate was also slightly less.

The etiology has once more been carefully investigated, and the more closely the cases are studied the more important does the connection appear to be with the consumption of shell-fish. It seems reasonable to suppose that the eating of mussels is very probably the cause of a large proportion of the cases of Enteric in Manchester. A special report has been drawn up to bring out these facts, and will be found on pages 36–42.

Table I.

Incidence of and Death-rate from Enteric Fever in Manchester.

Number of notified cases, deaths, and death-rates per 1,000 *living from Enteric Fever in each of thirteen successive years.*

Year	1899	1900	1901	1902	1903	1904	1905
No. of cases notified	381	378	359	378	387	325	345
No. of deaths	73	75	75	66	93	66	55
Death-rate — Manchester	0·13	0·14	0·14	0·12	0·17	0·12	0·09
Death-rate — England and Wales..	0·20	0·17	0·16	0·13	0·10	0·09	0·09

Year	1906	1907	1908	1909	1910	1911	1912
No. of cases notified	384	265	393	369	358	256	242
No. of deaths	83	37	75	71	62	46	43
Death-rate — Manchester	0·14	0·06	0·11	0·13	0·09	0·07	0·06
Death-rate — England and Wales..	0·09	0·07	0·07	0·06	0·05	0·07	0·04

Table II.

Enteric Fever, 1912.—Number of Attacks in Districts, with Attack Rate, Case Fatality per cent., and Removals to Hospital per cent.

Districts	Attacks	Attack Rate per 1,000 living	Deaths	† Case Fatality per cent.	Removals to Hospital per cent.	Mean Attack Rate 1902-1911.
Ancoats	15	0·37	5	33·3	93·3	0·56
Central	2	0·09	...	...	100·0	0·56
St. George's	20	0·39	1	5·0	90·0	0·80
Cheetham	5	0·12	...	...	80·0	0·36
Crumpsall	2	0·19	...	...	50·0	0·68
Blackley	2	0·14	...	...	50·0	0·47
Harpurhey	2	0·12	2	100·0	50·0	0·55
Moston	8	0·32	1	12·5	87·5	0·27
Newton Heath	12	0·29	4	33·3	100·0	0·60
Bradford	15	0·59	3	20·0	86·6	0·75
Beswick	2	0·17	...	...	50·0	0·65
Clayton	8	0·58	4	50 0	50·0	0·57
Ardwick	12	0·30	3	25·0	100·0	0·60
Openshaw	29	0·93	6	20·7	62·0	0·66
Gorton (West)	19	0·71	4	21·1	78·9	0·86
Rusholme and Kirkman.	4	0·10	...	...	100·0	0·24
Chorlton-upon-Medlock	27	0·49	5	18·5	74·1	0·39
Hulme	40	0·63	3	7·5	67·5	0·65
Moss Side	3	0·09	...	...	66·7	...
Gorton	15	0·35	2	13·3	60·0	...
Levenshulme	...	...	...	...	...	...
City of Manchester	**242**	**0·36**	**43**	**17·8**	**76·4**	**0·57**

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

The incidence of the disease on different Sanitary Districts is shown in Table II. It will be seen that the disease was widely scattered, though it fell most heavily on Openshaw, West Gorton, Hulme, Bradford, and Clayton. The death-rates in the districts are noteworthy. In Harpurhey, where two cases occurred, both were fatal, and in both cases the patients were mussel eaters, and had eaten mussels during the incubation period.

In Ancoats, of the five deaths four occurred in mussel eaters. In Newton, all four fatal cases were in patients who had consumed mussels within three weeks of the onset. In Bradford, of the three fatal cases two were in mussel eaters, and in Clayton two of the four deaths were also probably due to infection from mussels.

Table III.

Enteric Fever.—Number of Attacks, of Deaths, and Case Fatality per cent. at Different Ages, for the Twenty-one Years 1891–1911, and for 1912.

Ages	1891-1911			1912		
	Attacks	Deaths	Case Fatality per cent.	Attacks	Deaths	
Under one year ...	16	6	37·5	1	1	...
1 to 2 years ...	52	8	15·4	...	...	...
2 to 3 ,, ...	107	16	15·0	1	...	...
3 to 4 ,, ...	153	21	13·7	...	...	...
4 to 5 ,, ...	202	20	9·9	5	2	...
5 to 6 ,, ...	238	27	11·3	3	...	...
6 to 7 ,, ...	235	24	10·2	3	...	...
7 to 8 ,, ...	216	20	9·3	5	...	...
8 to 9 ,, ...	236	20	8·5	4	...	...
9 to 10 ,, ...	221	22	10·0	6	...	...
10 to 15 ,, ...	1306	145	11·1	23	3	...
15 to 20 ,, ...	1429	263	18·7	17	2	...
20 to 25 ,, ...	1379	273	19·8	31	6	...
25 to 35 ,, ...	1904	454	23·9	76	15	...
35 to 45 ,, ...	895	275	30·7	41	8	...
45 to 55 ,, ...	590	210	35·6	19	5	...
55 to 65 ,, ...				4	1	...
Over 65 ,, ...				3	...	...
All ages	9179	1804	19·6	242	43	Total Case Fatality per cent. 17·8

Table III. shows the age incidence of Enteric Fever, and the fact that typhoid can occur at any age is once more emphasized.

The case tabulated under one year of age was that of an infant whose mother had Enteric Fever during the puerperium, and was infected from her.

In Table IV. the decrease in cases during the third quarter is worthy of note, and is possibly to be accounted for by the small number of flies prevailing throughout last summer.

The great diminution of cases in the end of May and throughout June, along with the increase from September onwards, may be due to the absence of mussels as an article of diet during the summer months.

Table IV.

Enteric Fever Attacks in weeks Reported in 1912, According to date of Onset.

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Jan. 6	1	Apl. 6	8	July 6	5	Oct. 5	7
,, 13	8	,, 13	9	,, 13	3	,, 12	6
,, 20	10	,, 20	8	,, 20	2	,, 19	7
,, 27	3	,, 27	7	,, 27	2	,, 26	8
Feb. 3	5	May 4	8	Aug. 3	3	Nov. 2	4
,, 10	7	,, 11	5	,, 10	3	,, 9	3
,, 17	2	,, 18	4	,, 17	3	,, 16	4
,, 24	3	,, 25	...	,, 24	1	,, 23	6
Mch. 2	4	June 1	1	,, 31	4	,, 30	3
,, 9	...	,, 8	2	Sept. 7	6	Dec. 7	6
,, 16	5	,, 15	1	,, 14	9	,, 14	3
,, 23	6	,, 22	4	,, 21	5	,, 21	8
,, 30	4	,, 29	1	,, 28	4	,, 28	11
Total...	58	Total...	58	Total...	50	Total...	76

City Total 242

From the following figures it will be seen that the incidence in 1912 was above that prevailing in the comparison towns.

Table V.

Enteric Fever Attacks, 1912.—Rates per 1,000 living, Compared with Mean of Five Years.

	1907	1908	1909	1910	1911	Mean	1912
Twelve Notification Towns ..	0·48	0·56	0·42	0·33	0·47	**0·45**	0·30
City of Manchester	*0·41	*0·60	*0·61	*0·53	*0·38	***0·51**	*0·36
Manchester Township	0·50	0·79	0·90	0·84	0·59	**0·72**	0·32
North Manchester..... .	0·32	0·44	0·47	0·39	0 31	**0·39**	0·28
South Manchester.....	*0·43	*0·61	*0·58	*0·51	*0·36	***0 50**	*0·42

* Excluding Withington.

The following figures show that though the death-rate is better than it was in 1911, the improvement is not so great as that holding over England and Wales generally.

Table VI.

Enteric Fever Mortality, 1912. Rate per 1,000 living, Compared with Mean of Five Years.

	1907	1908	1909	1910	1911	Mean	1912
England and Wales	0·07	0·07	0·06	0·05	0·07	**0·06**	0·04
London	0·04	0·05	0·03	0·04	0·03	**0·04**	0·03
Dublin	0·11	0·14	0·17	0·10	0·20	**0·14**	0·11
City of Manchester	†0·06	†0·12	†0·15	‡0·09	0·07	**0·10**	0·06
Manchester Township	0·09	0·15	0·22	0·14	0·15	**0·15**	0·04
North Manchester.....	0·05	0·07	0·11	0·05	0·05	**0·07**	0·08
South Manchester.....	†0·05	†0·13	†0·14	‡0·09	0·06	**0·09**	0·06

† Exclusive of Moss Side and Withington.

‡ Exclusive of Moss Side, Withington, Gorton, and Levenshulme.

Ascertained sources of infection.

The following figures show the percentage number of cases associated with ascertained sources of infection, and of untraced cases in each quarter of the year :—

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Direct infection	8·62	22·41	18·0	23·68	24·38
Shell-fish..	56·89	41·37	50·0	46·05	48·34
Untraced	34·48	36·2	32·0	30·26	27·27

242 cases of Enteric Fever were registered during 1912. In 108 instances mussel eating was probably the cause of infection, while 24 cases occurred through direct infection from these patients. In 5 of the cases raw oysters had been consumed during the period of incubation, while in 2 cockles and in other 2 periwinkles had been partaken of. In all 141 cases might directly or indirectly be connected with the eating of shell-fish.

In 41 instances no cause could be traced; 10 persons were directly infected from these cases.

In 7 cases mussel eating could not definitely be excluded.

In 6 cases cress had been freely partaken of, in 4 celery was habitually eaten, and from these cases 4 others became infected.

In 9 instances the patients were infected through contact with other cases, and in 2 this was possibly the mode of infection.

In 4 cases history of suspicious illness amongst relatives was elicited, and 1 secondary case occurred.

On 6 occasions the patients had noticed very foul smells from drains (or sewers in connection with their work), and 1 secondary case to one of these occurred.

In 1 case a history of frequent shrimp eating was obtained, while in another the patient (an infant) was seen sucking crab legs from the shop from which its parents purchased mussels.

One boy who became infected was fond of raw tomatoes, and procured them from a shop where shell-fish was sold.

Three fatal cases were in all probability due to some other disease, as the histories were unlike those of Enteric cases, and in none of the three was a positive Widal result obtained.

In some of the cases ice-cream had been eaten, but no definite relation to the disease could be elicited.

In 117 cases (48·34 per cent.) a history of consumption of shell-fish within three weeks of the onset of the disease was obtained.

In none of the cases could any other possible cause be detected.

In 108 instances mussels had been eaten, in 5 oysters, in 2 cockles, and in other 2 periwinkles.

In 24 cases the infection was direct from one of the 108 cases in which mussels had been eaten; thus 132 cases were associated with mussel-eating.

Of the 108 instances, the mussels were eaten raw in 37, steamed in 52, both raw and steamed in 12, and the condition in which the mussels were eaten was not ascertained in 8 cases.

In all 5 "oyster cases" the oysters were raw.

During the past 11 years the percentage of cases in which shell-fish were consumed during three weeks prior to onset was as follows:—

1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
11	12	13	10	25	31	25	21	13	19	17	48

The distribution of cases, according to sex and age, in 1912 was:—

Age	0–9	10–	20–	30–	40–	50+	Total
Male	3	9	26	23	8	3	72
Female	3	5	9	15	4	..	36
Total	6	14	35	38	12	3	108

The proportion of males to females is 2 to 1. This may be due in part to the fact that males partake more freely of mussels than females, but it is also probably due in part to the fact that women mussel-eaters more frequently eat mussels cooked in their own homes, and less frequently eat them in the shell-fish shops.

Typhoid Carrier.

One case of Enteric Fever was infected through Mrs. X, the Typhoid carrier whose history has previously been reported.

The patient was a male lodger at the house of Mrs. X, and no other source of infection could be traced to account for his illness.

Samples of urine and fæces obtained from Mrs. X showed large numbers of Typhoid bacilli; the notice of the Hospitals Sub-Committee was drawn to the fact, and they agreed to have the carrier treated with a vaccine. She was admitted to Monsall Fever Hospital, where she remained from February 8th until April 26th, and was treated with gradually-increasing doses of a vaccine prepared at the Public Health Laboratory, York Place. When discharged, Dr. Fletcher reported that on three separate occasions samples of urine and fæces were negative as regards the Typhoid bacillus.

For one week after discharge the organisms did not reappear, but during the second week a few colonies were grown, and in the third and fourth weeks the numbers increased, and shortly thereafter a male lodger was infected and developed Enteric Fever. This patient, a male of 64, had been a resident in the house of Mrs. X for over a year, and had hitherto escaped infection.

The Committee, in considering the case, decided to allow Mrs. X a sum of money sufficient to keep her, along with the 5s. weekly granted her as the old age pension. She will, therefore, it is hoped, cease to be a source of danger, as she will not now require to keep lodgers in order to make a living.

Public Health Office,
Manchester,
June, 1913.

REPORT MADE BY DR. BARBARA M. CUNNINGHAM ON

ENTERIC FEVER AND MUSSELS,

FOR THE YEAR 1912.

The cases of Enteric Fever which occurred in Manchester during 1912 have been investigated with special relation to the diet of patients during the month prior to the onset of illness. The same Inspector visited each case, and in many instances more than one visit was paid either by the Inspector or the writer of this Report. The history of shell-fish eating was gone into, and all articles of diet were noted, in order that any possible connection between the Enteric cases and food stuffs might be brought out. The habits of the patients were noted, also the possible contact with companions or relatives suffering from illness of any description.

The object of having all cases investigated by the same person was to make the reports comparable, and although it may be argued that this procedure might lead to a possible error from over eagerness to elicit certain facts desired, it seems reasonable to believe that any such error is more than outweighed by the advantage of having comparable reports. Further, in many instances the information given to the Inspector was repeated without variation to the writer.

The suspected causes have been set out in the tables given, and the cases suspected to have been mussel-infected are those in which mussels were eaten without doubt during three weeks prior to the onset of illness.

In some cases, although patients were mussel eaters, no definite statement could be made as to the certainty that mussels had been consumed during the incubation period. They have, therefore, been excluded from the "mussel cases."

When possible, companions who had eaten mussels with enteric patients were visited, and corroboration of dates and statements was obtained. Owing to the mental dullness of many of the patients during their illness, secondary visits had to be paid, and, in this way, information was lost in some instances, and in others was unreliable.

The following 108 cases have been tabulated to show the relation of the onset of Enteric to the eating of mussels; also the condition in which the shell-fish was consumed. Any special circumstances considered noteworthy have been entered.

(*Details of cases omitted.*)

Reasons for suspecting Mussels of being the possible Source of Infection.

Mussels are known to have from time to time caused infection.

Mussels were eaten during the three weeks prior to the onset of Enteric in each of the 108 cases.

On no occasion were the mussels cooked sufficiently to kill organisms in their interior.

On investigation of the cases no other common factor could be found.

In several instances more than one person was affected who had eaten mussels from the same shop, or the same wholesale supplier, on the same date.

Of the 108 primary mussel cases, 68 occurred in persons who ate mussels habitually. The exact date of infection is, therefore, not certain. In many instances mussels had been eaten once or twice weekly up to and even after the onset of illness.

37 patients ate mussels raw, and 9 of these died (24·32 per cent.).

52 patients ate steamed mussels, and 13 of these cases proved fatal (25 per cent.).

In 12 instances both steamed and raw mussels were eaten. No deaths occurred amongst them.

In 8 cases the condition of the shell-fish was not ascertained; 3 of the cases were fatal (37·5 per cent.).

It is difficult to know what proportion of the so-called "steamed mussels" were practically raw, though it is doubtful whether any of them were sterilised in the interior. The process is a very arbitrary one; the mussels being thrown

into a pan over a fire, and removed when the shells open. As, in many cases, the mussels are not very fresh, the shells open almost immediately. At best, the time required is insufficient to "cook" the shell-fish throughout.

The proportion of males to females possibly infected from mussels was about 2 to 1. It is worth noting that, although this may be due in part to the fact that men eat this shell-fish more frequently than women, it may also be influenced by the fact that it is more common for women who eat mussels to take them to their homes and "steam" them there, and in this way the fish are possibly more efficiently cooked. This would require to be more carefully worked out, but from the enquiries made there appears to be no doubt that the men frequent "mussel-bars" more freely than women, and that they partake less frequently of mussels at home than do women.

In investigating the cases, several interesting facts were brought out in connection with mussel eating.

In 45 of the cases Saturday evening was the time when mussels were partaken of, partly because on Saturday money was more plentiful; but also because drink had been indulged in, the mussels being eaten after the closing of the public-houses.

The importance of this fact may be due to one or more of the following conditions:—

A. Stale mussels are detected less easily when drink has been indulged in to excess.

B. Larger numbers of mussels are consumed when persons are semi or totally intoxicated.

C. Steaming, if done, is less complete, partly because mussels, if less fresh, open more readily, and partly because customers are so numerous that time is insufficient to allow of thorough steaming.

In 36 of the 108 cases the patients were beer drinkers to excess. In 9 of these the cases were fatal (25 per cent.).

Apart from the condition of the mussels eaten when the consumers are intoxicated, it is probable that beer drinking has an influence on infection with Enteric Fever.

Whatever the explanation is, the fact that 33·33 per cent. of the "mussel cases" occurred in persons who drank to excess is noteworthy, as the proportion is a large one.

In 42 instances companions ate mussels along with the patients, and in 13 cases these companions had symptoms of illness either immediately after eating the shell-fish or within a few days.

In 36 cases the companions who ate mussels along with patients were unaffected; in 8 instances the patients were known to have eaten mussels at other times alone; in 4 cases the patients ate raw mussels, the companions steamed ones only; and in 8 instances the patients ate much larger quantities than their companions. In the remaining 16 no reason was found influencing the non-infection of companions. Of 13 instances where companions who ate mussels were also ill, 2 of the companions contracted Enteric Fever also, while 2 others were ill for a few days, but their blood gave negative reactions to the Widal test. In 6 cases the companions vomited either on the same day or the day following the consumption of the mussels.

In 2 cases there was indefinite illness for 2 or 3 days, and in 2 other instances illnesses very similar to Enteric Fever supervened, in one of which the blood gave a negative Widal reaction. In the other no test was made.

It is quite possible that some of the illnesses of these companions would come under the head of "musselling," due to the mytilotoxin said to be formed by mussels; but some cases of sickness and pain which occurred were more of the nature of bacterial poisoning, such as occurs from other foodstuffs through a bacillus of the Gaertner type. The onset and symptoms in some of the cases greatly resembled that type of case associated with pork poisoning, and the persons who were affected had not noted any bad taste in the mussels eaten. In some of the enteric cases themselves the patients had symptoms of illness on the day of eating mussels, which passed off more or less, to be followed by the onset of Enteric Fever at a later date.

(*See sheets* 79, 44, 106, 115, 168, 194, *and* 236.)

The history of the remaining cases to the number of 134 is also given in detail, arranged so as to show association with the consumption of other foodstuffs, and also with any other source of risk.

(*Not reproduced here.*)

Seasonal Incidence.

The cases tabulated under "mussel eaters," when charted to show the weekly incidence, form a most interesting curve, and it would appear reasonable to suggest once more that the "Enteric curve" depends to a large extent on the mussel-infected cases. It will be noted that during the months of May, June, July, and August, practically no cases occurred during the "mussel close season," but that in the end of September and the beginning of October the "mussel cases" rose markedly in numbers. The chart showing the weekly incidence of primary cases unassociated with mussels has no definite curve. As the year was cold and damp, no "Fly curve" is observed. There is a rise unaccounted for in the cases occurring from the 22nd to the 34th week at the time when "mussel cases" did not occur.

The fact has not been lost sight of that, given an Enteric curve independent of mussel eating, there would necessarily be a rise outside the close season in a curve exhibiting cases associated with the consumption of shell-fish; but, in the opinion of the writer, this circumstance does not at all account for the actual changes in the mussel-eating curve of Enteric cases.

(*Curve not inserted.*)

The fact that a few "mussel cases" occurred (between May and September) does not vitiate the connection between mussel eating and Enteric infection, because during the "close season" mussels are obtained from beds further afield, and are to be seen exposed for sale in the shops. The number of persons eating them during these months is very small, and this will probably account for the small number of cases which occurred.

Mortality.

The death-rate among the cases connected with mussel eating is high, as has been noted in former reports.

Of 108 "primary mussel cases," 25 proved fatal—*i.e.*, 23·14 per cent.; of 94 "primary non-mussel cases," 14 proved fatal—*i.e.*, 14·89 per cent. As noted under the remarks upon raw and steamed mussels, the deaths from raw mussels worked out at 24·30 per cent., and those from steamed at 25 per cent.

The high death-rate of the mussel cases may be attributable to several cases. As noted, a large proportion of the cases occurred in persons who drank beer to excess. It is possible that the numbers of bacilli ingested was large, as the quantity of mussels eaten in many instances was considerable; and many of the cases occurred amongst the very poor.

Source of Mussels.

Eighteen shops were implicated in the cases of Enteric, which have been tabulated as possible mussel cases.

One shop, with 3 or 4 branches, noted as A 1, 2, and 3, accounted for 33 cases; in 9 instances mussels were known to have been obtained from hawkers; in 5 they were bought at market stalls, but the patient could not remember the exact stall. In 13 cases the place of purchase could not be ascertained.

Although the number of shops is large, only 7 wholesale suppliers were involved. From I., 33 cases were traced (at shops A 1, 2, and 3); from II., 14 cases; and from III., 22 cases. These 3 dealers were responsible for 69 of the total 108 primary mussel cases.

The exact mussel beds from which the mussels were procured cannot be stated, as information was withheld by the dealers.

Several samples of mussels were examined during the year, and in most the bacillus coli communis was isolated in $\frac{1}{1000}$th part of a mussel.

The connection of infection from the eating of mussels obtained from a special shop on a certain date with an individual case would be impossible to prove as the symptoms of Enteric are not immediate in onset.

This Report has been drawn up with the object of showing the reasons for connecting certain cases with the eating of mussels more from the clinical, than the bacteriological, standpoint.

In connection with the sale of mussels some interesting facts have been noted. In the shops where mussels are sold in Manchester, almost without exception, shell-fish alone are exposed for sale. The mussels, received from the wholesale dealers in canvas bags, are emptied out on the window slab, and arranged in tiers sloping down towards the window—oysters, mussels, crabs, shrimps, etc., are laid in piles side by side. In order to keep the shell-fish fresh, from time to time they are sprinkled with water from a can provided with a "rose." As will be seen, whatever is washed from the shells of the upper tier must flow down through the lower tiers to the window, so that if infection is present in a few of the upper mussels, all that are in that particular pile become liable to infection. This may explain why such a large number of "mussel cases" occurs; it need not mean primary "infection" of all the mussels, but very probably will result in widespread infection of the mussels in the shop.

Five cases were possibly connected with the consumption of raw oysters; the oysters were eaten from shops, stalls, or hawkers, who also sold mussels. The custom for these vendors is to handle the varieties of shell-fish indiscriminately, with, at most, a superficial "cleansing" of their hands by wiping them on their aprons; further, the same knife is used to open mussels and oysters. In all the instances given the oysters were consumed raw. A definite possibility thus exists of the oysters having been infected from mussels, either directly through the knife or less directly by the hands of the salesman.

In connection with the cases tabulated as "cress eaters," it is worth noting that hawkers who sell watercress also hawk shell-fish as a rule.

One case is noted where a boy frequently ate raw tomatoes which he obtained from the shop where his father's mussels were purchased. There is no proof of infection of cress, or tomatoes, from mussels, but it seems reasonable to regard the connection as possible.

Four cases are tabulated as occurring in "celery eaters," for the reasons that celery is frequently manured with human manure, and that the celery hawked from door to door is cheap and its source is difficult to ascertain. In the remaining cases any suspicious circumstances are noted, also any "cause" to which the patient referred, such as "foul smells," etc., but no association sufficiently general for the construction of a statistical table was elicited.

Exception has been taken to the association of Enteric Fever with articles of food where no bacteriological proof has been produced to incriminate the foodstuff in each case. That this is a flaw cannot be denied; but at the same time bacteriological proof would be practically impossible in each case, as the mussels implicated would require to be examined on the day of eating. It has been proved, however, that mussels can convey infection, also that they are very liable to sewage contamination; it seems reasonable, therefore, to suppose that infection from mussels occurs very frequently. The more closely the histories of Enteric Fever cases in Manchester are enquired into, the closer does the connection with the consumption of shell-fish appear to be. In Manchester mussel eating is indulged in by large numbers of people, and a livelihood is made by a great many persons from the sale of these shell-fish; it is natural, therefore, that they will resent "interference" with their trade. But if these fish are as great a source of danger as they seem to be, some means of preventing the infection should be adopted.

If the sale of uncooked mussels could be prevented, and all mussels were efficiently cooked before sale, the Enteric incidence should be greatly diminished if mussels are the important source of infection.

The provision of cooking utensils, etc., would cost money; there would also be increased expense through an increase of staff to cook the mussels; but if the experiment succeeded and the numbers of Enteric cases was appreciably diminished (as it is reasonable to suppose it would) the expense would be more than justified, as Enteric Fever is still a formidable disease amongst the young adults of Manchester.

The importance of careful investigation of cases need not be further emphasized, but the provision of a special investigator is urgently needed to get full and careful histories, and to be able to trace connecting links and follow them up.

I am greatly indebted to Mr. Hewitt, who has obtained most of the information on which this Report is based, for his painstaking and accurate enquiries.

The following table summarises the work done by the Public Health Laboratory for the Public Health Department during the year 1912.

Bacteriological Examinations made for the County Borough of Manchester during the Year 1912, Public Health Laboratory, University of Manchester.

Month	Diphtheria			Typhoid			Tuberculosis						Other Investigations
							Sputum			Milk			
	+	—	Total	+	—	Total	+	—	Total	+	—	Total	
January.. ..	39	117	156	13	39	52	54	140	194	8	50	58	L.B. 5,129, urine for tubercle
February ..	26	91	117	14	50	64	72	140	212	5	50	55	
March	22	104	126	15	60	75	85	171	256	7	69	76	
April	16	67	83	26	56	82	73	126	199	6	40	46	L.B. 5,257, pus from brain; 5,258, section of lung
May	15	62	77	29	48	77	84	143	227	15	45	60	L.B. 5,272, fæces; 5,303, water (3)
June	14	115	129	4	34	38	88	146	234	10	47	57	L.B. 5,398-9, brawn food poisoning
July	13	73	86	11	32	43	105	125	230	10	35	45	L.B. 5,436, fæces
August	18	96	114	10	45	55	94	140	234	8	46	54	L.B. 5,497, C.-spinal fluid; 5,473, organs plague; 5,479, 5,501, 5,502, fæces; 5,486, 5,494, 5,503, 5,005, 5,511, ice cream
September ..	12	78	90	11	45	56	74	99	173	11	46	57	L.B. 5,537, milk; 5,514, fæces; 5,512, 5,517, 5,541, ice cream; 5,519, 5,520, 5,524, mussels; 5,537, milk; 5,534, urine
October.. ..	30	59	89	26	59	85	106	153	259	4	60	64	L.B. 5,547, 5,570, urine; 5,583, 5,603, 5,572-5,610, food poisoning (45 samples)
November ..	34	161	195	24	63	87	126	298	424	15	50	65	L.B. 5,635, pleural fluid
December ..	11	83	94	22	48	70	94	189	283	6	37	43	L.B. 5,713, water; 5,670, 5,675, mussels; 5,705, herring; 5,700, C.-spinal fluid
Total ..	250	1,106	1,356	205	579	784	1,055	1,870	2,925	105	575	680	

OUTBREAK OF FOOD INFECTION.

During October an outbreak of food infection occurred in the district of Openshaw.

A special report was prepared by Dr. McClure, and laid before the Sanitary Committee at the time, and it is here only necessary to summarise briefly the results of the investigation.

On October 14th, information was received at the Public Health Office that a number of cases of food poisoning had occurred in the practice of several medical men. Further inquiries revealed the fact that 163 persons were affected, in 3 of whom the illness terminated fatally.

The outbreak was traced to the consumption of food purchased from one shop.

As far as could be ascertained by house-to-house inquiry, 401 persons ate meat bought from this shop on October 11th or 12th, and 163, or about 41 per cent., were subsequently taken ill.

Altogether 313 lbs. of meat were accounted for, of which amount 51 lbs., or about 16 per cent., caused illness.

The meat concerned was pig's belly, pig's cheek, pig's feet, and other portions of pig.

The belly, cheek, and feet were in each case obtained by the retailer from different sources.

The evidence pointed to pig's belly as the original source of infection.

There were many defects in the shop structure, and there was sufficient in the method of preparation of the various materials to explain how transference of infection could have occurred.

The evidence forthcoming was not sufficient to show how the original infection was brought about.

No history of illness was obtained among the workers in the shop, and specimens of blood and fæces from these persons gave negative results.

Bacteriological examination of specimens of blood, fæces, and urine from affected persons, and of post-mortem material from the fatal cases, was carried out by Professor Delépine and Dr. Sellers.

It was shown conclusively that the outbreak was not one of ptomaine poisoning, but was due to infection caused by a bacillus of the Gaertner group.

The illness was contagious.

The retailer's premises were visited by the Medical Officer of Health, and specifications were made for necessary alterations and improvements.

The alterations have been carried out, but the shop-keeper has left these premises.

MEASLES.

Notwithstanding the possession by Manchester of special powers for restricting the spread of Measles and Whooping Cough, it will be seen from the following figures that the mortality was excessive from both during 1912.

TABLE 1.

A comparison of the mortality due to Measles with that caused by other zymotic diseases, and by Phthisis, is given in the following figures:—

No. of Deaths from	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
Measles	293	222	505	567	628	271	699	254	292	242
Scarlet Fever	140	116	173	198	124	65	46	105	127	146
Diphtheria	122	102	72	54	29	41	71	76	133	123
Enteric Fever	127	91	95	118	95	120	73	75	75	66
Smallpox	49	21	2	0	0	0	0	0	0	0
Whooping Cough	240	286	250	359	299	170	227	371	224	242
Diarrhœa, &c.	956	375	904	572	964	1090	1121	822	1019	296
Phthisis	1060	1026	1139	1078	1139	1056	1117	1135	1144	1145

No. of Deaths	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Measles	345	425	231	475	229	366	396	291	337	490
Scarlet Fever	97	85	78	108	102	92	164	74	45	51
Diphtheria	136	99	127	119	106	123	113	101	88	97
Enteric Fever	93	66	55	83	37	75	88	61	51	47
Smallpox	24	9	0	0	0	0	0	0	0	1
Whooping Cough	213	280	195	193	314	220	129	397	140	298
Diarrhœa, &c.	507	761	729	981	291	591	268	351	1149	272
Phthisis	1025	1106	988	1089	1092	1088	1115	1070	1116	1107

Table 2 shows the distribution of deaths in ages. The highest intensity of fatality is in the second half of the first year, and in the second year.

TABLE 2.

DEATHS FROM MEASLES IN THE CITY OF MANCHESTER.

Years	Under One Year			Years of Age				Total 5 Years and upwards
	Under 3 Months	3-5 Months	6-11 Months	-1	-2	-3	-4	
1899–1908	16	57	742	1470	599	338	168	168
1909	2	6	78	164	58	37	16	35
1910	2	2	76	118	39	21	15	18
1911	1	7	73	152	47	30	16	11
1912	4	8	99	163	88	58	38	32

Table 3 shows the distribution of deaths from Measles in quarters of the year. It will be observed that the inclemency of the summer could have had little or nothing to do with the high mortality experienced.

TABLE 3.

YEAR	1st Quarter	2nd	3rd	4th
1902	67	68	60	47
1903	158	104	54	29
1904	100	189	83	53
1905	41	99	77	13
1906	60	266	118	32
1907	51	73	50	55
1908.....	116	78	71	101
1909	155	164	45	32
1910	32	118	71	70
1911.....	48	197	61	31
1912.....	214	211	28	37

The following table shows that the death-rate from Measles was considerably higher than that prevailing throughout the country and the other great towns.

TABLE 4.—1912.—MEASLES MORTALITY.—RATE PER 1000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1907	1908	1909	1910	1911	Mean	1912
England and Wales	0·36	0·22	0·35	0·23	0·36	**0·30**	0·35
95 Great Towns.....	0·43	0·31	0·48	0·31	0·47	**0·40**	0·47
London	0·38	0·31	0·48	0·41	0·57	**0·43**	0·40
City of Manchester...	0·39†	0·60†	0·67	0·40‡	0·47	**0·51**	0·68
Manchester Township ...	0·48	0·70	0·93	0·62	1·05	**0·76**	0·85
North Manchester	0·34	0·54	0·46	0·32	0·46	**0·40**	0·59
South Manchester	0·38†	0·59†	0·72	0·49‡	0·31	**0· 0**	0·67
146 Smaller Towns	0·41	0·20	0·33	0·16	0·41	**0·30**	0·35
Rural Districts	0·25	0·13	0·21	0·15	0·22	**0·19**	0·20

† Exclusive of Moss Side and Withington. ‡ Exclusive of Moss Side, Gorton, Withington, and Levenshulme.

The manner in which the disease was distributed is shown in the following table, which shows that the disease prevailed with excessive severity throughout the Manchester Township, this severity of incidence extending on the one side to Harpurhey, on the other to Beswick, Ardwick, Openshaw, and West Gorton. A severe incidence also fell on the district of Hulme.

TABLE 5.—1912.—DEATHS AND DEATH-RATES FROM MEASLES IN THE VARIOUS DIVISIONS OF THE CITY.

Statistical Divisions		Estimated Population	Deaths	Death-rate	Average Death-rate 1902-1911
City of Manchester		**724,168**	**490**	**0·68**	**0·53**
I. Manchester Township ...		114,784	97	0·85	0·73
II. North Manchester.....		201,689	118	0·59	0·46
III. South Manchester.....		407,695	275	0·67	0·48
I.	Ancoats	40,718	33	0·81	0·95
	Central	22,308	17	0·76	0·68
	St. George's	51,758	47	0·91	0·71
II.	Cheetham	43,027	16	0·37	0·23
	Crumpsall	10,292	3	0·29	0·40
	Blackley.....	14,002	8	0·57	0·36
	Harpurhey	17,167	25	1·46	0·47
	Moston	24,703	15	0·61	0·30
	Newton Heath	41,755	18	0·43	0·55
	Bradford	25,288	17	0·67	0·74
	Beswick	11,625	14	1·20	0·81
	Clayton	13,830	2	0·14	0·44
III.	Ardwick	39,709	31	0·78	0·52
	Openshaw	31,155	23	0·74	0·72
	Gorton (West)	26,913	30	1·11	0·52
	Rusholme and Kirk.....	41,131	8	0·19	0·26
	Chorlton-upon-Medlock..	54,599	28	0·51	0·41
	Hulme	63,177	112	1·77	0·77
	Moss Side	34,329	5	0·15	0·12
	Withington	52,424	8	0·15	0·10
	Gorton	43,193	26	0·60	...
	Levenshulme.....	21,065	4	0·19	...

WHOOPING COUGH.

The distribution of the death-rates from this disease is seen in the following tables. The highest death-rate is in Hulme, then Ancoats, Newton, Chorlton-upon-Medlock, and St. George's. The death-rate for 1912 was above that of the country generally, of the great towns, and of London.

Table 6.

1912.—Whooping Cough Mortality.—Rate per 1000 living, compared with mean of five years.

	1907	1908	1909	1910	1911	Mean	1912
England and Wales	0·29	0·27	0·20	0·24	0·21	**0·24**	0·23
95 Great Towns.....	0·35	0·29	0·24	0·29	0·24	**0·28**	0·26
London	0·38	0·20	0·26	0·28	0·23	**0·37**	0·22
City of Manchester ...	0·52†	0·35†	0·21	0·61‡	0·20	**0·38**	0·41
Manchester Township ...	0·51	0·31	0·15	0·88	0·33	**0·44**	0·55
North Manchester.....	0·35	0·26	0·15	0·47	0·18	**0·28**	0·36
South Manchester	0·67†	0·43†	0·28	0·59‡	0·16	**0·43**	0·40
146 Smaller Towns	0·29	0·25	0·17	0·24	0·18	**0·23**	0·24
Rural Districts	0·21	0·25	0·16	0·17	0·19	**0·20**	0·17

† Exclusive of Moss Side and Withington.

‡ Exclusive of Moss Side, Withington, Gorton, and Levenshulme.

The following table shows the death-rate for each of the Sanitary Divisions and Districts:—

TABLE 7.—1912.—DEATHS AND DEATH-RATES FROM WHOOPING COUGH IN THE VARIOUS DIVISIONS OF THE CITY.

Statistical Divisions		Estimated Population	Deaths	Death-rates	Average Death-rates, 1902-1911.
City of Manchester		**724,168**	**298**	**0·41**	**0·37**
I.	Manchester Township	114,784	63	0·55	0·43
II.	North Manchester	201,689	73	0·36	0·32
III.	South Manchester	407,695	162	0·40	0·37
I.	Ancoats	40,718	32	0·79	0·47
	Central	22,308	...	...	0·40
	St. George's	51,758	31	0·60	0·42
II.	Cheetham	43,027	10	0·23	0·20
	Crumpsall	10,292	2	0·19	0·23
	Blackley	14,002	5	0·36	0·22
	Harpurhey	17,167	6	0·35	0 36
	Moston	24,703	8	0·32	0·28
	Newton Heath	41,755	29	0·69	0·43
	Bradford	25,288	5	0·20	0·50
	Beswick	11,625	1	0·09	0·27
	Clayton	13,830	7	0·51	0·30
III.	Ardwick	39,709	8	0·20	0·51
	Openshaw	31,155	9	0·29	0·52
	Gorton (West)	26,913	12	0·45	0·45
	Rusholme and Kirk.	41,131	4	0·10	0·24
	Chorlton-upon-Medlock	54,599	34	0·62	0·29
	Hulme	63,177	60	0·95	0·48
	Moss Side	34,329	5	0·15	0·19
	Withington	52,424	8	0·15	0·12
	Gorton	43,193	19	0·44	...
	Levenshulme	21,065	3	0·14	...

SUMMER DIARRHŒA.

TABLE 1.—1912.—DIARRHŒA AND SIMPLE CHOLERA MORTALITY.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1907	1908	1909	1910	1911*	Mean	1912*
England and Wales	0·29	0·50	0·28	0·29	1·06	**0·28**	8·53
95 Great Towns	0·40	0·65	0·38	0·38	1·31	**0·62**	10·91
London	0·32	0·53	0·33	0·28	1·18	**0·53**	12·42
City of Manchester.....	0·45	0·90	0·41	0·49	1·60	**0·77**	0·38
Manchester Township	0·77	1·58	0·82	0·94	3·03	**1·43**	0·84
North Manchester.....	0·40	0·67	0·35	0·38	1·45	**0·65**	0·31
South Manchester	0·36	0·77	0·30	0·41	1·27	**0·62**	0·28
146 Smaller Towns	0·29	0·52	0·27	0·26	1·14	**0·50**	8·01
Rural Districts	0·18	0·33	0·17	0·20	0·77	**0·33**	5·52

* The death-rates, other than for Manchester, are per 1,000 births for children under two years of age. The rate for children under two years in Manchester for 1912 was 14·18.

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures:—

TABLE 2.—DIARRHŒA AND SIMPLE CHOLERA DEATHS IN QUARTERS, 1902–1912.

	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Mean	1912
First Quarter.....	33	48	34	23	32	14	29	19	30	44	**31**	49
Second Quarter..	33	49	38	31	37	18	29	35	29	50	**35**	40
Third Quarter.....	120	303	626	615	780	72	423	171	236	958	**430**	102
Fourth Quarter...	110	107	63	60	132	187	110	43	56	97	**97**	81
	296	507	761	729	981	291	591	268	351	1149	**593**	272

From Table 2 it will be seen that though the usual seasonal prevalence of diarrhœa was present, it was but faintly marked.

An explanation is given in the following table, which shows that the summer was cold, rainy, and humid :—

TABLE 3.

Third Quarter of the years	Mean Temperature	Rainfall, Inches	Humidity, per cent.	Diarrhœa and Simple Cholera Mortality. Annual Rate (third quarter) per 1,000 living
1891	58°·2	12·8	79 %	1·57
1892	57°·0	12·5	78 %	2·07
1893	60°·4	10·7	74 %	4·95
1894	57°·8	9·0	78 %	1·55
1895	60°·4	11·2	77 %	4·17
1896	58°·5	9·7	76 %	2·93
1897	58°·9	9·7	73 %	6·01
1898	60°·1	6·1	74 %	6·00
1899	60°·8	7·7	75 %	6·96
1900	60°·3	9·6	78 %	4·14
1901	61°·9	6·5	74 %	6·33
1902	57°·6	5·9	78 %	0·88
1903	57°·8	12·3	77 %	2·19
1904	60°·2	6·9	73 %	4·48
1905	58°·9	9·4	76 %	3·89
1906	60°·8	6·2	75 %	4·91
1907	58°·5	7·8	77 %	0·45
1908	59°·2	10·7	78 %	2·61
1909	57°·8	10·4	79 %	1.04
1910	58°·1	9·1	79 %	1·32
1911	63°·0	6·7	69 %	5·48
Mean	**59°·3**	**9·0**	**76 %**	**3 46**
1912	56°·9	12·3	79 %	0·56

The distribution ot the disease, in weeks, is shown in the following table:—

1912—TABLE 4.

DEATHS FROM DIARRHŒAL DISEASES IN MANCHESTER IN THE WEEKS ENDING ON THE DATES GIVEN BELOW.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Jan. 6	7	April 6	3	July 6	2	Oct. 5	5
,, 13	2	,, 13	1	,, 13	1	,, 12	9
,, 20	4	,, 20	...	,, 20	11	,, 19	4
,, 27	2	,, 27	1	,, 27	11	,, 26	9
Feb. 3	4	May 4	2	Aug. 3	13	Nov. 2	8
,, 10	3	,, 11	4	,, 10	10	,, 9	8
,, 17	8	,, 18	4	,, 17	13	,, 16	5
,, 24	6	,, 25	2	,, 24	7	,, 23	6
Mar. 2	4	June 1	4	,, 31	13	,, 30	6
,, 9	2	,, 8	4	Sept. 7	6	Dec. 7	5
,, 16	1	,, 15	4	,, 14	7	,, 14	5
,, 23	4	,, 22	7	,, 21	4	,, 21	5
,, 30	2	,, 29	4	,, 28	4	,, 28	6
Total...	49	Total...	40	Total ...	102	Total ...	81

City Total 272

The distribution of the death-rate from Diarrhœa in districts is given in the following table. The districts which suffered most were Ancoats, St. George's, Hulme, Central, Gorton, Clayton, Harpurhey, and Newton.

TABLE 5.—1912.—DEATHS AND DEATH-RATES FROM DIARRHŒAL DISEASES IN THE VARIOUS DIVISIONS OF THE CITY, WITH DEATH-RATES UNDER ONE YEAR PER 1,000 BIRTHS FOR 1912, AND AVERAGE FOR PREVIOUS 10 YEARS.

	1912			Death-rates under one year per 1,000 Births											
	Estimated Population	Total Deaths	Death-rates	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Average 10 years 1902 to 1911	1912
City of Manchester ..	**724,168**	**272**	**0·38**	**13·0**	**22·1**	**34·1**	**30·8**	**39·8**	**12·2**	**24·0**	**11·1**	**12·6**	**45·0**	**24·5**	**11·0**
I Manchester Township.	114,784	96	0·84	16·6	31·3	40·9	47·7	58·5	18·0	37·8	18·9	20·7	68·2	35·9	20·1
II. Northern Districts ...	201,689	63	0·31	10·7	15·0	30·1	31·3	30·8	10·3	17·8	9·9	10·2	41·3	17·7	9·2
III. Southern Districts....	407,695	113	0·28	12·4	22·0	33·0	22·5	36·7	10·7	21·5	8·3	11·0	38·5	21·7	8·6
I. Ancoats	40,718	37	0·91	17·1	30·2	35·4	50·9	54·9	21·0	40·8	17·9	15·6	76·4	36·0	22·2
I. Central	22,308	12	0·54	15·0	48·5	51·0	52·4	54·9	19·1	41·3	13·8	26·8	64·6	38·7	13·2
I. St. George's	51,758	47	0·91	16·9	25·5	41·1	43·3	62·8	15·3	34·3	21·6	22·9	62·8	34·7	20·6
II. Cheetham	43,027	12	0·28	9·4	10·1	10·7	18·8	19·6	7·5	10·9	6·9	4·6	19·2	11·8	9·5
II. Crumpsall	10,292	1	0·10	14·9	9·8	15·2	23·9	20·7	..	9·3	..	4·5	24·6	12·3	..
II. Blackley	14,002	..	..	4·0	12·1	23·5	3·8	3·5	3·7	6·9	3·5	3·1	39·6	10·4	..
II. Harpurhey	17,167	7	0·41	1·8	15·9	13·1	21·7	40·1	13·7	11·7	16·5	6·3	15·4	15·6	14·8
II. Moston	24,703	7	0·28	11·7	8·8	25·5	8·4	13·2	2·0	1·9	5·0	4·9	30·8	11·2	6·3
II. Newton Heath	41,755	17	0·41	12·3	15·6	31·4	43·3	36·0	16·8	22·0	13·3	7·3	45·5	24·4	13·2
II. Bradford	25,288	9	0·36	13·2	26·9	52·5	47·7	53·6	8·7	34·6	12·2	22·2	68·9	34·1	7·7
II. Beswick.....	11,625	4	0·34	20·6	8·4	60·8	43·2	23·0	19·0	37·6	20·2	23·9	75·3	33·2	9·7
II. Clayton	13,830	6	0·43	6·2	20·2	38·4	40·1	41·2	7·8	9·8	2·4	17·0	52·9	23·6	10·4
III. Ardwick	39,709	9	0·23	11·5	20·0	38·5	28·7	42·8	12·8	29·0	13·5	16·0	73·4	28·6	4·6
III. Openshaw	31,155	8	0·26	14·2	27·4	28·0	23·9	50·0	8·2	24·7	14·2	13·9	45·8	25·0	8·2
III. West Gorton	26,913	2	0·07	21·2	31·1	47·2	35·1	60·0	28·5	19·6	11·8	17·9	61·8	33·4	2·7
III. Rusholme and Kirk ..	41,131	2	0·05	11·6	14·0	12·7	10·5	21·2	2·4	11·1	3·4	2·4	31·4	12·1	2·7
III. Chorlton-on-Medlock .	54,599	12	0·22	7·1	23·9	23·8	29·1	32·8	13·7	25·9	5·1	11·4	28·0	20·1	8·0
III. Hulme	63,177	47	0.74	12·0	18·7	39·2	22·3	33·6	10·8	28·3	10·2	12·2	44·5	23·2	17·9
III. Moss Side	34,329	6	0·17	..	..	..	3·5	29·8	1·7	1·6	..	5·2	7·6	7·1	10·0
III. Withington	52,424	5	0·10	..	..	..	11·2	19·4	2·2	10·3	2·2	2·2	15·5	9·0	4·0
III. Gorton	43,193	19	0·44	..	..	..	..	..	..	..	..	16·7	31·1	..	10·3
III. Levenshulme	21,065	3	0·14	..	..	..	..	..	..	..	..	..	21·9	..	6·4

Thus, slight as the incidence of the seasonal onset was, it visited the different districts with the usual discrimination in severity. The details are as follows:—

OPHTHALMIA NEONATORUM.

By Dr. B. M. Cunningham.

During the year 1912, 766 cases of Inflammation of the Eyes were notified from various sources, and visited by the Eye Nurses.

Of these, 99 were cases of disease in children and adults: 70 suffered from simple Conjunctivitis, 1 had Zonular Cataract of one eye, 3 had Blepharitis, in 1 there was a condition of Ectropium present, while 24 suffered from Ulceration of the Cornea.

667 cases of Inflammation of the Eyes of newly-born children occurred. Of these, 503 were notified by the medical attendants (either private or at the Royal Eye Hospital) as cases of Ophthalmia Neonatorum. The remaining 164 cases were notified by midwives, but the medical attendants considered them to be cases of Conjunctivitis only.

The following table shows the distribution of cases both as regards the districts in which they occurred and the month of the year. The cases in which the cornea were affected are shown on the first table also.

The largest number of cases of true Ophthalmia occurred, as before, in Hulme; thereafter Ancoats, St. George's, and Chorlton-upon-Medlock accounted for the greatest incidence.

The increase in cases during the year 1912 is probably to be explained by continuation of more complete notification of cases, as was pointed out, and accounted for the rise in numbers during the second half of the year 1911.

The monthly rate of notified cases varies considerably, and there seems no special reason for the rise and fall in numbers. April heads the list, followed by January and August, in both of which months 54 cases were notified. Thereafter comes March.

TABLE A, 1912.—SHOWING THE NUMBER OF CASES OF OPHTHALMIA NEONATORUM NOTIFIED MONTH BY MONTH IN DISTRICTS.

Month of the Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	Cases not Notified	Cases with Corneal Complications
Ancoats	11	7	6	10	7	5	3	7	3	1	4	3	67	13	5
Central	9	1	4	5	1	1	2	4	1	2	1	4	35	6	3
St. George's	8	5	6	3	11	4	6	2	3	4	3	2	57	8	5
Cheetham	1	..	3	1	..	2	3	6	..	2	1	..	19	3	4
Crumpsall	..	..	1	..	..	..	1	..	..	..	..	..	2	1	1
Blackley	..	..	1	..	..	..	..	..	..	..	1	..	2	1	1
Harpurhey	1	2	2	1	..	2	1	1	1	..	1	2	14	3	6
Moston	..	1	..	1	..	1	..	..	1	..	..	2	6	2	..
Newton	2	..	1	1	3	..	..	1	..	1	..	2	11	5	2
Bradford	1	1	..	1	1	..	..	..	2	2	1	..	9	12	2
Beswick	..	..	2	..	..	1	..	..	..	..	1	..	4	5	..
Clayton	1	1	..	..	..	1	..	..	..	..	..	..	3	..	2
Ardwick	..	3	3	5	..	1	3	1	2	2	3	3	26	8	9
Openshaw	..	3	2	1	..	2	1	4	1	6	2	1	23	20	4
West Gorton	1	1	2	1	..	1	1	4	..	..	2	2	15	5	8
Rusholme	..	2	1	1	1	..	1	1	1	1	..	..	9	1	3
Chorlton-upon-Medlock	4	6	3	7	2	8	4	5	6	2	3	3	53	16	11
Hulme	10	6	8	16	10	12	4	15	5	4	8	5	103	34	4
Moss Side	2	1	2	2	1	..	2	1	2	..	1	..	14	3	1
Withington	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..
Gorton	2	4	3	3	1	1	3	1	3	1	1	2	25	15	2
Levenshulme	1	..	1	..	1	..	..	1	..	..	..	1	5	2	3
CITY	54	44	51	59	39	42	35	54	31	29	33	32	503	164	76
Cases with Corneal Complications	5	6	11	10	2	10	6	9	5	6	3	3	76	..	..

The tables have been constructed as in last year's report, and explain themselves.

In 55 cases, other children had had Ophthalmia at birth, and in one of these as many as 13 children had been infected at birth; in one, 6; in another, 5; in two, 4; while in many instances more than one of the previous children had suffered from Ophthalmia.

In 17 cases where the infants were suffering from Conjunctivitis there was a history of eye trouble in other children at birth.

TABLE B—1912. OPHTHALMIA NEONATORUM. HISTORY OF MOTHER.

	Age						Parity									Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon.	History of yellow discharge	Legitimacy		Definite negligence of attendant Midwife
	—20	—25	—30	—35	Over 35	Not Ascertained	1	2	3	4	5	6	7	8	9+	Not Ascertained	Normal	Abnormal				Legit.	Illegit.	
Notified ..	28	129	143	114	80	9	85	105	73	50	68	35	20	21	42	4	493	10	107	78	245	499	4	—
Not notified	11	43	43	30	33	4	32	27	24	20	12	8	7	5	26	3	163	1	21	17	43	163	1	—

Total cases notified ... ... 503.
Total not notified ... ... 164.

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The day of onset in most cases was the third, and in over one-half of the cases the first signs of disease appeared during the first three days of life.

One-third of the cases were treated by private doctors, and the remaining two-thirds by the doctors of the Royal Eye Hospital.

In 76 instances there was involvement of the cornea, and 29 of these cases were admitted as in-patients to the Royal Eye Hospital.

TABLE C—1912. OPHTHALMIA NEONATORUM.

	Interval in days between birth and onset										Attended by				Where treated			
	1	2	3	4	5	6	7	8	9	10+	Not ascertained	Midwife	Doctor	Midwife and Doctor	Not attended	Home	Out-Patients at Hospital	In-Patients at Hospital	No Doctor
Notified	64	77	104	54	51	41	29	27	23	21	15	395	45	58	5	125	348	29	...
Not notified ..	22	17	24	14	16	11	13	6	8	11	27	145	5	8	6	102	46	...	17

Total notified cases ... ... 593.

Total non-notified cases ... ... 164.

TABLE D.—CASES WITH INVOLVEMENT OF THE CORNEA.

Right Eye	18
Left Eye	25
Both Eyes	33
	76

Table E shows the results of the 503 cases of true Ophthalmia, and of the 164 of Conjunctivitis in newly-born infants.

	Complete Recovery	One Eye Lost. Other Normal	One Eye Lost, the other Damaged	Both Eyes Lost	Both Eyes Damaged	One Eye Damaged	Death before recovery
Notified ..	491	1	..	1	4	2	4
Not notified	164	..	..	..	..	..	..
	655	1	..	1	4	2	4

The number of cases with corneal involvement was large—76 in all—but the results are very satisfactory, as 64 have completely recovered.

In the case in which one eye is recorded as lost, this eye was beyond hope at the first visit to the Royal Eye Hospital, as was the case in the instance noted where both eyes were blind. These cases afford further proof of the efficacy of prompt notification and treatment.

In one of the 4 cases where death occurred "before recovery," the left cornea had an ulcer which perforated, the infant was premature and very weakly, and, although medical aid was obtained at the onset, the vitality of the child was too low for the cornea to withstand injection.

Of the 4 cases recorded with damage to both eyes, in 2 the scars are very minute, and will, in all probability, clear completely.

The total number of cases of Ophthalmia and Conjunctivitis in newly-born infants in 1911 was 525, while in 1912 it increased to 667; the percentage of cases with corneal complications in 1911 was 7·23, as compared with 11·39 in 1912.

The two nurses appointed in 1911 have overtaken the work in 1912 in a most efficient manner. The routine followed has not been altered.

Once more thanks are due to the staff of the Royal Eye Hospital, as on them has fallen the burden of the treatment of the majority of the cases, and the results bear testimony to their skill. Gratitude must also be expressed for their help in notification not only of cases, but also of admission and discharge of in-patients, as this saves the nurses many useless visits.

ACUTE ANTERIOR POLIOMYELITIS.

By Dr. W. St. C. McClure.

Poliomyelitis became compulsorily notifiable on April 1st, 1912.

During the year 55 cases were notified. At no time did the disease assume the characters of an epidemic.

The monthly distribution according to the dates of onset was as follows:—

Jan	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	—	3	2	—	15	9	12	6	6	1	—

Thus the greater number of cases occurred during the months of June, July, and August, the incidence reaching its height in June, which is rather earlier than is found to be the case in recorded epidemics.

The following table shows the distribution of cases in the various districts of the City :—

TABLE SHOWING THE DISTRIBUTION OF CASES OF POLIOMYELITIS DURING 1912 IN DISTRICTS, AND THE PERIOD OF THE YEAR IN WHICH THEY OCCURRED.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Ancoats	..	..	..	..	..	1	..	1	1	..	..	..	3
Central	..	..	..	..	..	..	..	..	..	..	..	..	..
St. George's	..	..	..	1	..	..	..	..	..	..	..	..	1
Cheetham	..	..	2	..	..	6	..	..	..	..	..	..	8
Crumpsall	..	..	..	..	..	..	..	..	..	..	..	..	..
Blackley	..	..	..	..	..	..	..	..	..	..	..	..	..
Harpurhey	..	..	..	..	..	1	..	..	..	..	..	..	1
Moston	..	..	..	..	..	..	1	1	..	..	..	..	2
Newton Heath	..	..	..	..	..	..	1	3	..	..	..	..	4
Bradford	..	..	..	..	..	1	1	..	..	1	..	..	3
Beswick	..	..	..	..	..	1	..	..	..	..	..	..	1
Clayton	..	..	..	..	..	..	..	1	1	1	..	..	3
Ardwick	..	..	..	..	..	..	2	2	2	..	1	..	7
Openshaw	..	..	..	..	..	1	..	..	..	..	..	..	1
Gorton (West)	..	..	..	..	..	..	2	..	1	..	..	..	3
Rusholme	..	..	..	..	..	..	..	1	1	2	..	..	4
Chorlton-upon-Medlock	..	..	..	..	..	..	..	1	..	1	..	..	2
Hulme	..	..	1	..	..	3	2	..	..	..	..	..	6
Moss Side	..	..	..	..	..	..	..	1	..	..	..	..	2
Gorton	..	..	..	..	..	..	..	..	..	1	..	..	1
Levenshulme	..	..	..	1	..	1	..	1	..	..	..	..	3

Incidence of the disease.

The 55 cases occurred in 52 houses. In 3 houses more than one child was attacked, and these cases will be referred to later.

The age and sex of those attacked was as follows :—

Years	$-\frac{6}{12}$	$\frac{6}{12}-1$	1	2	3	4	5	6	7	8	Total
Males.....	—	5	5	8	3	1	5	—	—	—	27
Females ...	—	1	14	9	2	1	—	—	—	1	28
Total ..	—	6	19	17	5	2	5	—	—	1	55

It is seen that males and females were about equally affected, and that all the cases were in children under the age of 9 years, the greatest incidence falling upon those at the ages of one and two. No child under the age of 8 months was attacked.

Of the 6 cases under 1 year, it was ascertained that 3 were wholly breast-fed, 2 were bottle-fed, and in one this information was not obtained.

Fatality.

Five deaths occurred, giving a case fatality rate of 9·1 per cent.

Two of the fatal cases were in children under one year, and three in children between the ages of one and five years. The period elapsing between the onset of illness and death was 4, 5, 9, 9, and 13 days respectively. In each case death was due to the extension of paralysis to the respiratory muscles.

Previous health of patients.

27 or about one-half of the patients were said to have been in good health previous to the attack. Of the remaining 28, 8 had recently recovered from Measles, 3 from Whooping Cough, 9 were said to have always been "weakly," 3 had recently suffered from Pneumonia, and 5 had been troubled badly with teething. Signs of Rickets were evident in 10.

Clinical Characters.

Types of the disease.

According to Wickner and Zappert, the principal types are capable of arrangement into the following five groups: The purely Spinal form, the Ascending form, Bulbar or Pontine form, Encephalitic form, and the Ataxic form. To these may be added the Abortive and the Meningeal forms.

Of the 55 cases which occurred during the year, 47 were purely Spinal, 5 were classed as Ascending, 2 were Meningeal, and 1 was an Abortive case.

Onset.—The onset in the great majority of cases was sudden, though in a certain number several days elapsed before signs of paralysis were noticed.

The following figures show the number of days which elapsed between the first symptoms and the onset of paralysis :—

No. of days	0	1	2	3	4	5	6
No. of cases	11	15	4	7	3	2	—
No. of days	7	8	9	10	11	12	13
No. of cases	6	—	—	—	—	—	2

It must be borne in mind that in very young infants the presence of paralysis is apt to escape the mother's notice for a time.

Prodromal Symptoms.

Headache.—Was present in 6 cases ; many children, however, were too young to ascertain definitely whether headache was present or not.

Vomiting.—In 11 cases, or 20 per cent., the illness was ushered in by vomiting. It was rarely persistent for more than one or two days

Drowsiness.—This was the symptom most commonly noticed ; it occurred in 17, or 31 per cent. of the patients.

Pain.—As a prodromal symptom, pain was not noticed to any extent. Three children complained of some pain in the leg, and 1 in the foot. In no instance did it appear to be severe.

Convulsions.—Occurred at the commencement of the attack in 4 patients.

Twitchings.—Before the onset of Paralysis twitching of the arm was noticed in 2 cases, of the hands in 1, of the leg in 2, and of the mouth in 2.

Catarrh of Throat or Nose.—Was uncommon ; in only 3 instances was this condition present.

Fever.—In 6 cases the mother described the condition of the child as feverish ; in a further 6 cases the child was said to have been restless and fretful.

Sweating.—Was definitely noted in 3 cases.

Other Symptoms.

Hyperæsthesia.—General hyperæsthesia was present in 8 cases, local hyperæsthesia in 6. It was not a common symptom, and when present was not marked.

Retraction of Head.—Was very uncommon ; in three cases only there was some rigidity of the neck muscles.

Meningitis.—Two patients showed signs of Meningism.

Temperature.—In a few cases only was the temperature obtained at the onset of illness ; in such cases it ranged from 100° to 102·5° F., 100° to 101° being the most usual. The fever was generally of short duration, but in one case which terminated fatally it lasted for 11 days.

Constipation and Diarrhœa.—Constipation was marked in 4 cases, Diarrhœa in 3. In the large majority of cases the bowels were described as being "ordinary."

Rashes.—In no instance was any rash noticed apart from that caused by vermin. Eight children were bug-bitten, 11 flea-bitten, making a total of 19 children who were verminous.

Kernig's Sign.—Was tried for in all cases, but was not definitely present in any.

Reflexes.—The reflexes examined for were the patellar and plantar. In most cases, where the legs were affected these reflexes were absent. There were, however, exceptions. When both legs were paralyzed the patellar reflex was always absent. In 12 cases, where paresis only was present in the legs, the reflexes were normal in 6, absent in 6, and in 1 case increased.

Paralysis.—The following table shows the nature and extent of the paralysis, and the character of the reflexes in the various groups :—

PARALYSIS	No. of Cases	*Patellar Reflex						Plantar Reflex					
		Right			Left			Right			Left		
		+	o	—	+	o	—	+	o	—	+	o	—
Right arm	5	..	5	..	..	5	..	..	5	..	..	5	..
Left arm	6	..	5	1	..	5	1	..	5	1	..	5	1
Both arms	1	..	..	1	..	..	1	..	..	1	..	..	1
Right leg	11	..	..	11	3	6	2	..	3	8	1	9	1
Left leg	15	..	10	3	..	2	11	..	12	1	..	4	9
Both legs	9	..	..	9	..	..	9	..	..	9	..	4	5
Both arms and legs	1	..	..	1	..	..	1	..	..	1	..	..	1
Right arm and right leg ..	1	..	..	1	..	1	..	..	..	1	..	1	..
None	4	1	..	3	1	2	1	1	3	..	1	3	..

* + signifies—increased
o ,, Normal
— ,, Absent

Thus one or both arms were paralyzed in 14 cases. In 8 of these the paralysis was confined to the muscles of the upper arm.

In 17 out of 37 cases where the legs were affected, the paralysis chiefly involved the extensors of the foot. In the remaining cases the glutei or hamstrings were also involved.

In addition to paralysis, paresis occurred in 22 of the cases as follows:—Right leg 5, left leg 5, both legs 4, both arms 1, back 4, back and neck 4.

Sanitary Conditions.

There was no evidence that insanitary conditions specially favoured the disease. A number of houses were dirty and verminous. On the other hand, many were extremely clean. There were no stables, manure heaps, or other serious nuisances in the immediate vicinity of affected houses. Overcrowding in the home was not an important factor in determining the incidence, as may be judged from the following figures:—Of 48 cases where such information was obtained, 17 occurred in houses with less than one person per room; 20 in houses with 1 to 1½ persons per room; 10 in houses with 1½ to 2 persons per room; and 1 with more than 2 per room.

Infectivity.

Two cases occurred in each of 3 houses. In 2 of the houses the cases occurred simultaneously; in the third the cases occurred with an interval of 6 days. Apart from this case, no evidence of the infectivity of the disease was forthcoming. In the 52 households attacked there were 217 persons exposed to infection, 50 of whom were under 5 years of age, and 99 under the age of 10 years. Among these only 1 case occurred in which personal infection could be suspected. The elementary schools attended by members of infected households were recorded, also the place of employment of adults, but no connection between the cases could be discovered. As far as possible, all contacts in affected households were examined, and their health inquired into.

In one case only did the presence of certain symptoms point to an overlooked or abortive case.

Domestic Animals.

Dogs or cats were kept in 9 instances, but no suspicious illness occurred amongst them. No other animals were kept by the affected families. There is no evidence, therefore, that domestic animals played any part in disseminating the disease.

Climatic Conditions.

Recorded epidemics of Poliomyelitis in this country have occurred in hot, dry seasons. The rainfall during the summer of 1912 was considerably above the average, and the mean temperature was below normal. Under such

circumstances one would expect a low prevalence of the disease. As there are no data, it is not possible to compare the prevalence of Poliomyelitis during 1912 with that in previous years.

Remarks.

As this is the first year during which it has been possible to carry out any investigation of this disease, it has been thought well to record the facts in some detail. Each case was visited by the writer, and this account is a summary of the facts obtained by him. The evidence as to the causation of the disease which has been collected is mainly of a negative character. The cases which occurred were sporadic. There are certain differences in the symptoms manifested in the sporadic and epidemic forms respectively, which point to a less intense infection in the former. By comparing the type of case which occurred in Manchester with the type which was common in the Cornwall epidemic in 1911 (L. G. B. Report, 1912), it will be noted that in Manchester the age incidence was lower, the apparent infectivity was almost nil, the mortality-rate was lower, and the severity of attack was less, as evidenced by the infrequency of severe headache, general absence of hyperæsthesia, meningeal symptoms, retraction of the head, and Kernig's sign.

That the sporadic and epidemic forms are of the same nature and due to the same micro-organism there can be little doubt. It would appear that the infecting organism may, under certain circumstances, assume virulent and infective characters, and at such times be responsible for extensive epidemics.

Cerebro-Spinal Fever.

During the year 6 cases were notified as Cerebro-Spinal Fever. The diagnosis was confirmed in two of the cases. Of the remaining 4, a diagnosis of Tubercular Meningitis was decided upon in 2, after examination of the cerebro-spinal fluid and consideration of the general symptoms. Bacteriological examination of post-mortem material from the other two cases showed that death was due to Streptococcal Meningitis.

STATEMENT OF WORK OF THE HEALTH VISITORS IN 1912.

By Miss E. Howard, Lady Superintendent.

During the year 1912 the Infant Life Preservation Sub-Committee met twelve times.

Two of the Health Visitors resigned, one of whom was in receipt of 18s. and the other 30s. per week. Four new appointments were made, at a commencing salary of 30s. a week.

At the end of the year the staff consisted of the Superintendent; one female clerk, at a salary of 17s. a week; 17 Health Visitors, 11 of whom were

certificated, and received salaries ranging from 30s. to 35s. a week; and 6 others, who were taken over from the Ladies' Public Health Society by the Corporation, in 1908, and whose salaries vary from 18s. to 25s. a week.

All the Health Visitors are provided with two uniforms a year, consisting of navy blue tailor-made costumes, hats, and boots.

A leaflet specifying the list of duties of the Health Visitors was drawn up in 1908, and was published in the Annual Report for that year.

A Tuberculosis Conference was held in Manchester on June 5th, 6th, and 7th, followed by an Exhibition from June 12th to 27th. Demonstrations were given to the school children by six of the Health Visitors every morning, except Saturdays, from 9-45 to 11-45, in the Exhibition. These demonstrations were made as simple and as practical as possible, with the result that the children took a keen interest in the subject, a large number returning to the Hall, after school hours, in order to study more carefully the models which had been shown them in the morning.

At a meeting of the Infant Life Preservation Sub-Committee on July 8th, 1912, it was resolved to request the Sanitary Committee to once more take the necessary measures to secure the adoption of the Notification of Births Act, 1907. The subject came up for consideration at the City Council on August 7th, 1912, when a letter was read from the Hon. Secretary of the North Manchester Division of the British Medical Association asking for a postponement of the question for a month or so, in order that a deputation from the Joint Committee of the Manchester and Salford British Medical Association should meet the members of the Infant Life Preservation Sub-Committee, and place before them the views of the local medical profession on the matter.

This suggested interview took place on August 19th, when two members of the British Medical Association (Lancashire and Cheshire Branch) attended and put their views before the Committee.

The subject was brought forward again at a meeting of the City Council on September 4th, 1912, when it was decided to adopt the Notification of Births Act, 1907, subject to the consent of the Local Government Board, which was obtained, and the Act came into force in Manchester on October 8th, 1912.

It is too soon as yet to comment on the working of the Act, but it is to be hoped that this early notification of births will help to lower the high death-rate which occurs in infants under three months of age, seeing that they will now be visited when two weeks old, instead of six.

Owing to the exceptionally mild summer, and to other causes, there has been a considerable decrease in the infantile mortality for 1912.

STATEMENT OF WORK DONE BY THE FEMALE HEALTH VISITORS DURING THE YEAR 1912.

Districts	House-to-house inspections: Number	Overcrowded	Disrepair	Dirty	Cellar dirty or in disrepair	Yards defective	Closets defective	Referred to Sanitary Dept.: Houses with defects	Others	Re-Inspections — Work done under the direction of the Health Visitors: Number	Limewashing: Bedrooms	Kitchens	Yards	Closets	Cellars	Coalplaces	Ceilings	Staircases	Others	Defects remedied	Cleansing other than Limewashing: Rooms	Cellars	Yards	Closets	Others
Ancoats—West	328	3	72	210	5	20	19	24	14	512	147	98	146	152	17	22	54	76	8	50	293	1	22	16	16
" North	97	1	1	14	...	4	9	5	6	267	52	66	95	95	18	30	10	7	1	15	33	...	...	...	...
" Central	522	4	218	155	11	64	113	96	78	194	9	8	52	52	1	3	4	4	12	41	3	...	...	1	...
" South	457	2	52	166	1	34	33	37	22	679	93	171	261	255	42	52	121	56	13	80	276	...	4	1	...
" East	286	11	97	85	3	66	37	107	129	538	56	65	120	120	5	15	47	23	...	70	93	1	4	2	...
London Road	162	...	47	56	8	34	10	19	27	107	13	13	46	42	8	1	7	6	1	26	34	1	1	...	...
Deansgate	194	5	19	34	4	3	2	40	30	415	104	32	157	156	35	3	24	13	29	40	10	...	2	1	3
St. George's—North	310	3	70	26	...	4	11	68	7	229	26	25	31	61	2	1	6	13	3	51	4	...	...	...	16
" East	698	1	37	6	10	57	28	21	10	222	12	26	38	38	9	...	1	1	...	72	...	...	...	...	...
" Central	358	3	44	160	6	7	17	17	37	561	21	20	226	226	3	10	2	4	...	84	130	3	7	6	...
C.-on-M.—North	262	1	54	44	11	10	29	30	47	426	28	27	138	150	35	7	4	5	5	82	53	7	19	16	4
" South	74	1	10	22	3	3	8	13	33	52	9	18	23	23	5	2	12	1	3	1	...	...	...	...	...
Hulme—Central	41	...	2	1	2	2	4	32	56	73	5	14	28	28	4	...	7	...	5	3	1	...	...	1	1
" East	10	...	...	...	...	...	...	...	48	47	7	11	18	19	4	...	6	1	4	1	1	...	...	...	1
Gorton—West	235	...	123	93	6	14	41	22	34	329	23	23	10	15	...	3	45	9	...	74	11	...	2	...	1
Openshaw	67	7	27	17	...	17	11	38	24	35	...	...	...	...	...	...	...	...	...	6	6	...	1	2	...
Special Nurse	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	4101	42	873	1089	70	339	372	569	608	4716	605	617	1389	1432	188	149	350	219	84	696	948	13	62	46	42

Districts	Re-Inspections — Work done through the Sanitary Department: Overcrowding abated	Defects remedied: Partly	Wholly	Cleansings: Rooms	Cellars	Yards	Closets	Infants Visited: Primary	Subsequent	Visits re Phthisis: Monthly	Cleansings by: Corporation	Tenants	Visits re Sick Children	Neglected Children: New Cases	Visits	Cases requiring assistance: New Cases	Visits	Help rendered chiefly by the Ladies' Health Society: Milk	Food	Clothing	Others	Recommends, etc.	Mothers Meetings by L.H.S.: Number	Average Attendance
Ancoats—West	1	16	22	...	...	...	...	225	2714	304	39	189	25	48	49	5	3	...	2	6	8	12	...	...
" North	3	...	12	...	...	...	...	361	3312	242	47	216	12	2	...	...	..	4	63	8	5	74	39	24
" Central	...	4	18	..	...	...	...	217	2462	100	38	16	55	7	3	11	35	...	...	3	3	18	...	...
" South	5	21	7	10	3	...	...	249	2502	211	16	182	18	4	7	4	2	114	56	61	12	41	32	73
" East	9	40	171	11	...	...	...	223	3147	128	23	81	24	13	3	34	63	89	50	17	49	61	34	74
London Road	...	...	...	8	...	...	6	225	2863	117	45	78	51	20	26	1	3	...	...	2	...	9	...	...
Deansgate	2	1	27	...	...	1	...	186	2080	283	111	69	147	41	36	4	...	...	...	9	...	49	...	...
St. George's—North	...	1	38	2	...	1	1	361	3129	197	101	191	14	3	9	...	...	27	54	1	3	...	37	29
" East	...	2	12	...	1	...	...	308	3132	249	150	216	5	..	...	10	5	41	34	6	7	22	35	22
" Central	1	1	...	...	...	...	...	289	2746	105	40	42	13	31	60	2	4	1	6	2	25	23	16	12
C.-on-M.—North	...	...	9	...	...	...	...	287	2689	247	153	33	75	62	62	1	...	...	...	...	15	4	...	...
" South	...	..	...	...	...	...	...	236	2130	13	4	2	9	9	7	2	2	...	...	5	...	10	...	...
Hulme—Central	4	2	7	...	...	...	...	331	2102	161	111	56	147	45	61	6	6	2	7	4	8	41	...	...
" East	2	...	5	...	...	...	...	323	2617	267	94	44	102	13	63	7	3	2	...	4	22	41	...	.
Gorton—West	1	6	7	6	...	...	1	347	3037	192	17	59	18	35	4	5	1	...	1	8	...	10	...	...
Openshaw	...	7	7	...	...	...	...	529	2838	156	28	100	23	20	24	6	2	...	...	11	30	45	...	...
Special Nurse	...	...	...	...	...	...	...	56	489	3	1	...	19	...	...	...	3	...	...	...	...	6	...	...
Total	28	101	342	37	4	2	8	4753	43989	2975	1018	1574	757	353	414	98	132	280	273	147	187	466	193	39

A table giving a detailed account of the Health Visitors' work is appended, and from this it will be seen that there have been 4,753 primary and 43,989 subsequent visits paid to infants during the year. This enumeration only includes the regular monthly visits, and does not allow for numerous other calls when there is sickness, poverty, neglected children, or sanitary work to be attended to, although at each visit the Health Visitor sees the infant, and gives advice where necessary.

A careful record is kept of every infant whose existence comes to our knowledge; and every time a change of food is advised, or medical assistance sought, the facts are notified on the Infant Sheet.

A certain number of the babies are weighed each month, especially the delicate ones, and it is interesting to note how fast the old superstition is dying out that to weigh a baby is of ill-omen. Now the mothers are anxious to have the weight recorded, and to watch the progress the child is making.

In connection with notified cases of Phthisis, 2,975 monthly visits were made, and 2,592 visits *re* cleansings, done either by the Corporation or by the tenants themselves.

The house-to-house inspections numbered 4,101, and re-inspections 4,716. Whilst on these visits the Health Visitors found 1,696 defects, and referred 1,177 to the Sanitary Department. This branch of the work is perhaps the most difficult, as some of the people naturally resent having their houses systematically inspected, but with tact and perseverance the difficulties are generally overcome, and the Health Visitors are able to combine the two-fold work of seeing that disrepairs are remedied, dirty houses cleaned, and of imparting helpful knowledge and advice as regards the health of the children, and even of the mother herself. That these inspections are useful is obvious from the fact that, apart from the 471 defects remedied by the Sanitary Department, the Health Visitors record that 605 bedrooms, 617 kitchens, 1,389 yards, 1,432 closets, and 990 cellars, ceilings, etc., have been limewashed, 948 rooms cleaned other than by limewashing, and also 696 defects remedied **without** the intervention of the Sanitary Inspector.

Apart from house-to-house inspections, the visiting of infants, and notified cases of Phthisis, there are many other duties which the Health Visitor is called upon to perform, but which can only be touched upon briefly in this report.

In 1909 a Cleansing Station was opened by the Sanitary Committee at the Corporation Depôt in Oldham Road for the cleansing of verminous children. School children found to be in a verminous condition are sent by the Education Authorities to the Cleansing Station, and at the same time a notice to this

effect is sent to the Medical Officer of Health, who refers the case to the Health Visitor for that district. It is her duty to visit and report to the Medical Officer of Health upon the condition of the house, and especially of the bedrooms and bedding. She is required to inspect all the children in the house, whether of school age or under, and to instruct the mother, or person in charge, as to treatment, and also to continue to visit at regular intervals until she can report that the house has been cleansed, the bedclothes washed, and the children kept clean. This work has to be specially arranged, as those children who attend school can only be seen during the dinner hour or on Saturday, and frequently when the Health Visitor calls to inspect the house and children, she finds that the family removed months ago, and much time is spent in trying to trace them. If, after making full enquiries, the family cannot be found, a letter is sent to the School Medical Officer, Dr. Ritchie, asking him to obtain the correct address.

Those cases which come outside the area worked by a Health Visitor are undertaken by a Nurse specially appointed to deal with them, or by the District Sanitary Inspector.

Then again it has been found advisable to pay monthly visits to delicate children threatened with Phthisis, or children of consumptive parents. The object of those visits is to see that the children get medical advice and treatment in time, and that they are sufficiently clothed and fed. In order to ensure the latter, it is sometimes necessary to send warning letters to the parents; or, in cases where poverty is causing suffering, efforts are made to procure assistance either from the Board of Guardians, District Provident Society, or other agency.

The visiting and constant supervision of neglected children takes up a considerable time. 176 cases were referred to the N.S.P.C.C. during the year, and many others were warned again and again without being reported. Although only 767 such visits in connection with this work are recorded, additional ones were paid, but are not noted under this particular heading, inasmuch as they were made in the ordinary course of house-to-house visiting or other branches of the work, and are entered under the respective headings.

Through the kindness of the Lord Mayor we received 12 Charity Forms, which entitled us to flannel and blankets, for which we are very grateful. We also received a number of flannel garments for infants, and these were distributed by the Health Visitors during the winter to deserving cases.

466 recommends for the Boys' and Girls' Summer Camp, Lord Mayor's Charity Forms, etc., were given away by the Health Visitors during the year, and many of our delicate mothers and children have spent three weeks at the Southport Convalescent Hospital, or other Convalescent Homes.

We are greatly indebted to the Medical Staff at Gartside Street Dispensary for the courteous and considerate manner in which they have dealt with the numerous cases which have been referred to them.

Our thanks also are due to the Hon. Secretary of the Police-Aided Clothing Association and the Superintendent of the Wood Street Mission, who have always been so ready to assist us with clothing for our poor children.

In conclusion, I wish to express my gratitude to the Chairman and members of the Infant Life Preservation Sub-Committee for the kind interest they have taken in the Health Visitor's work, and for the appreciative manner in which they have received my reports throughout the year.

A summary of the work done by the Health Visitors under the supervision of the Ladies Society for Visiting the Jewish Poor and of the Medical Officer of Health is given in the following table. They attend once a week at the Public Health Office in order that the week's work may be reviewed.

Work of the Jewish Health Visitors, year ending 31st December, 1912.

DISTRICT	Houses Visited		Condition of Houses							No. of Houses containing Lodgers	Complaints requiring action by Sanitary Department	Sickness			Leaflets left at Houses
	First Visit	Not First	Dilapidated	Not Dilapidated	Clean	Dirty	Improved since last Visit	Not Improved	Overcrowded			Infectious	Non-Infectious	Total Sickness	
Red Bank	8	755	107	656	718	45	207	28	2	351	175	21	261	282	230
Strangeways	...	794	40	754	771	23	206	16	2	235	184	31	79	110	776
Total	8	1549	147	1410	1489	68	413	44	4	586	359	52	340	392	1006

DISTRICT	Disinfecting Powder left at Houses	Limewashing								Reports as to Children being Neglected (clothing, food, &c.)	Help Rendered. Help rendered includes :—Giving food, clothing, &c., advising mothers as to care and treatment of children, making of sick beds, cleaning houses for sick persons, obtaining recommends for Convalescents, &c.	Infants Visited	Visits re Phthisis	Re-inspection of Houses
		Living and Bed Rooms	Kitchens	Yards	Closets	Cellars	Coal-places	Ceilings	Staircases					
Red Bank	579	55	39	45	46	41	5	10	4	...	302	1035	207	422
Strangeways	769	9	4	29	16	4	10	13	...	...	152	860	298	241
Total	1348	64	43	74	62	45	15	23	4	...	454	1895	505	663

Some points in Miss Howard's statement call for comment. The resignation of two of the Health Visitors is announced. The Health Visitors resign generally because they are improving their position. Nevertheless it is difficult to get

Health Visitors of the class we want, viz., trained nurses with a good experience of children. This experience is, in my judgment, the *sine quâ non* of a useful Health Visitor, and, if the necessary training cannot otherwise be obtained in the class whom we want, we should ourselves train our own staff.

There can be no doubt that the work of this Sub-Committee, and of Miss Howard and her staff, is having a distinct influence on the districts with which Miss Howard deals.

The School for Mothers is also doing excellent practical work, and bit by bit the standard of motherhood will rise in Manchester. But the way is not easy. The one essential of success in Health Visitors' work is a good, well-trained staff of ladies.

Miss Howard mentions the work which we are doing in connection with verminous children. This work is of excellent quality, but there is evidence that the evil is of such magnitude that steps of a more drastic character are called for.

The Infant Life Preservation Sub-Committee has had the subject under consideration, and further action will be taken.

The Committee has determined to bring in two of the poorer districts not yet visited during the present year, and provision has been made for this purpose in the Estimates.

TUBERCULOSIS.

Rapid changes are occurring in connection with this disease. Its infectious character is being more and more recognised, and, by the most recent Order of the Local Government Board, all forms of the disease are now made subject to inquiry and administrative precautions by Public Health Authorities. It will no doubt be some time before the magnitude and importance of the duties thus imposed on all sanitary authorities are fully recognised, and still longer before the full measure of activity thus initiated and incited is attained.

But a strong spur is applied by the National Insurance Act, 1911, which makes provision for the treatment of Tuberculosis, and calls upon the large Administrative Local Councils to lend their aid.

When this Act came into operation, Manchester had already made considerable provision, both for public preventive work and for treatment.

The Board of the Consumption Hospital were doing a great work for Manchester and Salford and the surrounding towns, in the treatment of Tuberculosis of the Lungs, at their Dispensary in Hardman Street, and in their Sanatoria at Delamere and Bowdon.

In pursuance of the recommendation of the Special Committee, appointed by the Chancellor of the Exchequer to advise as to the framing of schemes for the administration of sanatorium benefit, that the work of institutions already engaged in such work should be utilised, the Manchester Corporation turned for assistance to the Board of the Consumption Hospital, and it is fitting here to acknowledge the great value of the work which that Board has accomplished, as well as the readiness with which they have thrown themselves into the new work.

But other institutions in Manchester have also done much valuable work in the same field. The Royal Infirmary and the Ancoats Hospital, by their out-patient departments, have given attention to many poor tuberculous persons, both at the hospitals and in their own homes.

The out-patient department of the Children's Hospital has also done a great amount of excellent work, and the Northern Hospital has shown its anxiety not to be last in the race. Other institutions, such as the Skin Hospital, have lent their aid.

The framing of a scheme for sanatorium benefit has severely taxed the energies of the Sanitary Committee, and of their Sub-Committees, whose work has been done, however, with care and thoroughness.

Prior to the commencement of sanatorium benefit, the brunt of the institutional work fell on the Guardians of the Poor, who returned as the number of beds at the disposal of cases of Phthisis the large figure of 399. The South Manchester Board of Guardians showed especial enthusiasm in the work, and purchased an estate and house in North Wales, at Abergele, for the treatment of early cases of Tuberculosis of the Lungs and other non-infectious forms of the disease. There they treat 50 patients.

The Education Committee had also made excellent provision at their School-Hospital at Swinton for the treatment of surgical Tuberculosis in children. They are also about to open a school at Bury for delicate children.

Much work has also been carried out in the operative and other treatment of surgical Tuberculosis, and in the treatment of forms of Tuberculosis other than pulmonary, at the Royal Infirmary, the Manchester Children's Hospital, and the Ancoats Hospital. All have convalescent homes to which cases are sent from the hospitals. The Northern Hospital are also considering the extension of their means of treating Tuberculosis.

For a number of years the Corporation have been treating advanced cases of Tuberculosis at their Clayton Vale Hospital, gradually increasing the number of beds to 70. No special report is made on the work of this institution, but testimony should be borne to the excellent manner in which the work has been carried out under the care of Dr. Cunningham.

Thus, altogether, Manchester possessed for the treatment of Tuberculosis, under the Corporation and the Guardians, 559 beds; for cases of Tuberculosis of the Lungs, under the Board of the Consumption Hospital, about 50; between 60 and 70 for surgical operative treatment in charitable institutions; an unknown number for other forms of Tuberculosis in the charitable institutions and poor-law hospitals; and a large number of beds in convalescent homes.

At the commencement of sanatorium benefit, this number was increased by 150 beds at the Baguley Sanatorium for the treatment of cases of Tuberculosis of the Lungs.

Early in 1912 Dr. D. P. Sutherland commenced his duties as Tuberculosis Officer in connection with Public Health work, and we have every reason to congratulate ourselves that he has been appointed Chief Tuberculosis Officer for Sanatorium Treatment.

When the scheme has been accepted by the Insurance Commissioners, and the Local Government Board have sanctioned the application of the Council for borrowing powers, we shall be in a position to go forward.

The most urgent needs are the extension of Baguley Sanatorium and the securing of additional sanatorium beds. Notwithstanding the provision made at Baguley Sanatorium, the pressure for admission is as great as ever—at all events on the part of men.

Very urgent also is the appointment of whole-time Tuberculosis Officers and Nurses. In fact we cannot be said as yet to have properly started.

The provision of offices is imperative. We are crowded out at present.

The provision of shelters at Baguley Sanatorium, and of other buildings, is very much needed.

It does not appear necessary here to describe the Sanatorium Scheme which has already engaged the attention of the Council so much.

That it has reached its present position is due to the energy and resourcefulness of members of the Committee, and to the goodwill of the Council and the Local Insurance Committee, as well as to the assistance of the Local Government Board and of the Insurance Commissioners.

The statistics for the year 1912 have been prepared in their usual form. It will be necessary next year carefully to revise the form which statistics relating to this disease should take. But the new operations do not apply to 1912.

The death-rates from Phthisis in successive years are shown in Table I. A slight decrease is shown in the death-rate for the whole City as compared with that for 1911, but it is still higher than the corrected death-rate for 1910, viz., 1·51.

On the other hand, there is a marked increase in the death-rate in each of the three Central Districts. This is not a statistical increase, mainly. A great increase is shown in the death-rate for Harpurhey. This, however, is mainly statistical, the corrected death-rate for 1910 being 1·36 instead of 0·89. There is, however, a distinct real increase.

In order to see where the increase is real, or due to miscalculation in population, I have had the death-rates from Phthisis recalculated for 1910 on the corrected population, and placed side by side with those previously given. We thus get a good idea of what correction we must apply in comparing recent years. The same correction applies to the next table.

TABLE I.

DEATH-RATES FROM PHTHISIS.

	Statistical Divisions	1902	1903	1904	1905	1906	1907	1908	1909	1910	1910 †	1911	Average 1902-1911	1912
	City of Manchester	**2·08**	**1·85**	**1·98**	(1·68) **1·56**	(1·81) **1·71**	(1·80*, **1·70**	(1·74) **1·65**	(1·81) **1·70**	**1·49**	**1·51**	**1·56**	**1·73**	**1·53**
	I. Township	3·54	3·00	3·14	3·00	2·99	3·09	2·79	3·18	2·63	2·73	2·63	3·00	3·22
	II. N. Manchester....	1·26	1·05	1·23	0·96	1·03	1·16	1·08	0·89	1·12	1·18	1·17	1·10	1·05
	III. S. Manchester....	1·86	1·79	1·90	1·33	1·59	1·47	1·56	1·65	1·33	1·31	1·44	1·59	1·29
					(1·53)	(1·79)	(1·64)*	(1·75)	(1·88)					
I.	Ancoats	3·17	2·43	2·26	2·78	2·48	2·82	2·19	3·08	1·97	2·02	2·43	2·56	2·75
I.	Central	4·34	3·68	4·35	3·58	4·28	3·85	3·16	3·76	3·15	3·18	2·75	3·69	3·95
I.	St. George's	3·42	3·09	3·23	2·89	2·79	2·95	3·09	2·99	2·90	3·08	2·74	3·01	3·28
II.	Cheetham.....	1·05	0·80	1·11	0·87	0·78	1·06	1·07	0·77	0·85	0·88	1·20	0·95	0·84
II.	Crumpsall	0·45	0·99	0·44	0·43	0·65	1·28	0·63	0·74	0·95	0·90	0·98	0·76	0·68
II.	Blackley	1·33	0·98	1·61	1·59	0·94	1·15	1·30	0·91	1·12	0·85	0·97	1·19	0·93
II.	Harpurhey	1·49	1·50	0·69	0·65	1·24	1·31	0·80	0·81	0·89	1·36	1·41	1·08	1·51
II.	Moston	1·22	0·63	1·17	1·08	0·72	0·78	0·76	0·94	0·94	1·06	0·73	0·89	0·85
II.	Newton	1·29	1·27	0·80	0·79	1·19	1·47	1·18	1·20	1·59	1·40	1·35	1·21	0·96
II.	Bradford	1·62	1·23	1·30	1·29	1·40	1·31	1·40	0·94	1·57	1·60	1·31	1·33	1·42
II.	Beswick	1·27	1·08	1·57	1·31	1·37	0·88	0·86	0·79	1·26	1·37	1·46	1·18	1·63
II.	Clayton	1·33	0·71	0·94	0·95	0·72	0·81	1·48	0·63	0·76	1·03	0·76	0·91	0·94
III.	Ardwick	1·62	1·62	1·78	0·98	1·81	1·52	1·28	1·70	1·33	1·50	1·83	1·54	1·28
III.	Openshaw	1·16	1·33	1·35	1·06	0·80	1·35	1·32	1·64	0·94	0·89	1·04	1·20	1·03
III.	West Gorton ...	1·61	1·58	1·53	1·38	1·65	0·94	1·31	1·25	1·41	1·51	1·81	1·44	1·19
III.	Rusholme.....	1·82	1·10	1·00	1·00	1·18	1·27	1·49	0·88	1·24	1·16	0·68	1·16	0·92
III.	C.-on-M.	1·85	1·76	2·47	1·90	2·18	2·02	2·12	2·45	1·96	1·90	2·16	2·08	2·01
III.	Hulme	2·44	2·50	2·26	2·07	2·19	2·04	2·28	2·38	2·02	1·87	2·23	2·24	1·99
III.	Moss Side	0·92	1·17	0·96	0·75	1·00	0·99	1·14	1·25	1·41	1·21	0·86	1·04	1·17
III.	Withington	0·77	1·05	0·78	0·50	0·84	0·83	0·80	0·68	0·64	0·59	0·81	0·77	0·72
III.	Gorton	1·09	1·47	1·43	1·16	1·33	1·33	0·95	1·07	0·91	0·98	1·13	1·18	0·88
III.	Levenshulme ...	0·96	0·44	1·14	0·85	0·46	0·77	0·69	0·86	0·60	0·68	0·95	0·77	1·00

* Exclusive of Moss Side and Withington. † Death-rates based on populations 1901-1911.

When this is done, we perceive that the districts which show an increased death-rate in 1912, in addition to those already mentioned, are Bradford, Beswick, Chorlton-upon-Medlock, Moss Side, and Levenshulme.

It is for the most part, then, in the poorer districts that the year shows increased fatality. The increase may be due to the inclemency of the year, or to an increase in poor persons suffering from Phthisis finding their way into the City.

From the next table we perceive that the increase does not extend to other forms of Tuberculous Disease in the case of Ancoats, Central, and St. George's, except as compared with the previous year. There is, however, a marked increase in Bradford, Newton, and Moston. Generally the tendency is to diminution.

TABLE 2.

DEATH-RATES FROM TUBERCULAR DISEASES OTHER THAN PHTHISIS.

	Statistical Divisions	Mean Death-rate 1891-1900	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	Average 1902-1911	1912
	City of Manchester	**0·90**	**0·71**	**0·76**	**0·69**	**0·56**	**0·61**	**0·56**	**0·59**	**0·57**	**0·59**	**0·52**	**0·61**	**0·54**
	I. Manchester Township ..	0·99	0·89	0·95	0·79	0·69	0·87	0·76	0·83	0·72	0·72	0·66	0·78	0·75
	II. North Manchester	0·60	0·47	0·41	0·41	0·42	0·37	0·36	0·36	0·42	0·41	0·48	0·41	0·47
	III. South Manchester	1·03	0·77	0·90	0·82	0·58	0·65	0·62	0·64	0·61	0·62	0·49	0·67	0·54
I.	Ancoats	1·03	0·98	0·92	0·91	0·82	0·99	0·90	1·03	1·02	0·82	0·85	0·92	0·86
I.	Central	1·03	0·89	0·70	0·54	0·59	0·95	0·86	0·71	0·66	0·67	0·44	0·70	0·63
I.	St. George's	0·95	0·84	1·11	0·85	0·65	0·74	0·62	0·72	0·51	0·65	0·61	0·73	0·71
II.	Cheetham.....	0·41	0·37	0·26	0·35	0·37	0·22	0·10	0·35	0·19	0·23	0·26	0·27	0·30
II.	Crumpsall	0·60	0·34	0·33	0·22	0·11	0·22	0·32	0·31	0·11	0·32	0·69	0·29	0·29
II.	Blackley	0·73	0·00	0·00	0·54	0·64	0·21	0·21	0·30	0·91	0·30	0·74	0·38	0·21
II.	Harpurhey	0·93	0·53	0·34	0·42	0·45	0·67	0·50	0·34	0·24	0·51	0·94	0·49	0·64
II.	Moston	0·57	0·30	0·42	0·65	0·18	0·11	0·62	0·33	0·27	0·45	0·09	0·34	0·40
II.	Newton	0·52	0·49	0·57	0·27	0·39	0·29	0·36	0·33	0·36	0·36	0·34	0·37	0·46
II.	Bradford	0·75	0·58	0·49	0·49	0·69	0·68	0·52	0·50	0·67	0·71	0·71	0·60	1·03
II.	Beswick	0·75	0·68	0·67	0·49	0·33	0·57	0·32	0·39	0·95	0·55	0·69	0·56	0·26
II.	Clayton	0·68	0·78	0·51	0·56	0·61	0·40	0·44	0·34	0·69	0·29	0·61	0·52	0·43
III.	Ardwick	1·30	0·74	0·94	1·02	0·98	0·75	0·60	0·70	0·68	0·67	0·65	0·67	0·73
III.	Openshaw	1·12	0·80	1·11	0·99	0·78	0·73	0·66	0·58	0·58	0·77	0·65	0·76	0·51
III.	West Gorton	1·12	0·67	0·76	0·81	0·64	0·73	0·66	0·82	0·70	0·62	0·55	0·69	0·71
III.	Rusholme and Kirks...	0·84	0·91	0·86	0·46	0·58	0·49	0·75	0·47	0·29	0·48	0·25	0·55	0·27
III.	Chorlton-upon-Medlock	0·83	0·69	0·77	0·67	0·58	1·10	0·54	0·64	0·69	0·63	0·56	0·68	0·49
III.	Hulme	1·03	0·87	0·97	0·92	0·83	0·92	0·96	0·68	0·79	1·08	0·53	0·85	0·76
III.	Moss Side.....	..	..	..	..	..	..	0·25	0·76	0·66	0·39	0·33	..	0·47
III.	Withington	..	..	..	..	..	..	0·36	0·47	0·34	0·42	0·36	..	0·38
III.	Gorton	..	..	..	..	..	..	..	..	..	0·63	0·63	..	0·49
III.	Levenshulme	..	..	..	..	..	..	..	..	..	0·18	0·35	..	0·47

The numbers of new cases notified are shown for a series of years in Table 3, subdivided according as they are Poor Law cases, from other institutions, or notified by private practitioners. The Local Government Board Orders caused a decided increase in the number of notifications from institutions and practitioners in 1912.

Table 3.

Phthisis, 1912—Number of New Cases Notified.

Year	Poor-law Cases	Institutions	Private Practitioners	Total
1900*	578	455	540	1573
1901	625	373	341	1339
1902	667	305	303	1275
1903	556	550	251	1357
1904	512	440	250	1202
1905	527	588	291	1406
1906	565	510	304	1379
1907	634	646	310	1590
1908	659	498	346	1503
1909	681	542	384	1607
1910	543	760	356	1659
1911	517	897	423	1837
1912	488	947	969	2404
Total	7552	7511	5068	20131

* This table does not include 425 cases notified in 1899.

The sources of notification for 1912, with their distribution in quarters of the year, are shown in the following table.

TABLE 4.

PARTICULARS OF CASES NOTIFIED FROM INSTITUTIONS DURING THE YEAR 1912.

Institutions	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Manchester Union Workhouse	77	52	46	61	236
Chorlton Union Workhouse	39	28	40	25	132
Prestwich Union Workhouse.....	1	8	4	3	16
Poor-law Union Cases	41	27	14	22	104
Royal Infirmary	31	53	61	87	232
Ancoats Hospital	11	16	14	13	54
Chorlton-upon-Medlock Dispensary ...	5	2	...	5	12
Hulme Dispensary.....	...	5	2	1	8
Gartside Street Dispensary	66	25	13	18	122
Medical Mission, Red Bank	7	4	5	3	19
St. Mary's Hospital	15	9	3	1	28
Northern Hospital	15	8	7	17	47
Consumption Hospital	84	83	95	99	361
Southern Hospital	...	...	...	...	...
H.M. Prison	...	...	...	2	2
Jewish Hospital	...	...	...	2	2
Children's Hospital, Pendlebury	5	11	4	...	20
Various Sources	20	8	5	7	40
Total	417	339	313	366	1435
Private Practitioners	268	228	223	250	969

The following table shows the rates of notification in districts.

These rates may be compared with the death-rates in districts, Table 1, and give useful information as to the probable completeness of notification. Generally speaking, notification is most complete in the poorer districts, but there is a general improvement as compared with previous years.

Table 5.—Phthisis, 1912.

		Cases Notified					Deaths	Death-rate	Notification
		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total	1912	Per 1000 living	Rate per 1000
City of Manchester		685	567	536	616	2404	1107	1·54	3·32
I.	Manchester Township	195	164	136	205	700	370	3·22	6·10
II.	North Manchester	144	148	123	157	572	211	1·05	2·84
III.	South Manchester	346	255	277	254	1132	526	1·29	2·78
I.	Ancoats	55	56	31	59	201	112	2·75	4·94
	Central	47	38	32	40	157	88	3·95	7·04
	St. George's	93	70	73	106	342	170	3·28	6·61
II.	Cheetham	26	37	28	52	143	36	0·84	3·32
	Crumpsall	5	6	4	9	24	7	0·68	2·33
	Blackley	4	9	4	8	25	13	0·93	1·79
	Harpurhey	21	14	14	21	70	26	1·51	4·08
	Moston	18	15	12	17	62	21	0·85	2·51
	Newton	36	27	19	25	107	40	0·96	2·56
	Bradford	16	27	24	18	85	36	1·42	3·36
	Beswick	9	6	11	2	28	19	1·63	2·41
	Clayton	9	7	7	5	28	13	0·94	2·02
III.	Ardwick	49	29	31	33	142	51	1·28	3·58
	Openshaw	32	19	19	21	91	32	1·03	2·92
	West Gorton	24	17	20	22	83	32	1·19	3·08
	Rusholme and Kirkmanshulme	24	28	26	16	94	38	0·92	2·29
	Chorlton-upon-Medlock	56	49	43	50	198	110	2·01	3·63
	Hulme	76	53	67	54	250	126	1·99	3·96
	Moss Side	24	16	24	16	80	40	1·17	2·33
	Withington	4	4	5	5	18	38	0·72	0·34
	Gorton	41	30	25	25	121	38	0·88	2·80
	Levenshulme	16	10	17	12	55	21	1·00	2·61

The summary of the histories of infection obtained by the inquiring officers is as follows. The facts here collected would seem to show that there is no foundation for the view that infection is less prevalent between married persons than it is between parents and children :—

TABLE 6.

SOURCES OF INFECTION—PHTHISIS, 1912.

CASES OTHER THAN THOSE NOTIFIED FROM THE WORKHOUSES.

MOST PROBABLE SOURCE OF INFECTION	Likely 1902-1912	1912			
		Likely	Less Likely	Possible	Total
Father	414	85	52	7	144
Mother	282	60	40	8	108
Brother	368	63	15	..	78
Sister	292	51	15	3	69
Husband	152	32	19	1	52
Wife	70	13	11	..	24
Uncle	87	23	4	..	27
Aunt	61	11	4	..	15
Son	63	4	7	1	12
Daughter	55	8	3	..	11
Grandfather	18	1	5	1	7
Grandmother	7	1	4	..	5
Nephew	16	1	1	..	2
Niece	7	..	1	..	1
Father-in-law	4	1	1	..	2
Mother-in-law	9	..	1	..	1
Son-in-law	3	..	2	..	2
Brother-in-law	69	8	1	..	9
Sister-in-law	43	12	1	..	13
Cousin	63	13	2	..	15
Relatives	57	13	11	..	24
Companion	464†	107	39	3	149
Neighbour	195†	42	24	..	66
Tenant (Landlady, etc.)	28	2	3	..	5
Lodger, Fellow-lodger	82	11	4	2	17
Patients, Hospital, etc.	16	5	10	1	16
Employer	27†	4	2	..	6
Workfellow	446†	81	43	..	124
Workplace or Work	151†	7	231	7	245
Houses (including public-houses, etc.)	135†	1	140	..	141
Milk or Food	36	6	56	4	66
Clothing	..	..	2	..	2
Army	14	..	1	..	1
Extension from Bone, etc., Disease	1	..	1	..	1
Railway carriages	..	..	2	..	2
Schoolfellow	16	1	56	5	62
Monkey	1	..	..	..	..
Infected out of Manchester	..	..	..	..	185
Multiple sources	..	..	..	..	441
Insufficient information	..	..	..	..	170
Total	3752	667	814	43	*1879

* This total does not include the 441 cases with Multiple Sources. † Ten years.

The remark already made as to the unreliability of the statements current about the relative infrequence of histories of infection of wives from husbands (or of husbands from wives) is supported by the next table, which relates to Poor Law cases. Here, however, as we might expect, external infection from companions and workfellows shows still larger as compared with family infection.

TABLE 7.

SOURCES OF INFECTION—PHTHISIS, 1912.

CASES NOTIFIED FROM THE WORKHOUSES.

MOST PROBABLE SOURCE OF INFECTION	Likely 1902-1912	1912			
		Likely	Less Likely	Possible	Total
Father	87	13	6	..	19
Mother	93	9	2	..	11
Brother	120	14	2	..	16
Sister	78	7	2	..	9
Husband	97	7	4	1	12
Wife	84	4	1	..	5
Uncle	14	1	..	..	1
Aunt	8	2	..	..	2
Nephew and Niece	28	..	..	..	..
Son	36	1	..	..	1
Daughter	22	..	1	..	1
Step-brother	2	..	..	..	..
Father-in-law	9	..	..	..	..
Mother-in-law	1	..	..	..	..
Son-in-law	3	..	..	..	..
Brother-in-law	18	1	..	..	1
Sister-in-law	15	3	..	..	3
Cousin	9	1	..	..	1
Relatives	13	2	1	..	3
Carried forward	737	65	19	1	85

CASES NOTIFIED FROM THE WORKHOUSES—*continued.*

MOST PROBABLE SOURCE OF INFECTION	Likely 1902-1912	1912			
		Likely	Less Likely	Possible	Total
Brought forward.....	737	65	19	1	85
Companion	273†	25	9	..	34
Schoolfellow	4	..	9	..	9
Neighbour	49†	3	5	..	8
Tenant (Landlady, etc.)	25	2	1	..	3
Lodger and Fellow-lodger	61	4	4	..	8
Employer	6	..	2	..	2
Workfellow	137	3	8	1	12
Workplace or Work	98	..	32	..	32
Houses (including public-houses, etc.)	260	..	161	..	161
Army	37	..	..	..	..
Milk or Food	10	1	5	..	6
Clothing, &c.	..	..	..	..	..
Asylum, Workhouse, etc.....	35	6	9	..	15
Extension from Bone, etc., Disease	1	..	..	..	..
Infected out of Manchester ...	..	..	..	..	68
Insufficient information	..	..	..	..	68
Multiple Sources	..	..	..	..	211
Total.....	1733	109	264	2	*511

* This total does not include the 211 cases with Multiple Sources.

† Ten years.

The following is a general Summary of administrative work. It will be seen that the work of disinfection has greatly increased, while, strange to say, fewer cases have been admitted into hospital. Probably the diminution applies only to Poor Law cases.

TABLE 8.—STATISTICS RELATING TO THE NOTIFICATION OF PHTHISIS.

	1912	1911	1910	1909	1908	1907	1906	1905	1901 to 1904	1899 Sep. 1 to Dec. 31 1900	Totals
Cases Visited and Registered—											
Males	1354	1090	958	1034	971	988	929	817	3469	1017	12627
Females	993	717	571	567	529	600	464	565	2064	732	7802
Totals	2347	1807	1529	1601	1500	1588	1393	1382	5533	1749	20429
Houses Disinfected—											
1. By Corporation—											
(*a*) With solution of chlorinated lime only	884	754	665	590	572	581	495	475	2326	581	7923
(*b*) With lime solution only	0	0	0	0	0	0	0	0	17	109	126
(*c*) By Esmarch's method and solution of chlorinated lime	2842	1983	1599	1419	1177	1106	1042	1086	1934	0	14188
Totals	3726	2737	2264	2009	1749	1687 (in 1556 houses)	1537 (in 1346 houses)	1561 (in 1387 houses)	4277	690	22237
2. By Tenants— Esmarch's method	3790	3342	3127	2690	3011 (in 1632 houses)	2860 (in 1627 houses)	2637 (in 1566 houses)	2016 (in 1267 houses)	8097	1299	32869
Totals	7516	6079	5391	4699	4760	4547	4174	3577	12374	1989	55106
Specimens of Sputum Examined:											
Positive	1061	851	616	531	419	350	349	298	961	104	5540
Negative	1876	1403	1135	985	866	654	562	475	1429	154	9539
Totals	2937	2254	1751	1516	1285	1004	911	773	2390	258	15079
Deaths—											
(*a*) Among total cases visited and registered	993	832	765	814	746	687	680	566	2529	653	9265
(*b*) Among all cases for Manchester (including those under *a*)	1107	1116	1070	1115	1089	1082	1089	988	4416	1403	14475
Cases reported as sent to Hospital	1874	1957	1772	2002	2225	1993	1541	1349	4544	991	20248
Notified from common lodging-houses	201	199	193	231	302	288	223	155	887	187	2866
Number of cases under observation	4305	3484	3105	2869	2572	2467	2278	1901	5273	about 600	...

Further particulars as regards details of administration are given in the following statement :—

4,590 special cases have been entered in the Business Book for investigation and cleansing after removal to hospital, change of residence, death, or under special circumstances.

722 letters have been sent to owners with reference to as many houses, with subsequent correspondence in many instances.

826 tenants (about 16·7 per cent. of the special cases) have allowed the removal of bedding, etc., for disinfection ; or have themselves burned it in a few instances.

35,000 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

311 spit bottles have been supplied for use outside the house.

A great mass of correspondence has been carried on in regard to the circumstances and placing of patients, but a great part of the work cannot well be classified.

During the period February to December, 1912, Dr. Sutherland, the Tuberculosis Medical Officer, dealt with 530 special cases, which involved the examination of 1,147 persons.

Treatment in the Crossley Sanatorium and in Clayton Vale Hospital.

The conditions for admission to the 20 beds reserved for the Corporation in the Crossley Sanatorium are : that tubercle bacilli should have been demonstrated in the sputum, that the cases shall belong to the working or equivalent class, and that they shall belong to a household in which there are not less than three persons at risk. They should also be in the earlier stage of the disease ; but the exaction of this requirement is really left with the physicians of the Consumption Hospital. It is true that we also examine all our cases, but that is with a view to compare notes, form impressions, and so as to follow the history of the cases.

As a matter of fact, many of the cases have not been in the first stage of the disease. This will account for the high proportion of deaths amongst them.

On the other hand, the cases admitted into Clayton Vale are nearly all in an advanced stage. Bearing this in mind, we cannot regard the results as bad. Admission into both institutions is generally looked upon as a great boon, and, besides removing a source of infection from the household and relieving the burden and strain, it assists us in getting our work under the notification scheme carried out to have these beds to offer.

Both institutions also serve as centres of inspiration, as regards living in the open and the taking of personal precautions. Undoubtedly the possession of these beds has very greatly helped us in our notification work.

The figures are as follows:—

TABLE 9.

DELAMERE SANATORIUM.

Males.

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1912
1905	16	1	0	10	3	3
1906	18	2	1	12	3	2
1907	29	2	1	19	3	6
1908	36	3	1	19	9	7
1909	27	4	2	10	9	6
1910	27	5	0	10	9	8
1911	38	2	0	8	5	25
1912	41	3	1	5	6	29
Total	232	22	6	93	47	86

Females.

1905	14	0	1	8	4	1
1906	14	1	0	10	3	1
1907	16	2	0	14	2	0
1908	13	3	0	9	2	2
1909	16	1	0	10	2	4
1910	11	4	0	4	4	3
1911	18	2	0	6	2	10
1912	22	3	0	1	1	20
Total	124	16	1	62	20	41

TABLE 9—*continued.*

CLAYTON HOSPITAL.

Males.

Year	No. of new cases	No. of re-admissions	Died in the Hospital	Died elsewhere	Lost sight of	Known to be still living Dec. 31st, 1912
1904	20	0	3	16	1	0
1905	25	2	8	14	3	0
1906	40	3	6	28	6	0
1907	30	2	9	16	3	2
1908	31	2	9	14	3	5
1909	22	3	4	10	5	3
1910	37	1	4	11	8	14
1911	54	4	8	10	15	21
1912	54	4	5	6	2	41
Total	313	21	56	125	46	86

Females.

1905	20	0	6	11	2	1
1906	21	6	6	11	2	2
1907	27	4	9	11	5	2
1908	31	7	11	10	4	6
1909	24	3	14	6	0	4
1910	34	4	12	8	9	5
1911	88	5	13	16	25	34
1912	44	4	6	0	4	34
Total	289	33	77	73	51	88

It has been inferred from the application of certain tests that a high proportion of all children are tuberculous. If this is true, we must further infer that the great majority of tuberculous cases recover. It is certain, however, that a large number of children are, and remain, tuberculous, and that many others recover, though not without impairment. The Education Authority in Manchester have been presented with an estate, and are equipping a school for the treatment of incipient cases of the disease. This is a most hopeful line of work. Nor have we, under our notification scheme, neglected to attend to it.

Both in adult life and in childhood the most effective protection against Consumption is to be found in a well-nourished frame and healthy regular habits, good food, good clothes, a clean dry habitation, and regular hours.

Unfortunately, from one cause or another, the means of the families of Consumptives are, or sink below, the level necessary for a healthy life.

The extent to which this occurs has been exhibited in previous years, and is now shown in the following table.

It is a lamentable fact that out of the 523 cases in this position, as many as 255 remained at home. Under such circumstances, infection cannot fail to persist.

Table 10.

Table Showing Particulars of Distress in Cases of Phthisis Notified during the Year 1912, Classified according to the Requirements of the Family in Excess of the Income. Food Calculated on the Atwater Scale. Household Sundries Calculated on Mr. Rowntree's Scale.

Shortage up to ..... in Shillings.

Conditions affecting Individual Cases	- 5	- 10	- 11	- 12	- 13	- 14	- 15	- 16	- 17	- 18	- 19	- 20	- 25	25+	Total
Alive December 31st, 1912	149	92	9	17	8	17	11	7	7	10	6	4	27	9	373
Dead December 31st, 1912	58	39	5	7	5	4	5	4	3	1	7	3	8	1	150
Removed to Union Hospital.. ..	44	36	7	10	3	9	7	5	2	5	5	3	15	2	153
Removed to Delamere Sanatorium	11	6	1	2	1	2	1	..	2	..	1	..	1	..	28
Removed to Bowdon	6	5	1	1	2	..	..	..	..	..	..	..	1	..	16
Removed to Clayton Hospital ..	11	7	..	..	..	1	..	..	1	..	1	..	..	..	21
Removed elsewhere..	26	13	..	4	1	1	1	1	..	1	..	..	2	..	50
Remained at home	109	64	5	7	6	8	7	5	5	5	6	4	16	8	255
Relief received..	5	9	5	3	1	4	8	2	2	5	6	4	16	4	74

STATEMENT BY THE TUBERCULOSIS OFFICER,

DR. D. P. SUTHERLAND.

I began my work as Tuberculosis Officer in January, 1912, and proceeded to ascertain the contacts associated with the investigation of notified cases who most required attention, and made it my first duty to submit these to careful examination and enquiry.

The clinical work in connection with Tuberculosis has involved 1,147 examinations and 559 visits, many of these cases being contacts. In a consecutive series of 271 suspicious contacts examined, 90 were found to be suffering from Pulmonary Tuberculosis. It is to be noted that these cases all had symptoms that gave rise to suspicion that Tuberculosis existed, and they occurred amongst 130 families, one member at least of each family being a previously notified case of Phthisis.

In these and all other cases examined suitable treatment was recommended, and the cases followed up afterwards as far as possible.

Many cases that claimed recovery came under observation, and arrest of the disease had taken place in a certain number, though some evidence of activity was frequently found.

Other patients in whom there has been a suspicion of Phthisis have been examined, and 114 consultations with medical practitioners have been held in respect to doubtful cases.

Institutional care was advised, and the necessary arrangements made for the admission of suitable patients.

Amongst cases presenting difficulty in diagnosis there were instances of Anæmia, Malnutrition, Bright's Disease, Mitral and Aortic Valve Disease, Aortic Aneurism, Pneumonia, Empyema, Chronic Bronchitis, Gastric Carcinoma, and various diseases of the nose and throat.

Tuberculin has been administered to assist diagnosis, its use being chiefly limited to cases in hospital.

The provision of Sanatorium Benefit under the National Insurance Act of 1911 has caused a large increase in the amount of clinical and office work, and each case has demanded careful investigation in order that appropriate treatment might be recommended, arrangements also being made for keeping a continuous record of the progress of every patient.

The Baguley Sanatorium has been visited, and all the patients in the Institution seen, once a week.

This is not to be regarded as a report on my work, but merely as an introductory statement to the full report which will be given at the end of 1913.

D. P. SUTHERLAND.

TUBERCULOSIS CONFERENCE AND EXHIBITION.

A Tuberculosis Conference and Exhibition of the National Society for the Prevention of Consumption were held in Manchester and Salford during 1912, the Conference being held on June 5th, 6th, and 7th, and the Exhibition from June 4th to 27th.

The opening address of the Conference was delivered by Professor E. W. Hope, M.O.H., of Liverpool.

Papers were read, and discussions taken part in by many eminent authorities.

Special attention was paid to the prevalence of Tuberculosis in childhood, and the various schools now in use for infected and delicate children.

The Countess of Aberdeen presided over the Afternoon Session on June 7th, and delivered an opening address.

On the afternoon of June 5th, Professor Delépine kindly gave a demonstration, and provided tea at the Public Health Laboratory; while the Council of the University gave a reception in the Museum at the University in the evening.

On June 6th Sir Thomas Thornhill Shann entertained delegates to tea at the Swinton House Schools, whither guests were conveyed in special cars provided by the Tramways Committee. Pendlebury Hospital for Children was visited after the schools had been gone over.

A reception was held by the Lord Mayor in the Town Hall on the evening of June 7th.

It is, perhaps, invidious to select special papers for mention, but we desire particularly to mention an address given by Dr. Leslie Mackenzie and a communication by Councillor Arthur Neal, of Sheffield.

The meetings were well attended, and it was felt by all that the Conference had been a complete success, not only as regards the serious side, but also the social.

The Ladies' Committee, presided over by the Lady Mayoress, were responsible for the arrangements for entertainments and hospitality to the delegates, and to their work the success of this part of the Conference is due.

The Tuberculosis Exhibition was held in Manchester from June 12th to 18th in the Milton Hall, and from June 21st to 27th in the Hulme Town Hall, while popular lectures were given each night. The Town Hall Committee kindly gave the use of their Halls at half the usual price.

During the mornings school children of over 11 years visited the Exhibition through the kind arrangement of Mr. Wyatt, and in all 3,021 children attended.

The Health Visitors, under Miss Howard, demonstrated the exhibits, and instructed the children in a most able manner. Essays were written by the scholars, and prizes awarded for the best description of the visit to the Exhibition.

Nurses from all the District Nursing Homes acted as demonstrators during the afternoons and evenings, and special Women's Afternoons were arranged by the Ladies' Committee, where talks and cooking demonstrations were given.

A Literature Stall was arranged, and sellers provided by Miss Ada Cook.

Pathological exhibits were sent by Professors Delépine, Lorrain Smith, and Hope.

An attendance of 9,223 persons at the Exhibition was recorded, in addition to the scholars, and 3,300 attended the popular lectures.

A large share of the clerical work in connection with the Conference and Exhibition was done by Mr. G. H. Lock, to whom thanks are due.

It is hoped that the Exhibition was helpful and instructive to many, and that the lessons taught by the demonstrators will bear fruit by lessening the spread of infection in the homes of the people.

MILK AND TUBERCULOSIS.

I beg to submit my report on the work done during the year 1912.

Manchester Cowsheds.

These number 229, on 118 farmsteads, having a total housing capacity for approximately 2,000 cows.

One cowshed was closed during the year, by the fact that the cow-keeper left, and no tenant was found to take possession immediately. The cowshed was not a satisfactory one, and, in view of certain conditions which need not be entered into, it was difficult to get any alteration carried out.

The general standard of cleanliness and supervision has been fairly well maintained, allowing for the ordinary lapses which are bound to occur in any business.

Manchester Cows.

The total number of inspections of City cows during the year was 7,981. A careful enumeration of the cows housed was not made during the year. The last time this was done the total number was found to be 1,943. The total will now be somewhat less.

There are, as I have stated before, very many cows of a high class kept in Manchester, but, speaking generally, the past year has been a very disturbing one. There have been many factors to disturb the general business of dairying, particularly in regard to the maintenance of our herds in the high state of excellence to which we had attained.

To commence with, the price of cows rose to an abnormal height; it would be no exaggeration to say that the cost of good-class dairy cows had risen not less than £3 or £4 per head, and the cost of all foodstuffs had risen correspondingly. The supply of dairy cows was already limited enough to make matters difficult, when the outbreak of foot and mouth disease appeared, bringing about an enormous dislocation of trade. The markets were closed, and one of our greatest sources of supply was entirely cut off. I refer to Ireland. How serious this has been can only be appreciated by those who come intimately in contact with the dairy farmers, and more particularly those whose business is carried on within the area of the boundaries of the City, for it must be understood that, practically speaking, there is no breeding of cattle within our area. The system in vogue is what is usually described as the "one note" system, the practice being to buy good cows at the height of profit, milk them as long as the milking period lasts, and, where cows are left barren, the period of lactation is as a general rule considerably prolonged; finally the cow is fattened and disposed of to the butcher. Thus the conditions within the City are entirely unlike those on the country farms.

Economically the system is bad, as it denudes the bovine population of many excellent animals whose services would be extremely valuable for breeding purposes. On the other hand it is true that in a large measure the system affords considerable protection against a disease such as tuberculosis, inasmuch as the population is continually being changed and refreshed by carefully-selected, healthy young cows, which, being well housed and well fed, show little tendency to develop disease. To be successful, however, there must be a plentiful supply of the particular class of cow required, and they must be obtainable at a reasonable price. As I have pointed out, this has not been the case, and I am afraid the result is that we are passing through a period of retrogression, and, by virtue of the state of the markets, many have been compelled to purchase animals of a class that for years I have done my best to prevent; while now, without illegitimate and unfair interference with trade, I am compelled to accept animals of a class I object to very much.

The class I refer to may be termed the rejects of the country farms; they are past their best, and the result is that they find their way into our areas in large numbers.

I do not for one minute wish to say that all the farmers are so situated, for many of them have maintained their stocks at the same level of excellence at all costs, but all are not on a financial equality. There is no dishonesty of purpose, but necessity compels them to drift into a groove which will be difficult to get out of for many of them.

For the reasons which I have given it will be apparent that the necessity for rigid and repeated inspection is greater now than it has been for some years past, and it will be impossible to maintain the high standard of freedom from infection in the milk supply produced at our doors, unless adequate assistance is provided to enable an adequate supervision to be exercised.

During the year, three cases of tuberculosis of the udder were found in the cows within the City. No case was of such a character as to attract the suspicions of the owners. All three cows were killed, and in two cases the carcases were passed as fit for food, and in the third case the carcase was condemned.

In addition to the above, 15 cows were removed from the herds in the City on my instructions, because they were, in my opinion, suffering from tuberculosis in one or other of its many forms, other than disease of the udder.

The Manchester Milk Clauses.

No changes have been made in the methods of working the Milk Clauses of the Manchester General Powers Act, 1899.

Tuberculous Milk.

During the year, 576 samples of milk have been collected by the Food and Drug Inspectors in connection with Tuberculosis. Of this number, 555 were collected at the railway stations, and the remainder from carts coming in by road. The number of farmers represented in the total is 484.

Of these 484 farmers, 294 reside in Cheshire, and 41 of them (13·94 per cent.) sent tuberculous milk; 75 live in Derbyshire, and 3 of them (4·0 per cent.) sent tuberculous milk; 49 live in Staffordshire, and 5 of them (10·2 per cent.) sent tuberculous milk; 50 live in Lancashire, and 3 of them (6·0 per cent.) sent tuberculous milk; 3 live in Shropshire, and 1 of them (33·33 per cent.) sent tuberculous milk; 10 live in Yorkshire, and 1 of them (10·00 per cent.) sent tuberculous milk; in addition, 1 each lives in Westmoreland, Lincolnshire, and Wiltshire, and none of these sent tuberculous milk.

The usual table showing the percentage of milk samples found tuberculous from 1901 onwards is inserted, being completed to the end of the year 1912.

TABLE I.

YEAR	Number of farmers' milk tested during the year	Total number found to cause Tuberculosis in the experimental animal	Percentage of farmers sending Tuberculous milk	Percentage of farmers from EACH COUNTY whose milk was found to cause Tuberculosis.					
				Cheshire	Derbyshire	Staffordshire	Shropshire	Lancashire	Yorkshire
1901	272	27	9·9	10·46	9·23	8·00	10·00	...	...
1902	345	36	10·4	12·72	8·65	4·01	...	8·31	...
1903	329	45	13·6	14·76	9·58	15·15	40·00	...	...
1904	318	29	9·1	11·17	6·02	...	...	7·14	25·00
1905	565	47	8·3	10·26	6·00	6·38	...	2·98	12·50
1906	542	42	7·7	8·60	6·50	9·30	12·50	4·0	...
1907	562	38	6·76	7·71	4·48	6·94	12·50	3·70	...
1908	289	27	9·34	11·56	6·25	7·70	...	2·94	12·50
1909	535	31	5·79	4·80	7·47	8·57	11·11	3·33	...
1910	468	30	6·41	6·20	8·69	5·55	...	...	...
1911	494	51	10·32	11·11	2·5	12·12	100·0	12·20	50·00
1912	484	54	11·15	13·94	4·0	10·20	33·33	6·00	10·00
Total..	5203	457	8·78	—	—	—	—	—	—

On examination of the above table it will be found that the percentage of farmers sending tuberculous milk was 11·15, the highest figure of any year during the past 12 years, with the exception of the year 1903. In fact since the year 1909, when we reached our lowest figure (5·79 per cent.) the rise has been extraordinary; the most marked rise being first apparent in the figures for the year 1911, when 10·32 per cent. of the mixed samples examined were found to cause tuberculosis.

The continued rise in the amount of tuberculous milk is disturbing, and, as far as I can see, very difficult of explanation.

I ventured in last year's report to suggest that the summer of 1910 had had disastrous effects upon the health of cattle, inasmuch as they were all

subjected more or less to conditions of insufficiency of food, and much of the food available was of inferior quality, so far as its nutrient properties were concerned. Despite many statements to the contrary, I am still of opinion that the results of that season were far more serious than many may suppose, and will be felt for some time to come.

If the rise so marked during the past two years in the amount of tuberculous milk, and, presumably, the amount of bovine tuberculosis, were due solely to the relaxation of vigilance on the part of the stock-keeper, it would not be difficult for men experienced in the inspection of cattle, and more particularly the assessment of the character of the individuals concerned, to detect some evidence of it on the farms. So far as I am concerned, I find no evidence at all to justify any such accusation, and, in proof of this, I may say that I have only seen one really well-marked case of tuberculosis of the udder during the whole year. The general condition of the cattle is apparently good, and, in most cases, even to the skilled observer, a careful examination of the cows at pasture would show nothing.

I note that such a shrewd observer as Professor Delépine, whose opinions on these matters have to be treated with the greatest respect, is inclined to think that what may be termed the period of retrogression is due in some part to the carelessness of farmers, induced by the promise of protective legislation, or, rather, legislation which appears protective, on account of the promise to pay compensation for diseased animals. I wish I could agree to this supposition ; it would be a very simple explanation, and would merely require for its determination a strengthening of the measures in force. Unfortunately, the actual experience which I have obtained is that they do not welcome legislation at all, and if the experiences gained immediately prior to the Tuberculosis Order, 1913, coming into force are any indication of the attitude of the dairy farmers, then the conclusion forced upon one is the exact opposite. For the six months prior to this enactment coming into effect, cows to which the very slightest suspicion could be directed, were being removed from very many farms. The farmer seldom, or never, welcomes the inquisitorial inspector, be he medical, veterinary, or police, but he would much rather see either of the first two on his farm than the latter.

Where actually the true cause lies for the increase evident is difficult and even impossible at present to say, but one may attempt to draw deductions by some facts that are made evident by an examination of the material at hand.

In the first place, I may indicate one feature of the clinical work of the year 1912. I have been carefully examining the records of the past years, and

I find no year in which so many very young cows were found suffering from tuberculosis of the udder. The figures, on analysis, are really rather striking, for of the 44 cows found during the year suffering from tuberculous disease of the udder, no less than 16 had had not more than two calves, and of these nine were heifers which had only had one calf. The last figure is a particularly striking one, for, so far as our previous records are concerned, in no three years have we had as many young animals in the first lactation period proved to be suffering from disease of the udder.

I cannot admit in this case that there has ever been any less care taken in the examination of heifers than aged cows on the grounds that the young animals are less likely to be the subject of disease of the udder than older animals. Less time is required for the examination it is true, as the udder is only small and partially developed; but even slight lesions are much more easily detected, and I have always regarded the careful inspection of the recruits as a matter of the highest importance.

Most young bovines commence the duties of maternity long before maturity, and, as a matter of actual practical experience, all other things being equal, if the highest milking powers are to be developed, the function of calf-bearing must not be unduly delayed, and, as will also be evident, it is essential that milking cattle should be brought into profit as soon as is compatible with sound principles of dairying.

On the other hand, if these young animals have to suffer during their period of adolescence from lack of good food, and living, for the most part, on the great majority of farms, in infective surroundings, for no greater indictment could be brought against farmers than the awful conditions which too frequently surround the rearing of calves, then it would appear that every essential has been provided for the unrestricted development of tuberculosis in the young animals.

It may be that there are many other factors, of which we are not cognisant, which play an important part among the causes of the rise in the amount of tuberculosis. As I have already stated, I have seen no evidence of neglect, nor are there many "wasters" about, but I have certainly had the impression that latterly there have been more cases of suspicious conditions simulating tuberculosis, the pulmonary lesions being, as usual, most marked.

I have no figures to show that there has been actually an increase in clinically diagnosable tuberculosis beyond the general impression that it is so.

There is another factor of some considerable importance, and which may also play some part, and that is the indiscriminate slaughter of young calves in such enormous numbers for veal. I do not refer to it in regard to their fitness for slaughter, or otherwise; it is rather from the economic standpoint that such wholesale slaughter in dairy districts is not a sound policy. I know that it will be stated immediately that calf-rearing is not profitable. With that I have nothing to do, but to point out that a very large percentage of the female calves slaughtered are the offspring of excellent dairy animals of a reasonably good milking capacity, and such as would most probably grow up into good useful dairy animals themselves.

The effects of this policy will be felt by the farmers themselves, even if it is not being felt now. I have referred in the earlier portion of my report to the abnormally high price of stock for the past two years. I don't think that an abnormally increased demand is so much responsible as the fact that the supply is inadequate, and, in my opinion, nothing could be more disastrous than a shortage of good, well-bred, healthy young stock to replenish herds frequently; in fact the supply should exceed the demand to produce the ideal conditions of having a wide field of selection.

During the year 44 cows were found to be suffering from tuberculosis of the udder, and of these 43 were slaughtered. Of these the carcases of 8 were passed as fit for food, 4 partially, and the remaining 31 were condemned as unfit for food.

Eleven notifications were received during the year, but in not a single case was the subject of notification found to be suffering from tuberculosis of the udder. In 9 cases, however, the cows were found to be suffering from pulmonary tuberculosis, and were slaughtered, and in every case the diagnosis was confirmed at post-mortem.

There are no other special features of any note in regard to the work of the year to which attention should be drawn. It should be stated that the diagnosis of early tuberculosis of the udder presents increasing difficulties, requiring the very greatest care in the manipulation of the udder itself. The discovery of the tubercle bacillus microscopically in such a high percentage of our cases by Professor Delépine has been of the greatest value both to the farmers concerned, to whom the saving of time means a considerable saving of money, and also to us, as it has enabled us to dispose finally of our cases much more quickly than was formerly the case.

One case occurred during the year to which special reference might be made, as illustrating some of the difficulties in finding the actual cow producing the infective milk. A sample of mixed milk was taken in the usual way at the railway station, and was reported by Professor Delépine as having been found to cause tuberculosis in the inoculated animals. The farm was visited by me, and 46 cows were carefully examined. The herd was an excellent one, the cows, without exception, being all big, fine, healthy-looking animals, with no appearance of disease among them.

I found one cow presenting a very slight lesion of no decided character in one quarter of her udder, and from this cow a sample was obtained; and I also took a sample of milk from a cow which presented a somewhat irregular udder, with no definite lesion.

Both these samples were submitted to the biological test by Professor Delépine, and he reported both as negative.

In the meantime a further mixed sample was obtained and submitted for examination, and again Professor Delépine reported that the mixed milk was tuberculous. I again visited the farm, and could find still no evidence, except the cow first referred to; she had been moved to another stall in the cowshed, and this time the lesion appeared most prominent in another quarter, so a sample was taken from this quarter, and submitted again for examination, and again with negative results. On this occasion I took a mixed control from the whole herd myself, as there was just a possibility that, owing to there being so many others of the same name in the district, a mistake in the identity of the farm had been made. That this was not so was proved when Professor Delépine reported my control sample to be tuberculous.

I therefore again visited the farm, and on this occasion divided the whole herd into nine groups, and took a mixed sample from each, and each of these nine group controls was found free from infection; but in the interval between this last visit and the previous one the roan cow from which I had already taken two samples had been sold. That no other cow had been sold I was quite certain, because I had the whole herd under observation so much that I could have told almost to a certainty if any cow had been changed, and,

further, during the greater part of the time this investigation was being carried out, the Prohibition of Movement Order was in force on account of some outbreaks of Foot and Mouth Disease in the area.

The case is a curious one, and it is rather remarkable that all the mixed samples taken while this particular cow was in the herd should prove tuberculous, and that the infection should cease immediately she was removed; and yet the two special samples taken direct from her yielded no result. Further mixed samples taken from the milk supplied from this farm remain free from infection.

It was unfortunate that we lost sight of this cow, but it was not possible to make the farmer keep her, however interesting she might have proved scientifically; the financial aspect appealed to him, and he could see that she was the only cow in the herd of which I had the slightest suspicion.

The total number of country cows examined during the year is 3,203.

From the particulars supplied by the farmers, 399 of whom replied to our queries, we find that on these farms there were 7,975 cows, or an average of 19·98 cows per farm; or if the general figures are averaged, it will be found that the milk of nearly 10,000 cows was tested during the year.

I should again like to place on record the valuable assistance rendered to Manchester by Dr. Meredith Young, the Medical Officer for the County of Chester. His activity in the work of improving the conditions of cattle housing in the County is unabated.

Tuberculin Test.

The table attached shows nearly from the commencement the results obtained in keeping a large herd free from tuberculosis.

The work is an unqualified success. The development of the branch I referred to last year, namely, the rearing of all the young stock sufficient to replenish the herd, is being pushed on.

The results are most encouraging, the young stock have done well, and we shall soon have sufficient to be entirely self-supporting.

The milk produced by this herd is supplied to Monsall Fever Hospital, Clayton Hospital, and Baguley Sanatorium.

J. W. Brittlebank, M.R.C.V.S., D.V.S.M.

Table II.

Below is presented a table showing the actual results of each application of the test:—

Date of Test	Total Number Tested	MILKING HERD. Animals having been previously tested				PROBATIONARY ANIMALS. Animals not previously tested, but purchased subject to passing the test				Total Number of Animals Passing Test
		Number Tested	Number Re-acting	Number Passed	Doubtful Re-actions	Number Tested	Number Re-acting	Number Passed	Doubtful Re-actions	
October, 1904	103	85	0	84	*1	18	4	13	1	97
April, 1905	102	87	0	87	0	15	4	11	0	98
October, 1905	98	84	0	84	0	14	5	9	0	93
April, 1906	107	91	0	91	0	16	6	10	0	101
October, 1906	102	73	1	72	0	28	7	21	0	94
April, 1907	132	95	0	95	0	27	19	8	0	103
October, 1907	119	81	0	81	0	28	13	15	0	96
April, 1908	122	88	0	88	0	33	25	8	0	96
October, 1908	123	91	1	90	0	32	16	16	0	107
April, 1909	119	88	2	86	1	31	15	16	0	101
October, 1909	115	93	0	93	0	22	14	8	0	107
April, 1910	104	87	0	87	0	14	8	6	0	93
October, 1910	107	91	1	90	0	16	9	7	0	98
April, 1911	102	83	1	82	0	19	8	11	0	94
November, 1911	122	85	1	84	0	37	34	3	0	88
April, 1912	110	89	0	89	0	21	12	9	0	101
November, 1912	91	89	1	88	0	43	39	4	0	128

* Animal tested, but developed Bronchitis during test.

The following table of samples submitted in connection with the Manchester Milk Clauses summarises the work of the year :—

1912.

Number of specimens of mixed milk taken at the station	555	
Number of specimens of mixed milk elsewhere	21	
Number of each found to contain tubercular infection	Station 52 / Elsewhere 2	In addition, 17 control samples were taken at the stations and elsewhere, of which 9 were proved capable of causing tuberculosis.
Number of farms visited in consequence	56	Additional 6 visited as result of notification or otherwise. Total visits 62.
Number of specimens taken from individual cows as result of following up station and other samples	94	And 12 mixed samples
Number of milks from individual cows proved to be tuberculous out of those given in the preceding column	41	And 1 mixed sample.
Number of udders proved to contain tuberculous lesions	40	
Number of milks taken from individual cows as the result of *notification* or *otherwise* than owing to the presence of tubercle bacilli in mixed milk	...	
Number of udders in last column shown to be tuberculous by bacteriological examination	...	
Total number of specimens submitted for examination	682	

Annual Report of the Medical Officer of Health for the year 1912, for the County Borough of Manchester, on the administration of the Factory and Workshop Act, 1901, in connection with

Factories, Workshops, Workplaces, and Homework.

1.—Inspection of Factories, Workshops, and Workplaces.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories (including Factory Laundries)... ...			
Workshops (including Workshop Laundries)...	11674	327	3
Workplaces (other than Outworkers' premises included in Part 3 of this Report)			
Total	11674	327	3

2.—Defects found in Factories, Workshops, and Workplaces.

Particulars	Number of Defects			No of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
*Nuisances under the Public Health Acts:—**				
Want of cleanliness	578	578	...	1
Want of ventilation	26	26	...	...
Overcrowding	2	2	...	...
Want of drainage of floors	1	1	...	...
Other nuisances	95	95	...	1
Sanitary accommodation—				
Insufficient	26	2	...	...
Unsuitable or defective...	66	11	...	...
Not separate for sexes	10	2	...	...
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (S. 101)	...	...	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ...	103	103	...	1
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	51	51	...	...
Total	958	871	...	3

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

4.—Registered Workshops.

Workshops on the Register (S. 131) at the end of the year		Number
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshops	4400
	Bakehouses	562
	Total number of Workshops on Register ...	4962

5.—Other Matters.

Class	Number
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	140
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)—	
Notified by H.M. Inspector	49
Reports (of action taken) sent to H.M. Inspector	49
Other	144
Underground Bakehouses (S. 101) :—	
Certificates granted during the year	...
In use at the end of the year	39
Not in use at the end of the year	13
Demolished	4

Date 1913

Signature

Medical Officer of Health.

Note.—The Factory and Workshop Act, 1901 (S. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

3.—HOME WORK.

NATURE OF WORK *	Outworkers' Lists, Section 107.									Outwork in Unwholesome Premises, Section 108			Outwork in Infected Premises, Sections 109, 110		
	Lists received from Employers						Notices served on Occupiers as to keeping or sending lists	Prosecutions							
	Sending twice in the year			Sending once in the year											
	Lists †	Outworkers †		Lists	Outworkers			Failing to keep or permit inspection of lists	Failing to send lists	Instances	Notices served	Prosecutions	Instances	Order made (S. 110)	Prosecutions (Sections 109, 110)
		Contractors	Workmen		Contractors	Workmen									
Wearing Apparel—															
(1) Making, etc.	924	807	5526	38	3	121	A Notification sent with a blank list to each Employer twice a year	..	8	..	1	..	..	..	..
(2) Cleaning and washing	4	..	10	..	..	..		..	..	..	..	..	..	..	..
Household linen	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Lace, lace curtains, and nets	2	..	10	..	..	..		..	..	..	..	..	..	..	..
Curtains and furniture hangings	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Furniture and upholstery	14	7	41	..	..	..		..	1	..	..	..	..	..	..
Electro-plate	..	..	..	..	..	..		..	..	..	..	..	..	..	..
File making	..	..	..	1	..	1		..	..	..	..	..	..	..	..
Brass and brass articles	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Fur pulling	2	..	13	..	..	..		..	..	..	..	..	..	..	..
Cables and chains	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Anchors and grapnels	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Cart gear	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Locks, latches, and keys	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Umbrellas, etc.	46	20	551	2	..	6		..	..	..	..	..	..	..	..
Artificial flowers	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Nets, other than wire nets	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Fents	6	..	16	2	..	4		..	..	..	..	..	..	..	..
Quilts	10	..	321	..	..	..		..	..	..	..	..	..	..	..
Gold beaters	..	..	..	1	..	6		..	..	..	..	..	..	..	..
Paper, etc., boxes, paper bags	6	..	17	..	..	..		..	..	..	..	..	..	..	..
Window blinds	2	..	2	..	..	..		..	..	..	..	..	..	..	..
Sponges	..	..	..	1	..	1		..	..	..	..	..	..	..	..
Hair pads	4	1	4	..	..	..		..	..	..	..	..	..	..	..
Carding, etc., of buttons, etc.	2	..	6	..	..	..		..	..	..	..	..	..	..	..
Opticians	2	2	..	..	..	..		..	..	..	..	..	..	..	..
Handkerchief hemmers	50	2	779	..	..	..		..	..	..	..	..	..	..	..
Chocolates and sweetmeats	..	..	..	..	..	..		..	..	..	..	..	..	..	..
Total	1074	839	7296	45	3	139		..	9	..	1	..	..	..	..

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class *only*, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2, 3, and 4 are the *total* number of the lists received from those employers who comply strictly with the statutory duty of sending *two* lists each year and of the entries of names of outworkers in those lists. The entries in column 2 must necessarily be *even* numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

HOUSING OF THE WORKING CLASSES.

So far back as the year 1885 a Sub-Committee was appointed to take steps for the improvement of housing conditions in Manchester, the first Chairman being the late Alderman Walton Smith.

Proceedings were at first taken under the Artizans' and Labourers' Dwellings Acts, 1868 to 1885, up to March 29th, 1887.

After that date and up to the present time they have been taken under Section 41 of the Manchester Waterworks and Improvement Act of 1867.

The procedure as carried out in 1897 was described by the Sanitary Superintendent, and does not differ essentially from that now adopted.

The District Inspector of Nuisances, who is expected to know all the houses in his district, reports to the Sanitary Superintendent houses considered by him to be unfit for human habitation, with a description of the defects noted. The Sanitary Superintendent thereupon certifies the houses to be unfit for human habitation. The Housing Sub-Committee of the Sanitary Committee then visit the houses, accompanied by the Medical Officer of Health, by a representative of the City Surveyor, and by the District Inspector of Nuisances.

If satisfied as to the justness of the Certificate, the visiting Sub-Committee resolves that the owner of the houses be summoned before the Housing Sub-Committee to show cause why the houses should not be closed.

The owner is accordingly summoned to appear before the Housing Sub-Committee.

If the Housing Sub-Committee remains of opinion that the houses should be closed, a Closing Order is made, a fixed period being given before the Order will be posted.

Under the present mode of procedure the Officer of the City Surveyor who is attached to the Sanitary Committee, and is at the head of a staff dealing with alterations to insanitary dwellings and closets, prepares a scheme, with plans, by which the houses may be rendered sanitary, unless the Sub-Committee has previously expressed the opinion that the houses are so insanitary that no

scheme should be prepared. The owner is notified of this scheme, and is invited to see the plans of proposed alterations before the case is heard by the Committee. If he accepts the invitation the Surveyor discusses the scheme with him, so that when he appears before the Committee he is aware of the alterations which the Committee consider sufficient and desirable. The Closing Order is not posted if the scheme is accepted, and if the owner proceeds to carry it into effect.

On the other hand, the owner may prefer a different scheme, and, if he objects to the scheme of the Corporation, he is invited to send in his own scheme of alterations to the Sub-Committee, which meets once a week.

Should he send in an alternative scheme, and this be found acceptable, the Order is not posted, unless the owner neglects to carry it into effect. Usually the scheme of the Corporation is found by the owners to be the best, with, it may be, minor alterations.

Before the Surveyor's scheme is submitted to the Housing Sub-Committee, the proposals are discussed between the Medical Officer of Health and the Surveyor, and afterwards the Chairman of the Sub-Committee examines the plans with the Surveyor, and devotes considerable time to the consideration of any difficulties involved. The Sub-Committee is attended by the Medical Officer of Health and the Surveyor, and all plans of alterations are exhibited.

At first these alterations were concerned mainly with back-to-back houses, of which there were a large number, probably not less than 10,000.

These back-to-back houses were deficient in ventilation, and the closets provided for them were such and so situated as to constitute in various ways a danger to health. Often they were pail-closets gathered into stacks in a court, or facing a street, and placed underneath dwellings. The result was that they were often very foul.

These houses had, of course, no open space attached to the dwelling. An enumeration in the year 1890 showed that in that year the back-to-back houses numbered 9,240. At the time of writing there are stated to be only 96 back-to-back dwellings remaining in the City.

As the number of these dwellings diminished, the insanitary state of other dwellings became prominent, and it was manifest that at all events the worst of the through dwellings compared unfavourably with the best of the back-to-back houses. The insanitary through houses were those in which long rows of houses were separated behind by narrow passages of three or four feet in width, and small yards, containing pail-closets and wooden ash-tubs, access being given for cleansing purposes by openings from the passage in the yard walls, the closet itself being entered by the inhabitants of the houses from the small yard. These recesses opening on the passage were often very foul, and the smell in the passages in warm summers very oppressive. The air was stagnant. The passages and yards were uneven. The drains were often defective, and the ground saturated with sewage. The houses were often very dilapidated. These conditions were combined with a universal defect in the houses, incidental to the fact that when they were built there were no building bye-laws, and damp-proof courses were absent.

Further, these long gloomy recesses were frequently blocked at the ends of the rows by houses fronting streets at right angles to the parallel rows of houses. Such were the conditions, widely prevalent, which faced the Housing Committee. They had to provide these houses with a fair circulation of air, to reconstruct the drains and passages, to secure a sufficiency of light, to obtain the conversion of the closets into a water-carriage system, to provide proper means of storing and removing house refuse, and to bring repairable houses into a condition of repair.

Occasionally it has been necessary to remove rows of houses to provide open spaces and ventilation, courts have been abolished or opened up, and the whole aspect of districts has been altered. If they still often appear unlovely, the condition now of those which have been altered is widely different from its primitive condition, though many still await alteration.

The magnitude of the work which has been patiently pursued, often under severe attacks, is scarcely to be realised by the figures. However, 24,238 houses have been dealt with, the greater part of which are in the older and more insanitary parts of the City, although, as will be seen from the following table, prepared in the department of the Sanitary Superintendent, no part of the City has been neglected.

TABLE I.—SHOWING THE NUMBER OF HOUSES CERTIFIED TO, AND DEALT WITH BY THE COMMITTEE ON THE RESPECTIVE DISTRICTS FROM FEBRUARY, 1885, TO DECEMBER 31ST, 1912 :—

DISTRICT.		Number Certified	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Re-opened	Number Closed	Number not closed	Number which stand adjourned
Central	1	753	136	252	185	73	107	..
	2	1,578	174	695	522	129	58	..
	3	1,527	350	400	424	212	141	..
Cheetham	4	527	18	65	383	30	31	..
	5	77	2	4	61	5	5	..
St. George's	6	2,171	281	784	726	330	50	..
	7	1,347	110	436	568	61	172	..
	8	359	47	34	163	21	94	..
Ancoats (Part of)	9	2,412	339	587	969	110	407	..
„ „	10	1,127	230	375	481	21	20	..
Beswick	10	54	6	6	30	2	10	..
Ancoats (Part of)	11	1,106	253	311	487	14	41	..
Ardwick (Part of)	12	1,030	193	291	415	52	75	4
„ „	13	343	12	27	217	2	85	..
C.-on-M.	13	164	12	15	120	5	12	..
	14	1,399	128	372	705	72	120	2
	15	1,391	239	296	766	42	48	..
Hulme	16	1,280	19	53	978	15	215	..
	17	1,877	124	282	1,148	46	277	..
	18	1,734	205	511	892	50	76	..
Crumpsall	19	75	25	10	32	8	..	..
Blackley	20	196	11	26	134	24	1	..
Harpurhey	20	21	2	13	6	..	..	..
Moston	21	20	..	8	8	4	..	..
Newton	22	411	100	106	180	13	12	..
	23	178	24	49	98	7	..	..
Bradford	24	201	31	53	109	..	8	..
Clayton	25	44	10	6	13	15	..	..
Openshaw	26	200	25	54	98	23	..	..
West Gorton	27	340	10	25	189	27	89	..
Rusholme & Kirk.	28	173	50	37	79	7	..	..
Moss Side	29	2	..	..	2	..	..	..
Levenshulme	30	11	..	..	..	2	9	..
Gorton	31	64	4	3	18	19	20	..
	32	46	2	1	6	..	37	..
Totals		24,238	3,172	6,187	11,212	1,441	2,220	6

The above table summarises the whole of the operations both as regards distribution in place, and as regards the results of the procedures adopted. The population affected approaches 100,000 persons.

From the above table it will be seen that though the greatest amount of attention has been given to the more central parts of the City, no portion

has been neglected. It has always been part of the policy of the Housing Sub-Committee to distribute their work in such a manner as not to produce a severe dearth of house accommodation in any one part of the City. The attainment of this object has rendered it necessary to pay attention now to one, now to another, district. Alderman Walton Smith contended that by this graduated policy the inhabitants were able to readjust themselves, a gradual pressure moving the population to the outer part of the City being thus exerted.

It is possible to ascertain by a study of the Census figures whether, in fact, the result is to increase crowding in rooms or not, and figures given in the Annual Report for 1906 appear to show that, in fact, overcrowding had diminished in 1901. An enlightened policy in regard to tram fares must, of course, have an important influence on the movement of the population.

The variation in activity of the operations of the Housing Sub-Committee is shown in the following table :—

TABLE 2.—RETURN SHOWING THE NUMBER OF HOUSES CERTIFIED TO, AND DEALT WITH BY, THE HOUSING, ETC., SUB-COMMITTEE IN EACH YEAR FROM FEBRUARY, 1885, TO DECEMBER 31ST, 1912, AND THE ALTERATIONS MADE AND REPORTED ON DURING THAT PERIOD.

YEAR	Number Certified and ordered to be Closed	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Re-opened	Number Closed	Number not Closed	Number which stand Adjourned
1885	63	10	46	7	..	..	..
1886	115	28	75	12	..	..	..
1887	139	51	60	22	6	..	..
1888	219	63	136	16	4	..	..
1889	300	73	194	18	15	..	..
1890	202	79	82	37	4	..	..
1891	358	129	144	72	13	..	..
1892	720	208	335	153	24	..	..
1893	675	206	243	166	60	..	..
1894	904	208	556	122	18	..	..
1895	930	227	464	222	17	..	..
1896	782	162	319	274	27	..	..
1897	441	68	202	157	14	..	..
1898	506	99	190	209	8	..	..
1899	859	189	398	219	53	..	..
1900	399	80	150	133	36	..	..
1901	132	10	45	74	3	..	..
1902	545	152	170	199	24	..	..
1903	545	112	173	240	20	..	..
1904	717	127	225	339	26	..	..
1905	576	80	195	289	12	..	..
1906	558	98	102	347	11	..	..
1907	2,716	225	690	1,504	297	..	..
1908	2,239	165	449	1,391	179	55	..
1909	2,188	91	151	1,879	67	..	..
1910	1,834	115	166	1,312	199	42	..
1911	2,327	87	173	1,403	181	483	..
1912	2,249	30	54	396	123	1,640	6
Totals ..	24,238	3,172	6,187	11,212	1,441	*2,220	6

* In 1382 of these the owners have arranged to carry out alterations to meet the requirements of the Committee, many of which are in progress.

It will be seen that the work done has greatly increased from 1907 up to the present time. In fact the Housing Sub-Committee now meets once a week, and the amount of business which it transacts is always large.

It will be noted that there are considerable ebbs and flows in the number of houses dealt with year by year. These represent periods of attack in the Council, and periods of renewed energy.

It is to be hoped that the Council will now continue to approve of work which appears to be having a decidedly beneficial effect on the health of the population.

These alterations are not the only works done for the improvement of dwellings. The so-called conservancy system of dealing with excreta, which ten years ago prevailed in Manchester, is now approaching abolition. This great work has partly been carried out under the Sanitary Superintendent, and partly under the City Surveyor, both, however, being under the control of the Sanitary Committee.

The alterations effected in ten years' time are exhibited in the following table, which also shows the conversions remaining to be carried out. It is very necessary that these should not be effected without corresponding alterations in insanitary dwellings, and the rate of alterations must now be retarded. But there needs only to make conversion complete that the associated insanitary dwellings should be dealt with.

The population affected by the conversions already effected is probably over 350,000, since it is to be remembered that many of the privies converted were used by more than one family. The conversions carried out during the last ten years are shown on the following table :—

RETURN OF PAIL-CLOSETS AND MIDDEN PRIVIES ALTERED TO WATER-CLOSETS.

	Number of Pail-closets altered to Water-closets	Number of Midden Privies altered to Water-closets
From April 1st, 1903, to March 31st, 1904.. ..	1,899	1,379
,, ,, 1904, ,, ,, 1905.. ..	2,222	1,691
,, ,, 1905, ,, ,, 1906.. ..	3,297	2,600
,, ,, 1906, ,, ,, 1907.. ..	3,746	3,662
,, ,, 1907, ,, ,, 1908.. ..	1,296	918
,, ,, 1908, ,, ,, 1909.. ..	10,081	2,844
,, ,, 1909, ,, ,, 1910.. ..	11,296	1,378
,, ,, 1910, ,, ,, 1911.. ..	8,552	1,204
,, ,, 1911, ,, ,, 1912.. ..	6,970	3,180
,, ,, 1912, ,, ,, 1913.. ..	4,214	533
	53,573	19,389

The distribution of these conversions during one year (1912) is shown in the following table:—

TABLE 3.—NUMBER OF PAIL-CLOSETS AND MIDDEN PRIVIES REPLACED BY WATER-CLOSETS, FROM JANUARY 1ST TO DECEMBER 31ST, 1912, AND THE NUMBER STILL REMAINING TO BE ALTERED.

District		Pail-closets replaced by Water-closets	Midden Privies replaced by Water-closets	Total substitution	Pail-closets requiring substitution	Midden Privies requiring substitution	Total still requiring substitution
Central	1	56	..	56	178	..	178
	2	93	..	93	343	..	343
	3	90	..	90	381	..	381
Cheetham	4	180	..	180	180	..	180
	5	54	..	54	..	..	..
St. George's	6	190	..	190	278	..	278
	7	357	..	357	63	..	63
	8	526	..	526	144	..	144
Ancoats	9	201	..	201	434	..	434
	10						
Beswick	10	145	..	145	38	..	38
Ancoats	11	112	..	112	67	..	67
Ardwick	12	221	..	221	371	..	371
	13	261	..	261	162	..	162
C.-on-M.	13						
	14	292	..	292	841	..	841
	15	369	..	369	291	..	291
Hulme	16	474	..	474	120	..	120
	17	426	..	426	238	..	238
	18	96	..	96	178	..	178
Crumpsall	19	2	12	14	1	5	6
Blackley	20	156	4	160	..	32	32
Harpurhey	20						
Moston	21	6	..	6	10	..	10
Newton	22	27	9	36	34	28	62
	23	83	10	93	170	..	170
Bradford	24	32	..	32	26	..	26
Clayton	25	..	..	..	27	38	65
Openshaw	26	..	..	..	..	..	..
West Gorton	27	1	7	8	2	31	33
Rusholme	28	..	..	..	25	..	25
Moss Side	29	..	111	111	..	165	165
Levenshulme	30	..	21	21	3	6	9
Gorton	31	..	504	504	..	69	69
	32						
Totals		4450	678	5128	4605	374	4979

At the same time house drainage has been reconstructed over the whole of the Central districts of the City, this reconstruction extending over a period of 15 years.

During the 7 years October 8th, 1904, to December 30th, 1911, these alterations have entailed re-sewering the back passages and repaving the yards and passages. The dwelling-houses so drained during the last 7 years number 107,623, representing a population of over 400,000.

The operations so carried out are not only registered in the books of the Sanitary Committee, but are recorded on maps, so that the amount of alteration can be seen at a glance, so far as the houses and closets are concerned. The drainage alterations have not been mapped out.

These maps in crowded districts give the impression that but little of the Central areas has been neglected, and tell better than anything else the improvements which have been effected.

The details of the alterations are also preserved not only in the records, but in a growing accumulation of plans which show the past and present conditions.

The detailed work contemplated in the Housing and Town Planning Act, 1890, has thus been carried on in Manchester on a great scale for a long period of years, and the beneficent results are not yet fully realised. It is not possible to infer from the improvement in the death-rate of a community, either that good work has been done in the older parts of the City, or that improved statistics are due to any particular class of sanitary work.

The first difficulty disappears when we take the statistics for what may be called the slum area of Manchester, in which the death-rates now are no greater than was the death-rate for the whole City of Manchester in 1891, notwithstanding that the poverty of Lancashire seeks the centre of Manchester with increased intensity. At all events some potent causes must have been at work, and improved housing is certainly one of them.

Reverting to the tables relating to insanitary dwellings, the corresponding tables for 1912 are given below.

Table 4 shows the number of houses certified as unfit for human habitation in 1912, with the result up-to-date. It will be seen that the majority of the houses not closed over the long series of years, during which these Orders have been made, belong to the year 1912, and that this is due simply to the stage which operations had reached at the end of the year.

TABLE 4.—SHOWING THE NUMBER OF HOUSES CERTIFIED TO, AND DEALT WITH BY, THE COMMITTEE, FOR THE YEAR 1912.

DISTRICT	Number Certified and ordered to be Closed	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Re-opened	Number Closed	Number not Closed	Number which stand Adjourned
1	103	..	..	..	2	101	..
2	89	2	8	19	10	50	..
3	93	..	..	2	18	73	..
4	13	..	..	..	4	9	..
5	5	..	..	..	..	5	..
6	39	2	1	18	11	7	..
7	..	..	..	..	..	..	..
8	124	..	..	29	5	90	..
9	339	..	5	51	36	247	..
10 Ancoats ..	54	6	2	24	2	20	..
10 Beswick ..	11	..	1	10	..	..	..
11	60	9	2	7	1	41	..
12	164	5	22	52	6	75	4
13 Ardwick ..	97	..	..	12	..	85	..
13 C.-on-M. ..	17	..	1	4	..	12	..
14	131	..	..	12	..	117	2
15	72	2	3	22	..	45	..
16	251	..	1	41	2	207	..
17	336	4	6	59	15	252	..
18	80	..	2	13	1	64	..
19	..	..	..	..	..	..	..
20 Blackley ..	2	..	..	..	2	..	..
20 Harpurhey	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..
22	15	..	..	3	..	12	..
23	16	..	..	16	..	..	..
24	8	..	..	..	..	8	..
25	..	..	..	..	..	..	..
26	2	..	..	2	..	..	..
27	67	..	..	..	..	67	..
28	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..
30	11	..	..	..	2	9	..
31	13	..	..	..	6	7	..
32	37	..	..	..	..	37	..
Total ..	2,249	30	54	396	123	*1,640	6

* In 931 of these cases the owners have arranged to make alterations to meet the requirements of the Committee.

It will be seen from the tables previously given that the rate of conversion of privies is slackening. This arises partly from the fact that comparatively few closets remain to be converted, partly from the circumstance that the remaining houses at which conversion is required are chiefly the residuum requiring the attention of the Housing Sub-Committee on account of their insanitary condition.

The following is a classification of the houses represented to the Committee as unfit for human habitation, arranged according to the regulations of the Local Government Board.

This classification does not represent the houses inspected, but only those reported as unfit for human habitation. It has not been possible to supply figures for the houses inspected with special reference to the Housing and Town Planning Act.

The question as to the manner in which house inspections shall be made and registered is now receiving the attention of the Housing Sub-Committee.

TABLE SHOWING THE RESULTS OF INSPECTION OF HOUSES REPORTED TO THE HOUSING SUB-COMMITTEE AS UNFIT FOR HUMAN HABITATION DURING THE YEAR 1912.

Number of Dwelling-houses inspected for all purposes	83,119
„ considered by the District Inspector of Nuisances unfit for human habitation	2,247
„ of representations made by the Sanitary Superintendent under a Local Act	2,247
„ of Closing Orders made	2,208
„ of Dwelling-houses in which the defects were remedied without making Closing Orders	39
„ put in a fit state for human habitation after Closing Order had been made	1,125
General character of defects stated to exist :—	
Ventilation defective	1,541
Light defective	1,351
Closet accommodation defective	2,070
External disrepair	1,603
Internal disrepair	1,080
Drainage defective	631
*Dampness	179
Water supply defective	74
Dirty—always immediately cleansed.	
Arrangement for deposit of refuse defective	1,991
Yards require paving	201
Passage requires paving	113

The new houses certified during the year 1911–1912 is given in the following table. It will be noted that there is a considerable reduction as compared with the numbers for previous years, so great, in fact, as to create doubt as to whether the City is growing at the rate estimated by the Registrar-General.

* All insanitary houses are more or less damp, since there is no damp-proof course in the older houses.

TABLE A.—STATEMENT AS TO THE NUMBER OF NEW DWELLING-HOUSES CERTIFIED AS FIT FOR HUMAN HABITATION IN THE VARIOUS DIVISIONS OF THE CITY BETWEEN 1892 AND 1912.

DISTRICT	1892 to 1893	1893 to 1894	1894 to 1895	1895 to 1896	1896 to 1897	1897 to 1898	1898 to 1899	1899 to 1900	1900 to 1901	1901 to 1902	1902 to 1903	1903 to 1904	1904 to 1905	1905 to 1906	1906 to 1907	1907 to 1908	1908 to 1909	1909 to 1910	1910 to 1911	1911 to 1912	TOTALS
Ancoats	54	70	7	97	113	53	25	28	33	1	4 including 1 Lodging house	11	1	46†	13‡‡	39	1	16*			843
Central.....	NOTE:—193 Artizans in Dwellings																		5	5	
St. George's ..		...	...	...	...	...	...	...	...	5	1	9	*95	...	...	...	31	*			334
Cheetham ...	76	97	37	155	269	370	315	128	253	171	199	240	133	186	226	101	280	145	99	87	3713
Crumpsall ...	18	24	44	39	37	41	18	102	53	56	82	85	57	50	60	66	44	5	7	14	926
Blackley	13	5	19	41	31	56	67	58	33	42	57	53	124	95	130	175	102	125	103	87	1456
Harpurhey ...	60	170	191	342	253	346	327	169	129	70	92	14	7	30	149	7	12	3	...	...	2486
Moston	74	89	148	193	225	263	248	282	179	78	109	156	222	327	481	394	436	383	318	102	4741
Newton	10	30	65	140	96	136	134	110	90	211	167	230	193	287	159	130	91	112	10	6	2467
Bradford	49	21	65	67	198	91	103	198	47	239	29	40	7	5	...	26	57	19	12	...	1398
Beswick	15	8	...	97	118	128	98	119	175	94	...	15	...	...	4	...	...	...	...	1	882
Clayton	6	9	39	111	152	161	229	234	164	104	107	113	103	113	112	112	131	85	111	62	2325
Ardwick	25	59	177	261	192	295	361	145	110	109	171	13	45	36	27	15	11	...	...	7	2097
Openshaw ...	65	15	60	69	71	152	119	182	80	190	145	155	91	84	108	97	39	131	73	114	2386
Gorton (West)	30	2	2	20	87	236	178	57	...	...	...	50	38	3	...	...	...	...	...	nil	991
Rusholme and Kirk.	76	89	211	277	294	354	486	462	288	346	258 / 122	453	261 / 95 / 356	345 / 109 / 454	474 / 118 / 592	408 / 57 / 465	253 / 64 / 317	114 / 74 / 188	71 / 55	39	6341
C.-on-M.	97	88	18	36	46	57	1	32	48	27	12	15	5	2	1	38	56	57	2	...	761
Hulme	1	1	...	29	24	4	3	2	4	1	6		1	2	...	1	...	...	...	...	81
Moss Side ...	...	...	...	...	...	...	...	...	...	...	...	...	364	220	66	51	103	100	9	41	954
Withington ...	...	...	...	...	...	...	...	...	...	...	...	...	362	560	506	532	633	666	614	468	4341
Gorton	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	24	31	16	71
Levenshulme..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	197	58	23	278
City Totals ...	669	777	1083	1974	2206	2743	2712	2308	1686	1744	1561	1652	2c4	2500	2634	2249	2344	2256	1578	1072	39404

* NOTE.—Including 64 Dwelling-houses belonging to Sanitary Committee and 1 Lodging-house at Chief Fire Station. † Including 1 Lodging-house and 44 Tenements ‡ Including 2 Lodging-houses.

The corresponding table for neighbouring districts shows a similar reduction:

TABLE B—NEW HOUSES CERTIFIED IN OUTSIDE DISTRICTS FROM 1893 TO 1912.

DISTRICTS	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Salford	564	454	613	883	872	1268	885	674	818	733	603	599	619	519	581	415	554	563	293	248
Eccles	109	100	118	113	165	219	202	215	215	185	244	226	323	346	218	202	231	178	117	74
Stretford	38	274	356	313	355	340	262	265	320	329	379	483	365	376	341	236	304	258	181	101
Urmston	42	34	80	102	135	88	43	18	21	24	35	106	90	50	35	40	13	20	18	3
Withington Urban District Council: Withington, including Whalley Range	17	50	70	79	162	171	225	169	59	52	35	139	..	..	..	..	..	..	..	..
Didsbury	33	26	79	55	45	66	139	66	37	34	43	68	..	..	..	..	..	..	..	..
Burnage	26	21	..	1	24	13	1	14	14	59	1	..	..	..	..	..	..	..	..	..
Chorlton-cum-Hardy	10	37	94	155	182	152	55	191	220	182	247	215	..	..	..	..	..	..	..	..
Moss Side	..	..	..	..	..	119	35	403	400	314	157	234	..	..	..	..	..	..	..	..
Levenshulme	..	..	..	..	..	224	290	420	180	236	278	318	328	184	131	92	233	..	..	..
Droylsden	..	..	..	..	..	126	36	41	43	..	135	50	33	38	65	30	34	12	12	37
Gorton	..	..	..	..	..	397	411	352	353	187	402	362	391	685	519	339	149	..	..	..
Totals	839	996	1410	1701	1940	3183	2584	2828	2680	2335	2559	2800	2149	2198	1890	1354	1518	1031	621	463

It appears somewhat remarkable that a period of prosperity should coincide with a marked falling-off in building operations. This is due, no doubt, partly or chiefly to the high price of building materials, but the high price of food during 1912 may also have had to do with it.

It cannot be inferred from the small number of houses erected that there is any slackening in the demand for dwellings, and it is probable, therefore, that at the present time there is in progress some increase in density of population per room.

MONSALL HOSPITAL.

Report by Dr. JAMES FLETCHER, Medical Superintendent.

REPORT FOR 1912.

The number of patients admitted during the year was 2,303, which is 145 more than in 1911; the admissions of Scarlet Fever and Diphtheria were higher, but those of Enteric Fever, Erysipelas, and Puerperal Fever rather lower than in the previous year.

An increased number of patients were suffering from more than one disease, or were incubating a second disease, on admission, whilst in a large number of cases the notified diagnosis was considered to be incorrect.

The average daily number of patients in hospital was 318·3, which is higher than in 1911. The average length of stay in hospital for all patients was 49·7 days.

The average daily number of officers, nurses, and servants was 161·1.

The fatality rate amongst the patients for all diseases was 7·7 as against 6·6 in 1911; 43, or almost a quarter of the deaths, occurred within 48 hours of admission.

The fatality rates for Scarlet Fever, Diphtheria, Enteric Fever, and Puerperal Fever were higher, but that of Erysipelas lower than in 1911.

The health of the staff during the year was, generally speaking, good. Five nurses contracted Enteric Fever, three Scarlet Fever, two Mumps, and one each Whooping Cough and German Measles; all the above made good recoveries with the exception of one nurse, who unfortunately succumbed to Enteric Fever.

Sixty-nine applications were received for the post of Ward Sister and 335 for Probationerships, of which 7 and 40 respectively were accepted.

Seven nurses were transferred from Baguley Sanatorium to complete their training.

Fourteen Probationers left during or at the end of their trial months, whilst 25 nurses finished their training, 7 of whom proceeded to a general hospital.

SCARLET FEVER.

The number of patients admitted was 1,409, or 183 more than in 1911. Of 31 admissions, 22 were also suffering from Whooping Cough, 7 from Chickenpox, and one each from Diphtheria and Measles; whilst of 13 others, 6 were incubating Chickenpox, 4 Whooping Cough, 2 Measles, and 1 German Measles.

The type of disease was certainly rather more severe than in 1911; 44 deaths occurred, giving a fatality rate of 3·1 per cent., the rate being higher in males than in females. Five patients died within 48 hours of admission.

The average stay in hospital for cases which recovered was 59·03 days; for fatal cases 16·6.

POST-SCARLATINAL DIPHTHERIA AND DIPHTHERIA "CARRIERS."

Seven patients developed an attack of Post-Scarlatinal Diphtheria, but all made good recoveries.

As the occurrence of this complication was associated with the finding of cases of Rhinorrhœa in which the presence of the Diphtheria Bacillus was demonstrated in practically pure growth, cultures were, during the last eight months of the year, taken from the nose and throat of every Scarlet Fever patient on admission, and subsequently from the nose and throat on transference to a convalescent ward. As a result of this investigation, about 12 per cent. of the patients were found, on or after admission, to be harbouring the bacillus, the nose in 94 per cent. of the cases acting as the "nidus."

The fact that the Diphtheria Bacillus is often a powerful factor in the persistence of some cases of convalescent Rhinorrhœa is shown by the rapidity with which the condition clears up on the injection of Antitoxin.

"Return" Cases.

The number of alleged infecting cases, which caused 58 secondary cases, out of a total of 1,357 discharges, was 51; this gives a percentage of 3·7 as against 4·2 in 1911.

If the interval which elapsed between the arrival home of the infecting case and the onset of the "return" case be limited to a month, the rate becomes 2·8 per cent.

The average number of days ill of the infecting cases was 65·5, and the average interval, in days, between the return home of the patient and the onset of the "return" case 20·2, the extremes being 2 and 75.

Forty of the 51 infecting patients had uncomplicated attacks, and although 50 of the 51 patients appeared on discharge to be in a normal state of health, 11 developed Rhinorrhœa, 2 "sore" nose, 2 Otorrhœa, 1 "sore" nose and desquamation, and 1 desquamation at some time or other after arrival home.

Three of the alleged infecting cases showed no signs or symptoms of Scarlet Fever whilst in hospital, and in 7 instances the "return" case was a member of another family with whom the infecting case was stated to have come in contact; the age of the "return" case was less than that of the infecting one in 60 per cent. of the cases.

DIPHTHERIA.

Three hundred and thirteen patients were admitted, or 26 more than in 1911. Of 14 admissions, 12 were also suffering from Measles and two from Whooping Cough; whilst of 5 others, 3 were incubating Whooping Cough and 1 each Measles and Chickenpox.

Sixty-one deaths occurred, giving a fatality rate of 21·03 per cent.; the rate being higher in males than in females. Twenty-five of the deaths occurred within 48 hours of admission, and in 6 cases a co-existent attack of Measles was the main cause of death.

The larynx was involved, on admission, in 29 per cent. of the cases.

The average stay in hospital for cases which recovered was 52·5 days; for fatal cases 6·4.

Tracheotomy was performed on 54 patients, of whom 28 died, giving a fatality rate of 51·8 per cent. Of the deaths, 15 occurred within 48 hours of admission.

A swab was taken before admission in only 45 per cent. of the patients.

ENTERIC FEVER.

The number of admissions was 145, or 54 less than in 1911.

Twenty-eight patients died, giving a fatality rate of 20·8 per cent.; the rate being much higher in males than in females. Two deaths occurred within 48 hours of admission.

The increased fatality rate is due to a high proportion of the cases being admitted late in the disease, and to many of the patients having evidently ingested a large dose of the specific organism.

The average stay in hospital for cases which recovered was 60·3 days; for fatal cases 13·8.

The stools and urine of all patients ready for discharge were submitted to bacteriological examination. Of 106 cases, 97 gave negative results and 9 positive; the stools being positive in 4 instances, the urine in 4, and stools and urine in 1.

ERYSIPELAS.

The admissions numbered 112, a decrease of 8 on the previous year.

Six deaths resulted, giving a fatality rate of 5·5 per cent. Two deaths occurred within 48 hours of admission.

The average stay in hospital for cases which recovered was 25·2 days; for fatal cases 4·5.

PUERPERAL FEVER.

Eighty-eight patients were admitted, a decrease of 2 on 1911. The infant was in 55 instances, admitted with the mother.

Fifteen deaths occurred, giving a fatality rate of 15·9 per cent.; one death took place within 48 hours of admission. Of the deaths, 5 were due to Peritonitis, 3 to Septicæmia, 3 to Pneumonia, and 1 each to Cerebral Embolism, Fatty Degeneration of Heart, Pneumonia and Abscess of Lung, Peritonitis and Septic Arthritis.

The average stay in hospital for cases which recovered was 32·8 days; for fatal cases 16·4.

The average number of days ill on admission for cases which recovered was 4·7; for fatal cases 9·3.

OTHER DISEASES.

In this class are included a large number of patients whose illness was incorrectly diagnosed, certain cases of non-notifiable disease, and infants admitted with their mother.

Twenty-two deaths occurred, giving a fatality rate of 9·2 per cent. Eight deaths took place within 48 hours of admission.

The average stay in hospital for cases which recovered was 32·4 days; for fatal cases 7·7.

LABORATORY REPORT.

The work done in the Laboratory shows a great increase, due chiefly to the large number of Diphtheria "carriers" admitted and the routine examination of the stools and urine of Enteric Fever patients, for discharge purposes.

All the necessary media have been prepared by the Dispenser at the hospital.

The number of Bacteriological examinations performed were as follows:—

Cultures from Throat, Nose, Ear, and Eye	13,468
Cultures from Uterus	57
Widal Reactions	89
Typhoid Stools and Urine	117
Examination of Sputum	4
„ Hair for Ringworm	5
„ Pus	1
	13,741

JAMES FLETCHER.

MONSALL HOSPITAL.

STATISTICAL REPORT FOR THE YEAR 1912.

Remaining in Hospital on January 1st, 1912	365
Patients admitted during 1912	2,303
	2,668
Recovered and died during 1912	2,264
Remaining in Hospital on December 31st, 1912	404
	2,668
Total number of deaths during 1912	176
Net mortality	7·7%
Of the deaths, 43 occurred within 48 hours of admission	24·4%
Daily average number of patients	318·3
Daily average number of officers, nurses, and servants	161·1
Average stay of patients (in days)	49·7

Table showing Monthly Distribution of Diseases throughout the Year.

Discharges and Deaths.

1912	Scarlatina	Diphtheria	Enteric Fever	Erysipelas	Puerperal Fever	Other Diseases	Total
January	152	13	21	8	8	19	221
February	82	26	5	14	11	22	160
March	136	30	15	4	6	17	208
April	98	30	6	8	7	21	170
May	93	14	9	13	13	26	168
June	83	28	18	12	8	27	176
July	102	21	17	4	4	20	168
August	112	27	10	8	10	21	188
September..	90	15	4	4	11	13	137
October	123	24	9	9	8	15	188
November..	192	30	8	8	3	16	257
December	138	32	12	16	5	20	223
Total	*1401	†290	134	108	94	237	2264

* Of these, 7 had Scarlatina and Varicella
„ 22 „ „ „ Pertussis
„ 11 „ „ „ Ringworm
„ 1 „ „ „ Diphtheria
„ 1 „ „ „ Measles

† Of these, 12 had Diphtheria and Measles
„ 2 „ „ „ Pertussis
„ 2 „ „ „ Ringworm

} Co-existent.

Table showing Numbers of Various Diseases treated.

Disease	Remaining in Hospital, Jan. 1st, 1912	Admitted during 1912	Discharges and Deaths during 1912	Remaining in Hospital, Dec. 31st, 1912
Scarlatina	276	1409	1401	284
Diphtheria	39	313	290	62
Enteric Fever.....	25	145	134	36
Erysipelas	6	112	108	10
Puerperal Fever.....	12	88	94	6
Other Diseases	7	236	237	6
Total.....	365	2303	2264	404

Case Mortality Per Cent.

Year	Scarlatina	Diphtheria	Enteric Fever	Puerperal Fever	All diseases
1903	4·7	18·4	19·2	22·2	8·5
1904	3·3	16·3	14·1	50·0	6·5
1905	3·6	19·9	15·1	24·4	8·4
1906	4·5	19·3	18·1	24·4	8·2
1907	4·5	17·2	10·2	24·4	7·4
1908	3·8	19·5	16·8	20·3	7·5
1909	5·7	18·3	16·9	27·0	8·8
1910	3·3	17·8	16·3	19·7	7·7
1911	2·6	19·3	14·5	15·2	6·6
1912	3·1	21·0	20·8	15·9	7·7

Scarlatina.

Age of Patients	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under one year ...	3	...		2	...		5	...	
1 to 2 years ...	22	2		19	2		41	4	
2 to 3 ,, ...	46	7		48	2		94	9	
3 to 4 ,, ...	68	4		78	2		146	6	
4 to 5 ,, ...	76	3		79	5		155	8	
5 to 10 ,, ...	288	9		340	6		628	15	
10 to 15 ,, ...	96	...		108	1		204	1	
15 to 20 ,, ...	41	...		32	...		73	..	
20 to 25 ,, ...	5	...		15	...		20	...	
25 to 30 ,, ...	5	...		11	...		16	...	
30 and over ,, ...	7	...		12	1		19	1	
			Mortality per cent.			Mortality per cent.			Mortality per cent.
Total	657	25	3·8	744	19	2·5	1401	44	3·1

Of the deaths, 3 were complicated by another co-existent disease; 5 deaths occurred within 48 hours of admission.

Percentage Complications in Scarlet Fever, 1912.

Complication	Number	Percentage
Otorrhœa	124	8·8
Rhinorrhœa of Convalescence..	102	7·2
Nephritis	32	2·2
Albuminuria of Convalescence..	37	2·6
Endocarditis	5	0·3
Adenitis and Abscess	25	1·7

SCARLATINA—*continued*

YEAR	No. of Scarlatinal Discharges and Deaths	No. of Cases of Post Scarlatinal Diphtheria	Case Percentage	Died
1901	2669	104	3·90	3
1902	2018	29	1·43	1
1903	1877	8	0·42	2
1904	1560	7	0·45	0
1905	1499	13	0·90	0
1906	1897	10	0·53	1
1907	1548	1	0·06	0
1908	1763	2	0·11	0
1909	1960	1	0·05	0
1910	1573	4	0·25	0
1911	1243	2	0·16	0
1912	1401	7	0·49	0

DIPHTHERIA.

AGE OF PATIENTS	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under 1 year ...	6	2		2	2		8	4	
1 to 2 years ...	14	8		9	1		23	9	
2 „ 3 „ ..	13	2		17	6		30	8	
3 „ 4 „ ...	19	4		19	3		38	7	
4 „ 5 „ ...	22	7		10	5		32	12	
5 „ 10 „ ...	46	7		65	11		111	18	
10 „ 15 „ ...	12	2		16	...		28	2	
15 „ 20 „ ...	3	...		4	...		7	...	
20 „ 25 „ ...	2	...		4	...		6	...	
25 „ 30 „ ...	1	...		2	...		3	..	
30 and over ...	1	...		3	1		4	1	
			Mortality per cent.			Mortality per cent.			Mortality per cent
Total	139	32	23·02	151	29	19·2	290	61	21·03

25 deaths occurred within 48 hours of admission.

Of the deaths, 6 were complicated by other co-existent diseases.

Diphtheria.

Table showing interval elapsing between Date when the Patient was first seen by a Medical Man and the Date of Admission to Hospital, also showing Day of Disease on Admission.

Days' Interval	Interval between admission and date when patient was first seen by a Medical Attendant		Day of disease on admission	Day of disease on admission	
	All Cases	Deaths		All Cases	Deaths
Sent in on the same day	68	20	Sent in on the same day	13	5
1 day interval	51	9	2nd day.....	40	8
2 days' ,, ...	53	8	3rd ,, ...	50	7
3 ,, ,, ...	33	4	4th ,, ...	49	13
4 ,, ,, ...	21	2	5th ,, ...	28	8
5 ,, ,, ...	17	5	6th ,, ...	39	5
6 ,, ,, ...	9	2	7th ,, ...	21	3
7 ,, ,, ...	7	1	8th ,, ...	16	3
8 ,, ,, ...	2	1	9th ,, ...	4	1
9 ,, ,, ...	1	...	10th ,, ...	3	...
10 ,, ,, ...	2	1	Over 10th day ...	12	4
Over 10 days' interval	6	2	No information ...	15	4
No information	20	6			
Total	290	61	Total	290	61

Complications in Diphtheria.

Complication	Number of Cases	Percentage
Otorrhœa	6	2·1
All forms of Paralysis	21	7·2
Cardiac Paralysis alone	3	1·03
Palate alone	12	4·1
Other Paralysis	6	2·1

Tracheotomy Cases.

Age of Patients	No. of Patients	Died	Mortality per cent.
Under 1 year	4	3	75·0
1 to 2 years	9	5	55·5
2 „ 3 „	12	5	41·6
3 „ 4 „	11	5	45·5
4 „ 5 „	7	4	57·1
5 „ 10 „	10	6	60·0
10 „ 15 „	1	...	...
15 „ 20 „	...	...	...
Total	54	28	51·8

Of the deaths, 15 occurred within 48 hours of admission.

Enteric Fever.

Age of Patients	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under one year ...	...	...		1	1		1	1	
1 to 2 years ...	...	...		...	...		...	...	
2 to 3 „ ...	1	...		...	...		1	...	
3 to 4 „ ...	1	...		1	...		2	...	
4 to 5 „ ...	1	...		1	...		2	...	
5 to 10 „ ...	9	...		6	...		15	...	
10 to 15 „ ...	11	...		3	...		14	...	
15 to 20 „ ...	7	1		5	...		12	1	
20 to 25 „ ...	14	5		2	...		16	5	
25 to 30 „ ...	8	3		10	2		18	5	
30 to 35 „ ...	13	4		7	3		20	7	
35 to 40 „ ...	12	3		4	...		16	3	
40 to 45 „ ...	5	2		1	...		6	2	
45 to 50 „ ...	...	...		1	...		1	...	
50 and over ...	7	2		3	2		10	4	
			Mortality per cent.			Mortality per cent.			Mortality per cent.
Total.....	89	20	22·4	45	8	17·7	134	28	20·8

Of the deaths, 2 occurred within 48 hours of admission.

Percentage of Complications in Enteric Fever.

Complication	Number of Cases.	Percentage	Complication	Number of Cases.	Percentage
Pneumonia	8	5·9	Intestinal Hæmorrhage	13	9·7
Peritonitis	4	2·9	Perforation and Peritonitis	4	2·9
Relapse	5	3·7			

Enteric Fever.

Table showing Interval elapsing between Date when Patient was first seen by a Medical Man and the Date of Admission to Hospital, also showing Day of Disease on Admission.

Days' Interval	Interval between admission and date when Patient was first seen by a Medical Attendant		Day of disease on admission	Day of disease on admission	
	All Cases	Deaths		All Cases	Deaths
Sent in on same day...	...	...	Admitted same day	...	...
1 day interval ..	1	...	2nd day	...	..
2 days' ,, ...	3	...	3rd ,, ...	...	...
3 ,, ,, ...	10	1	4th ,, ...	1	...
4 ,, ,, ...	13	3	5th ,, ...	1	1
5 ,, ,, ...	11	2	6th , ...	3	...
6 ,, ,, ...	8	2	7th ,, ...	2	...
7 ,, ,, ...	11	2	2nd week	64	12
8 ,, ,, ...	7	1	3rd ,, ...	32	8
9 ,, ,, ...	6	..	4th ,, ...	8	1
10 ,, ,, ...	6	2	5th ,, ...	19	5
Over 10 days' interval	32	5	Indefinite	4	1
Indefinite	26	10			
Total	134	28	.....	134	28

Other Diseases.

Certified as	Actual Disease	No.
Scarlatina	Tonsillitis	36
,,	Erythema	15
,,	Measles	11
,,	Pneumonia	6
,,	Rötheln	5
,,	Bronchitis	3
,,	Varicella	2
,,	Nephritis	2
,,	Stomatitis	2
,,	Rheumatic Fever	1
,,	Gastritis	1
,,	Mumps	1
,,	Scalds	1
,,	General Tuberculosis	1
,,	Nil	1
Total...88 or 5·88% of cases notified.		
Diphtheria	Tonsillitis	21
,,	Measles	5
,,	Pneumonia	5
,,	General Tuberculosis	1
,,	Tubercular Meningitis	1
,,	Bronchitis	1
,,	Syphilis	1
,,	Nephritis	1
Total...36 or 10·31%		
Enteric Fever	Pneumonia	4
,, ,,	Tubercular Meningitis	3
,, ,,	Influenza	2
,, ,,	Colitis	1
,, ,,	General Tuberculosis	1
,, ,,	Bronchitis	1
,, ,,	Rheumatism	1
,, ,,	Nil	1
Total...14 or 8·80%		

Certified as	Actual Disease	No.
Erysipelas	Eczema	3
,,	Cellulitis	2
,,	Impetigo	2
,,	Septic Wound..	1
,,	Incised ,,	1
,,	Mitral Stenosis.	1
,,	Paraplegia and Bed Sores	1
,,	Syphilis	1
,,	Periostitis	1
Total...13 or 10·40%		
Puerperal Fever	Nil	2
,,	Chronic Bright's Disease	1
,,	Pneumonia	1
,,	Influenza	1
Total...5 or 5·38%		
"With Mother"	With Mother...	55
Measles	Measles	14
For Observation	Nil	4
,,	Infantile Paralysis	1
Continued Fever	Influenza	1
,,	Bronchitis	1
Rötheln	Rötheln	1
Typhus Fever	Chronic Constipation	1
Cancrum Oris.	Cancrum Oris...	1
Infantile Diarrhœa	Infantile Diarrhœa	1
Total...80		

Total of other Diseases, 236.

In the other diseases there were 22 deaths, 8 of which occurred within 48 hours of admission. Total mortality of other diseases, 9·2 per cent.

Particulars of "Return" Cases of Scarlet Fever.

Number of alleged originating cases	51
Ditto "return" cases	58
Alleged originating case percentage of Scarlet Fever patients Discharged	3·7
Alleged "return" case percentage of Scarlet Fever patients Discharged	4·2

Table A.

"RETURN" CASES.

Showing duration of Disease of Originating Case.

Time	No. of Cases
Under 4 weeks	0
4 to 5 ,, ...	0
5 to 6 ,, ...	3
6 to 7 ,, ...	14
7 to 8 ,, ...	13
8 to 9 ,, ...	3
9 to 10 ,, ...	5
10 to 11 ,, ...	3
11 to 12 ,, ...	1
Over 12 ,, ...	9
Total	51

Table B.

"KETURN" CASES.

Showing Condition of Originating Case both On and After Discharge.

Condition on Discharge.

Nothing abnormal	50
Otorrhœa	1
	51

Condition after Discharge.

Nothing abnormal	33
Rhinorrhœa	11
"Sore" Nose	2
Otorrhœa	3
"Sore" Nose and Peeling	1
Peeling	1
	51

Table C.

Showing Interval Elapsing between Discharge of Original Case and Onset of Secondary Cases.

Time	No. of Cases
Under 48 hours	0
2 and under 3 days	1
3 ,, 4 ,,	1
4 ,, 5 ,,	5
5 ,, 6 ,,	1
6 ,, 7 ,,	1
7 ,, 14 ,,	16
14 ,, 21 ,,	10
21 ,, 28 ,,	11
28 ,, 35 ,,	4
5 weeks and over	8
Total	58

Table D.

Showing interval between the Discharge of the 51 alleged Originating Cases and 51 alleged Return Cases respectively, and the percentage of Scarlet Fever Patients Discharged.

Time	No. of Cases	Percentage of Scarlet Fever Patients Discharged
Up to 14 days	21	1·5
15 to 28 days..	18	1·3
Over 28 days	12	0·88
Total..	51	3·7

Note.—Where more than one case is said to have originated from a discharged case, the date is taken from the first.

BAGULEY SANATORIUM.

Dr. HERBERT S. LISTER, Medical Superintendent.

ANNUAL REPORT—1912.

The year 1912 is notable in the annals of the hospital because in this year it ceased to be used for infectious disease, and was converted into a Sanatorium for the treatment of Tuberculosis. This report, therefore, is divided into two sections :—

(i) The period from January 1st to October 16th, during which the hospital was used for Infectious Diseases.

(ii) The period from November 8th to December 31st, when Pulmonary Tuberculosis was being treated.

The three weeks intervening between these two periods were occupied by the disinfection and cleaning down of the wards and hospital generally, in preparation for the admission of Tuberculous patients.

FEVER.

During the nine and a half months from January 1st to October 16th, 326 cases were admitted, which, with the 104 remaining in hospital from the previous year, made a total of 430 patients under treatment.

The daily average number of patients was 60·4—very much less than in any recent year. This was due to the non-admission of patients in preparation for the conversion of the hospital into a Sanatorium for Consumptives, and so as to lessen the number who would subsequently require to be transferred to Monsall Hospital.

The Fatality Percentage.

The fatality percentage upon all cases was 1·39.

In Scarlet Fever alone the death-rate was 1·33.

In Diphtheria the death-rate was somewhat lower than usual, being 4·36. The mortality from the "Special Districts" was as usual very much higher than from the Manchester areas, being 12·5 as compared with 5·00.

The following tables give a general review of all cases treated during this period :—

LIST A.—*All cases—Present in Hospital on January 1st, 1912, and admitted, discharged, or died during 1912.*

DISTRICT	Cases in Hospital on Jan. 1st, 1912	Admitted	Discharged	Died	Total Cases treated	Death-rate per cent. on discharges and deaths
Withington	58	105	161	2	163	1·22
Bucklow	11	48	58	1	59	1·69
Other Districts... (Cheadle, Bowdon)	4	28	31	1	32	3·12
Private	..	..	..	...	..	...
Manchester ..... (Including Moss Side and Levenshulme)	31	174	174	2	176	1·14
Totals	104	326	424	6	430	1·39

LIST B.—*All cases admitted during 1912—Divided according to their diagnosis and the districts from which they came.*

DISTRICT	Scarlet Fever	Diphtheria	Other Diseases	Cases sent in as one disease found on admission to be suffering from another	Cases found on admission to be suffering from two or more diseases—mixed infections	Totals
Withington	96	9	...	...	...	105
Bucklow	40	8	...	...	...	48
Other Districts	22	6	...	...	...	28
Private Cases	...	...	...	...	...	...
Manchester (Including Moss Side and Levenshulme)	125	13	...	5	2	145
Totals	283	36	...	5	2	326

SCARLET FEVER.

During the year 283 cases of Scarlet Fever were admitted, which, with the 92 remaining in hospital on January 1st, made a total of 375 cases under treatment.

LIST C.—*Scarlet Fever only.*

DISTRICT	Cases in Hospital on Jan. 1st, 1912	Admitted 1912	Discharged	Died	Total Cases treated	Death Rate per cent. on all cases discharged
Withington ...	52	96	146	2	148	1·36
Bucklow	10	40	50	...	50	...
Other Districts.	4	22	25	1	26	4·0
Private Cases...	...	...	...	...	...	...
Manchester ...	26	125	149	2	151	1·34
Totals	92	283	370	5	375	1·33

Percentage fatality—1904—3·20.
" " —1905—3·88.
" " —1906—2·39.
" " —1907—0·70.
" " —1908—1·86.
" " —1909—1·71.
" " —1910—1·09.
" " —1911—1·49.
" " —1912—1·33.

"Return" Cases.

The total number of alleged originators of "Return" Cases was 4—a percentage upon all cases discharged of ·96.

The intervals between the return home of the alleged originating case and the outbreak of the disease was in each case quite short—from 3 to 4 days.

In one instance the originating case had been detained in hospital far in excess of the average time with Mastoid Disease. This, however, was quite healed on discharge, and remained so after return home.

The other three were perfectly clean cases, free from any complication whilst in hospital.

DIPHTHERIA.

During the year there was very little Diphtheria in the hospital, 36 cases only being admitted. These, with the 12 cases remaining in hospital on January 1st, made a total of 48 cases under treatment.

List D.—*Diphtheria.*

District	Cases in Hospital on January 1st, 1912	Admitted 1912	Discharged	Died	Fatality Percentage
Withington	2	9	11	...	...
Bucklow	1	8	8	1	12·5
Other Districts	1	6	7	...	...
Private	..	...	...	...	...
Manchester (Including Moss Side and Levenshulme)	8	13	20	1	5·00
Totals	12	36	46	2	4·36

Stay in Hospital.

	Average Stay—In days							
	1905	1906	1907	1908	1909	1910	1911	1912
Cases of Scarlet Fever	59·74	57·23	55·50	57·54	55·16	59·92	54·68	50·08
Cases of Diphtheria. .	60·46	44·83	54·37	44·70	45·87	61·47	42·35	52·18
All cases	55·78	53·62	54·85	54·03	52·66	58·90	52·28	49·91

Details of the average stay in hospital for all cases tabulated according to the district to which they belong and the disease from which they were suffering will be found in the following Table:—

LIST E.—*Average stay in hospital in days. All cases discharged or who have died during 1912.*

DISTRICT	DISCHARGED										Deaths—all Diseases		Total average stay in hospital in days	
	Scarlet Fever		Diphtheria		Other Diseases		Double Infections		Altered Diagnosis					
	Cases	Average stay Days	Cases	Average stay Days	Cases	Average stay Days	Cases	Average stay Days	Cases	Average stay Days	Number	Average length of life in Hospital	Cases	Average stay
Withington	146	49·48	11	55·3	.....	.....	.....	.....	.....	.....	2	20	159	49·10
Bucklow	50	50·56	8	47·11	.....	.....	.....	.....	.....	.....	1	1	59	50·08
Other Districts	25	54·84	7	55·0	.....	.....	.....	.....	.....	.....	1	12	33	53·57
Private Cases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester (including Moss Side and Levenshulme)	149	58·82	20	51·9	.....	.....	2	33·0	5	35·4	3	19 6	179	49·85
Totals	370	50·08	46	52·18	.....	.....	2	33·0	5	35·4	7	16	430	49·91

The following tables will show the fatality percentages and the average length of stay in hospital of cases from Manchester (including Moss Side and Levenshulme) as compared with cases from all the other districts from which this hospital receives patients.

		Manchester, including Moss Side and Levenshulme.	Remaining Districts, including Withington, Bucklow, Bowdon, Cheadle, etc.	Total
Fatality Percentage—all cases	1907	0·91%	1·24%	1·08%
	1908	2·05%	4·52%	3·34%
	1909	2·52%	2·20%	2·27%
	1910	1·96%	1·45%	1·60%
	1911	1·60%	2·99%	2·44%
	1912	1·14%	1·57%	1·39%
Fatality Percentage—Scarlet Fever only	1907	0·91%	0·95%	0·70%
	1908	1·68%	2·07%	1·86%
	1909	2·57%	1·07%	1·71%
	1910	2·08%	0·31%	1·08%
	1911	1·10%	1·67%	1·49%
	1912	1·34%	1·33%	1·33%
Stay in Hospital in days—all cases	1907	54·46	55·20	54·85
	1908	56·04	52·18	54·03
	1909	54·33	51·95	52·66
	1910	61·47	56·32	58·90
	1911	51·61	55·68	53·34
	1912	44·80	49·78	46·07
Stay in Hospital in days—Scarlet Fever only	1907	54·59	56·44	55·50
	1908	57·48	57·62	57·54
	1909	55·81	57·46	55·16
	1910	62·23	58·70	59·92
	1911	53·14	53·69	53·25
	1912	44·74	45·99	45·40
Number of originating cases causing "Return" Cases (S. F.)	1907	7	3	10
	1908	9	4	13
	1909	7	11	18
	1910	6	10	16
	1911	7	5	12
	1912	2	2	4
Percentage of above originating cases on all cases discharged	1907	3·27%	1·44%	2·37%
	1908	3·86%	2·11%	3·08%
	1909	3·70%	3·45%	3·13%
	1910	2·81%	4·26%	3·47%
	1911	2·92%	1·61%	2·23%
	1912	1·32%	0·88%	1·06%

By the following figures one may compare the total admissions during the last nine years, viz. :—

1904	254
1905	304
1906	443
1907	471
1908	508
1909	656
1910	517
1911	630
1912 ($9\frac{1}{2}$ months only)	326

Daily average number of patients in hospital in 1906 was 65.

" " " " 1907 " 66.

" " " " 1908 " 75.

" " " " 1909 " 94.

" " " " 1910 " 86.

" " " " 1911 " 85·9

" " " " 1912 " 60·4.

On the closure of the hospital on October 16th, the following cases were transferred to Monsall Hospital :—

District	Scarlet Fever	Diphtheria	Other Diseases	Total
Withington	6	1	..	7
Bucklow	10	1	..	11
Other Districts	7	..	..	7
Private Cases	..	..	..	..
Manchester (Including Moss Side and Levenshulme)	15	..	..	15
Totals	38	2	..	40

PULMONARY TUBERCULOSIS.

This section embraces only the short period from November 8th, when the first consumptive patient was admitted, until December 31st. During this period 69 patients were admitted to the hospital, of these 61 were insured persons, and 8 were not insured ; of the 69 patients admitted, 66 remained in hospital on December 31st. Of the remaining 3, one died shortly after admission, and 2 were discharged—at their own request—in much the same condition as on admission.

REPORT BY MR. A. T. ROOK, SUPERINTENDENT OF THE SANITARY DEPARTMENT.

Sanitary Department,
Town Hall, Manchester.

In presenting to the Medical Officer of Health the report of the work transacted in the Sanitary Department for the year ending 31st March, 1912, I beg to state that the City, for inspection and other purposes, is divided into 32 Districts, to each of which one Sanitary Inspector has been assigned.

In addition to these, there is a Superintendent, one Chief Inspector, two Drainage, five Smoke, one Canal Boats, two Lodging-house, three Adulteration of Food, one Milkshops, six Factory and Workshops Inspectors including two Female Inspectors, and four Drain Examiners. There is also a staff of 34 Clerks for clerical and other work.

In the House Drainage Department there is also a Manager, ten Clerks and nine Clerks of Works for supervising and measuring up work done by the contractors employed by the department in carrying out private drainage work.

The number of complaints of nuisances of various kinds made during the year was 3,542 :—

1,325 through the Medical Officer of Health's Department.

2,200 by the public.

17 through the Police.

HOUSES LET IN LODGINGS.

Under the powers given by Section 90 of the Public Health Act, the bye-laws made thereunder have been enforced.

The number of houses on the register is 1,893. To these, 9,339 day visits and 456 night visits have been paid. 176 infringements of the regulations have been reported and dealt with.

DAIRIES, MILKSHOPS, AND COWSHEDS REGULATIONS.

Under this Order, which was made in July, 1879, and the Regulations thereunder in 1896, 3,379 milkshops and dairies and 71 cowkeepers are now on the register. The number of cows kept is 1,050. The number of visits to dairies, milkshops, and cowsheds was 2,149. Nineteen infringements of the regulations have been reported and dealt with.

The number of ice cream manufacturers on the Register is 748. The number of visits was 1,087. Seven infringements of the regulations have been reported and dealt with.

WORKSHOPS, BAKEHOUSES, SHOP HOURS, AND SEATS FOR SHOP ASSISTANTS ACTS; ALSO THE HAIRDRESSERS AND BARBERS CLOSING ORDER.

Shop Hours and Seats for Shop Assistants Act

During the year the Acts have been well observed, only a few persons having been reported for infringements.

Workshop Acts

Much has been done to still further improve the condition of workshops, especially those in which females are employed, and every care has been taken to see that in all cases separate and suitable sanitary accommodation for the sexes has been provided.

Means of Escape in case of Fire

With regard to means of escape in case of fire, the whole of the factories and workshops in the City have been inspected, and with very few exceptions are now considered safe.

Periodical changes will, of course, from time to time take place in various ways which will bring buildings within the meaning of the Act, and necessitate the constant supervision of the Inspectors and action on the part of the authorities.

Bakehouses

The whole of the Cellar Bakehouses in the City have been thoroughly repaired and put in a satisfactory sanitary condition, and certificates granted. The general sanitary conditions of all the Bakehouses in the City are well maintained, and are satisfactory.

Outworkers

Many visits have been paid to houses in various parts of the City in which out-work is carried on, as will be seen on reference to the following tabulated statement, but constant visitation is necessary to maintain the standard of cleanliness which is to be desired, especially in houses in which shirt-making, handkerchief-hemming, brace-making, and umbrella-covering, etc., is done.

The people, as a rule, appear willing to carry out any suggestion made by the Inspectors to keep their houses clean; but at the same time it is almost impossible for small houses, sometimes containing large families, to be kept in such a satisfactory condition as workshops.

The work done under the above Acts is shown in the following tables:—

TABLE SHOWING THE WORK DONE BY THE INSPECTORS UNDER THE SHOP HOURS AND SEATS FOR SHOP ASSISTANTS ACTS, THE HAIRDRESSERS AND BARBERS CLOSING ORDER, AND THE FACTORY AND WORKSHOP ACTS.

Number of District.	INSPECTOR	SHOPS — Shop Hours Act					SHOPS — Seats for Shop Assistants Act					SHOPS — Hairdressers and Barbers Closing Order					WORKSHOPS						OUT-WORKERS		Factories and Workshops not provided with proper means of escape in case of fire	BAKEHOUSES					
		Number of visits	Number of Infringements of Act reported	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register	Number of visits	Number of infringements of Act reported	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register	Number of visits	Number of infringements of Act reported	Number of cases in which Magisterial proceedings have been taken	Number registered during the year.	Total number on register	Number of visits	Number in which Sanitary Defects were found	Number of Reports referred to H.M. Inspector (unregistered factories, &c.)	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register	Number of visits to houses where out-workers are employed	Number of houses found dirty.		Number of visits	Number in which Sanitary defects were found	Number of reports referred to H.M. Inspector of Factories	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register
1	R. Tolson	60	...	...	...	634	...	...	...	...	318	350	3	3	12	79	2888	260	59	3	128	966	5	2	8	370	33	...	...	...	81
2	T. Partington	59	...	...	...	1130	...	...	...	...	523	178	...	...	13	162	2868	245	31	7	115	1024	...	...	13	514	16	...	...	9	174
3	G. Vernon	179	...	...	...	612	...	...	...	...	185	141	3	2	23	149	2505	221	94	3	166	977	2	...	14	508	79	...	2	16	165
4	F. J. Rowe.....	41	...	...	...	954	...	...	...	...	393	257	6	2	41	139	3060	220	80	1	164	1287	1	...	10	671	56	5	...	6	128
...	(Miss) Emma Coppock.	2161	...	...	80	...	985	...	...	62	...	...	...	...	...	...	1804	110	1	4	...	...	2332	104	...	...	...	...	...	...	...
...	(Mrs.) Rosa G. Clift	1136	...	...	66	...	96	...	...	29	...	...	...	...	...	...	839	50	3	8	...	...	5001	38	...	...	...	...	...	...	...
	TOTALS.....	3636	...	...	146	3330	1081	...	...	91	1419	926	12	7	89	529	13964	1106	268	26	573	4254	7341	144	45	2063	184	5	2	31	548

TABLE SHOWING THE NUMBER AND CLASSIFICATION OF PERSONS EMPLOYED AS OUTWORKERS BY FIRMS WITHIN THE CITY, AND THE NUMBER OF SUCH FIRMS.

TRADES	No. of Employers	No of Outworkers or Contractors employed
Makers of Wearing Apparel	477	3412
Button Carding	1	3
Cabinet Makers and Upholsterers	7	27
Cleaning and Washing	2	2
Fent Sorters	3	10
File Cutters	1	1
Fur Workers	1	7
Gold Beaters, &c.	1	6
Hair Pad and Frame Makers	2	3
Handkerchief Hemmers	24	446
Lace, Lace Curtains, and Nets	2	5
Opticians	1	1
Paper Bag Makers	3	9
Quilt, Cushion, &c., Makers	6	192
Umbrella Trimmers...	23	299
Window Blinds	1	1
Totals	555	*4424

* 3995 of these are in the City, the remainder are in the districts of other Local Authorities, to whom lists showing the names and addresses have been sent.

Adulteration of Food and Drugs, and Margarine Acts.

Table showing the number of Articles of Food and Drugs procured for Analysis, the number Adulterated, the number informally purchased or in which no proceedings were taken, and the number of cases in which Magisterial Proceedings were taken, together with the Decisions and the Total Amount of Fines imposed.

Article	Number of Samples obtained	Number Adulterated	Number not Adulterated	Number Summoned before Magistrates	Number Fined	Number ordered to pay Costs only	Number Dismissed or Withdrawn	Amount of Fines Imposed	Amount of Costs ordered to be Paid
Arrowroot and Corn Flour	20	...	20	...	...	...	...	.....	.....
Baking Powder	15	...	15	...	...	...	...	.....	.....
Beef Dripping	2	...	2	...	...	...	...	.....	.....
Beer	84	...	84	...	...	...	...	.....	.....
Bread	37	...	37	...	...	...	...	.....	.....
Butter	415	3	412	3	3	...	...	30 10 0	5 7 0
Camphorated Oil	8	...	8	...	...	...	...	.....	.....
Castor Oil	8	...	8	...	..	...	...	.. ...	.. ...
Cheese	50	...	50	...	...	...	...	.....	.....
Cocoa	49	...	49	...	...	...	...	.....	.....
Cod Liver Oil	8	...	8	...	...	...	...	...	.....
Coffee	113	...	113	...	...	...	...	.....	.....
Confectionery	57	...	57	...	...	...	...	.....	.....
Drugs	108	...	108	...	...	...	...	.....	.....
Fish (tinned and prepared)	3	...	3	...	...	...	...	.....	.....
Flour	38	...	38	...	...	...	...	.....	.....
Jams	38	...	38	...	...	...	...	.....	.....
Ketchup and Sauces	6	...	6	...	...	...	...	...	.....
Lard	101	...	101	...	...	...	...	.....	.....
Margarine	29	...	29	...	...	...	...	.. ...	.....
Meat (tinned and prepared)	24	...	24	..	...	...	...	.....	.....
Milk	1143	*56	1087	52	33	5	14	51 4 6	60 10 4
Milk (skimmed)	8	2	6	2	2	...	...	6 0 0	3 2 0
Mineral Waters, Cordials, &c.	52	...	52	...	...	...	...	.....	.....
Mustard	21	...	21	...	...	...	...	.....	.....
Oatmeal	35	...	35	...	...	...	...	... ..	.. ...
Olive Oil	1	...	1	...	...	...	...	.....	.....
Pearl Barley	10	...	10	...	...	...	...	... ..	.....
Pepper	35	...	35	...	...	...	...	.....	.....
Pickles	9	...	9	...	...	...	...	.....	.....
Rice, Tapioca, &c.	61	...	61	...	...	...	...	.....	.....
Spices	29	...	29	...	...	...	...	.....	.....
Spirits	270	6	264	6	5	1	...	12 10 0	7 10 0
Tea	75	...	75	...	...	...	...	.....	.....
Treacle and Golden Syrup	13	...	13	...	...	...	...	... ..	.....
Vinegar	20	...	20	...	...	...	...	.....	.....
Wines	14	...	14	...	...	...	...	.....	.....
Totals	3009	*67	2942	63	43	6	14	100 4 6	76 9 4

* 3 cautioned by Committee, and one informally purchased.

Fertilizers and Feeding Stuffs Act, 1906.

Fourteen samples were procured under this Act which were submitted to Professor Delépine for analysis, and were reported on as being genuine.

SMOKE NUISANCES.

For the abatement of smoke nuisances, the five Inspectors appointed specially for this work have taken 456 timed observations of half-an-hour each, with the result that 49 notices for the abatement of nuisances have been served. Proceedings before the Magistrates have been ordered in 109 cases out of 230 offences reported. These cases were disposed of as follows:—

One hundred and nine were summoned before the Justices, in 86 of which fines were imposed amounting to £171 14s. 6d., and costs £44 8s. 0d. Five were ordered to pay costs only. In one case an order of abatement was made in addition to a fine being imposed.

Eleven orders of abatement were granted and served, 8 cases were excused, dismissed, or withdrawn.

Much attention during the past year, as will be seen by the above, has been given to the nuisance caused by the emission of black smoke, not only from the furnaces connected with boilers in mills, warehouses, and other works, but also from chemical and other industries, and the efforts made have already resulted in a considerable reduction of the nuisance.

Magisterial proceedings have been taken against a firm situate in an adjoining Authority in regard to smoke nuisances committed in their district, and penalties were imposed in four cases.

CANAL BOATS ACTS.

The number of canal boats on the register is 387.

The number of inspections made was 2,346, resulting in five infringements of the Acts being discovered, which were referred to the Justices to be dealt with, and fines were imposed in each case.

Caution notices were sent to the owners or masters of 56 boats.

OFFENSIVE TRADES.

The number of offensive trades on the register is 914. These have been placed under close supervision, and periodical visits paid.

UNHEALTHY DWELLINGS.

During the year, 2,100 houses were certified to be dealt with by the Sanitary Committee.

Of these, 2,061 were ordered to be closed, and 39 were adjourned.

In the majority of these the owners arranged to make alterations to meet the requirements of the Corporation.

Prosecutions for Offences, with Results.

Description of Offence	Number of Summonses taken out	Number of Persons Fined, with Costs	Number of Persons ordered to pay Costs only	Number adjourned	Number Excused, Dismissed, or Withdrawn	Amount of Fines Imposed	Amount of Costs ordered to be Paid
						£ s. d.	£ s. d.
Having bakehouse in a dirty state	1	1	...	...	...	1 1 0	0 9 0
Keeping shops open in contravention of the Hairdressers' and Barbers' Closing Order	7	6	...	...	1	0 12 0	0 15 0
Neglecting to cleanse and limewash workshops after notice	1	1	...	...	...	0 5 0	0 5 0
Neglecting to place workshops in a proper sanitary condition after notice	1	...	...	...	1	...	...
Neglecting to provide satisfactory means of escape in case of fire after notice	4	1	...	2	1	2 0 0	3 3 0
Not forwarding list of outworkers to the local authority	12	1	8	...	3	0 10 0	1 19 6
Refusing admission to the Inspector	1	1	...	...	...	1 0 0	0 9 0
Total	27	11	8	2	6	5 8 0	7 0 6

PARTICULARS RELATING TO THE OPERATIONS OF THE CLEANSING DEPARTMENT.

The Medical Officer of Health is indebted to Mr. Williamson, Superintendent of the Cleansing Department, for the following particulars relating to the operations of the Cleansing Department during the year ending 31st March, 1913.

Cleansing Department,
Town Hall, Manchester,
June, 1913.

Dear Sir,—There are within the City (exclusive of the District of Withington, but inclusive of Gorton and Levenshulme) 3,558 pail-closets; 41,645 ash-boxes; 101,239 ash-bins; 292 midden-privies; 192 wet middens; 556 dry middens; 167,317 water-closets at dwelling-houses; and 6 cesspools. The pail-closets are systematically emptied at regular intervals—once, twice or thrice weekly, as necessity demands. The middens are emptied as required. The contents of the pail-closets are taken to Holt Town and Water Street. At Holt Town the fæcal matter is dried into concentrated manure. The dry refuse is consumed in the Galloway boilers, and generates the steam required for working the machinery. The worthless fine ash, which cannot be consumed, is deposited at the nearest tip at Clayton Vale. The privy refuse and fæcal matter, taken to Water Street, is sent away in its crude state as nightsoil to Carrington and Chat Moss Estates. Dry combustible matter is passed into the destructor furnaces or the Galloway boilers at Water Street, and there destroyed. A large quantity of fine ash at Water Street is used as an absorbent for the fæcal matter from the pail-closets.

The market garbage, of which we have 4,762 tons per annum, is carted to Water Street, and destroyed in the furnaces or sent to the Committee's Estates. Slaughter-house refuse is collected from the abattoirs and private slaughter-houses and sent to Holt Town, where it is passed through dryers, and the dry material is then added to the concentrated manure. Street sweepings are generally deposited at the nearest depot, and after being allowed to drain are carted to the nearest tip, or to the Water Street Depot, from whence they are sent away by boat to farmers or to the Committee's Estates.

The total quantity of material collected by this Department during the past year amounted to 296,889 tons.

Within the City there are 33 destructor furnaces and 20 boilers, and last year 13,149 tons of mortar were made from the clinker obtained from such furnaces.

About 56 "orderly" youths and men are employed to collect horse-droppings and litter from the streets, and deposit the same in the bins fixed in the footpaths. The contents of the bins are removed twice daily, and taken to the nearest depot.

Acting upon instructions received from you, special pails and lids are supplied for all cases of Enteric Fever; labels are attached to the pails asking the occupants of the house to use disinfectants, which are supplied with the pails; the pails are left in the yard, and not placed in the ashplace. The occupants are requested to use this special pail for the reception of the fæcal matter and washings from the patient only. The pails are removed in a specially-constructed vehicle, and taken to Holt Town Depot, where the contents are destroyed.

There is a staff of about 54 men engaged specially upon the work of cleansing passages. They regularly, at least once a week, cleanse the back passages in certain districts, and during last year 414,908 swillings and cleanings were effected in courts and passages.

During the year, 91,064 barrels of water were used in degging the streets, and 416,920 grids were unstopped.

During the past 20 years, we have deposited upon the various tips within the City the following quantities of material, viz.:—In 1892, 99,866 tons; 1893, 109,078 tons; 1894, 103,949 tons; 1895, 113,836 tons; 1896, 107,883 tons, 1897, 99,658 tons; 1898, 96,635 tons; 1899, 104,481 tons; 1900, 95,138 tons; 1901, 64,781 tons; 1902, 117,619 tons; 1903, 180,985 tons; 1904; 141,999 tons; 1905, 118,093 tons; 1906, 109,446 tons; 1907, 134,072 tons; 1908, 120,581 tons; 1909, 123,183 tons; 1910, 127,409 tons; 1911, 107,742 tons; 1912, 102,190 tons: and in 1913, 89,909 tons. The bulk of this material was deposited on the tips at Clayton, Harpurhey, and on Carrington and Chat Moss Estates. It is composed principally of dry ashes, street sweepings, and bell-dust. During last year 21,349 tons of material was sent to Carrington Estate and 49,991 to Chat Moss Estate.

Yours faithfully,

R WILLIAMSON,
Superintendent

Dr. Niven,
Medical Officer of Health,
Town Hall, Manchester.

REPORT OF THE MARKETS COMMITTEE.

Meat, Etc., Inspection and Unwholesome Food.

The following instructive extracts are made from the report of the Markets Department on the inspection of Slaughter-houses, Meat, etc.:—

INSPECTION OF SLAUGHTER-HOUSES, MEAT, ETC.

The following is a summary of the work performed during the year by the Meat, etc., Inspection Staff of the Department under the provisions of Local and General Acts in relation to the prevention of the exposure for sale of unwholesome or unseasonable food, together with general observations thereon of Mr. A. D. Minor, M.R.C.V.S., Chief Inspector of Slaughter-houses, Meat, etc.

The information shows :—

(*a*) The amount of unwholesome food condemned and destroyed.
(*b*) The causes of such condemnation.
(*c*) The market or place where the food was condemned.
(*d*) Other information relative to the inspection of food.
(*e*) General observations of Chief Inspector of Slaughter-houses, Meat, etc.

(*a*) AMOUNT OF UNWHOLESOME FOOD CONDEMNED AND DESTROYED DURING THE YEAR.

Meat and Fish.

Beef	315,874	lbs.
Mutton	9,307	,,
Veal	4,625	,,
Pork	26,074	,,
Imported Offals	5,033	,,
Venison	56	,,
	*360,969	,,

* 360,969 lbs. = 161 tons

Fish	87,915	lbs.
Shellfish	80,054	,,
	†167,969	,,

† 167,969 lbs. = 75 tons

Game.

Hares	143	head
Grouse	79	,,
Quails	32	,,
Curlew	5	,,
Snipe	5	,,
Pheasant	1	,,
Woodcock	1	,,
	266	,,

Poultry.

Pigeons	588	head
Fowl	70	,,
Ducks	19	,,
Turkeys	11	,,
Geese	7	,,
	695	,,
Rabbits	2,516	head

Fruit.

Pears	5,702	lbs.
Plums	4,932	,,
Apples	3,522	,,

Fruit—continued

Bananas	2,160	lbs.
Tomatoes	1,981	,,
Black Currants	1,084	,,
Strawberries	851	,,
Cherries	536	,,
Grapes	448	,,
Peaches	380	,,
Walnuts	331	,,
Blackberries	130	,,
Greengages	96	,,
Gooseberries	60	,,
Oranges	35	,,
Dates	11	,,
Apricots	7	,,
	*22,266	,,

* 22,266 lbs. = 10 tons

Vegetables.

Turnips	14,840	lbs.
Cabbages	10,628	,,
Swedes	10,304	,,
Cress	6,303	,,
Potatoes	3,506	,,
Beans	2,656	,,
Onions	2,128	,,
Peas	1,520	,,
Radishes	1,517	,,
Lettuce	742	,,
Cauliflower	364	,,
Gherkins	336	,,
Rhubarb	300	,,
Cucumbers	294	,,
Parsley	220	,,
	*55,658	,,

* 55,658 lbs. = 24¾ tons

Miscellaneous.

Yeast	10,156	lbs.
Cheese	224	,,
Prepared Meat	112	,,
Eggs	1 case and 77	eggs

With the exception of 91 lbs. of meat, 154 lbs. of fish, and 9 lbs. of walnuts, which were seized while deposited or exposed for the purpose of sale, the above quantities were surrendered after being condemned by the Inspectors of the Department.

Note.—The term "surrendered" includes cases in which the Inspectors have discovered the diseased meat, etc., in the course of their duty, but in which, owing to salesman's acceptance of Inspector's decision, it has been deemed unnecessary to obtain Magistrate's order prior to destruction.

(*b*) Causes of Condemnation.

The number of carcases, portions of carcases, consignments of fish, etc., condemned during the year has been 5,485, from the following causes:—

Tuberculosis	3,109	Actinomycosis	16
Decomposition	1,492	Pleurisy	11
Fevered	107	Nephritis	10
Dropsy	89	Peritonitis	8
Unmarketable	82	Septicæmia	8
Injured	71	Pneumonia	7
Asphyxiation	68	Pericarditis	5
Emaciation	65	Black Quarter	4
Parasitic	63	Icterus	4
Degeneration	61	Pyæmia	3
Abscesses	57	Mammitis	3
Cirrhosis	52	Anthrax	2
Congestion	35	Enteritis	1
Tumors	35	Foot and Mouth Disease	1
Distomatosis	16		

(*c*) Where Condemned.

	Meat, Fish, etc.	lbs.
At the Abattoirs and Carcase Market		341,893
	(181,539 lbs. being dressed meat consigned from places other than the City, 5,033 lbs. of which was imported offals.)	
,,	Pig Market	224
,,	Private Slaughter-houses	3,800
,,	Railway Stations	14,229
,,	Rusholme Abattoirs	240
,,	Cold Stores, Elm Street	898
,,	Cold Stores, Copperas Street	336
,,	Smithfield Fish Markets	163,720
At a	Private House	70
,,	Farm	142
At	Shops	1,705
,,	Triperies	1,681
		528,938

Game, Poultry, Fruit, Vegetables, etc.

At the Smithfield Fish, etc., Markets.

Rabbits	2,375 head	Turkeys	11 head
Pigeons	588 ,,	Geese	7 ,,
Grouse	79 ,,	Curlew	5 ,,
Fowl	69 ,,	Snipe	5 ,,
Quails	32 ,,	Pheasant	1 ,,
Hares	32 ,,	Woodcock	1 ,,
Ducks	19 ,,	Eggs	77 eggs

At the Smithfield Fruit and Vegetable Market.

Cabbage	10,628 lbs.	Peaches	380 lbs.
Cress	6,177 ,,	Cauliflower	364 ,,
Pears	5,702 ,,	Rhubarb	300 ,,
Plums	4,932 ,,	Cucumbers	294 ,,
Potatoes	3,192 ,,	Apples	272 ,,
Beans	2,656 ,,	Parsley	220 ,,
Bananas	2,160 ,,	Cherries	200 ,,
Onions	2,128 ,,	Blackberries	130 ,,
Tomatoes	1,981 ,,	Greengages	96 ,,
Peas	1,520 ,,	Gooseberries	60 ,,
Radishes	1,517 ,,	Oranges	35 ,,
Black Currants	1,084 ,,	Dates	11 ,,
Strawberries	851 ,,	Apricots	7 ,,
Lettuce	742 ,,	Rabbits	141 head
Grapes	448 ,,	Yeast	96 lbs.

At the Cold Stores, Copperas Street.

Hares .. .. .. 111 head

At City Abattoirs.

Turnips	1,008 lbs.	Fowl	1 head
Apples	3,250 ,,	Eggs	1 case
Yeast	2,240 ,,		

At Shops.

Gherkins	336 lbs.	Walnuts	9 lbs.
Potatoes	314 ,,	Prepared Meat	112 ,,

At Warehouses.

Walnuts	322 lbs.	Cheese	224 lbs.

At the Railway Stations.

Turnips	13,832 lbs.	Cress	126 lbs.
Swedes	10,304 ,,	Yeast	7,820 ,,

On a Hawker's Cart.

Cherries .. .. 336 lbs.

(*d*) Other Information.

In addition to thorough inspection at the Abattoirs and Markets. 2,990 visits have been made to private slaughter-houses (30 being at the request of the butchers), and 18,198 carcases examined, 15 carcases and portions of 20 others being condemned as unfit for human food.

11,544 visits have been made to the meat, fish, fruit, and provision shops, and in eight cases the shopkeepers were severely cautioned for having small amounts of unsound food in their possession.

356 visits have been made to the railway stations to prevent the distribution of unwholesome food consigned to the City.

Frequent visits have been made to the triperies, the sausage and pie factories, and the poultry dressing cellars.

Five Orders for the destruction of unsound food have been obtained at the City Police Courts during the year.

There has been one prosecution under Section 116 of the Public Health Act, 1875, and a fine amounting to £20 and costs imposed.

1,512 certificates of condemnation have been granted, chiefly to commission agents, for the purpose of being forwarded to the consignors.

(*e*) General Observations of Chief Inspector of Slaughter-houses, Meat, etc.

The weight of meat and fish condemned during the year is considerably less than the average for recent years ; this also applies to game, rabbits, and poultry. The condemnations of shellfish, fruit, and vegetables are in excess of the quantities seized in recent years.

It will be again noted that Tuberculosis is responsible for a very large proportion of the seizures of meat, etc., and it might be mentioned that, during the year, an Order has been issued by the Board of Agriculture and Fisheries regarding this disease, reference to which is made in the Diseases of Animals portion of this report.

Many bacteriological analyses have been made by the Chief Inspector, particularly in connection with shellfish, as a result of which the Health Authorities at certain ports have been notified as to the condition of shellfish

forwarded from their district. Acting upon the advice of the Inspectors of the Department, the shellfish merchants of the City have ceased to obtain supplies from three localities. In one instance the fishermen have, after a lapse of 11 months, acceded to the requirements of the officials of the Fishmongers' Company, and the trade with the Manchester Market was forthwith re-commenced, it being a stipulation that each consignment of shellfish bore the signature of the Local Fisheries Inspector, to the effect that the fish had been gathered only from approved layings or beds. It is satisfactory to note that the Health Authorities at some of the Ports are taking a keener interest in this matter. The Chief Veterinary Inspector and his staff have been greatly assisted in their investigations by the shellfish merchants in the Manchester markets, who, owing to the lack of uniformity respecting the gathering of shellfish from known contaminated sources, have often acceded to the suggestions of the Inspectors to the detriment of their own business.

The Board of Agriculture and Fisheries have issued an Order, which operates from the 1st May, 1913, dealing with Tuberculosis in animals. The Order requires persons in charge of cows which appear to be suffering from Tuberculosis of the Udder, Indurated Udder, or other Chronic Disease of the Udder, or any bovine animal which appears to be suffering from Tuberculosis with emaciation, to inform the Local Authority, and to take certain precautions until the animal has been examined. It further provides for the slaughter of animals affected with the disease, and the payment of compensation to the owner. For a period of five years from the commencement of the Order, the Local Authorities will be refunded one-half of the nett amount paid by them as compensation for animals slaughtered in accordance with the requirements of the Order.

As the animals affected with the forms of Tuberculosis mentioned are those which are chiefly responsible for the spread of the disease, the compulsory slaughter of such animals should have the effect of greatly reducing the number of Tuberculous cattle, and consequently lessening the risk of infection to human beings.

Generally speaking the disease is more liable to affect those cattle which are housed, and apparently more particularly in certain districts or areas. Irish cattle (a large number of which are brought to the markets in this part of the country) are not so frequently affected with the disease.

WM. JNO. WADE,

Superintendent,
Markets Department.

Town Hall, Manchester,
June 26th, 1913.

WITHINGTON COMMITTEE.

REPORT FOR THE YEAR 1912 OF THE DISTRICT MEDICAL OFFICER OF HEALTH,

DR. W. ST. C. MCCLURE.

Area of the District in Acres	5,728
Population 1911 (Census), exclusive of Workhouse	49,140
Population 1912 (estimated to middle of year)	51,720
General Death-rate per thousand Population..	9·4
Infant Death-rate per thousand Births	64·3
Birth-rate per thousand Population..	19·2

I beg to submit the following statement as to the health of the Withington District of Manchester during the past year.

Population.—The population of the district in June, 1912, was estimated at 51,720, distributed over the several townships as follows:—

Withington (including Whalley Range)	20,158
Didsbury	12,147
Chorlton-cum-Hardy	16,054
Burnage	3,361

Area.—The area is 5,728 acres.

Density.—The mean density of the population, *i.e.*, the number of persons to each acre, is 9·00.

Births.—The total number of births was 994, which gives a birth-rate of 19·2, compared with 19·3 in the previous year and 19·3 in 1910. The natural increase, or gain by excess of births over deaths, was 503, as against 453 in 1911.

Deaths.—The total number of deaths recorded was 491—234 males and 257 females. Of these, 416 were of residents within the district, 49 of residents in the South Manchester Infirmary, and 26 of residents in localities outside the district.

Calculated on the above figures, the death-rate for the year was 9·4, or corrected for age and sex, 9·8. This is the lowest death-rate which has yet been recorded in the District. The corrected rate for 1911 was 10·6.

THE ANNUAL DEATH-RATES PER 1,000 OF THE POPULATION SINCE 1875 ARE AS FOLLOWS:—

1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
16·4	15·8	13·2	13·2	13·5	13·7	13·5	14·3	13·4	13·0	13·9	12·0	13·1	12·2	13·2	13·4	15·0	13·7	12·7

1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
10·7	11·9	10·9	11·4	12·4	11·3	12·3	12·1	11·7	11·3	11·8	10·0	11·4	10·4	11·3	11·1	10·0	10·6	9·8

	Births	Deaths	Birth-rate	Death-rate
Withington (including Whalley Range)..	431	217	21·3	10·7
Didsbury	173	113	14·2	9·3
Chorlton-cum-Hardy..	304	142	18·9	8·8
Burnage	86	19	25·5	5·6

The main causes of death were Tubercular Diseases 49, Cancer 50, Pneumonia 26, other Diseases of the Respiratory System 55, and Heart Diseases 85. There were 7 deaths attributed to Alcoholism, Accidents were responsible for 4, and Suicide for 2

In the age-period 1-5, the chief causes of death were Whooping Cough (2), Scarlet Fever (3), Tubercular Diseases (5), Pneumonia (3), Measles (4).

In the following table are given the annual rates of mortality from certain diseases and groups of diseases :—

Table I.—Death-rates per thousand from the principal diseases, 1904 *to* 1912.

Name of Disease	1904	1905	1906	1907	1908	1909	1910	1911	1912
Measles	0·02	0·18	0·10	0·05	0·31	0·02	0·06	0·02	0·13
Scarlet Fever ...	0·08	0·02	...	...	...	0·12	0·02	0·10	0·09
Whooping Cough	0·24	0·05	0·05	0·20	0·20	0·04	0·06	0·20	0·15
Diphtheria & Membranous Croup	0·08	0·10	0·15	...	0·11	0·08	0·10	0·06	0·07
Enteric Fever ..	0·05	0·05	...	0·07	0·04	0·02	0·02	...	...
Epidemic Influenza	0·18	0·28	0·20	0·17	0·18	0·36	0·12	0·20	0·11
Diarrhœa	0·18	0·21	0·43	0·10	0·31	0·15	0·06	0·44	0·11
Phthisis	0·78	0·52	0·89	0·97	0·72	0·67	0·56	0·80	0·65
Other Tubercular Diseases	0·29	0·23	0·38	0·37	0·47	0·32	0·37	0·35	0·28
Cancer, Malignant Diseases	0·83	0·84	0·71	0·70	0·79	0·71	0·83	1·00	0·96
Diseases of the Respiratory Organs	2·29	1·73	1·79	1·77	1·24	1·56	1·31	0·79	1·60
Alcoholism, Cirrhosis of Liver	0·29	0·13	0·15	0·22	0·09	0·28	0·20	0·10	0·13
Heart Diseases ...	1·21	1·21	1·07	1·40	1·35	1·69	1·23	1·37	1·60

Infantile Mortality.—During the year 65 deaths of infants under one year occurred, this corresponds to an annual Infantile Mortality rate per 1,000 births of 64·3. No previous record has reached such a low figure. The mean for the past 10 years was 92·7.

The following table shows the varying rates for the several townships for the years 1902–1912 :—

Infantile Mortality-rates per thousand births, 1902–1912.

Township	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Withington	103	139	110	89	96	107	88	80	78	94	72
Didsbury	80	92	93	66	144	76	123	56	57	70	69
Chorlton-cum-Hardy ..	105	80	105	67	104	79	107	70	82	89	52
Burnage	95	89	104	164	145	109	160	156	47	80	69
Whole District ..	98	105	94	85	113	91	106	76	72	87	64

As is seen from Table II., 56 per cent. of the deaths of infants occurred within the first three months of life. What may be regarded as "antenatal causes" (indicated by prematurity, congenital defects, atrophy, and some cases of convulsions and lung diseases) were responsible for over 53 per cent., other diseases of the respiratory system for 21 per cent., Diarrhœa for 6 per cent., and Whooping Cough for 12 per cent.

The mortality amongst illegitimate infants was 117 per 1,000 born. This figure, however, is misleading in that, out of 17 illegitimate children born in the district, 1 only died, giving a rate of 58. The remaining deaths occurred among illegitimate infants born outside but resident within the district at the time of death.

Table II.—Causes of deaths under 5 years in 1912.

	0–3 Months	3–6 Months	6–12 Months	Total under 1 year	1–2 years	2–3 years	3–4 years	4–5 years	Total under 5 years
Measles	—	—	2	2	1	3	—	—	6
Whooping Cough	2	—	4	6	2	—	—	—	8
Scarlet Fever	—	—	—	—	1	—	1	1	3
Diphtheria and Membranous Croup	—	—	—	—	—	—	—	—	—
Influenza	—	—	—	—	—	—	—	—	—
Tetanus	—	—	—	—	—	—	—	—	—
Syphilis	—	—	—	—	—	—	—	—	—
Diarrhœa and Enteritis	2	2	—	4	—	—	—	—	4
Tuberculosis	1	1	1	3	1	1	2	1	8
Premature Birth	13	1	1	15	—	—	—	—	15
Atrophy	6	1	3	10	—	—	—	—	10
Congenital Defects	7	—	—	7	1	—	—	—	8
Convulsions	1	—	—	1	3	—	—	—	4
Rickets	1	—	—	1	—	—	—	—	1
Laryngitis	—	—	—	—	—	—	—	—	—
Diseases of Respiratory System	1	2	7	10	3	1	1	—	15
Brain Disorder (other)	—	—	—	—	1	—	—	—	1
Found dead in bed	—	1	—	1	—	—	—	—	1
Suffocation	—	—	—	—	1	—	—	—	1
Other causes	3	1	1	5	1	1	—	—	7
Injuries	—	—	—	—	—	—	—	—	—
	37	9	19	65	15	6	4	2	92

INFECTIOUS DISEASES.

Smallpox.—No case occurred.

Poliomyelitis.—No cases of this disease were notified.

Measles.—510 cases were reported. The disease rose to epidemic prevalence in Didsbury and West Didsbury during the months of November and December. A special report upon the outbreak was made to the Committee in December, which showed that the spread of infection was almost altogether by school contact.

The case mortality was 1·3 per cent., compared with 0·30 per cent. in 1911.

Incidence of Measles upon children at various ages, 1912.

	0–1 years	—2 years	—3 years	—4 years	—5 years	—6 years	—7 years	—8 years	—9 years	—10 years	—11 years	—12 years	—13 years	—14 years	— over	Total
Primary Cases ..	7	2	12	12	34	92	80	42	19	9	8	4	7	2	6	336
Secondary Cases	10	26	35	30	28	12	9	9	7	4	3	—	—	1	—	174
Total ..	17	28	47	42	62	104	89	51	26	13	11	4	7	3	6	510

Whooping Cough.—171 cases of this disease were registered during 1912. The cases were evenly distributed throughout the year. Eight deaths occurred, 6 of which were of children under 1 year of age. The case mortality was 4·6 per cent.

SCARLET FEVER.

The following table shows the number and distribution of cases of Scarlet Fever notified during 1912, together with the number of patients removed to Hospital :—

Month	Withington	Didsbury	Chorlton-cum-Hardy	Burnage	Total	Number removed to Hospital
January	18	16	2	2	38	34
February	5	—	6	1	12	9
March	11	1	1	—	13	10
April	11	3	—	1	15	11
May	9	2	1	—	12	7
June	9	1	2	—	12	8
July	7	1	—	—	8	6
August	4	5	2	—	11	10
September	7	5	—	2	14	10
October	5	3	2	—	10	5
November	12	—	—	—	12	10
December	7	1	3	—	11	9
	105	38	19	6	168	129

These numbers show a considerable decrease on those for 1911. As will be seen from the above table, the attacks were fairly evenly distributed throughout the year. It was found that the spread of infection was not due to any one discoverable cause, such as infected milk. A number of the cases were traced to infection at the elementary schools, and overlooked or unrecognised cases were responsible for much of the infection.

The attack-rate for the year was 3·0 per thousand, and the case mortality was 2·9 per cent., as compared with 1·7 for 1911.

Diphtheria.—The following is the usual table relating to the distribution of Diphtheria during the year :—

Month	Withington	Didsbury	Chorlton-cum-Hardy	Burnage	Totals	Number removed to Hospital
January	—	—	—	—	—	—
February	—	1	3	—	4	3
March	—	—	1	1	2	2
April	1	1	—	—	2	—
May	—	—	1	—	1	1
June	1	—	—	—	1	—
July	3	1	2	—	6	3
August	3	1	1	—	5	3
September	1	—	—	1	2	2
October	7	—	—	—	7	1
November	3	—	2	1	6	1
December	3	—	1	—	4	4
	22	4	11	3	40	20

The attack-rate for the whole district was 0·7 per thousand, compared with 0·8 in 1911 and 0·7 in 1910.

The case-mortality was 10·0 per cent., as compared with 7·1 per cent. in 1911.

Bacteriological Examinations.—The total number of throat swabs examined was 117 ; 19 with positive results, 94 with negative, and 4 in which the result was doubtful.

Of the cases notified, 19 or 47 per cent. were examined bacteriologically at the commencement of the illness ; in 19 of these Diphtheria bacilli were found.

In cases treated at the hospital, it is the custom to obtain two successive negative swabs before the patient is discharged ; in the 19 cases treated in their own homes negative bacteriological results were obtained before release of the patient in 6 instances.

Diphtheria Antitoxin.—68 phials, containing 136,000 units, were supplied free to the medical profession. It is possible to obtain the remedy at the various police stations, and practitioners have availed themselves freely of this facility.

For the convenience of doctors in the Chorlton-cum-Hardy district, Diphtheria Antitoxin and outfits for bacteriological examination can be obtained at the Withington Committee's depôt in Albany Road.

Enteric Fever.—Sixteen cases of this disease were reported during the year. The average number of cases during the previous 10 years was 8·7. No deaths occurred.

Thirty-one specimens of blood were sent to the laboratory for examination, of which 11 yielded a positive Widal reaction.

The attack-rate for the whole district was 0·25 per thousand of the population, compared with 0·06 in 1911.

Nine cases were removed to Monsall Hospital, the remainder being nursed at home.

Erysipelas.—Twenty-five cases of Erysipelas were notified during the year, one of which terminated fatally. The usual inquiries were made in each case—particularly as to whether a monthly or district nurse was in attendance—and disinfection was carried out where necessary.

Puerperal Fever.—Two cases were notified and investigated. One was removed to Monsall Hospital, the other treated at home. In each case the bedding was stoved and the usual precautions taken to prevent the nurses carrying infection. No deaths occurred.

Ophthalmia Neonatorum.—Three cases were notified and each one was followed up to ascertain that the necessary treatment was being obtained. In none was the eye-sight permanently affected.

Phthisis.—During the year, 39 deaths were recorded from this disease compared with 39 in 1911. Eighty-five specimens of sputum were examined, and a positive result obtained in 28.

The following table shows the number of cases in which rooms and bedding have been disinfected after Phthisis for each year since the practice was commenced :—

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Fatal cases of Phthisis	26	27	38	29	20	35	39	33	31	27	39	39
Rooms of patients disinfected and bedding stoved	20	20	30	24	24	37	89	104	93	137	151	244

Removal to Hospital.—The number of patients removed to hospital was as follows :—

Disease	Baguley Sanatorium	Monsall	South Manchester Infirmary	Total
Diphtheria	10	9	1	20
Erysipelas	..	6	4	10
Scarlet Fever	92	13	24	129
Enteric Fever	..	9	..	9
Puerperal Fever	..	1	..	1
	102	38	29	169

The number of patients who have suffered from Scarlet Fever, Diphtheria, and Enteric Fever in the district in each of the years from 1897 to 1912, together with the annual number of removals to hospital, is shown in the following table :—

Year	Number of Cases of Fever in the District	Removed to Hospital	Percentage
1897	S.F. 177. D. 16. E. 10—Total 203	121	59
1898	S.F. 70. D. 22. E. 25— ,, 117	54	46
1899	S.F. 68. D. 16. E. 16— ,, 100	28	28
1900	S.F. 204. D. 14. E. 8— ,, 226	120	53
1901	S.F. 245. D. 31. E. 11— ,, 287	162	56
1902	S.F. 109. D. 26. E. 6— ,, 141	73	51
1903	S.F. 85. D. 31. E. 14— ,, 130	58	44
1904	S.F. 80. D. 28. E. 5— ,, 113	43	38
1905	S.F. 136. D. 50. E. 6— ,, 192	92	47
1906	S.F. 113. D 64. E. 12— ,, 189	133	70
1907	S.F. 128. D. 24. E. 21— ,, 173	96	55
1908	S.F. 94. D. 77. E 8— ,, 179	96	54
1909	S.F. 248. D. 68. E. 4— ,, 320	193	60
1910	S.F. 186. D. 38. E. 8— ,, 232	119	51
1911	S.F. 284. D. 42. E. 3— ,, 329	208	60
1912	S.F. 168. D. 40. E. 16— ,, 224	171	76

Other Matters.

Number of Water-closets and Privies in the District.—The work of substitution of water-closets for the insanitary privy accommodation is nearing completion.

The number of privies demolished during the last ten years is as follows :—

1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	Total
41	124	137	187	247	126	167	125	99	147	1,400

The total number of privies remaining is 388.

The following figures show the approximate number of houses in the district with water-closet or other accommodation on December 31st, 1912 :—

Number of houses with water-closets only	13,118
,, ,, ,, ,, and privies	151
,, ,, ,, ,, and slop water-closets ..	29
,, ,, ,, privies only	237

Thus there are 13,298 houses with water-closets, 180 of which have, in addition, some other form of accommodation.

There are also a number of premises provided solely with pail-closets, as follows :—

Schools	Farms	Golf Clubs and Cricket Grounds	Works	Houses	Total
2	9	6	17	27	61

The total number of cesspools in the District is 42.

Building in the District during 1912.—The total number of houses certified as fit for habitation during the year ending December 31st, 1912, was 468, distributed as follows :—Withington (including Whalley Range), 270 ; Didsbury, 57 ; Chorlton-cum-Hardy, 140 ; Burnage, 1. In all these the drains have been tested by the Inspector of New Buildings.

THE INSPECTOR OF NUISANCES REPORTS THE PARTICULARS OF WORK CARRIED OUT DURING THE YEAR ENDED DECEMBER 31ST, 1912.

Complaints.—The number of complaints or requests received and attended to during 1912 was 282, compared with 324 in 1911, arising from the several townships, as follows :—

Withington (including Whalley Range)	125
Chorlton-cum-Hardy	61
Didsbury and West Didsbury	86
Burnage	10
Total	282

The reduction in the number of complaints received is probably due to the low temperature and heavy rainfall during the summer months, especially in August and September, when they were 47 per cent. less than the average for those months during the last five years.

There is no improvement to record in respect of the unsatisfactory state of many unadopted roads and passages in the district, which require systematic cleansing and scavenging.

Complaints in respect of effluvium nuisances from streams, water courses, sewer manholes, and ashpits are invariably less frequent with the atmospheric conditions experienced during the greater part of 1912, and it is satisfactory to record that there was no complaint received in respect of the Chorlton Brook and its tributaries.

Notices served during the year for alteration of insanitary conditions—170.

	Notices	Premises Concerned
Under Section 36 P.H. Act, 1875..	11	11
„ „ 41 „ „ „	32	61
„ „ 91–94 „ „ „	12	31
Town Clerk Notices	115	233
Total	170	336

Notices of intention to enter premises under Section 41 P.H. Act, 1875—63.

Insanitary premises altered—under notice, 312; without notice, 162; Total, 474.

Accumulations of manure, etc., removed—6.

Removal of animals—6.

Premises inspected as to their sanitary condition—532.

Premises inspected after the notification of infectious fevers, including Phthisis and other tubercular diseases—281.

Premises visited *re* passengers from infected ports or ships (Smallpox, etc.)—2.

Disinfection.—The total number of articles stoved during 1912 was 4,493, and consisted of the following:—Beds, 431; mattresses, 162; pillows, 899; blankets, 739; carpets, 432; clothes, 468; counterpanes, 310; sundries, 552.

Library and other books fumigated with Formaldehyde Gas—85.

Premises disinfected after fevers, including Phthisis, etc.—266 houses, 780 rooms.

Re-inspections of premises during disinfection—411.

Business premises closed during disinfection—1.

Drainage and Sanitary Alterations.

Drainage systems of premises smoke tested—4.

The smoke tests were applied by request, and the cost charged to the applicants.

During the year, 1,691 inspections were made of works in progress; 905 tests of drains, water-closets, and soil pipes were made with the water test in connection with sanitary alterations.

77 premises were redrained throughout and tested with the water test (71 under notice and 6 without notice).

Details of Work done	Under notice	Without notice	Total
Defective water-closets replaced by new ones ..	34	26	60
Additional water-closets provided	1	10	11
Water-closets substituted for privies	80	17	97
New soil pipes of heavy cast iron	31	24	55
New heavy cast-iron ventilating shafts provided to soil pipes and to drains	37	26	63
Waste pipes or rain-water pipes: trapped, renewed, or repaired	224	60	284
Manholes, with approved disconnecting traps ..	—	3	3
Manholes without disconnecting traps	1	—	1
Disconnecting traps, without manholes	16	1	17
Privies dismantled and sites made good	117	30	147
Ashpits dismantled and sites made good	105	71	176
Galvanised-iron dustbins provided	*164	83	247
Cellar floors: flagged, concreted, or repaired ..	38	8	46
Yards or scullery floors: flagged, concreted, or repaired	93	5	98
Scullery and yard walls: rebuilt or repaired ..	54	—	54
Walls, floors, and roofs of W.C. chambers rebuilt or repaired	72	5	77
Windows for light and ventilation to W.C. chambers	80	20	100
New areas built for cellar drains	14	1	15
W.C. or yard drains cleansed, repaired, or relaid	14	7	21
Stopped drains or gullies, opened and cleansed ..	52	17	69
Cesspools dismantled	—	2	2
Pail Closets dismantled	—	2	2

* Three supplied in default, and cost recovered from owners.

Water Supply.—Two complaints have been received in respect of the Corporation water, and, consequently, two samples were taken (February and June) and submitted for analysis and bacteriological examination, and were reported to be of good quality.

Two samples of water were taken from a pump well at Didsbury in July, and were submitted for analysis, and reported to be of doubtful quality.

All the milk farms in the district are supplied with Corporation water.

Dairies, Cowsheds, and Milkshops.—During the year, 434 visits or inspections have been made of cowsheds and milkshops. The cowsheds have been regularly limewashed, and are in good repair. In 18 instances milkshops have been cleansed after request.

Foot and Mouth Disease amongst Cattle.—Forty-one special visits were made in respect of Foot and Mouth Disease. Fortunately no case occurred within the district.

Three cowkeepers and 27 purveyors of milk have been registered during 1912. Two cowkeepers and 28 purveyors of milk discontinued the sale of milk, and their names have been removed from the register.

Registered milksellers in the district—160. Registered cowkeepers in the district—34. Cowsheds—86. Milkshops—85.

Slaughter-houses.—The four slaughter-houses in use in the district have had 46 visits or inspections during the year. In two instances the Inspector had occasion to request the occupiers to have the limewashing done. The Cleansing Department remove the offal twice each week, and the places are conducted in a satisfactory manner.

Reports made to the Medical Officer—721.
Reports made to the Surveyor—9.
Letters written for abatement of nuisances, etc.—120.
Circulars sent for abatement of nuisances, etc.—60.
Miscellaneous inspections, visits to premises, etc.—1,659.

Factory and Workshop Act, 1901.

Inspections, re-inspections, or visits to factories and workshops.	934
Bakehouses cleansed and limewashed after request..	37
Workshops cleansed and limewashed after request	28
Outworkers' Rooms cleansed and limewashed after request ..	3

Shops Act, 1912.

Total number of shops registered in the Withington District ..	758
Total number of visits *re* Shops Act	1,194

WM. MOSS,
Inspector of Nuisances.

REPORT ON THE ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN SO FAR AS THIS ADMINISTRATION IS IN THE HANDS OF THE WITHINGTON COMMITTEE, AND IS CONCERNED WITH MATTERS IN THE DEPARTMENT OF THE DISTRICT MEDICAL OFFICER OF HEALTH.

1.—*Workshops.*

The number of workshops now on the register is 317, distributed throughout the district as follows :—

	Withington and Whalley Range	Didsbury	Chorlton-cum-Hardy	Burnage	Total
Workshops	73	91	74	2	240
Bakehouses	15	14	17	2	48
Laundries	6	3	5	1	15
Factories..	6	3	4	1	14

The cubic capacity of each workshop has been measured, and cards have been placed in each room showing the maximum number of workpeople allowed.

Attention has been given to the cleanliness and ventilation of the workshops.

In 39 cases the walls and ceilings of the workshops were found to be in a dirty condition, and verbal instructions were given by the Inspector to have the premises cleansed.

This request has, in 28 instances, been sufficient to cause the premises to be cleansed without legal notice. In 3 instances the occupiers removed, and the remaining 8 were still outstanding at the end of the year.

In 11 workshops the sanitary accommodation was found to be unsatisfactory, 3 of these being first reported by H. M. Inspector.

In 1 instance there was no sanitary accommodation for the workmen, and a W.C. has since been provided.

In another case a W.C. has been substituted in lieu of an insanitary privy, and in the 9 remaining cases certain defects existing in the closets have been made good.

Three written notices were served in respect of the above, and in 8 instances verbal requests only were necessary.

Ten " Notices of occupation " and three " Notices of Defects " were received from H.M. Inspector during 1912. The defects have since been remedied, and H. M. Inspector notified of the action taken.

2.—*Bakehouses.*

There are now on the register 48 bakehouses, which, on the whole, are kept in a clean and satisfactory condition. In 37 instances during the year it has been found necessary to call the attention of the occupiers to the state of the walls, etc., and to request them to have them cleansed. In all cases except one this has been done without written notice.

All the bakehouses comply with the Act in not having any sanitary convenience or ashpit communicating directly with them; in not having any cistern for supplying water to them connected in any way with a water-closet; in having no drain openings inside; and in having no sleeping place connected with them.

The bakehouses are distributed over the district as follows:—

Chorlton-cum-Hardy	17
Withington	15
Didsbury	14
Burnage..	2
	—
	48

There are no cellar-bakehouses in the district.

3.—*Homework.*

Information with regard to persons in the district taking in homework from places of business outside the district has been received in 40 instances during the year. These premises have been inspected and recorded in the Outworkers' Register. The number of visits paid during the year to premises in which homework has been carried on was 47. No infectious fevers have been notified during the year as occurring in connection with the premises occupied by homeworkers.

In 2 instances employers living in this district have been reported as giving out work to homeworkers who live in other districts. The names and addresses of these have been sent to the Sanitary Authorities of the district in which they live. In 3 instances the walls, ceilings, etc., of outworkers' rooms were cleansed, after verbal instructions from the Inspector.

4.—*Workplaces.*

Under this heading the following are classified:—

New buildings in course of erection, 13; fish and game shops, 9; cab yards and stables, 9; slaughter-houses, 4—total, 35.

In the case of new buildings, it was found that in 4 instances no sanitary accommodation existed for the workmen. A verbal request was sufficient to cause satisfactory accommodation to be provided.

Total number of visits to workplaces during the year, 77.

5.—*Factories.*

There are 14 places in the Withington district in which mechanical power is used.

These are as follows :—

Laundries, 4 ; printers, 2 ; joiners, 3 ; cycle makers and motor engineers, 2 ; brickworkers, 2 ; blacksmith, 1. Total number of visits to factories during the year, 28.

Workshops.

Number of visits	Number in which Sanitary defects were found and reported to the Medical Officer of Health	Number of reports referred to Factory Inspector (unregistered workshops)	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register	Number of visits to houses where outworkers are employed	Factories and Workshops not provided with proper means of escape in case of fire
623	1	5	0	72	269	47	0

Bakehouses.

Number of visits	Number in which Sanitary defects were found	Number of reports referred to Factory Inspector	Number of cases in which Magisterial proceedings have been taken	Number registered during the year	Total number on register
159	2	0	0	8	48

1.—Inspection.

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories...	28	0	0
Workshops	623	2	0
Bakehouses	159	2	0
Workplaces	77	1	0
Homeworkers' Premises	47	0	0
Total	934	5	0

2.—Defects Found.

Particulars	Number of Defects			No. of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
Nuisances under the Public Health Acts :—				
Want of cleanliness	75	65	0	0
Want of ventilation	1	1	0	0
Overcrowding	1	1	0	0
Sanitary Accommodation (Section 22 adopted)				
Insufficient	1	1	0	0
Defective	9	9	0	0
Not separate for Sexes...	0	0	0	0
	87	77	0	0

3.—Other Matters.

Class	Number
Matters notified to H.M. Inspectors of Factories :—	
Failure to affix abstract of the Factory and Workshop Act (S. 133)	5
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	3
Reports (of action taken) sent to H.M. Inspectors.	3
Other	0
Underground Bakehouses (S. 101) :—	
In use during 1903...	8
Certificate granted { in 1909...	0
Certificate granted { in 1910...	0
In use at the end of 1910	0

Homework :—	Number of Lists	Number of Outworkers
List of Outworkers (S. 107) :—		
Lists received	7	47
Addresses of outworkers { forwarded to other authorities		2
Addresses of outworkers { received from other authorities		40

Homework in unwholesome or infected premises :—	Wearing Apparel	Other
Notices prohibiting homework in unwholesome premises (S. 108)	0	0
Cases of infectious disease notified in homeworker's premises	0	0
Orders prohibiting homework in infected premises (S. 110)	0	0

Workshops on the Register (S. 131) at the end of 1912 :—	Number
Dressmaking	34
Bootmakers	50
Joiners	21
Plumbers	14
Blacksmiths and Wheelwrights	10
Decorators	7
Millinery	10
Ironmongers	4
Cabinetmakers	10
Tailors	13
Bakers	48
Laundries	15
Hairdressers	15
Monumental Masons	3
Saddlers	3
Printers	3
Watchmakers	2
Picture Framing	3
Knitting	2
Cycles and Motor Garage	14
Bottling Stores	2
Brickworks	2
Workplaces	22
Miscellaneous...	10
Total number of Workshops on Register	317

TOTAL NUMBER OF SHOPS REGISTERED IN THE WITHINGTON DISTRICT.

TRADE	Ladybarn and Burnage	Chorlton-cum-Hardy	Didsbury and West Didsbury	Withington	Whalley Range and Moss Side	TOTAL
Art Needlework	..	..	1	..	..	1
Antique Dealers	..	..	1	..	..	1
Boot and Shoe Dealers	4	14	18	10	9	55
Coal Yards	3	..	8	2	..	13
Corn and Provender Dealers	..	1	..	1	..	2
Chemists and Druggists	1	6	5	4	..	16
Drapers	4	17	12	4	8	45
Dress and Mantle Dealers	..	6	6	2	..	14
Electrical Fittings	..	1	1	..	..	2
Fent Dealers	..	1	3	..	..	4
Furniture Dealers	1	6	4	2	1	14
Glass and China Dealers	..	2	3	..	..	5
Hatters	..	1	..	..	..	1
Hardware Dealers	3	7	7	2	4	23
Hairdressers	1	4	5	3	1	14
Machinery and Typewriters	..	1	..	1	..	2
Incandescent Mantles	2	1	4	3	..	10
Millinery	..	5	3	3	1	12
Picture Dealers	..	1	2	..	..	3
Paint and Colour Dealers	..	1	..	1	..	2
Photographers	..	1	1	..	..	2
Saddlers	..	1	1	1	..	3
Second-hand Clothing	..	..	..	..	1	1
Tailors	..	1	6	1	..	8
Wallpaper Salesmen	..	..	4	..	..	4
Exempted Trades.						
Butchers	6	17	15	6	8	52
Cycle and Motor Dealers	..	4	3	2	..	9
Confectioners	11	24	27	14	12	88
Dairymen	2	3	9	2	4	20
Florists	..	1	3	2	1	7
Fruiterers	1	7	8	2	2	20
Fishmongers	..	4	4	2	..	10
Fried Fish and Chips	2	4	5	3	4	18
Greengrocers	7	5	8	3	6	29
Grocers and Provision Dealers	11	26	21	15	23	96
Hosiers and Outfitters	..	4	2	..	..	6
Intoxicating Liquors	11	15	22	13	2	63
Jewellers	..	2	4	2	..	8
Music and Musical Instruments	..	1	..	1	..	2
Pork Butchers	..	..	..	1	..	1
Stationers and Booksellers	3	12	9	4	5	33
Tobacconists	3	9	7	2	3	24
Tripe	..	1	..	..	..	1
Empty Shops	10	2	1	1	..	14
	86	219	243	115	95	758

TABLES.

TABLE A.—MANCHESTER, 1912.

CAUSES OF DEATH AT DIFFERENT LIFE PERIODS IN THE 52 WEEKS OF THE YEAR.

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
All Causes	11714	2222	1544	314	169	241	254	694	1037	1296	1491	1576	762	114
A.—General Diseases	4569	1082	894	172	87	127	137	344	465	505	396	285	71	4
B.—Local Diseases	5920	708	586	118	66	102	99	317	514	733	1028	1126	463	60
C.—Other Specified Dis:	2	2	...	...	...	...	...	...	...	...	...	...	...	...
D.—Ill-defined Diseases	752	314	19	...	...	...	...	...	1	4	20	133	212	49
E.—Violent Deaths	471	116	45	24	16	12	18	33	57	54	47	32	16	1
A.—General Diseases.														
Smallpox.. Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. Not Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. No Statement	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Cowpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Measles	490	111	347	32	...	...	...	...	...	...	...	...	...	..
Epidemic Rose Rash	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever..	51	1	31	15	1	1	1	...	1	...	...	...	...	...
Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	..	...	...	...	...	...	...	...	...	...	...
Influenza	96	5	3	3	1	2	1	9	9	8	12	26	16	1
Whooping Cough	298	102	180	16	...	...	...	...	...	...	...	...	...	...
Mumps	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Memb: Croup	97	8	58	27	2	...	...	...	1	1	...	...	...	...
Poliomyelitis	6	3	3	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	3	1	2	...	...	...	...	...	...	...	...	...	...	...
Simple Cont: Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	47	1	...	...	2	1	7	14	13	8	1	...	...	...
Asiatic Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhœa	91	67	21	...	...	...	...	...	...	1	1	1	...	...
Diarrhœa	181	132	37	1	1	...	...	...	...	1	3	2	4	...
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malarial Fever	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Actinomycosis	2	...	...	1	...	1	...	...	...	...	...	...	...	...
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	48	39	2	...	...	...	1	1	...	2	1	2	...	...
Gonorrhœa, Strict: Urethra	11	...	...	...	...	...	...	...	1	4	4	2	...	...
Puerperal.. Septicæmia	6	...	...	...	...	...	...	5	1	...	...	...	...	...
Puerperal.. Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. Phlegmasia Dol:	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. *Fever*	14	...	...	...	...	1	4	6	3	...	...	...	...	...
Infective Endocarditis	19	...	...	1	2	2	4	6	2	1	1	...	...	...
Epidemic Pneumonia / Pneumonic Fever	4	...	1	...	...	...	1	1	...	1	...	...	...	...
Erysipelas	21	4	1	...	...	...	1	...	2	3	3	3	4	...
Septicæmia (not puerp:)	2	...	...	...	...	...	...	1	1	...	...	...	...	...
Pyæmia (not puerp:)	4	...	...	...	...	...	...	2	...	1	1	...	...	...
Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phagedæna	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Other Septic Diseases	6	3	...	...	...	...	...	...	1	2	...	...	...	...
Tubercular Phthisis	1022	3	16	10	27	69	77	218	253	206	106	36	1	...
Phthisis	85	...	2	1	3	3	6	23	25	15	7	...	...	...

TABLE A, 1912—*continued.*

CAUSES OF DEATH	All Ages	Ages at Death: Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
A.—General Diseases— *continued*														
Tubercular Meningitis	197	34	88	42	8	13	4	3	2	2	1	...	...	...
Tubercular Peritonitis	57	8	22	2	12	2	3	5	3	...	...	...	...	...
Tabes Mesenterica	18	8	9	1	...	...	...	...	...	...	...	...	...	...
Lupus	5	...	...	...	...	1	...	1	...	1	1	...	1	...
Tubercle of other organs	63	7	12	4	6	7	4	4	7	6	3	3	...	...
General Tuberculosis	57	5	18	6	3	4	2	6	9	2	1	1	...	...
Scrofula	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Parasitic Diseases	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Starvation	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism, Delirium Tremens	46	...	...	...	...	...	...	5	9	21	7	4	...	...
Opium, Morphia Habit	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ptomaine Poisoning	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Industrial Poisoning: Lead	5	...	...	...	...	...	...	1	1	2	1	...	...	...
Industrial Poisoning: Phosphorus	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Industrial Poisoning: Arsenic, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheum: Fever, Acute Rheum:	60	...	4	3	13	7	5	8	12	6	1	1	...	...
Rheumatism of Heart	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chronic Rheumatism	20	...	...	...	2	2	...	...	...	1	4	8	3	...
Rheum: Arthritis, Rheum: Gout	22	...	...	...	...	...	...	1	2	8	4	5	2	...
Gout	2	...	...	...	...	...	...	...	...	...	...	1	...	1
Carcinoma	542	...	...	...	...	1	3	6	76	140	160	125	29	2
Sarcoma	67	...	2	4	...	6	3	3	7	17	16	8	1	...
"*Cancer*," Malignant Disease	112	...	...	...	...	...	1	2	11	21	33	37	7	...
Rickets	28	11	16	1	...	...	...	...	...	...	...	...	...	...
Purpura	8	2	2	2	...	...	...	...	...	...	2	...	...	...
Hæmophilia, Hæm: Diathesis	3	1	1	...	...	...	...	...	...	1	...	...	...	...
Anæmia, Leucocythæmia	48	2	3	...	1	2	4	7	5	10	6	7	1	..
Diabetes Mellitus	63	...	1	...	1	2	4	5	6	13	16	13	2	..
Premature Birth	389	389	...	...	...	...	...	...	...	...	...	...	...	..
Congenital Defects	63	59	2	...	2	...	...	...	...	...	...	...	...	...
Injury at Birth	26	26	...	...	...	...	...	...	...	...	...	...	...	..
Atelectasis	28	28	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast Milk	3	2	1	...	...	...	...	...	...	...	...	...	...	..
Teething	24	16	8	...	...	...	...	...	...	...	...	...	...	...
B.—Local Diseases.														
1.–Nervous System.														
Inflammation of Brain	130	35	47	20	4	2	3	6	6	3	3	1	...	...
Softening of Brain	12	...	...	...	...	...	...	1	...	2	2	5	2	...
General Paraly: of Insane	76	...	...	...	...	...	...	16	28	2	11	1	...	...
Insanity (not puerperal)	101	...	...	2	1	...	...	2	9	9	22	33	21	2
Chorea	6	...	...	1	1	1	1	...	...	1	...	1	...	...
Epilepsy	48	...	...	2	2	5	6	9	8	4	7	2	3	...
Convulsions	79	61	16	1	...	...	...	1	...	...	...	...	...	..
Laryngismus Stridulus	6	4	1	...	...	...	...	...	1	...	...	...	...	...
Locomotor Ataxy	16	...	...	...	...	...	...	...	...	6	4	4	2	...
Dis: of Spinal Cord	30	...	...	...	...	...	2	4	5	3	10	4	2	...
Neuritis	11	...	...	...	...	...	...	3	...	5	3	...	...	...
Brain Tumour	19	...	...	5	...	...	1	5	4	3	1	...	...	...
Nervous System (other Dis:)	15	1	1	1	...	...	...	2	...	3	2	3	2	...
2. Diseases of Special Sense Organs.														
Otitis, Mastoid Disease	22	6	4	...	4	1	2	2	3	...	...	...	...	...
Epistaxis, Nose Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia, Eye Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE A, 1912—*continued.*

CAUSES OF DEATH	All Ages	Ages at Death: Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
3. DISEASES OF HEART.														
Valvular Dis: Endocarditis	450	...	3	8	15	16	22	44	69	81	81	85	23	3
Pericarditis	18	...	...	...	5	2	...	...	3	3	3	1	1	...
Hypertrophy of Heart.....	4	...	...	...	...	...	...	...	1	1	1	...	1	...
Angina Pectoris	34	...	...	...	...	...	...	1	3	6	13	10	1	...
Dilatation of Heart	86	...	...	1	...	1	...	2	4	19	21	24	13	1
Fatty Degen: of Heart	37	...	...	...	...	...	...	1	3	4	11	16	2	...
Syncope, Heart Disease.....	383	5	3	2	4	12	5	14	29	56	110	95	45	3
4. DIS: OF BLOOD VESSELS.														
Cerebral Hæmorrhage.....	375	2	...	...	1	...	...	5	17	72	96	122	55	5
Apoplexy, Hemiplegia.....	102	...	...	...	...	...	...	1	6	17	29	35	13	1
Aneurism	31	...	...	...	...	...	1	1	6	12	8	3	...	...
Senile Gangrene	19	...	...	...	...	...	...	...	...	...	2	12	4	1
Embolism, Thrombosis	42	...	...	...	...	...	2	2	3	4	5	15	9	2
Phlebitis.....	4	...	...	...	...	...	...	...	...	1	2	1	...	...
Varicose Veins	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blood Vessels (Other Diseases)	74	...	...	...	...	...	...	4	...	6	19	24	18	3
5. DIS: OF RESPIRATORY SYS:														
Laryngitis	16	3	6	3	...	1	...	...	...	1	2	...	...	...
Memb: Laryng: (Not Diphth:)	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Croup.....	2	...	1	1	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis:)	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Bronchitis	1,237	206	71	7	2	6	2	16	48	99	253	340	156	31
Pneumonia { Lobar.....	400	23	26	15	8	16	9	56	75	58	60	38	15	1
Pneumonia { Broncho.....	765	239	323	20	2	3	3	14	16	25	47	51	19	3
"*Pneumonia*".....	193	21	23	6	3	3	3	19	25	35	23	26	6	...
Emphysema, Asthma	24	...	1	...	...	1	1	...	3	5	7	5	1	...
Pleurisy	36	...	5	1	1	1	1	2	3	8	5	8	...	1
Fibroid Disease of Lung.....	2	...	...	...	...	...	...	...	...	...	1	1	...	...
Respiratory Dis: (Other)	57	6	3	...	...	...	4	7	3	10	7	8	7	2
6. DIS: OF DIGESTIVE SYS:														
Tonsillitis, Quinsy	6	...	3	1	...	...	...	...	...	1	...	1	...	...
Mouth, Pharynx	16	8	4	1	...	...	1	...	1	...	...	...	1	...
Gastric Ulcer.....	49	...	...	...	...	2	3	9	15	8	8	2	2	...
Gastric Catarrh.....	18	11	2	1	...	...	...	..	...	...	3	1	...	...
Stomach (Other Dis:).....	47	21	5	1	...	...	...	3	1	4	3	7	2	...
Enteritis.....	14	...	2	...	...	1	...	1	1	3	2	3	1	...
Gastro-Enteritis.....	13	...	3	...	1	...	...	...	1	2	1	3	2	...
Appendicitis, Perityph :	38	...	2	2	3	8	3	5	5	4	4	2	...	...
Hernia	22	1	...	1	...	...	...	1	3	6	6	2	2	...
Intestinal Obstruct:.....	32	2	4	...	1	1	2	1	4	5	4	5	2	1
Other Diseases of Intestines ...	16	2	2	2	1	1	...	2	...	2	3	...	1	...
Peritonitis	11	...	...	2	...	3	1	2	1	...	1	1	...	...
Cirrhosis of Liver.....	85	...	...	...	...	...	...	4	13	29	21	17	1	...
Liver and Gall Bladder (O. D.).	35	20	1	...	...	1	...	...	1	3	3	3	3	...
Digestive System (Other Dis:)...	32	13	2	1	1	1	1	1	4	2	4	2	...	...
7. DIS: OF LYMPHATIC AND DUCTLESS GLANDS.														
Spleen, Disease of.....	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Lymphat: Syst: (Other Dis:)...	13	...	2	1	...	2	1	3	1	1	1	1	...	...
Thyroid Body (Other Dis:) ...	9	1	...	...	1	1	1	2	1	...	...	2	...	...
Supra Renal Caps: (Dis: of)...	5	...	...	...	...	...	...	...	2	2	...	...	1	...
8. DISEASES OF URINARY SYSTEM.														
Nephritis Ac:, Uræmia	80	3	11	4	2	2	5	8	11	14	9	9	2	...
Ch: Bright's Dis: Albumin: ...	222	...	1	2	2	3	3	15	31	48	55	53	9	...
Calculus	18	...	1	...	...	...	1	1	1	2	6	6	...	...
Bladder and Prostate Dis: ..	32	...	...	...	...	...	...	...	...	1	7	18	6	...
Urinary Syst: (Other Dis:) ...	24	...	...	...	...	...	1	1	4	5	6	6	1	...

TABLE A, 1912—*concluded.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
9. Diseases of Generative System.														
Ovarian Tumour	3	...	...	...	...	...	...	1	...	...	1	...	1	...
Other Dis : of Ovary	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Uterine Tumour	9	...	...	...	...	...	...	...	3	3	1	1	1	...
Other Dis: of Uterus and Vagina	2	...	...	...	...	...	...	1	1	...	...	...	...	...
Disord : of Menstruation	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Gener: and Mam: Orgs: (other)	9	...	1	...	...	1	2	2	3	...	...	...	...	...
10. Diseases of Pregnancy and Childbirth.														
Abortion, Miscarriage	4	...	...	...	...	...	...	2	2	...	...	...	...	...
Puerperal Mania	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	8	...	...	...	...	...	4	...	4	...	...	...	...	...
Placenta Prævi: Flooding	18	...	...	...	...	...	...	7	11	...	...	...	...	...
Other Ac: of Preg: & Childbirth	9	...	...	...	...	...	1	2	6	...	...	...	...	...
11. Diseases of Locomotor System.														
Caries, Necrosis	10	...	...	...	...	2	1	1	1	1	1	2	1	...
Arthritis, Periostitis	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Locomotor Sys : (Other)	8	...	2	2	1	2	...	1	...	...	...	...	...	...
12. Diseases of the Skin.														
Ulcer, Bedsore	6	1	...	...	...	...	...	...	...	...	2	2	1	...
Eczema	7	5	...	...	...	...	...	...	...	...	1	1	...	...
Pemphigus	6	5	...	...	...	...	...	...	...	...	...	1	...	...
Skin Diseases (other)	16	3	4	...	...	...	...	...	...	3	4	1	1	...
C.—Other Specified Diseases	2	2	...	...	...	...	...	...	...	..	...	...	..	...
D.—Ill-defined and not Specified Diseases.														
Atrophy, Debility	329	309	19	...	...	...	...	...	...	1	...	...	...	...
Old Age	410	...	...	...	...	...	...	...	...	...	17	133	211	49
Dropsy, Ascites, Anasarca	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumour	6	...	...	...	...	...	...	...	1	3	2	...	...	...
Abscess	4	3	...	...	...	...	...	...	...	...	...	...	1	...
Hæmorrhage	2	2	...	...	...	...	...	...	...	...	...	...	..	...
Sudden (cause unascertained)	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Other Ill-defined	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E.—Violent Deaths.														
1. Accident.														
In Mines and Quarries	4	...	...	...	...	...	...	1	2	...	1	...	...	...
By Vehicles { On Railways	16	...	...	...	1	3	1	3	3	4	1	...	...	...
By Vehicles { In Streets	36	...	6	6	3	...	...	5	4	2	3	4	2	1
Ships, Boats, Docks (not Drowning)	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Building Operations	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Machinery	4	...	...	...	1	...	...	...	2	...	...	1	...	...
Weapons and Implements	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burns and Scalds	64	1	33	9	3	3	...	3	...	4	1	5	2	...
Poison, Poisonous Vapours	13	...	...	1	...	1	2	...	2	3	2	2	...	...
Drowning	40	2	2	6	3	1	3	2	10	5	5	...	1	...
Suffocation	121	109	3	...	1	...	...	1	1	1	5	...	...	...
Falls	60	...	...	...	2	...	1	4	10	13	9	11	10	...
Weather Agencies	3	...	...	...	...	...	...	...	...	1	2	...	...	...
Otherwise or not Stated	28	2	...	2	2	2	4	1	3	5	3	4	...	...
2. Homicide.	7	2	1	...	...	...	...	1	3	...	...	...	...	...
3. Suicide.	73	...	...	...	...	2	7	12	17	15	14	5	1	...
4. Execution.	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE B.—MANCHESTER, 1912.

Causes of Deaths at Different Life Periods—MALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years: Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6155	1244	816	157	91	124	129	390	585	746	801	746	289	37
A	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	252	58	182	12	...	...	...	...	...	...	...	...	...	..
	Scarlet Fever	27	1	16	9	...	1	...	...	...	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	139	50	83	6	...	...	...	...	...	...	...	...	...	...
	Diphtheria, Memb: Croup	51	3	36	10	2	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	30	...	...	...	1	1	5	8	11	4	...	...	...	...
	Influenza	50	2	1	3	...	1	1	5	6	4	10	15	2	...
	Epidemic Diarrhœa	57	43	14	...	...	...	...	...	...	...	...	...	...	...
	Diarrhœa, Dysen., Simple Chol.	91	68	18	1	...	...	...	...	...	1	...	...	3	...
	Venereal Affections	42	24	1	...	...	...	1	1	1	5	4	4	...	...
	Erysipelas	13	3	...	...	...	...	1	...	1	3	1	2	2	..
	Pyæmia, Septicæmia	7	3	...	...	...	...	...	2	...	1	1	...	...	...
	Puerperal Fever ..	...	...	...	...	...	...	...	...	...	...	...	...	...	..
	Other Zymotics	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tuberc. Periton: Tabes Mes:	44	7	21	3	6	2	...	3	2	...	...	...	...	...
	Tubercular Meningitis	104	20	49	21	2	8	1	1	...	1	1	...	...	...
	Phthisis	699	1	11	4	13	30	48	133	188	162	84	25	...	...
	Tuberculous Dis. (other)	70	9	15	6	5	5	3	6	11	6	4	...	...	...
	Parasitic Diseases	2	2	...	...	...	...	...	...	...	...	...	...	...	...
	Alcoholism	29	...	...	...	...	...	...	4	5	11	6	3	...	...
	Rheumatic Fever	32	...	3	1	9	4	1	5	6	2	1	...	...	...
	Cancer	309	...	...	2	...	2	5	6	38	71	99	72	12	2
	Premature Birth	237	237	...	...	...	...	...	...	...	...	...	...	...	...
	Congenital Defects	65	63	1	...	1	...	...	...	...	...	...	...	...	...
	Epilepsy	24	...	...	...	1	3	2	7	4	2	2	1	2	...
	Convulsions	50	42	8	...	...	...	...	...	...	...	...	...	...	...
	Nervous Syst: (other)	235	22	26	15	1	1	3	27	31	33	34	26	15	1
	Cereb: Haem: Apoplexy, Hemip:	214	2	...	...	1	...	...	2	8	41	55	80	22	3
	Heart and Blood Vessel Dis:	541	1	3	4	13	14	14	33	57	97	136	121	43	5
B and C	Croup	2	...	1	1	...	..	...	...	...	...	...	...	...	...
	Bronchitis	629	117	34	4	2	4	2	7	25	67	134	156	66	11
	Pneumonia	787	158	205	22	9	16	9	61	79	80	78	57	13	...
	Respiratory Dis: (other)	74	3	6	3	1	2	3	5	6	18	14	11	1	1
	Digestive Syst: (other)	216	40	17	7	5	12	5	19	23	32	30	19	7	...
	Urinary Syst: (other)	214	1	4	3	...	5	6	14	23	32	54	59	13	...
	Generative Organs	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Other specified Diseases	191	36	30	6	7	8	8	19	15	29	14	17	2	...
D	Marasmus and Atrophy	182	172	10	...	...	...	..	...	...	...	...	...	...	...
	Old Age	160	...	...	...	...	...	...	...	...	...	5	63	79	13
	Other Ill-defined Causes	10	3	...	...	...	...	...	...	1	3	2	...	1	...
E	Violence	215	52	19	14	12	4	6	15	29	29	19	10	5	1
	Homicide	3	1	1	...	...	...	...	...	1	...	...	...	...	...
	Suicide	57	...	...	...	...	1	5	7	14	12	12	5	1	...
	Execution	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE C.—MANCHESTER, 1912.

Causes of Deaths at Different Life Periods—FEMALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years: Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	5559	978	728	157	78	117	125	304	452	550	690	830	473	77
A	Smallpox	1	...	...	...	...	...	...	...	1	...	...	...	...	...
	Measles	238	53	165	20	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	24	...	15	6	1	...	1	...	1	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	159	52	97	10	...	...	...	...	...	...	...	...	...	...
	Diphtheria, Memb: Croup	46	5	22	17	...	...	...	...	1	1	...	...	...	...
	Ill-defined Fever	...	...	...	...	..	...	...	..	...	...	...	...	...	..
	Enteric Fever	17	1	...	...	1	...	2	6	2	4	1	...	...	...
	Influenza	46	3	2	...	1	1	...	4	3	4	2	11	14	1
	Epidemic Diarrhœa	34	24	7	...	...	...	...	...	...	1	1	1	...	...
	Diarrhœa, Dysentery, Simple Cholera	90	64	19	...	1	...	...	...	...	...	3	2	1	...
	Venereal Affections	17	15	1	...	...	...	...	...	...	1	...	...	...	...
	Erysipelas	8	1	1	...	...	...	...	...	1	...	2	1	2	...
	Pyæmia, Septicæmia	5	...	...	...	...	...	...	1	2	2	...	...	...	...
	Puerperal Fever	20	...	...	...	...	1	4	11	4	...	...	...	...	...
	Other Zymotics	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tubercular Periton : Tabes Mes.	31	9	10	...	6	...	3	2	1	...	...	...	...	...
	Tubercular Meningitis	93	14	39	21	6	5	3	2	2	1	...	...	...	...
	Phthisis	408	2	7	7	17	42	35	108	90	59	29	11	1	...
	Tuberculous Diseases (other)	55	3	15	4	4	7	3	5	5	3	1	4	1	...
	Parasitic Diseases	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Alcoholism	17	...	...	...	...	...	...	1	4	10	1	1	...	...
	Rheumatic Fever	28	...	1	2	4	3	4	3	6	4	...	1	...	...
	Cancer	412	...	2	2	...	5	2	5	56	107	110	98	25	...
	Premature Birth	152	152	...	...	...	...	...	...	...	...	...	...	...	...
	Congenital defects	52	50	1	...	1	...	...	...	...	...	...	...	...	...
B and C	Epilepsy	24	...	...	2	1	2	4	2	4	2	5	1	1	...
	Convulsions	29	19	8	1	...	...	...	1	...	...	...	...	...	...
	Nervous System (other)	187	18	23	14	5	2	4	12	22	22	24	26	14	1
	Cerebral Hœmorrhage, Apoplexy, and Hemiplegia	263	...	...	...	...	...	...	4	15	48	70	77	46	3
	Heart and Blood Vessel Diseases	641	4	3	7	11	17	16	36	64	96	140	165	74	8
	Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bronchitis	608	89	37	3	...	2	...	9	23	32	119	184	90	20
	Pneumonia	571	125	167	19	4	6	6	28	37	38	52	58	27	4
	Respiratory Diseases (other)	63	6	9	2	...	1	3	4	4	6	8	11	7	2
	Digestive System (other)	218	38	13	5	2	6	6	10	27	37	33	30	10	1
	Urinary System (other)	162	2	9	3	4	...	4	11	24	38	29	33	5	...
	Generative Organs and Childbirth	63	...	...	...	...	1	7	16	30	4	2	1	2	...
	Other specified Diseases	181	27	21	2	5	9	11	12	10	16	29	27	11	1
D	Marasmus and Atrophy	147	137	9	...	...	...	. .	...	...	...	...	...	...	...
	Old Age	250	...	...	...	...	...	...	...	...	...	12	70	132	36
	Other Ill-defined Causes	3	2	...	...	...	...	...	...	...	...	1	...	...	...
E	Violence	176	62	25	10	4	6	5	5	8	10	14	17	10	..
	Homicide	4	1	...	...	...	...	...	1	2	...	...	...	...	...
	Suicide	16	...	...	...	...	1	2	5	3	3	2	...	...	...

TABLE D.

CITY OF MANCHESTER, 1912.—CAUSES OF DEATH IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3-6 months	6-12 months		1-	2-	3-	4-	
All Causes	1,187	358	677	2,222	789	358	227	170	3,766
Measles	4	8	99	111	163	88	58	38	458
Scarlatina	...	...	1	1	6	7	10	8	32
Whooping Cough	20	18	64	102	100	44	24	12	282
Diphtheria (Memb: Croup)	...	1	7	8	14	13	16	15	66
Fever (various forms)	1	...	...	1	...	...	...	...	1
Diarrhœal Diseases	77	57	65	199	49	5	4	...	257
Syphilis	31	6	2	39	1	1	...	...	41
Tabes Mesenterica and Tuberc. Peritonitis	1	4	11	16	17	8	2	4	47
Tubercular Meningitis	3	9	22	34	37	16	17	18	122
Tuberculosis (other)	3	3	9	15	23	9	5	11	63
Premature Birth	379	7	3	389	...	...	...	...	389
Teething	...	3	13	16	8	...	...	...	24
Convulsions	37	10	14	61	11	5	...	...	77
Brain Diseases (other)	9	11	20	40	23	14	7	5	89
Lung Diseases	136	111	251	498	256	110	52	41	957
Atrophy, Marasmus	214	49	46	309	15	3	1	...	328
Found Dead in Bed (overlaid)	56	28	5	89	1	...	..	...	90
Suffocation	14	3	3	20	2	...	...	...	22
Violence (other forms)	3	...	4	7	12	14	10	6	49
Ill-defined Causes	3	1	1	5	...	...	...	...	5
Unclassified	196	29	37	262	51	21	21	12	367

TABLE E, 1881 TO 1912.—MANCHESTER.—ESTIMATED POPULATIONS. ANNUAL RATES OF MARRIAGES, BIRTHS, AND DEATHS *(a)* from all causes, and *(b)* from specified causes; also the percentages to total deaths of Inquest Cases, and of Deaths in Public Institutions; also the quinquennial averages from 1871–1910, with the average for same period.

	Years	Estimated Populations (Mean)	Persons Married	Annual Rates per 1,000 Persons living: Births	Deaths (All Causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhœa and Dysentery	English Cholera	Violence	Percentage to Total Deaths: Inquest Cases	Deaths in Public Institutions	Years	
Quinquennial Averages	1871–1875	477,344	24·6	38·9	28·3	0·26	0·64	1·08	0·08	0·78	0·14	0·43	0·21	1·92	0·03	0·94	7·2	13·4	1871–1875	Quinquennial Averages
	1876–1880	509,802	18·6	38·7	26·2	0·24	0·53	1·07	0·13	0·84	0·08	0·29	0·11	1·22	0·04	0·89	7·5	14·3	1876–1880	
	1881–1885	542,746	17·9	35·1	23·6	0·04	0·71	0·48	0·10	0·68	0·05	0·20	0·03	0·96	0·03	0·72	7·0	15·9	1881–1885	
	1886–1890	575,630	16·6	33·4	24·6	0·02	0·83	0·50	0·32	0·54	0·02	0·30	0·01	1·06	0·02	0·78	6·9	17·7	1886–1890	
	1891–1895	517,801	16·9	33·2	23·6	0·03	0·62	0·26	0·27	0·64	0·00	0·24	0·01	1·14	0·05	0·77	7·1	19·2	1891–1895	
	1896–1900	539,599	18·2	32·5	22·7	...	0·89	0·20	0·13	0·53	0·00	0·18	0·01	1·65	0·04	0·73	7·1	20·2	1896–1900	
	1901–1905	554,355	17·4	30·9	20·1	0·01	0·55	0·19	0·22	0·41	0·00	0·13	0·00	1·15		0·72	7·1	24·4	1901–1905	
	1906–1910	660,049	17·0	28·1	17·7	...	0·54	0·16	0·17	0·37	0·00	0·10	0·00	0·76		0·68	7·4	27·3	1906–1910	
Avge. 40 yrs.	1871–1910	562,739	17·6	32·6	22·4	0·03	0·66	0·35	0·20	0·55	0·02	0·20	0·02	1·17		0·74	7·1	21·0	1871–1910 Avge. 5 yrs	
	1881	530,051	17·8	35·9	22·8	0·03	0·29	0·34	0·09	0·71	0·03	0·17	0·06	0·73	0·02	0·84	8·1	15·9	1881	
	1882	536,324	18·8	35·7	24·0	0·05	0·89	0·34	0·11	0·87	0·10	0·25	0·04	1·00	0·03	0·67	7·2	14·5	1882	
	1883	542,671	17·8	34·9	24·4	0·01	0·71	0·81	0·11	0·62	0·05	0·20	0·03	0·95	0·03	0·73	7·0	15·5	1883	
	1884*	549,093	18·0	34·4	23·4	0·01	0·57	0·74	0·08	0·49	0·03	0·19	0·03	1·46	0·05	0·65	6·2	17·3	1884*	
	1885	555,591	17·0	34·8	23·6	0·08	1·08	0·17	0·10	0·71	0·04	0·17	0·01	0·64	0·02	0·69	6·4	16·4	1885	
	1886	562,166	16·4	34·7	24·1	0·00	0·27	0·41	0·15	0·57	0·03	0·29	0·01	1·34	0·04	0·71	7·2	17·0	1886	
	1887	568,819	16·6	33·9	25·4	0·01	1·54	0·63	0·23	0·50	0·02	0·31	0·01	1·19	0·02	0·77	6·9	16·1	1887	
	1888	575,550	16·0	33·3	23·3	0·07	0·27	0·42	0·36	0·79	0·02	0·33	0·02	0·71	0·01	0·74	6·7	18·3	1888	
	1889	582,362	17·0	33·1	24·2	0·00	1·22	0·45	0·51	0·45	0·01	0·31	0·01	1·00	0·03	0·89	6·5	18·2	1889	
	1890*	589,253	17·0	31·8	26·2	...	0·83	0·60	0·36	0·37	0·01	0·27	0·02	1·04	0·02	0·79	7·0	19·1	1890*	

TABLE E—*Continued*

Years	Estimated Populations (Mean)	Persons Married	Annual Rates per 1,000 Persons living: Births	Deaths (All Causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhœa and Dysentery	English Cholera	Violence	Percentages to Total Deaths: Inquest Cases	Deaths in Public Institutions	Years
1891†	‡ 508,673	17·2	33·8	26·0	...	0·43	0·22	0·25	1·02	0·01	0·37	0·01	0·81	0·04	0·79	6·8	18·4	1891†
1892†	‡ 513,196	17·2	33·4	23·2	0·00	0·72	0·27	0·25	0·72	0·00	0·24	0·01	0·79	0·02	0·77	7·4	18·2	1892†
1893†	‡ 517,760	16·0	33·4	24·3	0·09	0·57	0·27	0·35	0·46	0·00	0·25	0·01	1·75	0·10	0·76	6·9	18·7	1893†
1894†	‡ 522,365	16·8	31·8	19·8	0·04	0·42	0·22	0·29	0·55	...	0·17	0·01	0·70	0·02	0·75	7·5	21·3	1894†
1895†	‡ 527,010	17·4	33·4	24·5	0·00	0·96	0·33	0·21	0·47	...	0·18	0·01	1·66	0·06	0·80	6·9	19·2	1895†
1896†*	‡ 531,697	18·3	32·8	22·0	...	1·05	0·37	0·15	0·66	0·00	0·22	0·01	1·04	0·02	0·71	7·4	19·7	1896†*
1897†	‡ 536,426	17·8	32·9	22·4	...	1·17	0·23	0·08	0·56	0·00	0·18	0·00	1·74	0·06	0·68	6·6	20·0	1897†
1898†	‡ 541,296	18·3	32·3	21·2	...	0·50	0·12	0·09	0·31	...	0·22	0·01	1·96	0·06	0·69	7·0	19·5	1898†
1899†	‡ 546,010	18·4	32·2	23·9	...	1·28	0·08	0·16	0·42	0·00	0·13	0·01	2·02	0·03	0·78	7·0	19·7	1899†
1900†	‡ 542,566	18·0	32·4	23·8	...	0·47	0·19	0·19	0·68	...	0·14	0·01	1·49	0·03	0·78	7·4	21·9	1900†
1901†	‡ 546,408	17·6	28·7	21·6	...	0·53	0·23	0·24	0·41	0·02	0·14	0·00	1·86		0·78	7·9	23·2	1901†
1902†*	‡ 550,355	18·1	33·0	20·0	...	0·44	0·27	0·22	0·44	...	0·12	...	0·54		0·73	7·6	23·8	1902†*
1903†	‡ 554,331	17·8	31·7	19·5	0·04	0·62	0·17	0·25	0·38	...	0·17	0·00	0·91		0·72	7·0	25·3	1903†
1904†	‡ 558,335	16·5	31·1	20·9	0·02	0·76	0·15	0·18	0·50	...	0·12	0·00	1·36		0·73	5·9	24·6	1904†
1905§	‡ 631,933	17·0	29·0	17·8	...	0·37	0·12	0·20	0·31	...	0·09	0·01	1·15		0·59	6·7	24·1	1905§
1905‖	562,346	...	30·1	18·7	...	0·40	0·13	0·22	0·34	...	0·09	0·01	1·27		0·65	6·9	24·9	1905‖
1906§	637,520	18·0	28·9	19·0	...	0·75	0·17	0·19	0·30	...	0·13	0·00	1·54		0·62	7·3	25·4	1906§
1906‖	566,409	...	30·1	19·9	...	0·83	0·19	0·20	0·33	...	0·14	0·00	1·66		0·66	7·3	26·2	1906‖
1907§	643,158	18·3	28·4	17·9	...	0·36	0·16	0·16	0·49	...	0·06	0·00	0·45		0·67	8·0	26·5	1907§
1907‖	570,506	...	29·4	18·7	...	0·39	0·18	0·18	0·52	...	0·06	0·00	0·50		0·71	8·1	27·4	1907‖
1908§*	648,846	16·7	28·9	18·1	...	0·56	0·14	0·19	0·33	...	0·11	...	0·90		0·71	7·4	26·0	1908§*
1908‖*	574,637	...	30·0	18·8	...	0·60	0·16	0·20	0·35	...	0.12	...	0·99		0·76	7·6	27·0	1908‖*
1909§	654,584	15·4	27·5	17·7	...	0·60	0·25	0·17	0·20	0·00	0·13	0·00	0·41		0·73	7·3	29·6	1909§
1909‖	578,803	...	28·5	18·4	...	0·67	0·27	0·19	0·21	0·00	0·15	0·00	0·45		0·77	7·5	30·6	1909‖
1910§§	716,137	16·7	26·8	15·9	...	0·41	0·10	0·14	0·55	0·00	0·09	...	0·49		0·66	7·1	29·0	1910
1910¶	578,266	...	27·8	16·9	...	0·46	0·12	0·16	0·61	0·00	0·09	...	0·55		0·72	7·3	30·8	1910
1911	716,734	16·3	25·9	17·1	...	0·47	0·06	0·12	0·20	0·00	0·07	...	1·60		0·67	7·2	28·6	1911
1912	724,168	17·1	25·1	16·2	0·00	0·68	0·07	0·13	0·41	...	0·06	...	0·38		0·65	8·0	30·5	1912

* The facts for these years are for 53 instead of 52 weeks; corrections have, therefore, been made in calculating the rates.

† The populations and rates for the years subsequent to 1890, except the marriage rates, relate to the City of Manchester as enlarged by the Act of that year. The facts and rates for previous years are those for the three Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester."

‡ These figures include a proportion of the inmates of certain Extra-municipal Institutions which receive patients from the City of Manchester, and are therefore in excess of the estimates of the Registrar-General.

§ Includes the newly amalgamated districts of Moss Side and Withington. ‖ Exclusive of Moss Side and Withington.

§§ Includes Moss Side, Withington, Gorton, and Levenshulme. ¶ Exclusive of Moss Side, Withington, Gorton, and Levenshulme

NOTE.—The population for 1900 is based on the Census figures of 1891 and 1901.

TABLE F, 1881 to 1912.—Manchester.

Annual Rates of Mortality from certain causes of death.

Year	Annual Rates per 1,000 Persons living										Rates per 1,000 Births	
	Cancer	Tuber: Peritonitis Tabes Mes:	Phthisis	Other Tuber: Diseases	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever	Childbirth
Quinquennial Periods 1881–1885	0·50	0·35	2·42	0·57	3·28	1·37	5·41	1·23	0·48	0·08	3·03	1·99
1886–1890	0·64	0·36	2·24	0·59	3·09	1·73	5·76	1·23	0·61	0·08	3·22	2·13
1891–1895	0·62	0·22	2·09	0·75	1·74	2·53	5·56	1·07	0·52	0·07	2·75	3·42
1896–1900	0·73	0·19	2·04	0·63	1·32	2·54	5·03	1·04	0·49	0·09	1·55	1·51
1901–1905	0·80	0·16	1·94	0·55	1·17	2·56	4·29	0·95	0·49	0·08	1·21	1·76
1906–1910	0·88	0·14	1·65	0·45	0·95	2·56	3·75	0·84	0·54	0·07	1·28	1·49
30 years 1881–1910	0·73	0·24	2·06	0·60	1·92	2·21	4·96	1·06	0·52	0·08	2·17	2·06
1881	0·48	0·28	2·46	0·52	3·33	1·19	5·57	1·24	0·39	0·07	3·15	1·37
1882	0·44	0·40	2·41	0·61	3·35	1·34	5·33	1·19	0·45	0·08	3·92	1·62
1883	0·54	0·34	2·54	0·59	3·32	1·33	5·66	1·20	0·50	0·06	2·27	1·58
*1884	0·51	0·39	2·34	0·56	3·27	1·44	4·88	1·23	0·59	0·10	2·81	2·55
1885	0·51	0·36	2·34	0·56	3·12	1·53	5·59	1·28	0·49	0·08	3·05	2·84
1886	0·56	0·43	2·44	0·59	3·30	1·53	5·43	1·26	0·57	0·08	2·67	1·85
1887	0·62	0·39	2·19	0·53	3·17	1·66	5·72	1·23	0·53	0·08	3·58	1·35
1888	0·65	0·31	2·14	0·62	3·19	1·72	5·31	1·16	0·62	0·10	4·12	1·77
1889	0·70	0·36	2·12	0·59	2·94	1·79	5·06	1·28	0·64	0·08	3·06	1·87
*1890	0·65	0·33	2·33	0·62	2·87	1·93	7·28	1·22	0·66	0·08	2·68	3·89
†1891	0·63	0·25	2·20	0·78	2·30	2·69	6·77	1·03	0·55	0·07	3·08	4·01
1892	0·61	0·21	2·05	0·75	1·70	2·59	5·44	1·14	0·53	0·05	3·79	4·54
1893	0·59	0·26	2·05	0·76	1·70	2·48	5·53	1·20	0·53	0·07	3·70	3·94
1894	0·66	0·18	1·97	0·67	1·48	2·31	4·35	0·96	0·49	0·04	1·93	2·77
1895	0·63	0·22	2·16	0·77	1·51	2·60	5·73	1·04	0·49	0·11	1·25	1·82
*1896	0·66	0·13	2·00	0·60	1·33	2·53	5·19	1·04	0·46	0·11	0·96	1·47
1897	0·74	0·22	2·12	0·67	1·35	2·45	4·51	1·03	0·51	0·10	2·10	1·36
1898	0·73	0·19	1·95	0·67	1·22	2·15	4·27	1·00	0·54	0·09	1·72	1·54
1899	0·75	0·24	2·05	0·61	1·34	2·73	5·47	0·99	0·47	0·10	1·37	1·54
1900	0·76	0·17	2·09	0·60	1·37	2·82	5·78	1·15	0·48	0·05	1·59	1·65
1901	0·78	0·20	2·09	0·83	1·22	2·55	4·48	1·00	0·49	0·03	2·17	1·72
*1902	0·79	0·16	2·08	0·55	1·13	2·61	4·71	0·93	0·58	0·11	0·94	1·65
1903	0·76	0·18	1·85	0·58	1·25	2·46	3·95	0·99	0·46	0·08	0·80	1·59
1904	0·81	0·15	1·98	0·54	1·17	2·71	4·38	1·02	0·50	0·09	1·04	2·13
‖1905	0·86	0·12	1·56	0·48	1·06	2·47	3·70	0·81	0·41	0·09	1·09	1·80
§1905	0·86	0·13	1·68	0·50	1·10	2·49	3·94	0·83	0·42	0·10	1·12	1·71
‖1906	0·88	0·14	1·71	0·49	1·06	2·68	3·52	0·91	0·47	0·07	1·63	1·63
§1906	0·89	0·15	1·81	0·52	1·09	2·69	3·75	0·95	0·46	0·08	1·76	1·70
‖1907	0·77	0·15	1·70	0·41	1·01	2·53	4·30	0·80	0·56	0·07	1·09	1·26
§1907	0·78	0·16	1·80	0·44	1·04	2·56	4·58	0·83	0·55	0·07	1·07	1·19
‖1908*	0·89	0·12	1·65	0·47	0·96	2·52	3·91	0·87	0·59	0·06	1·16	1·31
§1908*	0·87	0·12	1·74	0·47	0·97	2·55	4·19	0·89	0·58	0·06	1·14	1·37
‖1909	0·93	0·13	1·70	0·44	0·87	2·75	3·90	0·85	0·52	0·09	0·94	1·94
§1909	0·91	0·13	1·81	0·45	0·90	2·75	4·14	0·86	0·51	0·10	0·97	2·06
§§1910	0·92	0·15	1·49	0·43	0·84	2·33	3·13	0·77	0·54	0·07	1·56	1·30
‡‡1910	0·95	0·15	1·64	0·46	0·89	2·39	3·44	0·76	0·58	0·06	1·50	1·25
1911	1·05	0·13	1·56	0·39	0·88	2·17	3·43	0·61	0·58	0·08	1·40	1·61
1912	1·00	0·10	1·53	0·44	0·76	2·29	3·78	0·60	0·52	0·09	1·10	2·15

* The facts for these years are for 53 instead of 52 weeks; corrections have therefore been made in calculating the rates.
† The rates of mortality for the years subsequent to 1890 refer to the City of Manchester as enlarged by the Act of that year. The rates for 1890 and for previous years are those for the three Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester."
‖ Includes the newly amalgamated districts of Moss Side and Withington.
§ Exclusive of Moss Side and Withington. §§‡‡ See references to Table E.

TABLE G, 1912.—POPULATION, AREA, DENSITY. TOTAL BIRTHS AND DEATHS, WITH BIRTH AND DEATH RATES.

[INSTITUTION POPULATIONS, BIRTHS AND DEATHS, DISTRIBUTED.]

STATISTICAL DIVISIONS		* Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS		Natural Rate of Increase	Mean Death Rate 1902-1911	Percentage Improvement in 1912 over 1902-1911
					Total	Rate per 1,000	Total	Rate per 1,000			
City of Manchester		**724,168**	**20,799**	**35**	**18,169**	**25·09**	**11,714**	**16·18**	**8·91**	**18·39**	**12·08**
I.	Manchester Township	114,784	1,646	69	3,438	29·95	2,731	23·79	6·16	25·03	4·95
II.	North Manchester ...	201,689	7,321	28	5,197	25·77	2,827	14·02	11·75	15·24	8·00
III.	South Manchester ...	407,695	11,832	34	9,534	23·39	6,156	15·10	8·29	17·63	14·35
I.	Ancoats	40,718	400	102	1,307	32·10	940	23·09	9·01	25·07	7·90
	Central	22,308	748	30	529	23·71	549	24·61	−0·90	26·58	7·41
	St. George's.....	51,758	498	104	1,602	30·95	1,242	24·00	6·95	24·29	1·19
II.	Cheetham	43,027	919	47	1,054	24·50	524	12·18	12·32	11·92	−2·18
	Crumpsall	10,292	733	14	175	17·00	111	10·79	6·21	13·41	19·54
	Blackley	14,002	1,840	8	290	20·71	183	13·07	7·64	16·66	21·55
	Harpurhey	17,167	193	89	405	23·59	260	15·15	8·44	13·31	-13·82
	Moston	24,703	1,297	19	634	25·66	292	11·82	13·84	11·88	0·51
	Newton Heath	41,755	1,350	31	1,061	25·41	634	15·18	10·23	18·12	16·22
	Bradford	25,288	288	88	783	30·96	417	16·49	14·47	19·73	16·42
	Beswick	11,625	96	121	412	35·44	205	17·63	17·81	18·47	4·55
	Clayton	13,830	605	23	383	27·69	201	14·53	13·16	14·16	−2·61
III.	Ardwick	39,709	509	78	1,099	27·68	679	17·10	10·58	17·60	2·84
	Openshaw	31,155	581	54	857	27·51	470	15·09	12·42	18·50	18·44
	Gorton (West).....	26,913	318	85	733	27·24	487	18·10	9·14	16·63	−8·84
	Rusholme and Kirk.	41,131	1,412	29	746	18·14	429	10·43	7·71	14·89	29·95
	Chorlton-upon-Med...	54,599	646	84	1,131	20·71	985	18·04	2·67	19·25	6·28
	Hulme.....	63,177	477	132	1,839	29·11	1,362	21·56	7·55	22·48	4·09
	Moss Side	34,329	421	82	500	14·56	404	11·77	2·79	13·38	12·04
	Withington	52,424	5,728	9	999	19·06	535	10·21	8·85	10·61	3·77
	Gorton	43,193	1,134	38	1,163	26·93	570	13·20	13·73	16·82	21·52
	Levenshulme	21,065	606	35	467	22·17	235	11·16	11·01	10·71	−4·20

TABLE H, 1912.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN ITS MAIN DIVISIONS AND IN DISTRICTS; DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS; ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

STATISTICAL DIVISIONS	BIRTHS		Percentage of Illegitimate Births to Total Births	DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR PER 1,000 BIRTHS			Deaths under 1 Year per 1000 Births in the 10 years, 1902 to 1911
	Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate	
City of Manchester ...	**18,169**	**745**	**4·1**	**2,222**	**169**	**122**	**118**	**227**	**156**
I. Manchester Township	3,438	162	4·7	515	44	150	144	272	190
II. North Manchester ...	5,197	134	2·6	608	41	117	112	306	139
III. South Manchester ...	9,534	449	4·7	1,099	84	115	112	187	151
I. Ancoats	1,307	60	4·6	200	17	153	147	283	192
I. Central	529	45	8·5	77	10	146	138	222	198
I. St. George's.....	1,602	57	3·6	238	17	149	143	298	186
Cheetham.....	1,054	36	3·4	93	10	88	82	278	98
Crumpsall.....	175	4	2·3	12	...	69	70	...	130
Blackley	290	7	2·4	27	2	93	88	286	119
Harpurhey	405	9	2·2	44	2	109	106	222	135
II. Moston.....	634	11	1·7	83	2	131	130	182	121
Newton Heath.....	1,061	24	2·3	135	8	127	122	333	154
Bradford	783	21	2·7	110	8	140	134	381	171
Beswick	412	11	2·7	54	2	131	130	182	171
Clayton.....	383	11	2·9	50	7	131	116	636	162
Ardwick	1,099	50	4·6	131	8	119	117	160	163
Openshaw	857	26	3·0	108	10	126	118	385	165
Gorton (West)	733	30	4·1	109	8	148	144	267	164
Rusholme and Kirk.	746	34	4·6	53	2	71	72	59	103
III. Chorlton-on-Med. ...	1,131	98	8·7	153	19	135	130	194	165
Hulme	1,839	93	5·1	269	15	146	145	161	169
Moss Side	500	47	9·4	44	7	88	82	149	102
Withington.....	999	19	1·9	68	2	68	67	105	93
Gorton	1,163	35	3·0	130	9	112	107	257	161
Levenshulme	467	17	3·6	34	4	73	67	235	91

TABLE J, 1912.

Infantile Mortality in the City, and its Three Main Divisions.

Death-rates under One Year per 1,000 Births.

Causes of Death	City of Manchester	Manchester Township	North Manchester	South Manchester
All Causes	122·30	149·80	116·99	115·27
Measles	6·11	4·94	5·77	6·71
Whooping Cough	5·61	5·82	5·77	5·46
Other Com: Infectious Diseases†	0·55	1·16	0·19	0·52
Diarrhœal Diseases	10·95	20·07	9·24	8·60
Tubercular Diseases‡	3·58	2·62	2·89	4·30
Convulsions	3·36	3·49	4·43	2·73
Other Nervous Diseases§	2·20	3·78	1·92	1·78
Lung Diseases	27·41	36·36	25·98	24·96
Premature Birth	21·41	23·56	19·43	21·71
Atrophy, &c. ‖	17·01	20·94	19·82	14·05
Suffocation	1·10	2·04	0·58	1·05
Found dead in bed (overlaid)	4·90	9·02	2·69	4·61

† These are Smallpox, Scarlatina, Diphtheria, Membranous Croup, and various forms of "Fever" including the chief forms of Typhus and Typhoid.

‡ These are Phthisis, Tubercular Meningitis (Hydrocephalus), Tabes Mesenterica, and Gener Tuberculosis (Scrofula).

§ These are Meningitis, and other diseases of the Brain and Spinal Cord.

‖ These are such ill-defined causes as Atrophy, Marasmus, Debility, Inanition, &c.

TABLE K, 1912.—CITY OF MANCHESTER. ANNUAL RATES OF MORTALITY PER 1,000 PERSONS LIVING AT ALL AGES, IN THE CITY OF MANCHESTER AND IN ITS STATISTICAL DIVISIONS, FROM CERTAIN DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH	City of Manchester	Manchester Township	North Manchester	South Manchester	City of Manchester Average of 10 years 1902-1911
All Causes	16·18	23·79	14·02	15·10	18·39
Smallpox	0·00	...	...	0·00	0·00
Measles	0·68	0·85	0·59	0·67	0·56
Scarlet Fever	0·07	0·13	0·09	0·04	0·17
Typhus Fever	...	...	...	...	...
Influenza	0·13	0·05	0·10	0·17	0·15
Whooping Cough	0·41	0·55	0·36	0·40	0·39
Diphtheria and Memb: Croup.	0·13	0·17	0·12	0·13	0·19
Ill-defined Fever	...	...	...	...	...
Enteric Fever	0·06	0·04	0·08	0·06	0·11
Diarrhœal Diseases	0·38	0·84	0·31	0·28	0·98
Puerperal Fever	0·03	0·01	0·03	0·03	0·03
Erysipelas	0·03	0·05	0·04	0·02	0·04
Pyæmia, Septicæmia	0·02	0·02	0·01	0·02	0·04
Phthisis (Tuberc: Pulmon:)	1·53	3·22	1·05	1·29	1·80
Tubercular Meningitis	0·27	0·40	0·21	0·27	0·26
Tuberc: Periton: Tabes Mes:.	0·10	0·13	0·12	0·09	0·15
Tuberculous Dis: (other)	0·17	0·22	0·14	0·18	0·23
Alcoholism	0·06	0·13	0·04	0·05	0·08
Cancer	1·00	1·13	0·97	0·97	0·87
Rheumatic Fever	0·08	0·05	0·08	0·09	0·05
Premature Birth	0·54	0·71	0·50	0·51	0·64
Nervous Diseases	0·76	0·98	0·65	0·75	1·04
Heart and Blood Vessels Diseases	2·29	2·59	2·05	2·33	2·54
Bronchitis	1·71	2·90	1·50	1·48	1·84
Pneumonia	1·88	3·69	1·48	1·56	2·00
Respiratory Diseases (other)	0·19	0·16	0·21	0·19	0·22
Digestive Organs (Diseases of)	0·60	0·62	0·53	0·63	0·87
Urinary Organs (Diseases of)	0·52	0·72	0·47	0·49	0·52
Old Age	0·57	0·64	0·50	0·58	0·45

TABLE I., 1912.

MANCHESTER.—CERTIFICATION OF THE CAUSES OF DEATH IN THE MAIN DIVISIONS AND IN DISTRICTS.

STATISTICAL DIVISIONS.	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
					Certified by		
		Registered Medical Practitioners	Coroner		Regist'd Medical Practitioners	Coroner	Not Certified
City of Manchester	**11,714**	**10,731**	**936**	**47**	**91·6**	**8·0**	**0·4**
I. Manchester Township...	2,731	2,470	253	8	90·4	9·3	0·3
II. North Manchester	2,827	2,618	198	11	92·6	7·0	0·4
III. South Manchester	6,156	5,643	485	28	91·7	7·9	0·4
I. Ancoats	940	852	85	3	90·7	9·0	0·3
I. Central	549	476	70	3	86·7	12·8	0·5
I. St. George's	1,242	1,142	98	2	91·9	7·9	0·2
II. Cheetham	524	480	41	3	91·6	7·8	0·6
II. Crumpsall	111	107	4	...	96·4	3·6	...
II. Blackley	183	170	13	...	92·9	7·1	...
II. Harpurhey	260	245	12	3	94·2	4·6	1·2
II. Moston	292	274	18	...	93·8	6·2	...
II. Newton Heath	634	590	40	4	93·1	6·3	0·6
II. Bradford	417	381	35	1	91·4	8·4	0·2
II. Beswick	205	184	21	...	89·8	10·2	...
II. Clayton	201	187	14	...	93·0	7·0	...
III. Ardwick	679	620	55	4	91·3	8·1	0·6
III. Openshaw	470	435	34	1	92·6	7·2	0·2
III. Gorton (West)	487	434	52	1	89·1	10·7	0·2
III. Rusholme and Kirk. ...	429	396	32	1	92·3	7·5	0·2
III. Chorlton-upon-Medlock	985	884	96	5	89·8	9·8	0·5
III. Hulme	1,362	1,254	102	6	92·1	7·5	0·4
III. Moss Side	404	376	25	3	93·1	6·2	0·7
III. Withington	535	505	28	2	94·4	5·2	0·4
III. Gorton	570	523	44	3	91·8	7·7	0·5
III. Levenshulme	235	216	17	2	91·9	7·2	0·9

TABLE M, 1912.—PARTICULARS AS TO MANCHESTER PATIENTS UNDER TREATMENT IN THE SEVERAL FEVER HOSPITALS* DURING THE YEAR; ALSO OF PATIENTS FROM OUTSIDE DISTRICTS SENT TO MONSALL AND CLAYTON DURING THE SAME PERIOD.

Disease	Hospital	In Hospital commencement of year	Admitted	Discharged	Died	Remaining in Hospital close of year
Smallpox	Clayton Hospital	...	...	...	...	...
	Total	...	...	...	...	...
Scarlet Fever	Monsall	264	1,327	1,295	41	255
	Baguley Sanatorium	64	221	281	4	...
	Other Hospitals	...	...	..	...	...
	Total	328	1,548	1,576	45	255
Diphtheria	Monsall	33	300	221	58	54
	Baguley Sanatorium	22	24	45	1	...
	Other Hospitals	...	...	...	...	...
	Total	55	324	266	59	54
Enteric Fever	Monsall	24	142	106	28	32
	Baguley Sanatorium	...	...	...	...	...
	Other Hospitals	...	...	...	...	...
	Total	24	142	106	28	32
Typhus Fever	Monsall	...	...	...	...	...
	Baguley Sanatorium	...	...	...	...	...
	Other Hospitals	...	...	...	...	...
	Total	...	...	...	...	...
Other Acute Diseases	Monsall	20	363	325	38	20
	Baguley Sanatorium	...	5	5	...	...
	Other Hospitals	...	...	....	...	...
	Total	20	368	330	38	20
All Diseases		427	2,382	2,278	170	361

* Baguley Sanatorium was discontinued for the use of Infectious Disease cases at the end of October, 1912.

PATIENTS SENT TO MONSALL OR CLAYTON, FROM DISTRICTS OUTSIDE THE CITY DURING THE YEAR 1912.

Disease	Barnes' Convales. Hospital	Jewish Hospital	Swinton Schools	Royal Infirmary	Pendlebury Hospital	Bucklow Joint Hosp. Board	Cheadle	Other Outside Districts
Smallpox	...	...	...	...	...	...	...	...
Scarlatina	...	...	21	...	14	26	7	...
Diphtheria	...	...	...	...	9	3	1	1
Enteric Fever	...	1	...	...	...	1	...	...
Other Diseases	2	...	...	2	3	...	1	1

Total, 93.

TABLE N, 1912.—Work of Sanitary Department for the Year.

	TOWNSHIPS																						TOTALS
	Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon-Medlock	Hulme	Moss Side	Withington	Levenshulme (Incorporated Nov. 1909)	Gorton (Incorporated Nov. 1909)	
Complaints to Sanitary Superintendent ...	245	256	216	417	13	29	61	18	209	177	12	111	110	150	160	327	426	496	185	...	61	183	3,862
Inspections of: Dwelling-houses	6280	4285	5639	5955	2264	917	2114	2317	5433	3112	1814	2132	3708	2829	2716	5324	6380	8313	6263	...	1573	3751	83,119
Newly-infected Dwelling-houses	206	82	233	163	31	103	141	106	182	114	64	64	158	130	157	156	158	263	118	...	101	196	2,926
Cellars	1	7	...	...	...	...	...	...	13	...	...	...	...	...	...	...	29	...	...	...	...	...	50
Schools	...	7	3	2	...	4	1	...	8	...	...	...	...	...	...	7	8	24	2	...	4	2	72
Factories and Workshops	26	380	27	...	4	9	2	.	28	...	...	2	17	34	2	9	49	75	5	...	1	5	675
Lodging-houses	1216	2236	1866	1343	7	1	11	16	54	63	10	14	120	...	13	89	1441	1208	34	...	6	2	9,750
Offensive Trades	21	5	94	1	7	5	1	1	154	...	...	19	1	4	...	1	22	16	1	...	...	7	360
Dairies and Milkshops	110	176	170	184	50	41	57	83	112	89	27	61	111	105	90	120	174	212	104	...	82	145	2,303
Ice Cream Manufactories	625	20	93	...	5	...	...	...	5	19	...	1	22	16	10	...	6	3	2	...	...	...	827
Bakehouses	78	100	55	167	22	52	46	66	98	3	13	21	86	67	29	98	156	174	148	...	123	93	1,695
Canal Boats	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,133
Slaughter-houses	1	1	6	...	...	3	1	...	21	...	...	...	...	7	...	...	...	1	...	...	1	...	42
Tips for Refuse	...	...	...	31	...	1	...	2	...	...	...	29	...	2	...	4	...	...	...	...	...	...	69
Miscellaneous Inspections	979	1394	1911	617	402	268	269	295	752	447	150	301	901	4018	598	1026	2528	1870	855	...	529	712	20,822
Factories and Workshops by Shop Hours, &c., Inspectors	534	3737	641	1694	22	65	72	35	308	95	20	26	299	118	130	226	1017	547	308	...	54	71	10,019
Shops by Shop Hours, &c., Inspectors	562	5119	743	2091	95	142	115	33	309	303	9	150	756	283	810	509	1081	732	334	...	354	312	14,842
Infected Rooms Disinfected	1181	352	519	161	108	137	176	498	690	350	640	178	457	475	505	556	406	1390	452	...	228	820	10,279
Infected Dwellings Re-inspected	248	136	427	282	110	282	313	193	344	213	92	69	181	214	367	311	277	675	175	...	230	489	5,628
Drains Tested by Water	784	472	1065	261	103	10	50	30	235	66	75	17	441	300	70	143	728	966	220	...	122	673	6,831
Smoke Abatement: Observations made	23	27	22	9	24	5	1	78	23	88	...	14	21	25	14	4	22	4	1	3	6	16	430
Smoke Abatement: Proceedings before Magistrates	7	8	6	3	13	...	1	3	7	8	...	9	6	11	6	1	6	1	...	1	2	8	§108
Food Adulteration: Samples Collected for Analysis	147	315	139	83	37	42	28	71	101	64	33	57	114	152	82	162	454	399	142	199	82	117	*3,027
Food Adulteration: Proceedings before Magistrates	8	15	1	5	2	...	2	...	...	1	...	8	...	3	...	5	5	6	3	4	2	5	75
Ashpits reported to Cleansing Department for emptying	1	1	...	8	...	...	...	1	...	2	...	1	5	...	2	2	2	3	6	...	2	...	36
Receptacles reported to Cleansing Department for emptying	3	19	11	15	1	...	...	1	4	1	...	...	...	7	5	3	10	7	4	...	2	2	95
Notices issued for Abatement of Nuisances.	1093	585	1158	1076	230	160	475	359	723	531	105	117	467	246	481	1490	875	1404	421	1	315	507	12,819
Letters written for Abatement of Nuisances	105	44	124	89	6	4	8	16	44	40	1	21	21	9	19	32	54	130	16	1	14	15	813
Reports made to Medical Officer of Health	...	1	13	22	...	1	2	...	3	...	1	...	...	...	...	2	1	...	...	...	...	8	54
Legal proceedings taken	30	108	113	40	...	11	3	3	18	9	5	1	11	3	3	10	47	94	19	...	6	3	†541
Total Nuisances abated	1112	528	966	1046	229	146	491	323	666	459	154	113	433	307	369	1422	941	1421	420	...	363	740	12,649

* 7 Samples procured Outside the City. † 4 cases Infringement of Canal Boats Acts. § 1 case against firm Outside the City Boundary.

The Midwives Supervising Committee present, for the information of the City Council, the following report of the operations carried on in Manchester during 1912 under the Midwives Act, 1902:—

STATEMENT BY THE EXECUTIVE OFFICER, MARGUERITE A. C. DOUGLAS, L.R.C.P. and S.E.

Statistics Relating to Midwives.

The number of midwives who gave notice of their intention to practise in Manchester during 1912 was 169; of these, 24 reside without the City.

The following table (A) gives particulars relating to midwives practising in Manchester, and sets forth their qualifications prior to entry on the Midwives' Roll. It will be seen that more than 76 per cent. are certificated midwives.

It also contains under the separate headings the number of labours attended by midwives, the cases of Puerperal Fever, with other details in relation to these, and the number of withdrawals and suspensions, with the reasons therefor.

TABLE A.—PARTICULARS RELATING TO MIDWIVES PRACTISING IN MANCHESTER IN 1912.

Qualification of Midwife.	Bona-fides.	St. Mary's Hospital.	Maternity Hospital.	London Obstetric Society.	Queen Charlotte Hospital.	Liverpool Lying-in Hospital.	Central Midwives Board.	Total.
No. notifying their intention to practise in Manchester in 1912 { Resident in Manchester...	32	17	10	22	1	3	60	145
No. notifying their intention to practise in Manchester in 1912 { Resident outside Manchester...	8	5	1	4	...	...	6	24
No. removing from Manchester area	1	...	...	...	...	...	5	6
No. given up practice	...	...	...	...	...	...	...	...
No. who have died	2	...	...	...	...	...	...	2
No. removed from Roll	1	3	...	...	...	...	...	4
No. of births attended by midwives under the heading given	2427	1544	1010	1972	32	245	3419	10649
No. of cases of puerperal fever attended by midwives under the heading given	14	16	5	10	1	...	39	85
Deaths amongst cases of puerperal fever attended by midwives	2	3	1	1	...	...	5	12
Per cent. of puerperal fever amongst all cases attended	0·58	1·04	0·50	0·51	0·31	...	1·14	0·80
Per cent. of puerperal fever amongst cases attended by midwives having puerperal fever in their practice	1·70	1·50	0·97	1·24	0·31	...	1·80	1·57
†No. of suspensions or withdrawal from practice on account of { Puerperal fever	9	13	4	11	1	...	31	69
†No. of suspensions or withdrawal from practice on account of { Erysipelas	...	1	...	...	...	...	1	2
†No. of suspensions or withdrawal from practice on account of { Pemphigus	...	...	1	1	...	...	...	2
†No. of suspensions or withdrawal from practice on account of { Dirty bag and appliances	1	...	...	...	...	...	...	1
†No. of suspensions or withdrawal from practice on account of { Septic Arm	...	...	...	...	...	...	1	1

†Nine midwives were each suspended twice, five three times, one five times, and two six times. See page 190.

Details of the Work of the Executive Officer.

Inspection Visits to Midwives.

529 inspection visits were paid to midwives. In 343 instances the midwives were at home; in 54 cases the visits were paid in connection with Puerperal Fever; in one for Erysipelas; in another for Pneumonia, and in one other for Scarlet Fever. In each instance the midwife was duly disinfected.

During the year midwives were interviewed on 81 occasions at the Public Health Office. In a few instances these interviews were at the request of the Executive Officer, for the purpose of going over the rules, or for practising pulse and temperature taking.

The routine method of inspection followed has been in use since 1905. It comprises:—

1.—Examination of the sanitary condition of the houses:

In 12 instances defects were reported to the Sanitary Department, and were dealt with by that Authority.

In eight instances the houses were very badly kept, and dirty. In three cases the matter was brought to the notice of the Committee and dealt with by them.

2.—Inspection of the bag of appliances:

In 25 instances the bags were unsatisfactory.

In 14 instances the appliances were incomplete. In six of these the bags and contents were also soiled, while in two Fuller's Earth was carried for umbilical dressing, and in two loose sweets were found.

In four instances scissors were rusty, and in other four the bags were very dirty, three of them containing blood-stained scissors.

One midwife habitually carried Laudanum.

Two midwives were summoned before the Local Supervising Authority on account of their bags being persistently dirty.

The confinement bags as a whole are properly equipped, but the practice of carrying insufficient appliances to the daily visits is unfortunately continued in many instances.

3.—Examination of registers, medical aid record books, notification books, and temperature record books:

Registers.

The registers are for the most part well entered. In five cases they were not up-to-date, and some of these were not fully entered.

Records of Calling in Medical Aid.

Table G gives the reasons for which medical aid was called. In a few instances there had been some delay. In each case the attention of the midwife was drawn to the requirements of the rules.

Temperature Record Books.

The temperature and pulse records as a whole have been well kept with the exception of the omission to enter the exact date of the daily visits. In only 18 instances were the records found unsatisfactory.

4.—Inspection of washing dresses and aprons:

The midwives for the most part have a sufficient number of dresses and aprons, but in four instances the washing dresses and aprons were insufficient to insure cleanliness.

Two midwives wore unsuitable dresses while conducting confinements.

INVESTIGATION OF MODE OF PRACTICE OF MIDWIVES.

The mode of practice of 45 midwives was investigated in the house of the patient during the past year, and 90 lying-in women were thus visited, besides those visited on account of Puerperal Fever or still-births.

Records for rise of temperature accounted for 15 visits, and Ophthalmia in the infant for 13. Complaints having been received on four occasions, the women were visited and enquiries instituted. A rash or spots on the infant were the cause of nine visits, and an unsatisfactory condition of the umbilicus necessitated four visits.

Puerperal Fever.

During the year 1912, 123 cases of Puerperal Fever were notified. Of these, no less than 30 occurred after abortion or premature labour.

Of the abortions, 17 were at the second or third months of gestation, 4 at the fourth month, 2 at the fifth month, 1 at the sixth, 2 at the seventh month, and 4 during the eighth month of pregnancy.

The total fatal cases numbered 21, of which 7 were abortion cases and 3 premature labour; in several of these the doctor had not been called in until some days after the onset of illness.

The date of onset of fever was in 68 cases within the first four days after delivery; in 35 the attack began from the fourth to the eighth day; in 12 from the eighth to the tenth day; and in 8 instances on or after the tenth day of the puerperium.

Of the 21 deaths, 4 took place in the first week after confinement; 6 during the second week; 8 during the third and fourth weeks; and in 3 instances the fatal termination supervened during the second month from delivery.

The cases were notified in 85 instances within three days of the onset of symptoms; in 24 cases from the fourth to the seventh days of illness; while 14 notifications were received as late as during the second week of the disease.

In 50 cases midwives alone were present at the confinements. They called in doctors within 24 hours from the onset of fever in 33 cases; within 2 days in 7 instances; on the third day on 4 occasions; while in 3 cases the mother had been ill for some days before medical aid was summoned. In 3 instances the doctor was called in by relatives after the midwife had ceased attending.

TABLE B.—GIVING IN DISTRICTS FOR 1912 THE POPULATION OF MANCHESTER; BIRTHS AND BIRTH-RATES; CASES, ETC., OF PUERPERAL FEVER; AND THE NUMBER OF MIDWIVES RESIDENT IN EACH DISTRICT.

	Statistical Divisions	Population	Births Registered		Cases of Puerperal Fever				Case Fatality per cent. 1905-1911	1912 Midwives resident in Manchester.
			Number	Rate	Total Attacks	Deaths	Attack rate per 1,000 births	Case Fatality per cent.		
	City of Manchester	**724,168**	**18,169**	**25·09**	**123**	**21**	**6·77**	**17·1**	**23·5**	**145**
I.	Manchester Township	114,784	3,438	29·95	20	2	5·82	10·0	22·5	26
II.	North Manchester	201,689	5,197	25·77	30	7	5·77	23·3	28·4	43
III.	South Manchester	407,695	9,534	23·39	73	12	7·66	16·4	21·3	76
I.	Ancoats	40,718	1,307	32·10	7	..	5·36	..	34·3	4
I.	Central	22,308	529	23·71	7	1	13·23	14·3	10·6	13
I.	St. George's	51,758	1,602	30·95	6	1	3·75	16·7	18·6	9
II.	Cheetham	43,027	1,054	24·50	3	1	2·85	33·3	27·8	9
II.	Crumpsall	10,292	175	17·00	3	..	17·14	..	60·0	..
II.	Blackley	14,002	290	20·71	1	..	3·45	..	43·8	3
II.	Harpurhey	17,167	405	23·59	4	2	9·87	50·0	23·5	5
II.	Moston	24,703	634	25·66	1	1	1·57	100·0	41·2	5
II.	Newton	41,755	1,061	25·41	4	1	3·77	25·0	25·7	11
II.	Bradford	25,288	783	30·96	13	2	16·60	15·4	16·7	4
II.	Beswick	11,625	412	35·44	..	..	..	..	20·8	1
II.	Clayton	13,830	383	27·69	1	..	2·61	..	40·0	5
III.	Ardwick	39,709	1,099	27·68	9	1	8·19	11·1	25·6	7
III.	Openshaw	31,155	857	27·51	9	2	10·50	22·2	25·0	4
III.	West Gorton	26,913	733	27·24	9	2	12·28	22·2	13·8	5
III.	Rusholme and Kirkmanshulme	41,131	746	18·14	1	1	1·34	100·0	27·6	8
III.	Chorlton-upon-Medlock	54,599	1,131	20·71	7	1	6·19	14·3	15·8	15
III.	Hulme	63,177	1,839	29·11	23	4	12·51	17·4	21·9	7
III.	Moss Side	34,329	500	14·56	1	1	2·00	100·0	26·3	9
III.	Withington	52,424	999	19·06	2	..	2·02	..	19·0	10
III.	Gorton	43,193	1,163	26·93	11	..	9·46	..	18·2	7
III.	Levenshulme	21,065	467	22·17	1	..	2·14	..	12·5	4

Section of Table B giving the number of Midwives resident outside but practising in Manchester.

Salford	9
Failsworth	3
Stretford	6
Reddish	3
Heaton Chapel	1
Denton	1
Droylsden	1
Total	24

TABLE C.—RELATING TO THE CASES OF PUERPERAL FEVER ATTENDED EITHER BY MIDWIVES OR DOCTORS DURING THE YEARS 1905 TO 1912.

Year	Number of cases attended by							
	MIDWIVES		DOCTORS		MIDWIFE AND DOCTOR		TOTAL	
	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
1905	41	11	31	11	10	3	82	25
1906	32	6	54	20	17	4	103	30
1907	35	4	39	9	21	7	95	20
1908	37	7	50	13	14	4	101	24
1909	33	7	34	5	15	5	*84	17
1910	41	6	67	22	23	3	131	31
†1911	44	4	63	19	28	3	135	26
†1912	50	7	38	9	35	5	123	21

* Includes two cases unattended.

† These include cases occurring in the recently added districts of Gorton and Levenshulme

TABLE D.—SHOWS WHERE PATIENTS SUFFERING FROM PUERPERAL FEVER WERE TREATED, AND THE RESULTS OBTAINED, IN 1912.

Cases treated at	Total No. of Cases	No. Recovering	No. of Deaths	Case Mortality per cent.
Home	26	21	5	19·23
Monsall Hospital	88	75	13	15·90
Other Institutions	9	6	3	33·33
Total	123	102	21	17·07

TABLE E.—SHOWING FOR CASES OF PUERPERAL FEVER THE CHARACTER OF THE LABOUR AND THE RESULTS FOR 1912; ALSO THE CLASSIFICATION OF ABNORMAL CASES, AND CASES IN WHICH PERINEAL TEAR WAS STATED TO BE PRESENT.

	No. of Cases	Recovery	Death
Normal full term labour	66	61	5
Abnormal full term labour.....	27	21	6
Abortion or Premature.....	30	20	10
Abnormal Labour.			
Forceps	19	14	5
Adherent placenta, manual removal	5	4	–
Placenta prævia	–	–	–
Ante and post partum hæmorrhage	2	2	–
Version	1	1	–
Perineal tear stated to be present.			
Labour normal	20	19	1
Abnormal	13	10	3

In each case where the patient recovered, a visit was paid after the fourth and eighth months after the attack, in order to obtain her further health history.

The following tables give the results of these investigations:—

Total cases treated at		Total recovery	Per cent.	Recovery with good health	Per cent.	With poor health	Per cent.
Home.....	26	21	80·76	18	85·71	3	14·28
Monsall Hospital	88	75	85·22	70	93·33	5	6·66

The remaining nine cases were in other Institutions.

The total result of Monsall Hospital and home-treated cases is more satisfactory than in the previous year. Once again the benefit of hospital treatment is apparent from the above table. It is certain that the hospital death-rate would be lowered if cases were removed from their homes earlier, as in many instances the prognosi on admission was most unfavourable.

The courtesy and readiness to admit patients requires acknowledgment, especially as in most instances the infants have also been admitted, even although the accommodation was fully taxed.

In the cases treated at home there is an increase in those who recovered with good health. This is in part due to the skill and attention of the nurses provided by this Committee.

In one instance of severe Puerperal Fever nursed by them the patient is again pregnant.

Suspension or Withdrawal from Practice of Midwives.

It will be seen from Table A that there were 75 suspensions during the year. In 69 instances these were in connection with Puerperal Fever cases, and in practically every instance the midwife was off work only for a few hours, whilst personal disinfection was carried out.

In 6 instances midwives had to be suspended owing to other conditions, in order to prevent possible infection of their patients.

Midwife A was suspended on account of the dirty condition of her bag and appliances, and because her uniform was insufficient.

Midwives B and C were suspended on account of contact with cases of Erysipelas.

Midwives D and E had Pemphigus cases in their practices, and had to cease work till disinfection was carried out. In the case of midwife D Fuller's Earth had been used by her for the umbilical dressing.

Midwife F was off work for some weeks on account of an abscess in her arm.

Records of calling-in Medical Aid under Rule E 19 of the Central Midwives' Board, and Payment of Fees in connection therewith.

During the year 1912, the number of medical records received was 2,772, as compared with 2,729 in the previous year. 1,744 of the records were for cases occurring in the private practice of midwives, whilst 1,028 were in connection with the various lying-in charities. The corresponding figures for 1911 were 1,514 and 1,215 respectively.

In each instance where a record of rise of temperature, rigor, offensive lochia, abdominal pain, mastitis, or other suspicious symptom, was received, immediate investigations were made.

The records are classified in the following table, under the various causes for which medical aid was sought. (See Table F on next page.)

As regards the payment of fees to medical practitioners, under the scheme outlined in the report for 1905, and revised, as shown in the report for 1909, 699 applications were received during the year. These were considered by the Medical Sub-Committee, and they recommended that payment should be made in 590 cases, amounting to £535 12s., the amount in 1911 being £471 1s. Of the 79 cases which were rejected as not fulfilling the conditions, in 49 instances the income was above the scale, whilst 15 did not fulfil in various respects the conditions under which the fee is paid; in 6 cases the people paid the fee themselves, and in 9 instances they could not be traced owing to late application for fee being made.

Still-births.

The total number of still-births during 1912, of which there is any return was 732, as compared with 735 in the previous year.

TABLE F.—NUMBER OF CASES OCCURRING IN 1912 IN WHICH THE MIDWIFE ADVISED THAT A REGISTERED MEDICAL PRACTITIONER SHOULD BE SENT FOR (RULE E 19). ALSO THE NUMBER OF APPLICATIONS FROM MEDICAL PRACTITIONERS FOR PAYMENT OF THEIR FEES FOR ATTENDING CERTAIN EMERGENCY CASES.

Period	Medical aid called in on account of the following causes, as stated by the Midwife		Total	Private Cases	Hospital outdoor cases	Application for † Fees
Pregnancy	Abortions, miscarriages		24	14	10	4
	Deformed pelvis		7	7	..	..
	Loss of blood		17	11	6	3
	Other unusual features of pregnancy		28	19	9	..
Labour	Presentations	Head — Occipito posterior	18	15	3	33
		Head — Brow	1	..	1	1
		Head — Face	26	20	6	18
		Head — Abnormal	1	..	1	..
		Breech — In primiparæ	7	5	2	2
		Breech — In multiparæ	1	1	..	..
		Breech — Para not stated	42	33	9	25
		Knee	..	..	..	..
		Foot	13	9	4	6
		Hand or arm	18	14	4	9
		Transverse	14	13	1	16
		Funis	27	20	7	16
		Placenta Prævia	..	..	..	10
		Unable to make out	22	14	8	3
	Tedious labour	Forceps used	7	7	..	129*
		No record as to forceps	384	322	62	20
	Placenta	Retained	39	32	7	12
		Adherent	38	34	4	25
	Membranes retained		63	37	26	21
	Rupture of perineum		443	272	171	105
	Hæmorrhage	Ante partum or accid.	72	51	21	31
		Post partum	75	61	14	25
	Convulsions		19	15	4	9
	Complications		39	28	11	13
	Others		2	1	1	1
	Premature labour		12	11	1	..
Lying-in	Abdominal swellings		..	..	..	..
	Foul-smelling discharges		..	..	..	..
	Post partum hæmorrhage		9	8	1	..
	Rigor		..	..	..	..
	Rise of temperature above 100·4° F.		95	55	40	18
	Unusual swelling of breasts		17	6	11	2
	Progress unsatisfactory or complications		180	77	103	13
Newly born Child	Injuries received during birth		3	1	2	..
	Obvious malformations		54	25	29	6
	Tongue tied		17	15	2	..
	Feebleness of Child		150	92	58	15
	Inflammation of eyes, eyelids, and ears		460	202	258	31
	Skin eruption		52	32	20	5
	Illness from prematurity		124	75	49	25
	Malignant jaundice		21	17	4	4
	Inflammation about the umbilicus		33	8	25	1
	Unspecified or complications		98	65	33	11
	TOTALS		2,772	1,744	1,028	699

* In addition to the 129 cases of tedious labour in which forceps were used, instrumental aid was also applied in 75 of the other cases of labour.

† These applications have been classified according to the conditions requiring treatment found by the medical practitioner.

This number includes 438 still-births which occurred in the practice of doctors, and 294 which occurred in the practice of midwives. The numbers for 1911 were 421 and 314 respectively.

Through the Cemeteries' return, 616 still-births were notified; 438 of these were doctors' cases, and 178 midwives' cases. 116 still-births attended by midwives were notified by them alone, in addition to the 178 cases returned by the Cemeteries, and also notified by them. The midwives have been requested, when notifying a still-birth, to state, if possible, the place of burial. This was given in 260 instances, leaving 34 unaccounted for. Each still-birth is now investigated, and in all cases the place of burial is ascertained.

294 still-births were reported by midwives where no doctor had been present. In 104 instances the bodies were perfect; in 85 more or less advanced maceration had occurred; while in 105 cases the bodies had been removed before the visit of the investigator. In 54 instances the midwife was not present at the time of birth, and in one case an inquest was held on this account. In 25 cases the children were very premature, and in 28 the bodies were macerated, and no inquest was necessary.

The following are the causes which it seemed reasonable to credit the still-births to:—

Definite history of ill-health of the mother	56
Drink, to a marked degree, in one or both of the parents	13
Probable drug-taking to procure abortion	35
Accident to the mother before confinement	21
Ante-partum hæmorrhage	18
Insufficient help at delivery	17
Breech presentations, full time	28
„ „ premature	6
Monstrosities	2
Funis presentations	3
History of cord round neck—no midwife present	1
„ „ midwife „	3
Eclampsia	1
Advanced Phthisis of father	1
Abnormally large child	3
Full time twins	4
Premature twins	4
„ births	13
No cause discovered	54
Shock	3
Abnormal presentations	6
Poverty	1
Spina Bifida	1
	294

The large number of cases of full-time children born by breech presentation, where the bodies were perfect, points to the fact that if medical help were obtained when breech presentations were diagnosed a large number of lives might be saved.

The total number of breech presentations with still-born infants is set forth in the next table.

STILL-BORN INFANTS' BREECH PRESENTATIONS.

1.	No.	2.	No.	3.	No.
Primipara	9	Full time	38	Putrid	14
Multipara	46	Premature	17	Perfect	25
				Not seen	16
Total	55		55		55

Six of the children who were still-born were known to be illegitimate.

The still-births have been classified in districts; those occurring in the practice of doctors and midwives are shown in separate columns.

This classification shows the percentage of live and still-born children, and the still-birth rate. The still-birth rate is calculated on the returns from midwives, as these returns are very complete.

It will be seen that the percentage of still-born children is 3·2; in 1911 it was 3·4, and the still-birth rate 0·41 per 1,000 of the population in midwives' practice.

The districts in which the still-birth rate is highest are Ancoats, West Gorton, Bradford, Hulme, Openshaw, Ardwick, and Beswick. These are given in order beginning with the district in which the still-birth rate is highest. (See Table G. on next page.)

ABLE G.—TOTAL NUMBER OF BIRTHS REGISTERED IN 1912; ALSO THE NUMBER OF STILL-BIRTHS OCCURRING IN THE PRACTICE OF MEDICAL PRACTITIONERS AND MIDWIVES, AS OBTAINED FROM THE RETURNS OF BURIALS AT VARIOUS CEMETERIES.

Statistical Divisions	Births Registered	Still-births obtained from Cemetery Returns		Proportion Per Cent.			Total Still-births notified by Midwives	Still-birth-rate per 1,000 of the Population in the practice of Midwives	Total Still-birth-rate return from Cemeteries
		Doctors' Cases	Midwives' Cases	Born Living	Still-born				
					Doctors' Cases	Midwives' Cases			
City of Manchester	**18,169**	**438**	**178**	**96·7**	**2·3**	**0·9**	**294**	**0·41**	**0·85**
I. Manchester Township	3,438	71	33	97·1	2·0	0·9	54	0·47	0·91
II. North Manchester	5,197	92	38	97·6	1·7	0·7	72	0·36	0·64
III. South Manchester	9,534	275	107	96·3	2·8	1·0	168	0·41	0·94
I. Ancoats	1,307	36	19	96·0	2·6	1·4	26	0·64	1·35
I. Central	529	4	2	98·9	0·7	0·4	4	0·18	0·27
I. St. George's	1,602	31	12	97·4	1·9	0·7	24	0·46	0·83
II. Cheetham	1,054	16	2	98·3	1·5	0·2	6	0·14	0·42
II. Crumpsall	175	4	..	97·8	2·2	..	1	0·10	0·39
II. Blackley	290	3	..	99·0	1·0	..	1	0·07	0·21
II. Harpurhey	405	4	..	99·0	1·0	..	6	0·35	0·23
II. Moston	634	10	1	98·3	1·5	0·2	8	0·32	0·45
II. Newton	1,061	26	11	96·6	2·4	1·0	14	0·34	0·89
II. Bradford	783	15	17	96·2	1·8	2·0	22	0·87	1·27
II. Beswick	412	9	4	96·9	2·1	1·0	6	0·52	1·12
II. Clayton	383	5	3	97·9	1·3	0·8	8	0·58	0·58
III. Ardwick	1,099	29	16	96·1	2·5	1·4	22	0·55	1·13
III. Openshaw	857	24	12	96·0	2·7	1·3	18	0·58	1·16
III. West Gorton	733	26	9	95·4	3·4	1·2	13	0·48	1·30
III. Rusholme and Kirkmanshulme	746	21	7	96·4	2·7	0·9	11	0·27	0·68
III. Chorlton-upon-Medlock	1,131	39	10	95·9	3·3	0·8	22	0·40	0·90
III. Hulme	1,839	47	28	96·0	2·5	1·5	38	0·60	1·19
III. Moss Side	500	16	6	95·8	3·1	1·2	8	0·23	0·64
III. Withington	999	41	5	95·6	3·9	0·5	9	0·17	0·88
III. Gorton	1,163	23	13	97·0	1·9	1·1	20	0·46	0·83
III. Levenshulme	467	9	1	97·9	1·9	0·2	7	0·33	0·47

Death of the Mother.

No cases of death of mother, before a medical practitioner could be obtained, were notified during the year.

Deaths of New-born Children.

Notifications of 37 deaths of new-born children have been received and investigated.

Enquiries were made by the City Coroner into the causes of these deaths. In 33 instances inquests were held, and 4 were returned as uncertified.

Where the midwife is summoned to appear before the City Coroner in connection with any of these deaths, it is customary for an official from the Public Health Office to attend the Court and take a note of the proceedings.

The causes of death were given as follows :—

	Inquest cases.	Uncertified deaths.
Accidental suffocation	16	0
Premature birth	1	4
Want of attention at birth	14	0
Congenital defects	1	0
Others	1	0
	—	—
	*33	4

* Post-mortem examinations were made in each case.

The districts in which these deaths occurred were Ancoats, 7 ; St. George's, Openshaw, Hulme, and Central, 4 each ; Ardwick and West Gorton, 3 each ; Bradford, Cheetham, and Clayton, 2 each ; Newton and Chorlton-upon-Medlock, 1 each.

Midwives Reported to the Central Midwives Board on Charges of Malpractice, Negligence, or Misconduct.

During the year the Midwives Supervising Committee, in considering the various reports submitted to them, decided that *prima facie* cases of negligence or misconduct had been established against eight midwives, and reports respecting these were forwarded to the Central Midwives Board.

The following are the charges on which such action was based :—

Midwife A. Breach of Rule E (1) and (2) in not having a bag containing the necessary appliances, and for not being scrupuously clean in her person, clothing, etc. The midwife was cautioned, and further reports required in three and six months. These were duly submitted, but as the midwife left the country the Board decided to retain her certificate until further application.

Midwife B for infringement of Section 1 (4) Midwives Act by employing an uncertificated person as her substitute; also breach of Rule E 13 and 21 of the Board's regulations. The midwife was cautioned.

Midwife C for infringement of Section 1 (4) Midwives Act, and for breach of Rules E 20 (5) and E 21 (1). The charges were found to be not fully proved, and the Board decided to take no further action.

Midwife D was reported for delay in sending for medical aid in the case of Adherent Placenta. The patient died of Sepsis. She also failed to comply with Rule E 1 and Rule E 2. The midwife died from Pneumonia before the hearing of the case.

Midwife E had her name removed from the Roll for being convicted in a police case.

Midwife F failed to advise medical aid in a case of Puerperal Fever, and to notify the Local Supervising Authority (Rules E 20 and 21). The patient died of Sepsis. The midwife, who had been censured for a similar offence by the Board, had her name removed from the Roll.

Midwife G failed to advise medical aid in a case of Puerperal Fever and to notify the Local Supervising Authority (Rules E 20 and 21). The patient died of Sepsis. This midwife also failed to take temperature and pulses (Rule E 13), and did not possess the required appliances (Rule E 2). The Board, having consulted the Local Supervising Authority, allowed the midwife to resign, and her name was removed from the Roll.

Midwife H failed to advise medical aid in case of Ophthalmia Neonatorum (Rule E 20 (5). She also recorded temperatures and pulses which she had not taken. The midwife was severely censured, and reports requested at the end of three and six months. These were duly submitted, but the midwife again broke Rule E 20 (5) in two instances. At the Penal Sitting of the Board she was unable to make use of a clinical Thermometer, and her name was struck off the Roll.

Legal Proceedings.

Under Section 10 of the Midwives Act, 1902, proceedings were taken against a woman in November, 1912, for practising in the Manchester area without giving notice to the Local Supervising Authority of that area. The Stipendiary Magistrate (Mr. Brierley) found the case proven, and fined the woman £2 and costs, amounting in all to £3 17s. The fine was paid.

Midwives who appeared before the Supervising Committee during 1912.

In addition to those midwives who were summoned to appear before the Committee, and reported thereafter to the Central Midwives Board, eleven were dealt with by the Supervising Committee.

In four instances of midwives who had failed to advise medical aid in cases of Ophthalmia, two were cautioned and two censured.

One midwife was reported for recommending a doctor to several of her patients. She was advised as to her future conduct.

Four midwives appeared in connection with cases of Puerperal Fever. One received a caution and the other three were severely censured.

One midwife delayed sending for medical aid in a case of Pemphigus. She was cautioned.

Another midwife failed to advise medical aid in a case of Ante-partum Hæmorrhage. She was severely censured.

Work of the Special Nurses.

During the year 1911 two Special Nurses were appointed by the Midwives Supervising Committee, one for Septic Work and the other for Non-Septic Work. Their duties were printed in the report for that year. The work done by them during the year 1912 has been tabulated, and is as follows:—

Still-births investigated	294
Deaths of newly-born infants investigated	37
Cases of Puerperal Fever nursed at home	14
Nursing visits paid to these 14 cases, and to patients with raised temperatures	233
Old Puerperal Fever cases investigated to ascertain subsequent histories	218
New Puerperal Fever cases investigated to ascertain subsequent histories	85
Nursing Visits paid to two Pneumonia cases	17
" " " cases of Mammary Abscess	83
" " " two cases of Erysipelas	12
" " " houses infected with Scarlet Fever	9
" " " " " " Measles	3
" " " " " " Impetigo	6
" " " case of Burns	2
Number of cases of Skin affection in newly-born infants	88
Nursing Visits paid to these 88 infants	1,291
Number of cases of Spina Bifida visited	3
Special investigation into births with a view to checking the practice of midwifery by uncertified women	628
Visits to cases of Ophthalmia Neonatorum (assistance rendered to Ophthalmic Nurses)	168

In addition to the above recorded visits, other visits have been paid in various districts in connection with the control of women formerly on the Midwives Roll, and also of uncertified women suspected to be practising midwifery.

The report now presented by Dr. Douglas, who entered on her duties as Executive Officer in September, is a record of work done by Dr. Barbara M. Cunningham and herself, to whom she is much indebted for her assistance in compiling part of this statement. The course of procedure pursued with such success by her two predecessors has been largely followed. The work and assistance received from the two Special Nurses appointed by this Committee has been invaluable. It would not be possible to carry out the extensive investigations but for their work. Their nursing qualities are of a high standard, and their services are much appreciated and testified to by the medical practitioners.

The Health Visitors have on many occasions rendered helpful service in reporting cases of apparent neglect. All such cases are carefully investigated.

The clerical work as in former years has been most efficiently carried out by Mr. Dunks, to whom thanks are again due. This work increases yearly along with the expansion of the duties of the department which at times become almost too heavy to cope with.

The valuable assistance and support received from the Committee, its Chairman, and the Medical Officer of Health, have been highly appreciated by the Executive Officer, who has looked to them for the advice and help which she has invariably received.

A. W. Chapman,

Chairman.

20th June, 1913

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