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HEALTH DEPARTMENT.



REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING

1913

BY THE

MEDICAL OFFICER OF HEALTH.



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HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING

1913

BY

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Local Government Board Tables of Population, Births, Deaths, Infantile Mortality and Infectious Sickness. Tables I, II, III and IV.

Plan-Map showing Birth Rate in Districts of City.

,, ,, Death Rate ,, ,,

,, ,, Number of Deaths of Infants under one year out of every 1000 born.

,, ,, Density of Population in Districts of City.

Table of Total Deaths registered in the City.

,, ,, ,, ,, Woolton Added Areas.

PREFACE.

Area and Population.

The estimated population of the City at the middle of the year 1913 was 756,553. This figure represents an increase of 4,532 over the previous year The estimate, both of the population and the added increment, are made upon the assumption that the rate of increase which had obtained during the preceding intercensal period had continued since. This is the basis adopted by the Registrar General.

The increase of births over deaths was 8,897; it will be seen therefore that the estimated increase is only about one half of the actual increase, the inference being that the flow into the suburbs not included in the administrative area of Liverpool, continues.

On the 9th November, 1913, the City boundaries were extended to include the neighbouring areas of Allerton, Childwall, Little Woolton, and Much Woolton; these added in the aggregate, 4,600 acres to the municipal area, making a total acreage of 21,219, with an estimated population of 763,435.

Birth Rate.

The birth-rate shows a slight increase over the preceding year, being 29·8 as against 29·5.

General Death Rate.

The death-rate of the City was 18·0, as against 17·7 in the preceding year, and an average for the preceding five years of 18·4. This rate is contributed to, to a certain extent, by the deaths of persons coming into Liverpool to seek shelter in the Liverpool hospitals and infirmaries, but who had not been previously known. Emigrants, sailors, persons dying in the County Asylums, and others unknown in Liverpool, are also included in this rate of mortality. The deaths of nine newly-born infants found in back passages or other places are also included in the general returns.

Zymotic Death Rate.

The zymotic death-rate is 2·2, zymotic diarrhoea, measles and whooping cough causing 941, 322 and 232 deaths, respectively, mostly in infancy. The mortality from scarlet fever and diphtheria shows a decline, whilst the deaths from typhoid fever are also very low. One

death occurred from small-pox, but no death occurred from typhus fever during the year. The table on page 47 is deserving of very careful study.

Infant Mortality and Child Welfare.

The death-rate amongst infants below 12 months of age was 132 per thousand, as against 125 for the preceding year.

As in previous years a very large amount of attention has been given to the care of infants and young children. The importance of the subject is receiving increasing recognition, and additions made, from time to time, by the Health Committee to the members of the Female Sanitary Staff have always been justified by the results. The subject is dealt with in some detail on pages 63 and following, and an account is given of the methods to ensure a suitable food for infants whose mothers, from one circumstance or another, are not able to suckle them.

As in previous years, a large amount of the time of the Female Sanitary staff has been devoted to the following-up of children found in the schools by the Medical Inspectors to be ill and neglected. The Female Inspector, who is always present with the doctor, follows up the more urgent cases at once, with results which have been eminently satisfactory. The saving of time in obtaining treatment has been effective in this way, and much help is afforded by various voluntary agencies, such as the Central Relief Society. A few schools have special Care Committees, and these also assist in this work (pages 83 & 84).

Infectious Diseases in Schools.

The number of cases of infectious disease occurring amongst school children showed a considerable decline during the year, and it was only found necessary to close the Infant Departments of three schools for a short period. This subject was dealt with very fully in the Report for 1912.

Midwives Act.

There are in Liverpool about 200 midwives engaged as private practitioners of midwifery, and 16,430 births were attended by midwives during the year, out of a total number of 22,555 births registered, showing that more than two-thirds of the total births are attended by midwives. The facilities afforded by the Health Committee to enable midwives to obtain medical help on emergency have been availed of rather

more fully than in previous years, and an arrangement consequent upon the Insurance Act recently come to with the Liverpool and District Trained Midwives' Association has been an additional assurance of medical aid being forthcoming in every necessary case (page 90).

The care of the eyes of the newly-born infant is ensured by the appointment by the Health Committee of a special Inspector to follow all notifications of ophthalmia of the newly-born (page 96).

Pre-natal Hygiene

Valuable assistance in explaining to mothers points in connection with the care of infants is afforded by the various schools for mothers.

Tuberculosis.

The great amount of attention which is given to tuberculosis ensures that very few, if any, actual cases escape notification (page 101 and following). The Medical Officer in previous years forecasted that, in all probability this close attention would lead to an apparent increase in the numbers of cases of this disease, notwithstanding the many additional efforts made to lessen it. This must be recollected when the returns for the year 1913 are compared with returns for previous years, and it explains the apparent increase during the last three or four years in the number of notified cases. So far as Liverpool is concerned, there is no reason to think that the additional amount of attention paid to the treatment of tuberculosis has interfered with the far more valuable and important measures of prevention.

It is now fairly well recognised that the position of the sanatorium is in all respects comparable with that of the infectious diseases hospital, in other words, it affects the isolation of the patient, which means the removal of a centre of infection, and at the same time it places the patient under conditions most favourable to ensure recovery. As in the case of other epidemic diseases, preventive measures rather than treatment are the effective ones in reducing the prevalence of the disease. One need only instance the history of malaria, or of typhus fever, to make this plain.

The administrative measures taken in connection with tuberculosis will be seen on pages 110 and following, whilst an account of the work of the various Tuberculosis Institutes follows on pages 113-124.

Sanitary Administration.

The qualifications of the staff appointed to carry out the various duties in connection with the sanitary administration (page 133) vary in accordance with the nature of the duties they are called upon to discharge.

Overcrowding.

With regard to the prevention of overcrowding, it will be seen with interest that the number of Common Lodging-Houses has diminished, several of the smaller ones being given up, and a few larger ones added. (Page 147.) With regard to sub-let houses, it is gratifying to notice a further reduction in the numbers of these houses since the year 1904. Bye-laws affecting cubic space and other sanitary matters have been made more stringent, and the staff of Inspectors has been increased. It is to these circumstances that the diminution of overcrowding is largely due. (Page 158 to 165 and page 298.)

Nuisances.

Amongst conditions prejudicial to health which are not fully appreciated, may be mentioned smoke nuisances, unnecessary noise, and conditions arising from trades and occupations, and especially those which encourage the breeding of flies. Everyone knows that health is promoted and convalescence hastened by a pure atmosphere and open windows. The unfortunate condition of the town-dweller is, that the excessive and unnecessary noise and smoke frequently lead to the closure of windows, and the householder has the alternative of a close stuffy atmosphere, or

Flies.

of injury to his belongings by smuts and filth. With regard to flies, much injury is done by the exposure in the shop windows of foodstuffs which are eaten raw, and the public would do wisely to take particular care to purchase fruit and articles of that kind, from shops where the article is protected from contamination. Circulars relating to this matter have been widely distributed.

Abattoirs.

The position in regard to the slaughtering of animals throughout the City is practically the same as at the close of last year.

In the interests of public health, the Health Committee have during the last ten or fifteen years declined to renew or transfer licenses for private slaughterhouses, and a gradual decline in the number of the eminently unsuitable places has, therefore, taken place. The central abattoir and the associated offensive trades remain in the condition which has been so frequently the subject of adverse comment. Every effort however, is made to palliate the nuisances inseparable from the conduct of businesses of this kind in situations which are cramped, confined, and unsuitable. The subject has been fully dealt with in previous reports.

Chemical and Bacteriological Analyses.

The action taken under the Sale of Food and Drugs Act (pages 232 to 261), and Public Health Act, in reference to the protection of foodstuffs, has continued as heretofore.

Insanitary Property, and the Housing of the Working Classes Act.

Steady progress continues to be made in the extremely important matter of the removal of insanitary property, and erecting in its place dwellings suitable for the working classes. The whole of the constructive work has so far been limited to the areas from which insanitary property has been removed. In view of the large number of houses of modest rental built in the outskirts, the Housing Committee have limited their operations in the manner indicated, but there is no shadow of doubt that the erection of workmen's dwellings in one of the suitable outskirt districts, easily accessible, would be a very great advantage to the labouring population. It is obviously impossible to provide for all of that rapidly increasing population (page 6) in the congested areas, and provision of some kind must necessarily be made elsewhere. The houses erected by the Housing Committee are now almost all reserved for tenants who have been dispossessed (pages 293 to 301), and in the construction of each block of dwellings attention is now paid (page 294), to the provision of open spaces and playgrounds for children.

It is important to remember that the suggestion that the removal of slum areas for a number of years past has resulted in an increase of subletting and overcrowding is without foundation (page 298).

Hospital Accommodation.

The valuable work of the hospitals is alluded to on page 321 and following, and it is not necessary to again refer to the value of the treatment which patients suffering from tuberculosis are receiving in the City Hospitals. Since the end of March 1913, the whole of the Parkhill Hospital has been converted into a sanatorium, whilst additional accommodation is being provided at Fazakerley by the erection of a sanatorium with 250 beds, upon the most modern lines. In this connection a school for children threatened with tuberculosis, or in its very earliest stage, is about to be provided by the Hospitals Committee.

E. W. HOPE,
MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,
MUNICIPAL OFFICES,
LIVERPOOL, *April 30th*, 1914.

STATISTICS

RELATING TO

BIRTHS, DEATHS, AND CAUSES OF DEATH, &c.,

ZYMOTIC DISEASES AND THEIR INCIDENCE.

SUMMARY

OF

VITAL STATISTICS FOR 1913.

Area of City	**21,219**	**Acres. (33 square miles)**
Population (estimated to the middle of the year)	**756,553**	
***Births**	**22,555,**	**Birth-rate 29·8.**
***Deaths**	**13,658,**	**Death-rate 18·0.**
***Infantile Mortality**	**2,987**	**Deaths under one year, or 132 per 1,000 Births.**
Zymotic Death-rate (7 principal Zymotic Diseases)	**2·2**	**per 1,000.**
All forms of Tuberculosis (including Phthisis)...	**2·0**	**per 1,000.**
Phthisis Death-rate	**1·5**	**per 1,000.**

* For variations in different districts see plan-map in the Appendix.

AREA AND POPULATION OF THE CITY.

The population of the City at the middle of the year 1913 was estimated to be 756,553, an increase over the previous year of 4,532. The area of the City at this period was 16,619 acres, and the density of the population was therefore equal to 45·5 per acre. The population per acre varies very much in the different districts of the City; a reference to the plan in the Appendix will make this clear, the estimated population per acre in each district being shown in red.

On 9th November, 1913, an important extension of the City boundary took place, when the undermentioned districts were incorporated. The acreage, census population, and estimated population at the middle of the year 1913, are given:—

	Acreage.	Census Population 1911.	Estimated Population 1913
Allerton Urban District ...	1,589	1,312	1,362
Childwall ,, ,, ...	830	198	193
Little Woolton ,, ...	1,389	1,102	1,105
Much Woolton ,, ...	792	4,320	4,222
	4,600	6,932	6,882

The total population of the City was thus increased to 763,435, and the area to 21,219 acres, the density per acre being reduced to 36 per acre.

As the newly incorporated districts only formed part of the City for the last eight weeks of the year, the vital statistics of these areas have not been included in the general tables relating to the incidence and mortality from different causes during the year, but the figures have been collated into a special return relating to the incorporated districts only, which will be found on pages 57 and 58.

A table showing the populations of the different districts of the City at the Census of 1901 and the Census of 1911 is given on next page. From these figures the population for 1913 has been estimated by the Registrar-General's method, i.e., that the variation in each district during the last inter-censal period continues at the same rate of increase or decrease. This table also shows the districts which are increasing or decreasing in population, and although it has been shown by previous Census figures that the method of estimation cannot always be relied upon, still it is generally accepted in the absence of more definite information, such as would be supplied by a quinquennial enumeration, and in the present instance there is little doubt that it is approximately correct.

CITY OF LIVERPOOL.

Population of Registration Districts—Year 1913.

DISTRICTS.	Census, 1911.	Census, 1901.	Difference.		Population, 1913.
			Minus.	Plus.	
SCOTLAND	46,576	52,966	6,390	—	45,045
EXCHANGE	37,370	41,999	4,629	—	36,262
ABERCROMBY	44,727	52,440	7,713	—	42,879
SOUTH EVERTON	66,629	67,394	765	—	66,446
NORTH EVERTON	54,236	54,075	—	161	54,274
KIRKDALE	67,463	69,386	1,923	...	67,002
WEST DERBY WEST	85,483	86,694	1,211	...	85,193
TOXTETH NORTH-WEST	21,994	24,733	2,739	...	21,338
TOXTETH SOUTH-WEST	35,757	34,861	...	896	35,971
TOXTETH CENTRAL	43,891	46,449	2,558	...	43,278
WALTON	75,591	54,615	...	20,976	80,617
WEST DERBY EAST	63,209	43,856	...	19,353	67,846
WAVERTREE	39,990	25,303	...	14,687	43,509
TOXTETH EAST	34,498	30,187	...	4,311	35,531
GARSTON	23,852	17,289	...	6,563	25,424
FAZAKERLEY	5,155	1,887	...	3,268	5,938
	746,421	704,134	27,928	70,215	756,553
		Net	increase =	42,287	
ALLERTON	1,312	1,101	...	211	1,362
CHILDWALL	198	219	21	...	193
MUCH WOOLTON	4,320	4,731	411	...	4,222
LITTLE WOOLTON	1,102	1,091	...	11	1,105
	6,932	7,142	432	222	6,882
		Net	decrease =	210	
Total	753,353	711,276	28,360	70,437	763,435
		Net	increase =	42,077	

BIRTHS.

During the fifty-two weeks of the year, terminating on Saturday, December 27th, 1913, the returns of the local registrars recorded 22,555 births within the City, equal to a rate of 29·8 per 1,000 of the population, the average of the previous five years (1908-1912) being 31·0. The rates are calculated upon the corrected population as ascertained by the Census Returns of 1901 and 1911. Of the total births 11,442 were males and 11,113 were females. The number of illegitimate births was 756, or 3·3 per cent. of the total births, 390 being males and 366 females.

The Registrar-General intimated that 72 of the births registered in the City should be deducted as non-resident, and this has accordingly been done, the above figures being the net numbers after the deduction has been made.

The birth-rate in the City of Liverpool is considerably above the average of the great towns, as well as of England and Wales taken as a whole (see diagram, page 6).

The birth rate per 1,000 of the female population, aged 15-45 years, was 117, as compared with 118 in the year 1911, and 124 in the year 1901. The corresponding rates for the whole of England and Wales were 97·8 in 1911, and 114·2 in 1901.

The variations in the birth-rate, and the distribution of the births in the different wards and districts of the city, are indicated upon the accompanying plan-map (see Appendix), and have also been arranged in **the following tables:—**

BIRTHS.

Districts.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		1913.		Percentage born in workhouses and other institutions.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Births.	Rate per 1000	
Scotland	260	267	254	242	247	244	247	208	1969	43·7	4·1
Exchange	163	156	169	139	139	157	134	127	1184	32·6	14·6
Abercromby	108	136	119	119	113	88	101	108	892	20·8	11·6
Everton	559	531	528	535	542	519	483	467	4164	34·5	4·2
Kirkdale	245	266	292	264	263	262	275	270	2137	31·9	2·3
West Derby—West	342	322	352	317	375	354	315	301	2678	31·4	5·5
Toxteth	411	436	397	399	403	391	397	414	3248	32·3	3·1
Walton	266	232	225	247	274	259	278	237	2018	25·0	1·8
West Derby—East	218	209	193	219	190	196	218	199	1642	24·2	1·9
Wavertree	153	117	140	164	156	138	126	135	1129	25·9	2·3
Toxteth—East (late Toxteth Rural)	80	86	89	72	76	87	80	70	640	18·0	·6
Garston	92	81	98	92	96	101	99	80	739	29.0	1·2
Fazakerley	10	10	19	10	17	17	16	16	115	19·3	1·7
City	2907	2849	2875	2819	2891	2813	2769	2632	22555	29·8	4·2

The births in the Maternity Hospital and in the Parish Workhouse (Brownlow Hill), Mill Road Infirmary, Walton Workhouse and Toxteth Workhouse have been transferred to the Districts from whence the mothers were admitted.

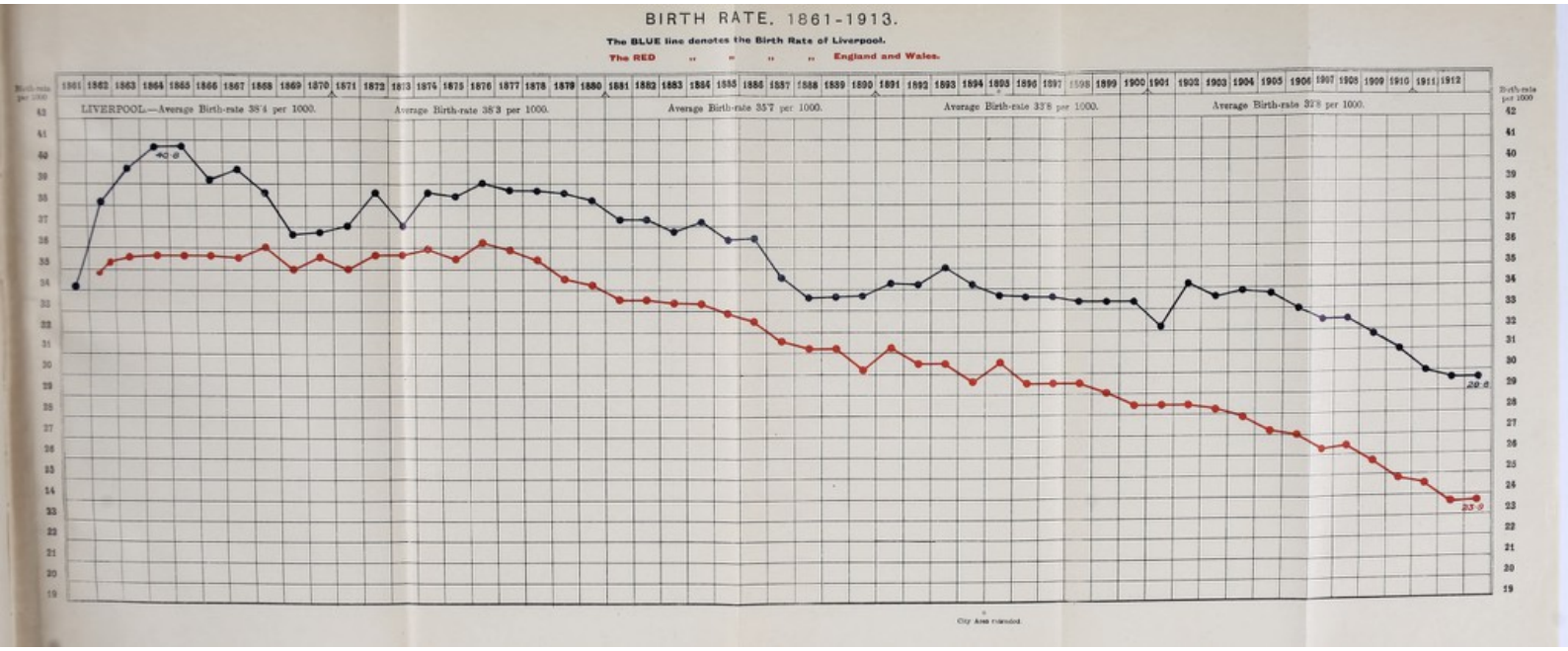
It will be noticed that the percentage of births occurring in workhouses and other institutions has diminished considerably, the figure for 1913 being 4·2 as against 6·0 in 1912, and 5·6 in 1911. It is probable that the payment of the Maternity Benefit under the National Insurance Act is accountable in a great measure for this circumstance, as many women have a natural reluctance to leave their homes if assured that they can have adequate help and the necessary attendance of a midwife or doctor at their own residence.

The continued high birth-rate in the older and poorer parts of the City is a noticeable feature, but unfortunately it is accompanied by a death-rate also above the normal.

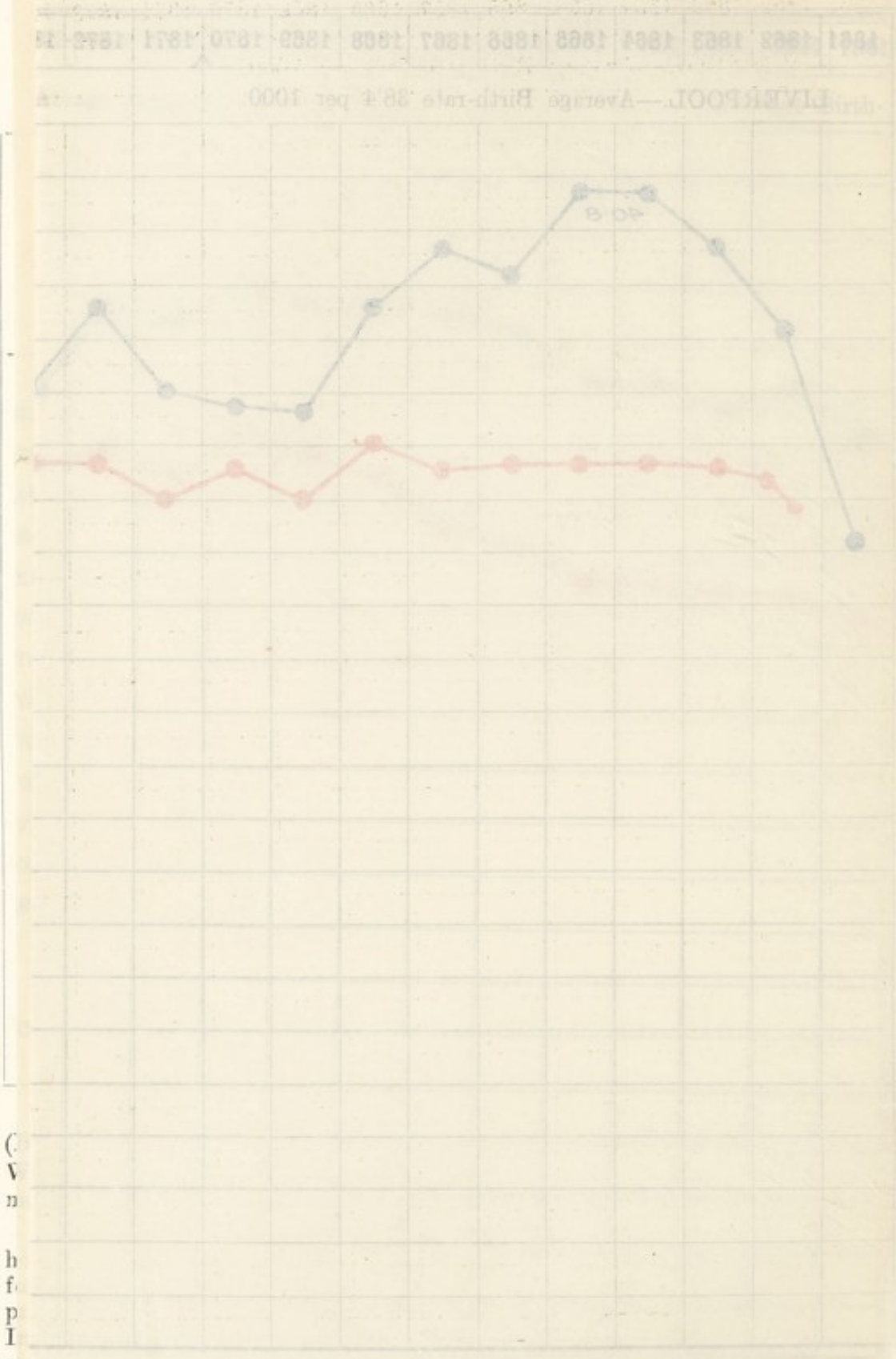
BIRTH RATE, 1861-1913.

The BLUE line denotes the Birth Rate of Liverpool.

The RED " " " " England and Wales.



* City Area extended.



The following table shows the population, number of births, and the corrected birth-rate per 1,000 during the last twenty-five years:—

Year.	Population.	No. of Births.	Rate per 1,000.
1889	523,838	17,676	33·7
1890	520,466	17,592	33·8
1891	518,302	17,832	34·4
1892	519,590	17,758	34·2
1893	520,882	18,328	35·2
1894	522,178	17,893	34·3
*1895	652,523	22,006	33·7
1896	658,050	21,943	33·3
1897	663,633	22,280	33·6
1898	669,243	22,227	33·2
1899	674,912	22,488	33·3
1900	680,628	22,762	33·4
1901	686,332	21,980	32·0
** 1902	707,027	24,283	34·2
1903	710,874	23,910	33·6
1904	714,743	24,278	33·9
*** 1905	721,864	24,350	33·7
1906	726,100	24,123	33·2
1907	730,361	23,654	32·3
1908	734,648	23,891	32·5
1909	738,960	23,591	31·9
1910	743,295	23,054	31·0
1911	747,627	22,493	30·0
1912	752,021	22,233	29·5
1913	756,553	22,555	29·8

The foregoing table shows the decrease in the birth-rate during the last 25 years.

The decline in the birth-rate which has been a feature in Liverpool, in common with the rest of the country, has been arrested during the past year, a slight increase having taken place in the number of births, as will be seen by reference to the table. The birth-rate of Liverpool is one of the highest in the country, being exceeded by only two towns having a population of over 200,000.

The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1891, 1901, and 1911.

* City area extended, a population of 129,045 included.

** Garston included with a population of 17,289.

*** Fazakerley included with a population of 2,892.

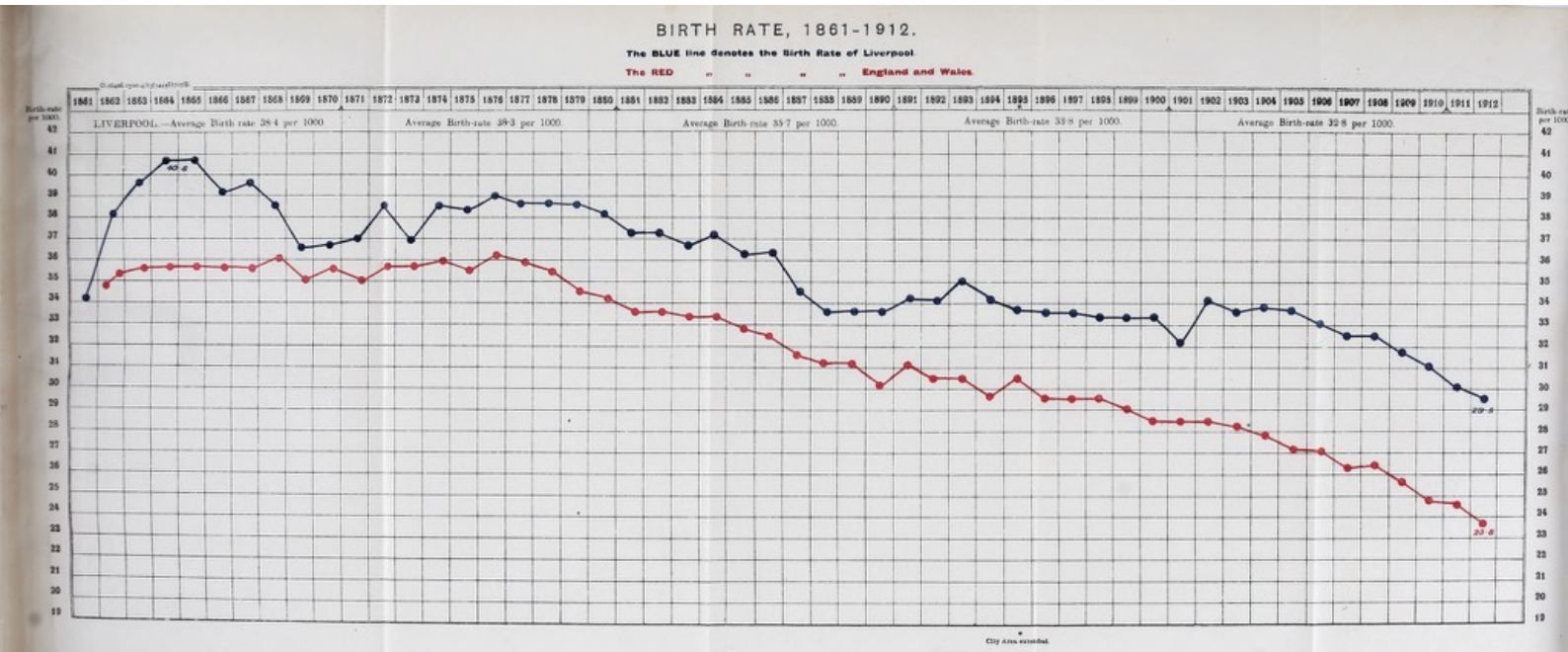
The following table shows the *natural* increase of population, that is, the increase in the number of births as compared with the number of deaths during the year 1913, in the several districts of the city. The net result in the city shows an increase of births over deaths of 8,897.

Districts.	Population.	Births.	Deaths.	Number of Births over Deaths.	Number of Deaths over Births.
Scotland	45,045	1,969	1,239	730	—
Exchange	36,262	1,184	1,031	153	—
Abercromby	42,879	892	907	—	15
Everton	120,720	4,164	2,446	1,718	—
Kirkdale	67,002	2,137	1,277	860	—
West Derby—West	85,193	2,678	1,500	1,178	—
Toxteth	100,587	3,248	1,937	1,311	—
Walton	80,617	2,018	995	1,023	—
West Derby—East	67,846	1,642	897	745	—
Wavertree	43,509	1,129	558	571	—
Toxteth—East	35,531	640	409	231	—
(late Toxteth Rural) Garston	25,424	739	352	387	—
Fazakerley	5,938	115	62	53	—
No Address	—	—	48	—	48
Total	756,553	22,555	13,658	8,960	63
	—	—	—	63	—
Natural Increase				8,897	

BIRTH RATE, 1861-1912.

The BLUE line denotes the Birth Rate of Liverpool.

The RED " " " " England and Wales.



* City Area extended.

DEATHS.

The total death-rate of the city during the year was 18·0 per 1,000; the average rate of the ten years following the extension of the city boundaries (1896-1905) was 21·8, and that of the last seven years (1906-1912) was 18·9. The deaths in public institutions, nursing homes, &c., of 673 non-residents, equal to 0·8 per 1,000, have been eliminated from the total deaths.

Quite apart from conditions of sanitation, mortality varies widely at different age-periods, as the next table shows; consequently the death-rate of the community is largely influenced by the proportions living at each age-period; the effect of a high birth-rate in raising the crude death-rate is well seen by the table, which also indicates plainly enough how the crude returns are modified if there happens to be an unusual proportion of the population at any one age-period. A hospital for foundlings, or a home for aged people, will have a very different influence upon the mortality returns of the district than a school containing an equal number of boys from 10 to 15 years of age.

If, for example, we could conceive that the whole population of Liverpool consisted of persons between the ages of 20 and 30, the death-rate last year would have been 4·6 per 1,000; if, on the other hand, we could conceive that it consisted entirely of people above 60 years of age, the death-rate would be 72·4 per 1,000. It is plain that any variation in the *proportions* living at the respective age-periods would affect the death-rate, and this with absolutely no change whatever in the condition of municipal sanitation. These proportions, however, vary very slowly and very slightly year by year in each district, so that yearly comparisons of the mortality-rate of the same district may be fairly made, but one district must not be put into comparison with another unless the age and sex conditions of each are known, and the necessary corrections made.

THE FOLLOWING TABLE SHOWS THE ANNUAL RATE OF MORTALITY PER 1,000 AT EACH OF TWELVE AGE-PERIODS DURING THE YEAR 1913 IN LIVERPOOL, AS WELL AS THE TOTAL NUMBER OF DEATHS.

THE DIFFERENCES WHICH THE FIGURES SHOW ARE VERY STRIKING:—

1913.	* Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 and upwards.	Total at all Ages.
Rate of Mortality per 1,000 living at ages indicated.	132·4	62·3	13·7	3·9	3·2	4·6	8·0	15·0	28·2	50·6	101·9	201·2	18·0
Total Number of Deaths at each Age-Period.	2987	1091	762	330	459	592	958	1265	1553	1704	1482	475	13658
Approximate Population	19308	17514	55416	84297	143354	127934	118959	84219	55022	33632	14538	2360	756553

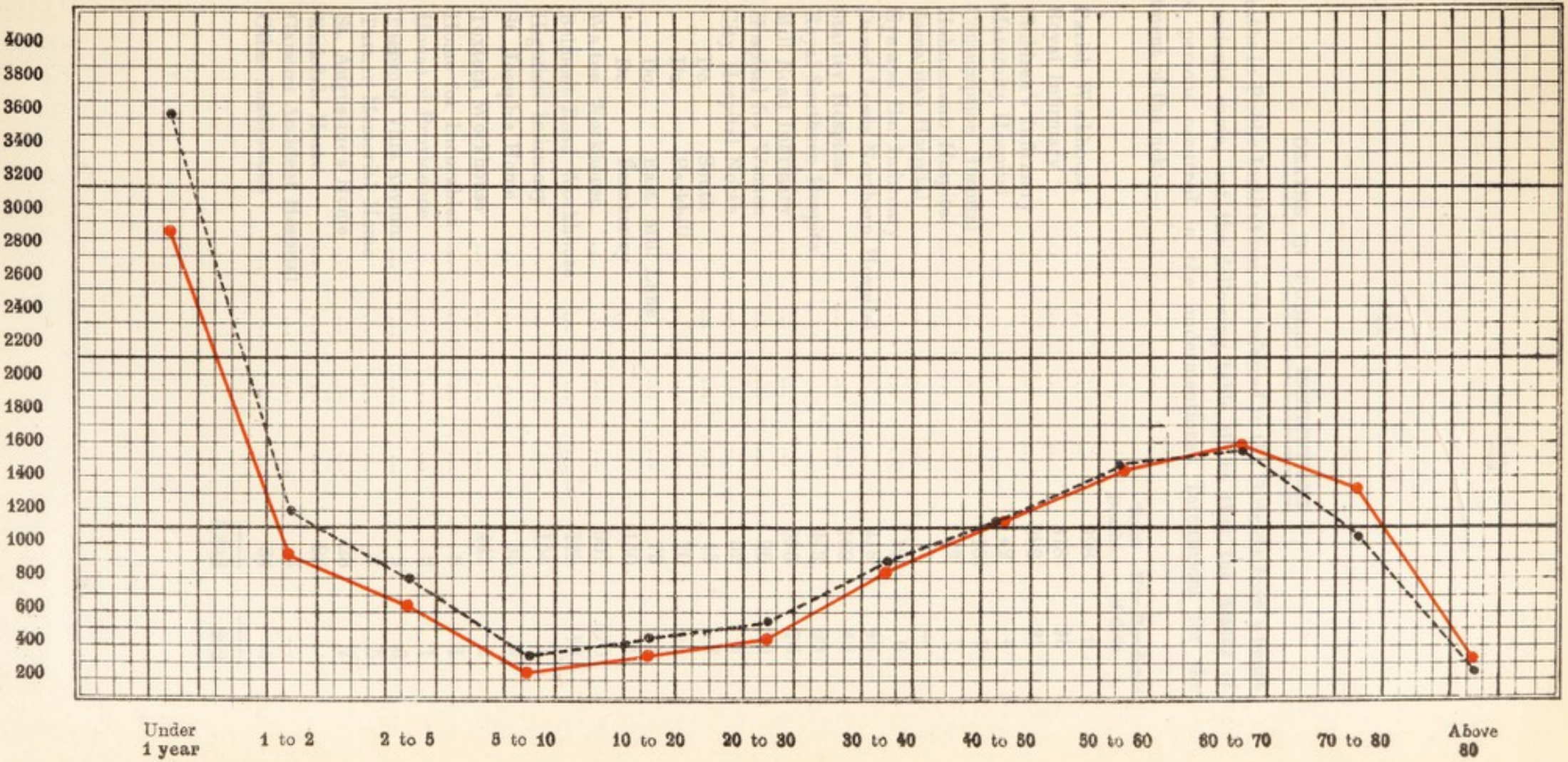
(See Comparative Chart on next page).

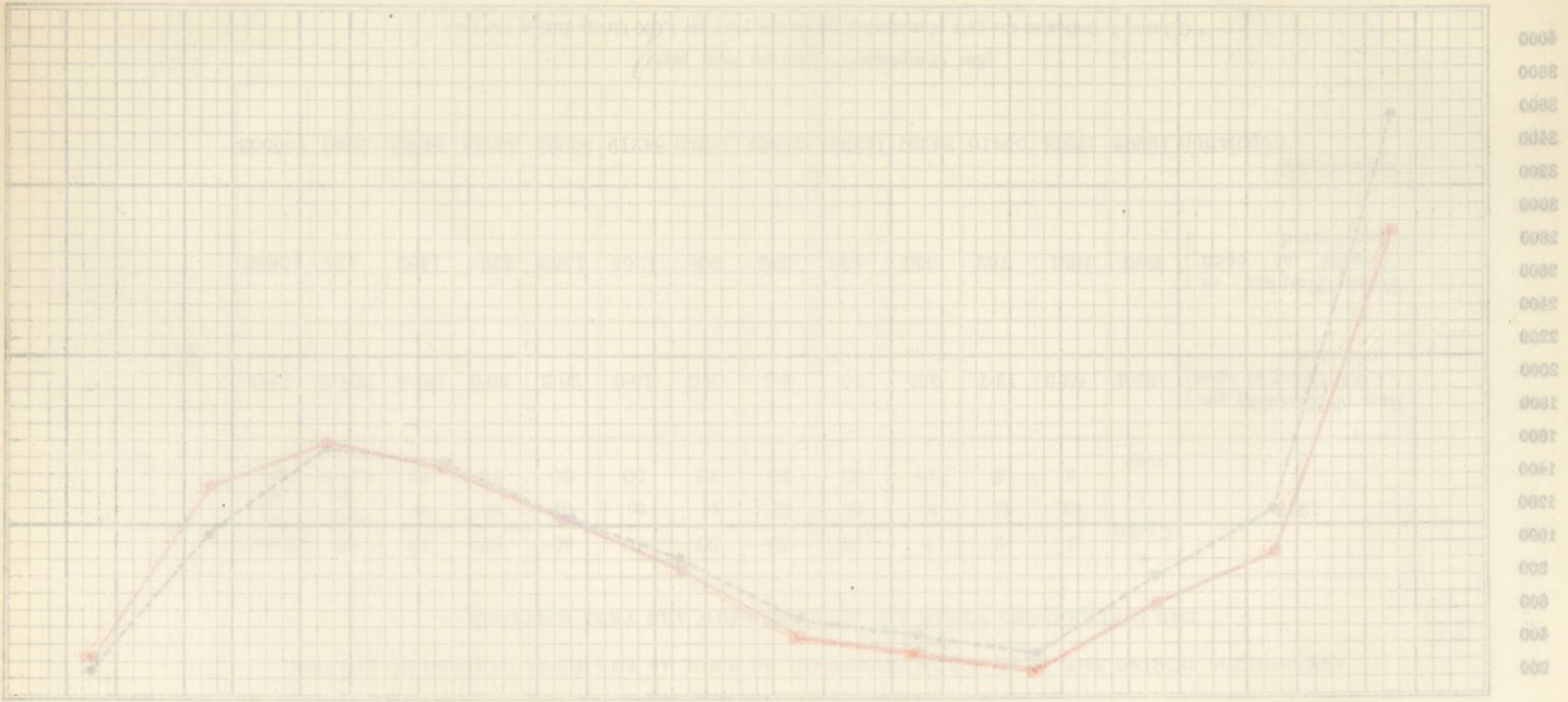
* Column I. indicates the rate of mortality under one year per 1,000 births during the year.

CITY OF LIVERPOOL.

Comparative view of the total number of Deaths at twelve different age periods during the year 1913 shown in Red, the average for the preceding Ten years (1903-1912), being shown in the Black dotted line.

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DEATHS IN PUBLIC INSTITUTIONS

Deaths in Public Institutions are referred to the Districts from whence the patients came, but the following table shows that the deaths of 5,344 persons occurred in the undermentioned Institutions for the treatment of the sick:—

	Total Deaths.	Non-Residents of City.
Parish Workhouse	928	9
Royal Infirmary	318	96
Children's Infirmary	282	31
Maternity Hospital	42	4
Consumption Hospital	15	7
Hahnemann Hospital	22	1
Samaritan Hospital	3	—
Eye and Ear Infirmary	19	6
David Lewis Northern Hospital	218	48
Stanley Hospital	169	42
Royal Southern Hospital	243	29
Mill Road Infirmary	896	76
Hospital for Women	26	20
City Hospital North	52	2
Do. South	43	3
Do. Parkhill	70	—
Do. East, Mill Lane	73	1
Do. Fazakerley	150	4
Walton Workhouse	901	170
Belmont Road Workhouse	129	16
Highfield Infirmary	154	1
St. Joseph's Home	33	9
Toxteth Workhouse	441	2
Home for Incurables	8	1
House of Providence	2	1
Tuebrook Villa Asylum	9	6
Turner Memorial Home	7	5
St. Augustine's Home	28	7
Kirkdale Home	25	—
Garston Accident Hospital	4	—
Other Institutions	34	5
	5,344	602

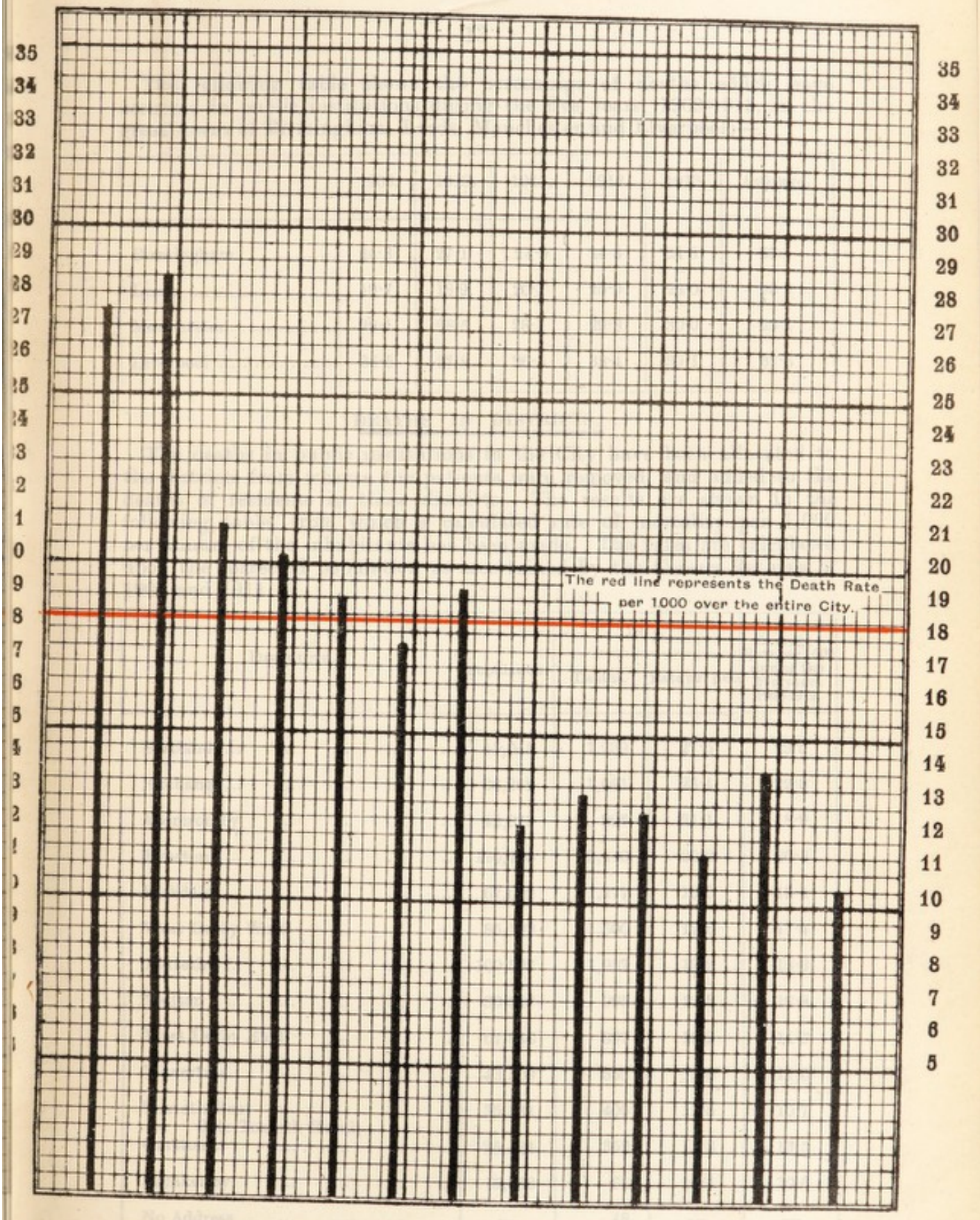
From the returns made as to the residences of these persons, 4,742 of the deaths in these establishments are classified in the districts from whence the patients were removed, viz., 452 under Scotland district, 535 under Exchange district, 416 under Abercromby district, 886 under Everton, 382 under Kirkdale, 534 under West Derby West, 718 under Toxteth, 264 under Walton, 223 under West Derby East, 133 under Wavertree, 78 under Toxteth-East (late Toxteth Rural), 102 under Garston, and 19 under Fazakerley; 602 were non-residents, who had sought relief in Liverpool Institutions, and of the remainder, 162 were persons whose previous residences were unknown, and these, in the absence of definite information, have been placed in the wards in which their death took place. In addition to the foregoing 602 non-residents, 71 others who were only temporarily resident in the City have been excluded from the total deaths, and the deaths of 401 persons belonging to the City who died elsewhere have been included in the returns. Of this latter number the great majority died in the County Asylums, many of them after prolonged periods of residence, extending to 15, 20, or 30 years or more. The populations of these Institutions are not included in the Liverpool estimates. The addresses given in many cases were insufficient to trace the deceased persons as Liverpool residents, and in 48 instances no address at all beyond "Liverpool" could be obtained. In the absence of other information, however, the deaths have been included, and this addition results in a slightly increased death-rate in comparison with previous years.

In Liverpool the proportion of deaths which takes place in Public Institutions is larger than is the case in other towns, and the fact is an interesting one, as something may be learned of the social conditions of a locality when so large a proportion in times of sickness seek refuge in public institutions, more especially in the workhouses. Generally it implies poverty and want; but on the other hand, it may also, and no doubt does, imply that the institutions have a wide reputation, and attract sufferers to them not only from within the city, but from a distance. Probably both of these conditions exercise influence; but be that as it may, the fact remains that there is no provincial city in which so large a proportion of the deaths takes place in workhouses and hospitals.

CITY OF LIVERPOOL.

Comparative view of the Death Rate per 1000 in the different districts of the City during the year 1913.

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CITY OF LIVERPOOL.

Comparative view of the Death Rate per 1000 in the different districts of the City during the year 1913.

The following table shows the percentage of deaths which have occurred in public institutions during the five years, 1909-1913, in the great towns of Birmingham, Leeds, Manchester and Liverpool:—

	1909.	1910.	1911.	1912.	1913.	Average.
Birmingham	24·8	27·1	24·9	24·5	24·3	25·1
Leeds	19·7	18·9	20·1	23·9	22·0	20·9
Manchester	29·1	28·5	28·1	29·8	30·0	29·1
Liverpool	36·5	37·8	36·5	38·4	39·1	37·6

DEATHS IN DISTRICTS.

The deaths in public institutions in the City have been allocated to the districts from whence the patients were removed, and added to the deaths of residents in those districts. The results are shown in the following table, from which a calculated rate of mortality per 1,000 per annum of the inhabitants has been made. The rates are calculated upon the corrected population as ascertained by the Census Returns of 1901 and 1911.

Districts.	Population.	1913.		Corrected Average Rate per 1000 during the five years 1908-1912.
		Deaths.	Rate per 1000	
Scotland	45,045	1,239	27·5	29·5
Exchange	36,262	1,031	28·4	29·8
Abercromby	42,879	907	21·1	18·9
Everton	120,720	2,446	20·2	20·8
Kirkdale	67,002	1,277	19·0	19·4
West Derby West	85,193	1,500	17·6	17·4
Toxteth	100,587	1,937	19·2	18·9
Walton	80,617	995	12·3	12·8
West Derby East	67,846	897	13·2	14·5
Wavertree	43,509	558	12·8	11·6
Toxteth East (late Toxteth Rural)	35,531	409	11·5	10·7
Garston...	25,424	352	13·8	13·5
Fazakerley	5,938	62	10·4	10·6
No Address	—	48	—	—
City	756,553	13,658	18·0	18·4

The District Registrars' Returns show that there were 36 deaths (24 of women and 12 of men) at the age of 90 and upwards, viz., 2 males and 5 females at 90, 4 males and 5 females at 91, 3 males and 6 females at 92, 3 females at 93, 1 male and 4 females at 94, 1 male at 95, 1 male and 1 female at 96.

The death-rate per 1,000 for the year 1913 in each of the districts of the City is indicated upon a map at the end of the volume. Attention must be called to the fact that Liverpool's position as a great seaport attracts a large number of indigent and broken-down persons of casual and migratory habits, who drift to the docks presumably in search of employment, and find temporary refuge in the common lodging-houses in the Exchange, Scotland and Abercromby districts, from whence they are removed to the Parish Infirmary. Broken in health, a number of these persons die in that or other charitable medical institutions, and in the absence of any other address their deaths are put down to these districts in which they were found. The emigration trade also has its effects: 347,541 emigrants sailed from the Port of Liverpool last year, and this traffic is naturally attended with an appreciable amount of sickness and mortality. A large number are found on arrival to be suffering from diseases which would cause their rejection at their destinations, and some of these persons, unable to pass the Emigration doctors, and being without money and friends, eventually find their way to the Parish Hospitals.

The seafaring population of the Port of Liverpool is considerable, and comprises men of all nationalities, such as Lascars, Chinese, West Africans, Malays and others. Most of these men are employed as stokers or trimmers, and many are in indifferent health, being subject to phthisis and other lung diseases. On arrival in Liverpool a number of these men enter the Parish Infirmary, and in some cases die there.

The points mentioned may be illustrated by the following cases occurring during the year:—

Twenty-four emigrants (14 males and 10 females) died whilst journeying through the City; 26 sailors with no known address died in public institutions; and 70 males and 42 females also died in hospitals and had no known address in Liverpool, being either wanderers or persons arriving from abroad and unable to travel further. Of the persons dying in the County Asylums and other places beyond the City, 48 had no address but they were found wandering in the streets of Liverpool, and this makes a total of 210 persons included in the returns with no address in the City, equal to ·27 per 1,000 of the population.

It may here be mentioned that it would much facilitate the correct record of deaths if fuller information could be given respecting the deaths of persons in County Lunatic Asylums. Very full information is obtained when persons are admitted, and there is no reason to doubt that every detail is recorded during the detention of patients, but it appears that the Registrar of Deaths is not empowered to ask for detailed information as to the admission of the patient and the length of stay in the institution, and where it has been sought it has been difficult or impossible to obtain it. In many cases when the address given is visited nothing is known of the deceased person, and no further investigation is possible.

The bodies of nine newly-born infants were found in back passages or other places, and these deaths are included in the mortality returns.

The following table shows the population, number of deaths, and the corrected death-rate per 1,000 during the last twenty-five years:—

Year.	Population.	No. of Deaths.	Rate per 1,000.
1889	523,838	13,047	24·9
1890	520,466	14,293	27·5
1891	518,302	13,911	26·8
1892	519,590	12,671	24·4
1893	520,882	13,919	26·7
1894	522,178	12,073	23·1
*1895	652,523	16,215	24·8
1896	658,050	14,060	21·4
1897	663,633	15,117	22·8
1898	669,243	14,853	22·2
1899	674,912	16,276	24·1
1900	680,628	15,785	23·1
1901	686,332	14,879	21·6
**1902	707,027	15,396	21·7
1903	710,874	14,240	20·0
1904	714,743	15,851	22·1
***1905	721,864	14,103	19·5
1906	726,100	15,001	20·6
1907	730,361	13,676	18·7
1908	734,648	13,930	18·9
1909	738,960	13,945	18·8
1910	743,295	13,343	17·9
1911	747,627	14,607	19·5
1912	752,021	13,364	17·7
1913	756,553	13,658	18.0

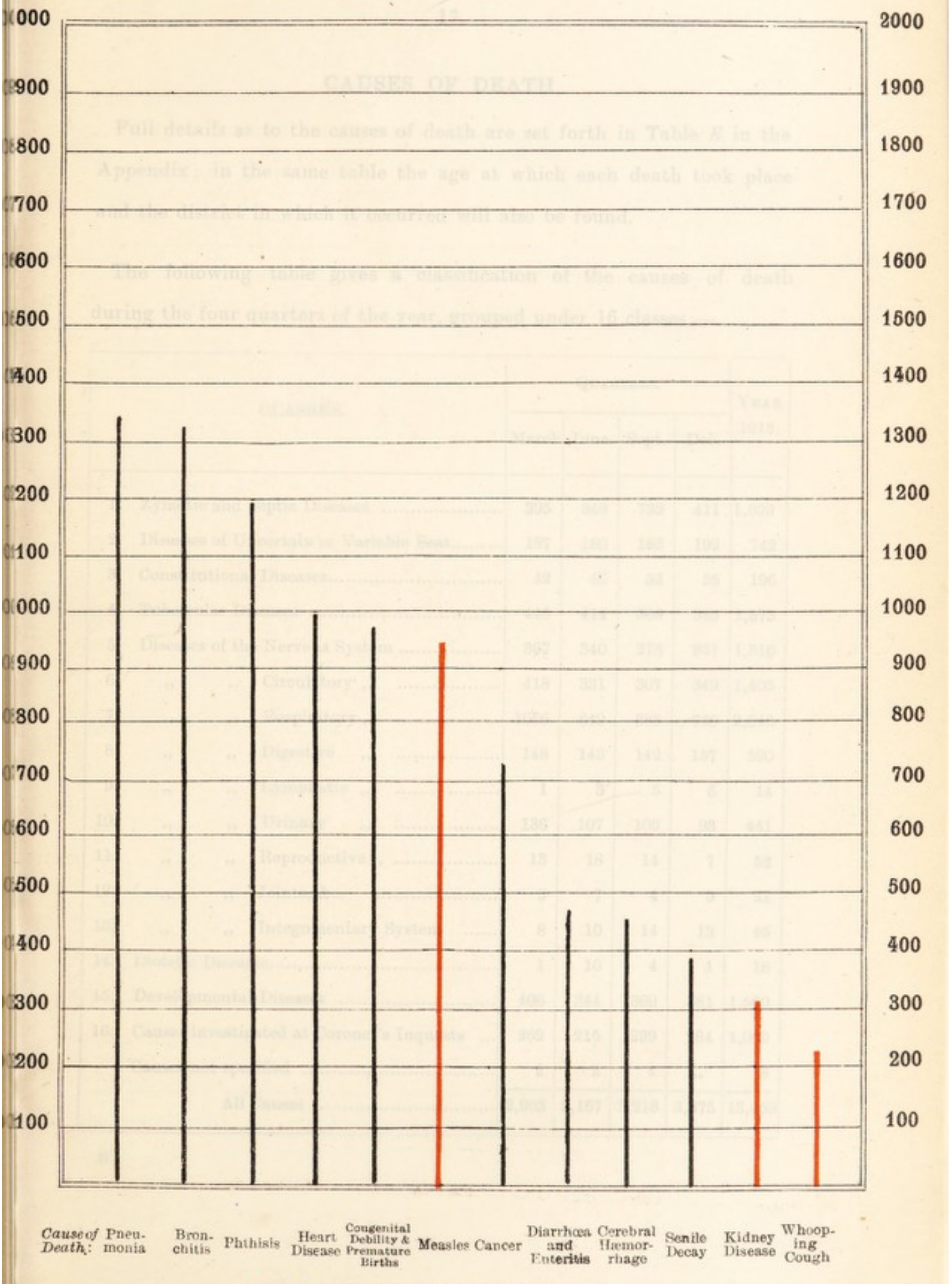
* City area extended. ** Garston included. *** Fazakerley included.

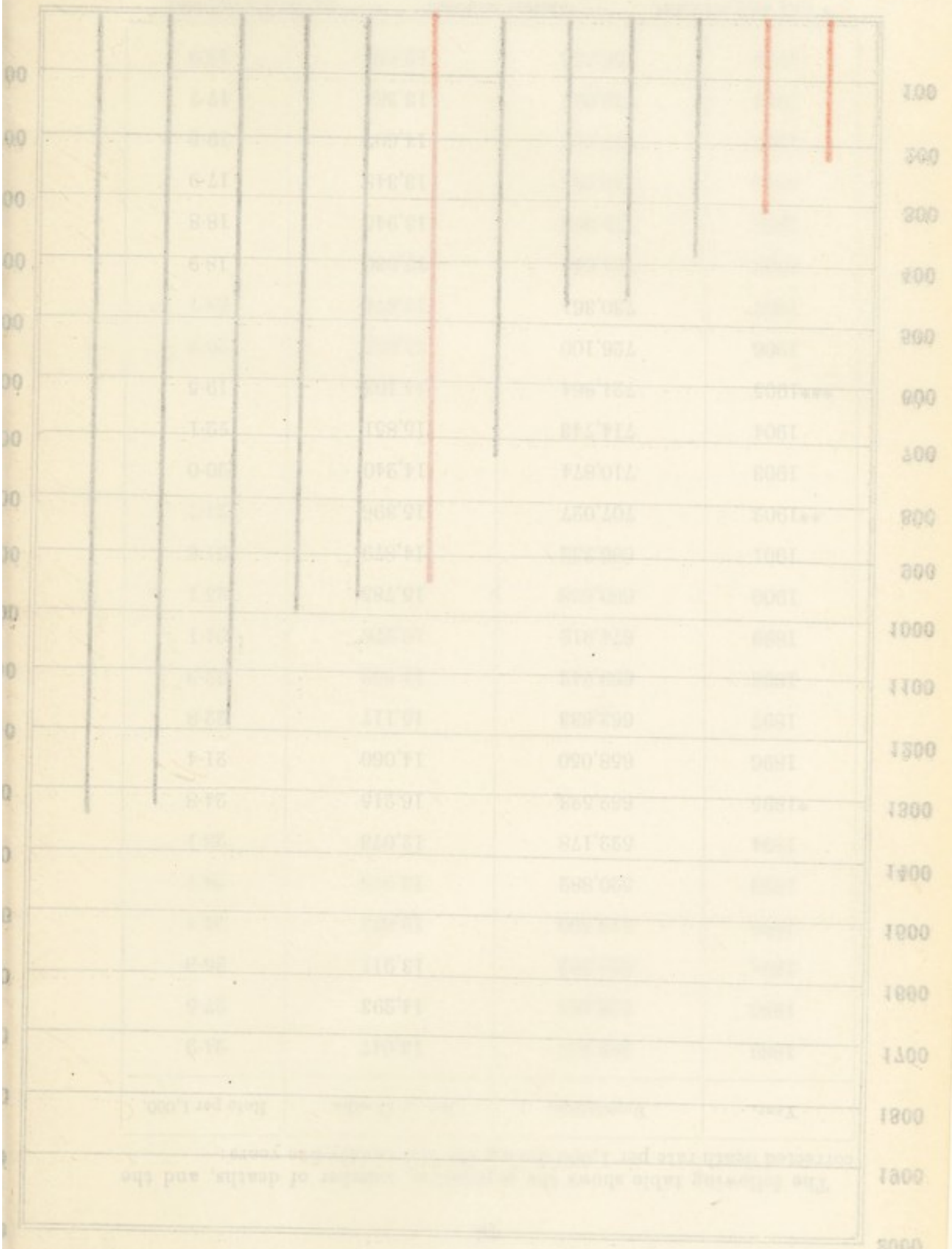
NOTE.—The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1891, 1901, and 1911.

CITY OF LIVERPOOL.

Comparative view of twelve of the principal causes of Death during the year 1913.

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CAUSES OF DEATH.

Full details as to the causes of death are set forth in Table *E* in the Appendix; in the same table the age at which each death took place and the district in which it occurred will also be found.

The following table gives a classification of the causes of death during the four quarters of the year, grouped under 16 classes:—

CLASSES.	Quarters.				Year 1913.
	March	June.	Sept.	Dec.	
1. Zymotic and Septic Diseases	395	348	739	411	1,893
2. Diseases of Uncertain or Variable Seat	187	180	183	192	742
3. Constitutional Diseases	42	46	53	55	196
4. Tubercular Diseases	446	414	368	345	1,573
5. Diseases of the Nervous System	367	340	278	331	1,316
6. ,, ,, Circulatory ,,	418	331	307	349	1,405
7. ,, ,, Respiratory ,,	1066	649	385	746	2,846
8. ,, ,, Digestive ,,	148	143	142	157	590
9. ,, ,, Lymphatic ,,	1	3	5	5	14
10. ,, ,, Urinary ,,	136	107	105	93	441
11 ,, ,, Reproductive ,,	13	18	14	7	52
12. ,, ,, Joints, &c.	5	7	4	5	21
13. ,, ,, Integumentary System	8	10	14	13	45
14. Dietetic Diseases	1	10	4	1	16
15. Developmental Diseases	406	344	369	381	1,500
16. Causes investigated at Coroner's Inquests	262	215	239	284	1,000
Causes not specified	2	2	4	...	8
All Causes	3,903	3,167	3,213	3,375	13,658

ZYMOTIC DISEASES.

This class of disease is one calling for special attention, and is dealt with in some detail in the following tables, the first of which shows the localities and the periods of the fatal prevalence of zymotic diseases, and the subsequent tables deal specifically with each form of zymotic disease during 1913:—

DISTRICTS.	Deaths from all causes.	ZYMOTICS.					Per-centage of Zymotic Deaths to Deaths from all causes.
		Quarters.				Total.	
		March.	June.	Sept.	Dec.		
Scotland	1,239	40	45	101	68	254	20·5
Exchange	1,031	26	22	74	24	146	14·1
Abercromby	907	22	24	23	23	92	10·1
Everton	2,446	68	98	161	78	405	16·5
Kirkdale	1,277	51	40	73	41	205	16·0
West Derby West	1,500	43	35	85	40	203	13·5
Toxteth	1,937	46	39	107	51	243	12·5
Walton	995	38	15	39	21	113	11·3
West Derby East	897	18	15	22	29	84	9·3
Wavertree	558	12	5	22	12	51	9·1
Toxteth East (late Toxteth Rural)	409	6	3	10	8	27	6·6
Garston	352	23	7	16	10	56	15·9
Fazakerley	62	2	—	6	5	13	20·9
No address	48	—	—	—	1	1	2·0
City	13,658	395	348	739	411	1,893	13·8

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

Zymotic diseases were the cause of 1,893 deaths during the year 1913 and accounted for 13·8 per cent. of the total mortality within the city during this period. The total death-rate from zymotic diseases per 1,000 was 2·5. The average rate for the preceding five years (1908-12) was 2·7. The death-rate from the seven principal zymotic diseases was 2·19 per 1,000. The deaths during 1913 were as follows:—

	Quarters.				Year 1913.
	March.	June.	Sept.	Dec.	
Total Zymotics	395	348	739	411	1,893
Smallpox	...	1	...	...	1
Measles	145	94	58	25	322
Scarlet Fever	9	14	13	21	57
Diphtheria	21	14	14	27	76
Whooping-cough	79	57	46	50	232
Diarrhœa	63	103	546	229	941
Influenza	23	18	6	6	53
Fever — Typhus	...	...	...	...	—
Fever — Typhoid	5	8	12	8	33
Other Zymotics	50	39	44	45	178

Note.—Influenza, Measles, and Whooping-cough appear to have been predisposing causes in the case of many deaths primarily ascribed to Respiratory Disease (page 36) inasmuch as one or other of these Zymotics had preceded the fatal illness. See also notes to succeeding tables.

LEPROSY.

Leprosy is comparatively rare in this country, but abroad in such countries as China, India, Asia Minor, etc., the disease still lingers amongst the community.

The cases which occur from time to time in this country arise, as a rule, in persons who have been living here for some little time, and the diagnosis has only been made when the patient has applied to one of the hospitals for medical treatment. During the year two cases came under the notice of the department, the particulars of which are as follows:—

A Syrian, aged 23 years, on the way from his home in Jaffa to America, came to Liverpool, and sailed thence to Philadelphia about May, 1912. At that time there was no evidence of the disease. During his stay in the United States the disease gradually developed and he was kept in hospital, in Cleveland, for ten weeks. Subsequently he was deported from the country under the U.S. inspection laws and was landed in Liverpool in August, 1913. He was removed to the Port Isolation Hospital, not only in his own interests, he being in a delicate state of health, but also in the public interest, until the Shipping Company could make the necessary arrangements for his transference to his native town, viz., Jaffa. This was subsequently carried out with every care.

The second case was that of a Chinaman, a native of Canton, aged about 27 years, said to be a laundryman, who came to Liverpool about three years ago. He worked in Manchester for about a year, and subsequently returning to Liverpool was admitted to hospital.

Pending arrangements for his deportation, this man was removed to the Port Isolation Hospital, from which institution he was discharged

on 18th October and placed on board a vessel which sailed immediately for China. Special arrangements were made for his isolation on board the ship.

PLAGUE.

The outbreaks of this disease which have occurred in former years in the City have been extremely limited.

The sanitary measures undertaken on the appearance of Plague have at once placed the disease under control.

The extreme precautionary measures adopted on each occasion have not been relaxed, and during the year 1913 a continued system of rat-catching has been pursued both in the City and the Port.

During the year 19,641 rats have been caught which were all immersed in petrol before being handled or sent to the City Bacteriologist for examination.

Of this number 7,913 were sent to the City Bacteriologist, whilst the remainder were destroyed in the Destructor furnaces.

The Report to the Port Sanitary Authority deals with this subject.

SMALLPOX.

The situation of Liverpool as a seaport has rendered the City and its neighbourhood very liable to importations of Smallpox from abroad. Ten cases were removed from vessels arriving within the district of the Port Sanitary Authority. Four of these cases occurred in the Liverpool Docks, and all the others (including six persons) on a vessel in the Birkenhead Docks. No further extension of the disease resulted.

The cases in the City of Liverpool arose in the persons of two stewards from the S.S. "Gloucestershire," who came from the London Docks

together by train on the 8th March, the disease being diagnosed on arrival at their homes. A third case occurred through infection from one of these men, and this resulted in the death of the patient. Owing to the prompt diagnosis, isolation of the patients in hospital, and vaccination of the contacts, no extension of the disease occurred. The total number of cases was 13, with 1 death.

The Medical Inspection of school children has brought to light valuable information as to the amount of successful vaccination carried out in the different localities of the City. It is disquieting to observe that in some districts there is a growing neglect of vaccination, and examination has revealed the serious fact that a considerable number of children said to have been vaccinated, and for whom certificates of recent successful vaccination have been sent to the Vaccination Officers, had no visible scar. In some of these cases the mother made the statement that "they thought the vaccination had not taken." Liverpool may, however, be congratulated generally on the care with which vaccination is carried out as compared with other parts of the country (see table, page 25). This may be attributed to the surveillance exercised by the officers of the Boards of Guardians, and the constant supervision by the City Sanitary Staff, by whom references regarding unvaccinated children are sent to the Vaccination Authorities. The following table (page 24) shows the condition, as regards vaccination, of the various counties in England and Wales, as well as in several of the large towns; in some of these places the percentage of unvaccinated children has reached a high figure. Smallpox at the present time is widespread abroad, and our foreign commerce, being the largest in the world, renders our danger proportionately great. The efforts of the various Port Sanitary Authorities have, up to the present, prevented any widespread outbreaks in the country, but cases of smallpox may, nevertheless, easily pass inland as the fast steamship traffic may bring cases to our shores long before the incubation period of the disease has expired.

SMALL-POX DURING THE LAST FIFTY YEARS.

Years of Increase.	No. of Cases.	Deaths.	Years of Subsidence.	No. of Cases.	Deaths.
1864	Unrecorded	482			
1865	,,	459			
1866	,,	102			
			1867	Unrecorded	22
			1868	,,	18
			1869	,,	20
1870	,,	174			
1871	,,	1,919			
1872	,,	50			
			1873	,,	10
			1874	,,	30
			1875	,,	29
1876	,,	386			
1877	1,660	299			
			1878	35	3
			1879	12	...
			1880	14	2
			1881	262	34
			1882	67	6
			1883	126	26
1884	832	106			
			1885	375	46
			1886	234	29
			1887	23	1
			1888	27	1
			1889	9	1
			1890	2	...
			1891	21	2
			1892	177	13
			1893	75	9
			1894	229	20
			1895	130	12
			1896	8	...
			1897	6	...
			1898	17	2
			1899	10	1
			1900	156	23
			1901	37	6
1902	560	20			
1903	1720	141			
			1904	27	2
			1905	15	...
			1906	19	1
			1907	19	...
			1908	7	...
			1909	9	...
			1910	10	...
			1911	19	...
			1912	4	1
			1913	13	1

The above table includes cases arriving on vessels or importations through other channels.

ANALYSIS OF VACCINATION OFFICERS' RETURNS
Extracted from Annual Reports of Medical Officers to the Local Government Board—1910-11-12.

TOTAL UNVACCINATED CHILDREN IN PERCENTAGES OF BIRTHS IN RESPECTIVE YEARS.

	Period.		
	1893-97	1909	1910
ENGLAND AND WALES	21·0	32·3	36·3
EX-METROPOLITAN UNIONS	20·5	32·5	36·7
METROPOLITAN UNIONS	23·9	30·7	34·1
8 English Counties with Lowest percentage of Unvaccinated Children—			
LANCASTER	21·7	26·7	29·2
HEREFORD	8·7	23·9	34·4
HUNTINGDON	6·0	32·9	36·3
CAMBRIDGE	9·6	42·0	47·4
CHESTER	6·7	21·9	25·3
DEVON	9·1	21·3	25·2
HAMPSHIRE	9·6	23·0	28·7
WESTMORELAND	4·0	22·9	28·1
3 English Counties with Highest percentage of Unvaccinated Children—			
BEDFORD	73·6	71·2	73·7
LEICESTER	75·6	75·6	78·4
NORTHAMPTON	62·8	64·3	67·6
Metropolitan Unions with the Highest percentage of Unvaccinated Children—			
POPLAR	31·4	53·3	57·6
STEPNEY	34·2	51·3	56·6
BETHNAL GREEN	68·2	50·6	56·8
HACKNEY	61·5	39·0	43·8
MILE END	57·1	51·8	51·1
SHOREDITCH	43·9	42·8	47·0

LARGE TOWNS.—TOTAL UNVACCINATED CHILDREN IN PERCENTAGES OF BIRTHS FOR THE FOLLOWING PERIODS:—

	Period.		
	1893-97	*1909	
STOCKPORT	14·5	36·0	*(Latest returns obtainable)
BRISTOL	28·0	41·9	
GLOUCESTER	59·7	60·0	
MANCHESTER	3·9	22·7	
OLDHAM	79·1	56·1	
BLACKBURN	12·6	42·8	
WIGAN	15·1	30·6	
LEICESTER	80·8	84·3	
SOUTHAMPTON	6·4	21·6	
HULL	17·8	20·3	
LIVERPOOL	4·1	3·7	

TYPHUS FEVER.

Of recent years cases of this disease have been imported by trans-migrants, en route to the United States or Canada. It is particularly liable to spread amongst dirty, ill-fed, and intemperate persons, and incessant watchfulness is necessary in order to hold it in check. The disease almost always attacks the children of the family first; in them the symptoms are obscure, and are often unrecognised until adults succumb.

The total number of cases reported was 4 (the lowest number ever recorded in any year), against 6 in the preceding year; the average number of the last five years being 16. No deaths occurred during the year from this disease.

The four cases of typhus fever notified during the year occurred on the following dates, viz., February 9th, March 20th, April 2nd, and August 6th.

The second case mentioned was that of a Russian emigrant proceeding from Libau, via Hull to America. This man was found to be unwell on arrival in Liverpool, and was admitted at once to the Parish Infirmary, viz., on 18th March. On 20th March he was transferred to the City Hospital North.

The three other cases were of a somewhat doubtful character, and were all Liverpool residents from widely separated addresses. In none of the cases did any further spread of infection occur, nor could any definite information as to the probable source of infection be obtained.

Reports for preceding years sufficiently illustrate the importance of the daily visits which are made to houses which have been infected with typhus fever, as well as the importance of keeping under supervision every person who is known to have been in contact with the patient. None of the stringent measures which have been adopted against typhus are in any way relaxed.

The number of deaths during each of the preceding ten years has been as follows:—

1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
57	25	28	8	18	10	8	—	5	2

TYPHOID FEVER.

There were 153 cases of Typhoid Fever reported during the year, the number being lower than any preceding year, with the exception of 1912. The deaths numbered 34, one being that of a person resident outside the City.

Of the 33 fatal cases amongst residents, five were infected whilst resident outside the City; one was infected from an imported case, and three were infected by the consumption of shellfish. The proportion of cases removed to hospital was 83 per cent. (see page 330).

The probable causation of the reported cases has again been closely examined, and the results of the investigation are shown in the subjoined table on page 29, those for the years 1911 and 1912 being shown for comparison. The number of imported cases has again somewhat increased, as has the number attributed to the consumption of shellfish; the percentage of cases attributable to these sources outside the City being 43·1.

It has been pointed out in previous years that the shellfish incriminated were principally mussels, but this year cockles have appeared to be the principal source of infection. The shellfish consumed in fifteen cases were: cockles 7, both cockles and mussels 2, mussels 2, oysters 2, and periwinkles 2; the shellfish were consumed raw or else merely "steamed" or immersed in hot water till the shells opened. In no cases were the shellfish sterilized.

There is an increase in the number of cases traced to contact with previous cases from 9 to 31; twelve of these occurred in a restricted area in Garston, and the manner in which the infection spread was carefully investigated. The series was eventually traced back to a woman, Mrs. P., who was ill for about ten weeks, but the nature of the sickness was not recognised. The Widal reaction was, however, strongly positive. At the time of the investigation she had recovered from the fever, but had just been confined. Subsequently the son of the woman who attended Mrs. P. in her confinement developed typhoid, the infection

having evidently been carried by his mother. Here we have to deal with two carriers, one Mrs. P., a convalescent carrier, and one Mrs. X., a contact carrier. Mrs. P.'s nephew was also infected, the nature of illness failing to be recognised, and he in turn infected a hospital nurse and a neighbour's child. Altogether ten cases derived the source of their infection from Mrs. P. The connection is illustrated in the accompanying chart. This series of cases lasted from August to the end of the year.

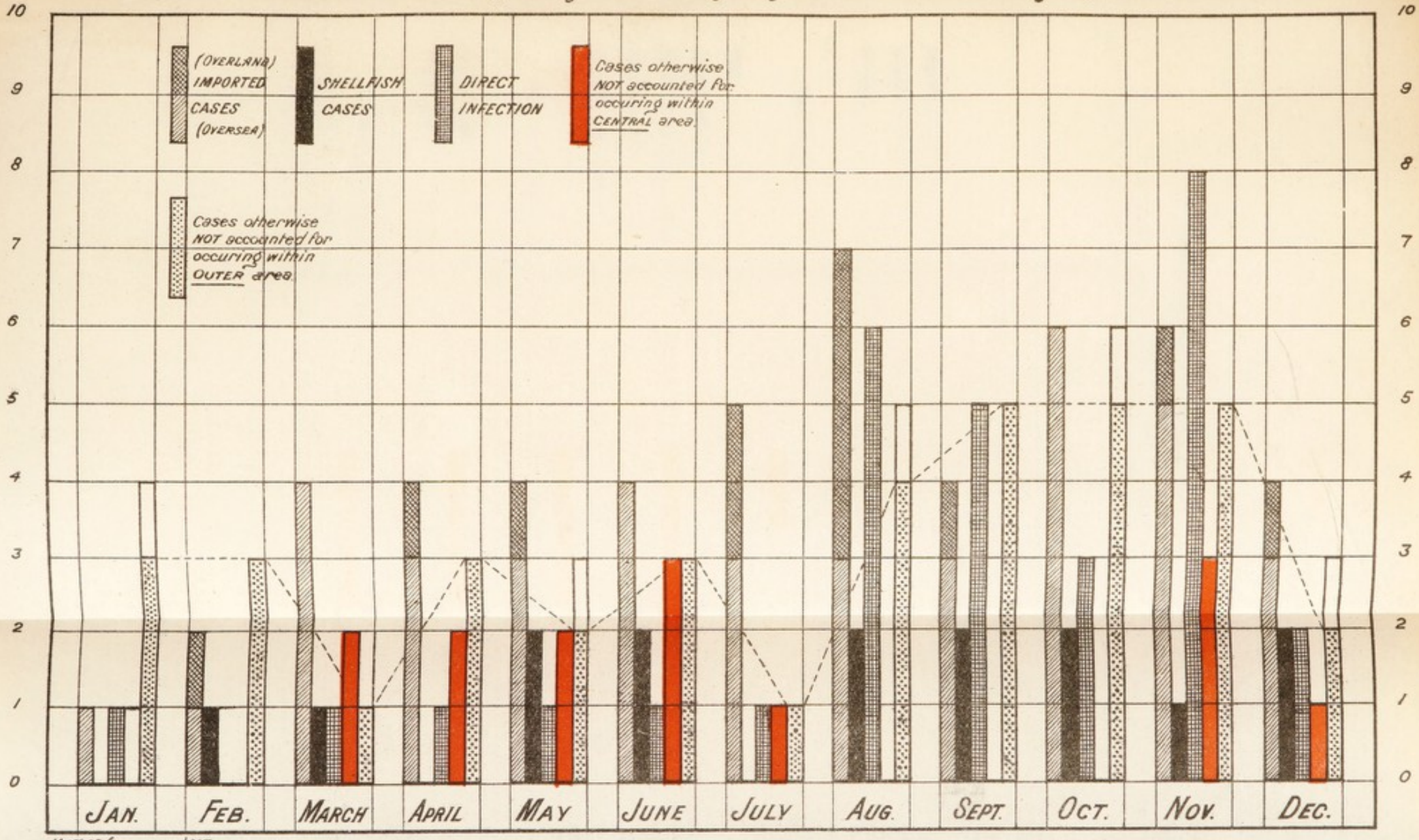
Six cases also occurred in some streets off Wavertree Road, but it proved impossible to find the connecting links. Another four cases occurred in Brasenose Road, a "missed case" and an "acute carrier" being found to be the agents. In another case a seaman from the s.s. "Anselm" returned home on June 9th without having reported sick to the ship's surgeon. The nature of the illness was not recognised, and by the end of August five members of his household had become infected. In a further case a painter who was at work in Frodsham and Ellesmere Port during July returned home ill. He was removed to hospital next day, but eventually four members of his family were directly or indirectly infected by him. Again, one person was infected apparently from a child that had died from unrecognised typhoid, the source of infection of the first case being mussels. If these last ten cases, due indirectly to infection derived from outside the City, are added to the 66, in which the infection was directly imported, it raises the percentage of imported infections to 49·6.

The accompanying chart indicates month by month the causation of the different cases. It will be noticed that the cases occurring in the central area of the City in which no source of infection was discoverable —represented by the red column—are entirely overshadowed by the imported cases, and actually diminish instead of increasing during the autumn. A few years ago it was these cases which constituted the bulk of the recurring autumnal epidemic. Their diminution is synchronous with the diminution in the number of insanitary court houses.

A table is given showing the number of cases and deaths during the last twenty-one years, which plainly illustrates the remarkable decline in the incidence and mortality from this disease (see page 32).

CITY OF LIVERPOOL.

Cases of Typhoid Fever occuring during 1913. arranged by months and according to probable causation.



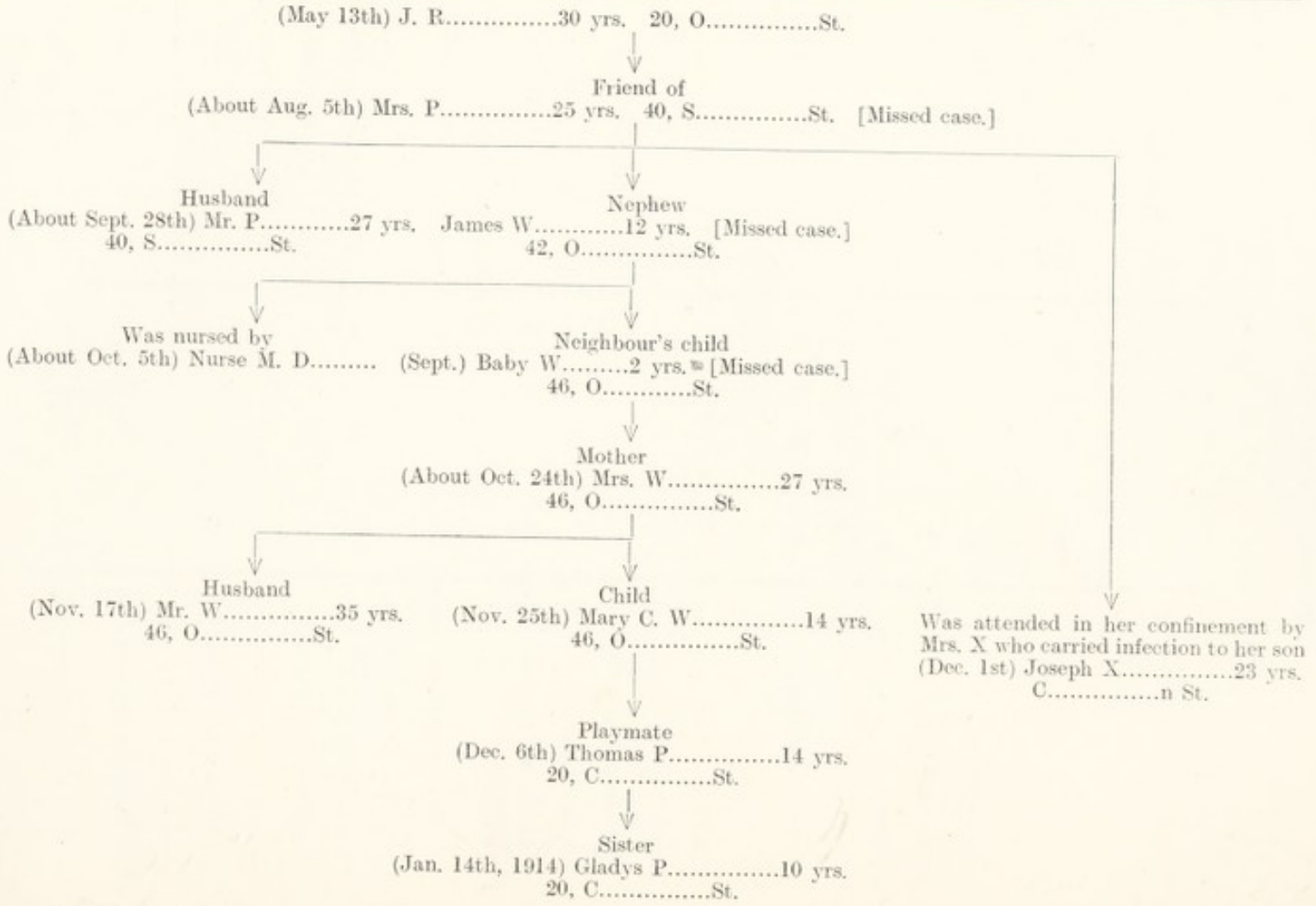
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Enteric Fever, 1911-1913.

CITY AND PORT OF LIVERPOOL.

	Cases.			Percentage.		
	1911.	1912.	1913.	1911.	1912.	1913.
Imported by Sea	31	36	38	16·9	29·6	24·8
Imported by Land	9	11	13	4·9	8·8	8·5
Shellfish	12	9	15	6·0	7·3	9·8
Total imported	52	56	66	27·8	44·9	43·1
Milk	3	—	—	1·6	—	—
Direct Infection	13	9	24	7·2	7·2	15·6
Direct from missed cases	—	—	7	—	—	4·5
Chronic Carrier	—	1	—	—	0·8	—
Probably not Typhoid	19	6	5	10·5	4·8	3·2
Total ascertained causes	87	72	102	47·4	57·9	66·6
Central Area	51	20	16	28·2	16·0	10·4
Outer Area	45	32	35	24·3	24·3	22·9
Total *not* accounted for	96	52	51	52·5	41·5	33·3
Total for City and Port	183	124	153			

Series of Cases of Typhoid Fever in the City of Liverpool (Garston Ward) during 1913-1914.



The dates in brackets refer to the date of onset of illness in each case. A "missed case" means one in which the diagnosis was not made until after the recovery of the patient.

DEATHS FROM TYPHOID FEVER.

The following table shows the periods of the year and the localities in which deaths from typhoid fever occurred, and also the ages at death.

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Scotland	...	...	2	...	2	1	...	1	4	2	6
Exchange	...	...	1	...	1	...	...	...	2	...	2
Abercromby	...	...	2	...	...	1	1	...	3	1	4
Everton	2	1	1	...	1	...	2	...	6	1	7
Kirkdale	...	...	...	...	...	1	...	...	...	1	1
West Derby West	1	...	...	...	...	...	1	1	2	1	3
Toxteth	...	...	1	1	1	1	1	...	3	2	5
Walton	...	...	...	...	1	1	...	...	1	1	2
West Derby East	...	1	...	...	...	...	...	...	...	1	1
Wavertree	...	...	...	...	...	...	...	1	...	1	1
Toxteth East (late Toxteth Rural)	...	...	...	...	...	1	...	...	...	1	1
Garston	...	...	...	...	...	...	...	...	...	...	...
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
City	3	2	7	1	6	6	5	3	21	12	33

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 and upwards.	All Ages.
...	...	...	1	...	1	5	4	9	6	6	...	1	33

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

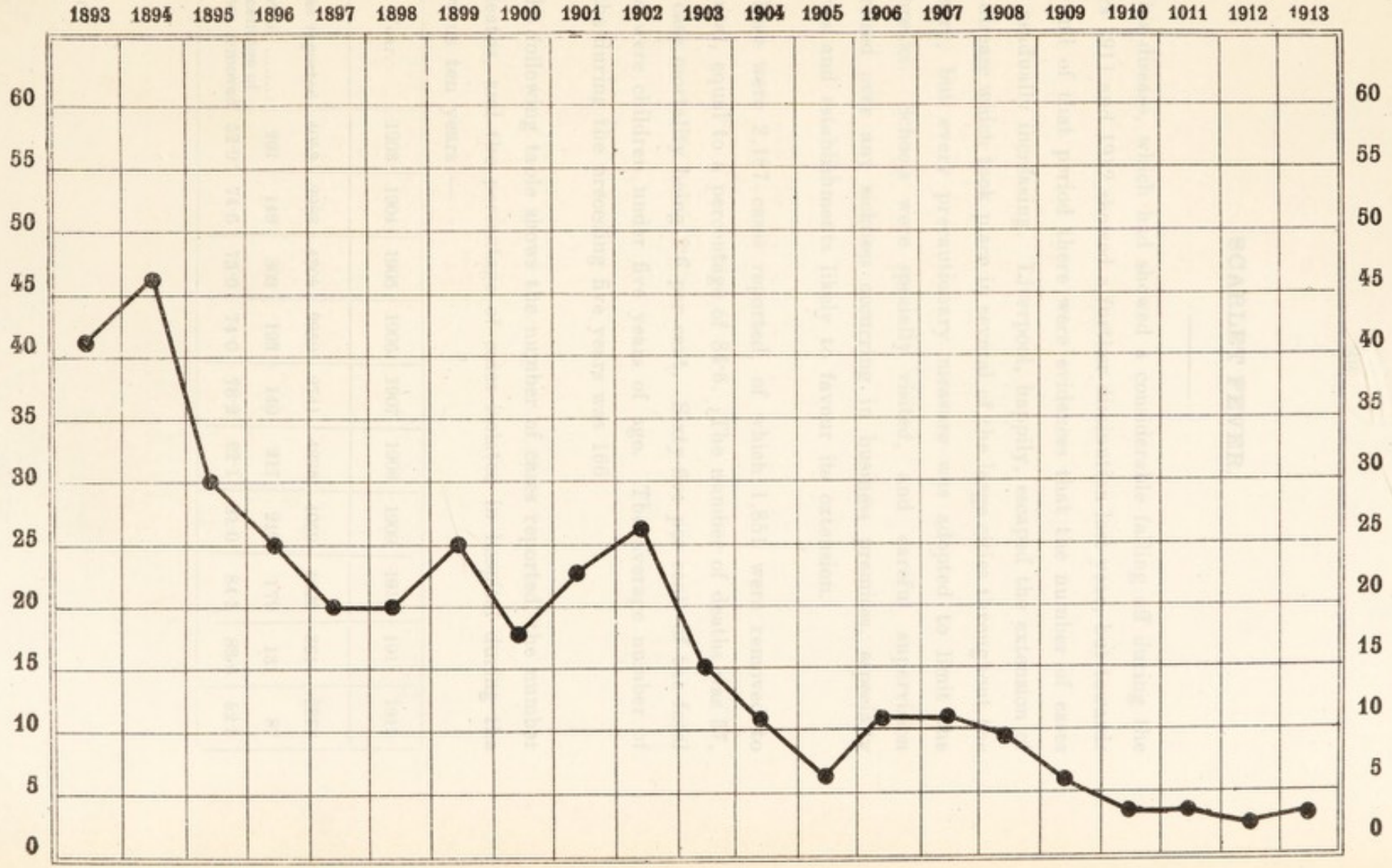
TYPHOID FEVER.

Number of Cases reported, and Number of Deaths during the last twenty-one years (1893-1913):—

Year.	Number of Cases.	Number of Deaths.
1893	1,396	221
1894	1,350	248
1895	1,306	197
1896	1,063	166
1897	991	145
1898	863	148
1899	988	182
1900	731	120
1901	864	154
1902	1,026	190
1903	681	108
1904	434	82
1905	325	49
1906	491	85
1907	482	92
1908	447	73
1909	278	54
1910	231	42
1911	181	36
1912	124	23
1913	153	33

CITY OF LIVERPOOL.

Death Rate per 100,000 of Resident Population
from Typhoid Fever, 1893—1913.



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Death Rate per 100,000 to Population
Typhoid Fever 1897—1913
1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913
0 5 10 15 20 25 30 35 40 45 50 55 60

SCARLET FEVER.

This disease, which had showed a considerable falling off during the years 1911 and 1912 showed a further diminution last year, but towards the end of that period there were evidences that the number of cases was gradually increasing. Liverpool, happily, escaped the extension of the disease which took place in several of the large cities throughout the country, but every precautionary measure was adopted to limit the outbreaks. Schools were specially visited, and careful supervision exercised over any sickness occurring in business premises, especially dairies and establishments likely to favour its extension.

There were 2,187 cases reported, of which 1,851 were removed to hospital, equal to a percentage of 84·6. The number of deaths was 57, the case mortality being 2·6 per cent. Sixty-five per cent. of the fatal cases were children under five years of age. The average number of deaths during the preceding five years was 166.

The following table shows the number of cases reported, the number of deaths, and the percentage of cases isolated in hospital during the previous ten years:—

Year.	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Cases reported	4053	2988	4308	2959	2741	4235	4059	4202	3641	2867
Deaths	201	149	303	193	140	217	219	179	131	87
Percentage of cases removed	52·9	74·6	73·0	74·0	78·2	82·1	81·0	84·3	83·6	82·5

DEATHS FROM SCARLET FEVER.

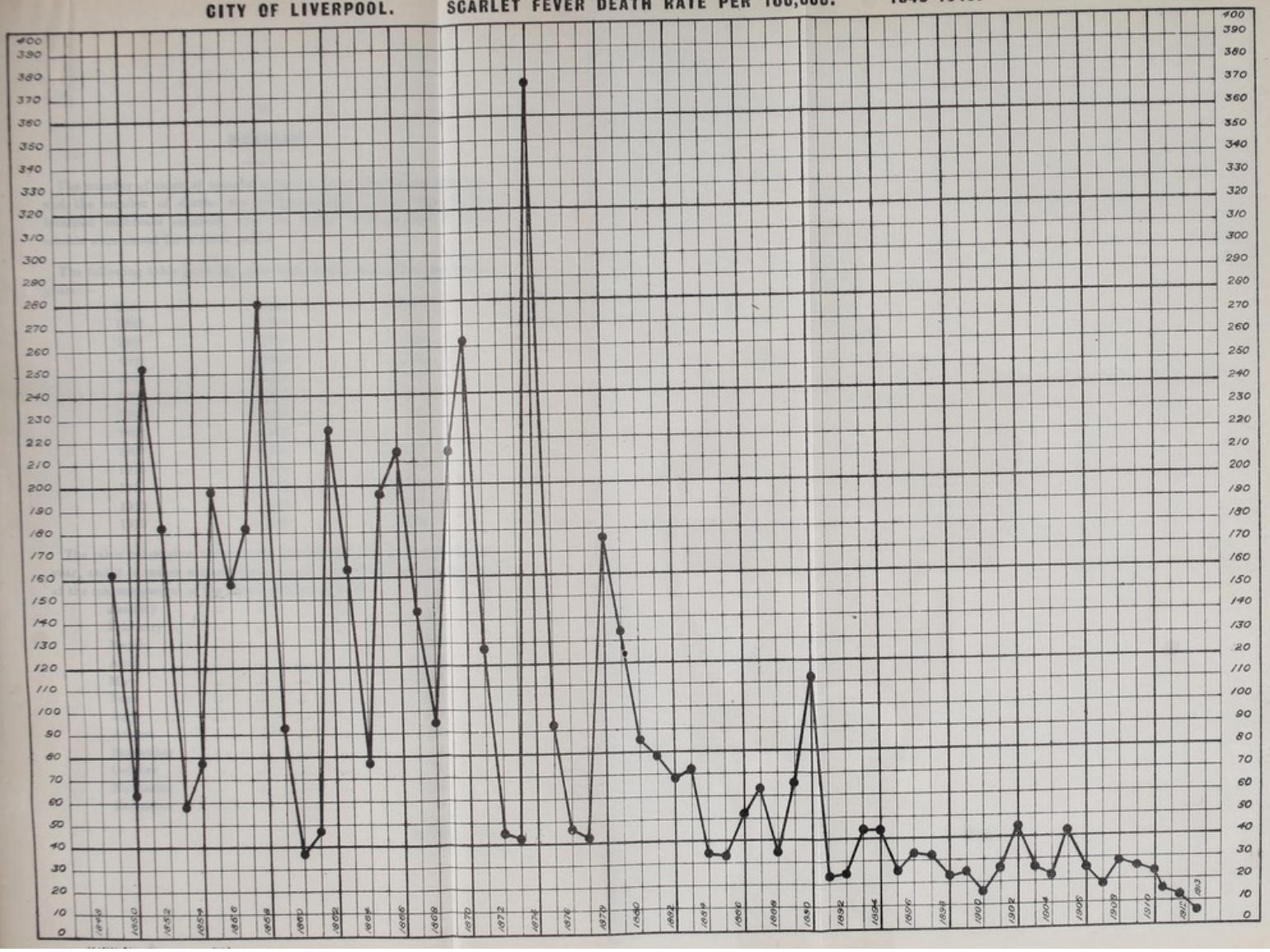
DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	...	...	...	...	...	1	3	...	3	1	4
Exchange	...	...	...	...	...	...	...	...	...		...
Abercromby	...	...	...	1	...	1	...	...	...	2	2
Everton	1	1	2	2	...	...	2	3	5	6	11
Kirkdale	...	...	1	3	...	1	2	2	3	6	9
West Derby West	1	...	2	...	...	...	...	1	3	1	4
Toxteth	1	...	...	2	6	...	...	...	7	2	9
Walton	1	...	...	...	...	...	1	2	2	2	4
West Derby East	1	1	...	...	...	2	1	...	2	3	5
Wavertree	...	...	...	...	1	...	1	...	2	...	2
Toxteth East (late Toxteth Rural)	1	...	...	...	...	1	...	1	1	2	3
Garston	...	...	...	1	...	...	1	1	1	2	3
Fazakerley	1	...	...	...	...	...	...	...	1	...	1
City	7	2	5	9	7	6	11	10	30	27	57

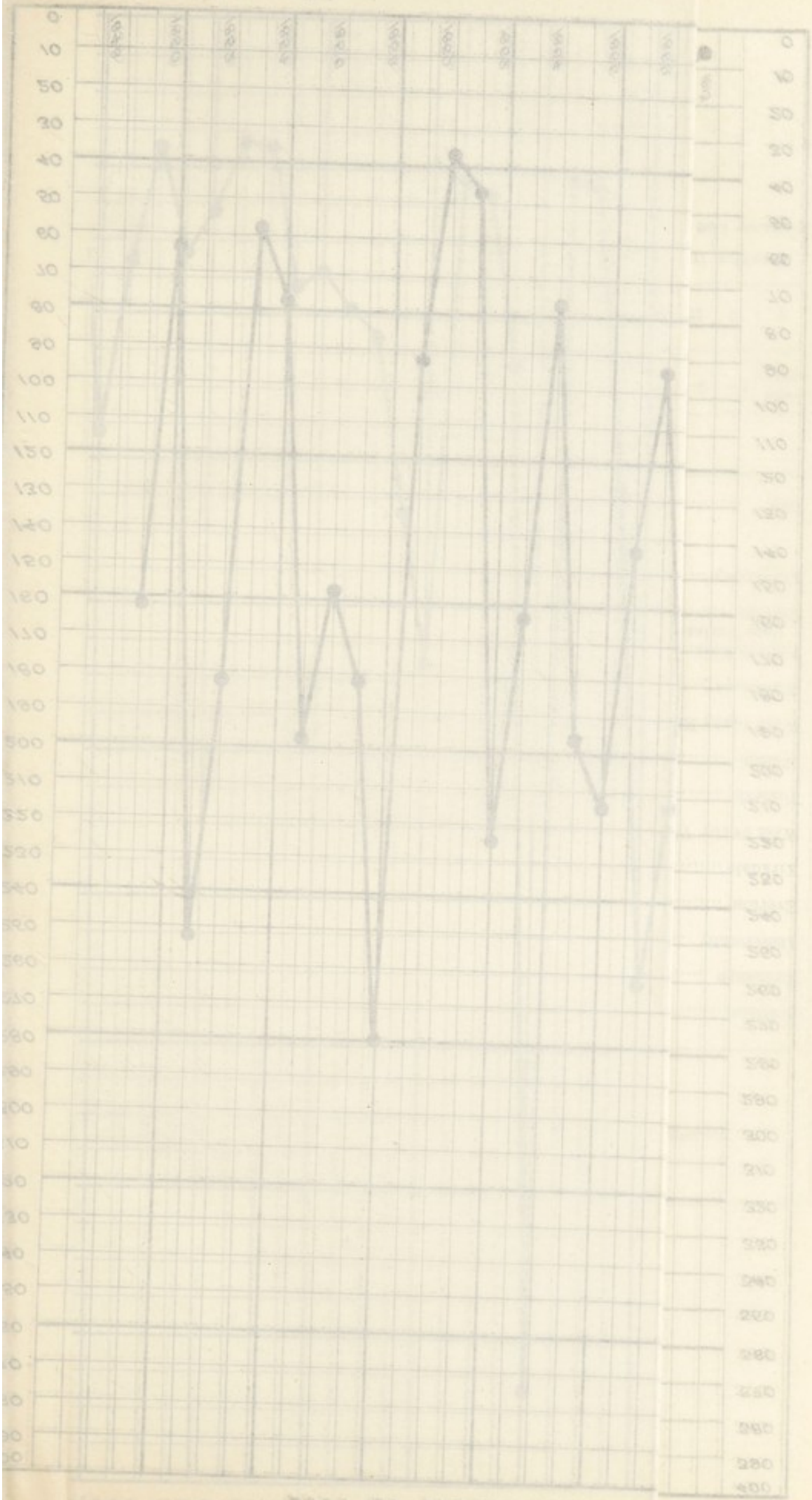
Ages at Death.

Under 1 year.	1—	2—	3—	4—	—5	10—	15—	20—	30—	40—	50—	All Ages.
9	7	12	7	2	15	2	2	1	...	...	...	57

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

CITY OF LIVERPOOL. SCARLET FEVER DEATH RATE PER 100,000. 1848-1913.





MEASLES.

The number of cases of measles showed a great diminution last year, and the number of deaths was correspondingly lower. One or two localised outbreaks occurred, and the Infant Departments of three schools were closed for a short period.

The following table gives the cases and deaths during the past twelve years:—

Year.	Cases.	Deaths.
1902	7,141	334
1903	2,727	132
1904	9,453	696
1905	3,938	247
1906	6,819	586
1907	5,640	291
1908	4,653	259
1909	6,356	471
1910	4,755	474
1911	4,719	327
1912	8,075	877
1913	4,166	322

The table below gives the monthly distribution of the cases during the year, and it is rather remarkable to notice the sudden drop in the cases at the commencement of the school holidays in July.

January	817
February	573
March	424
April	572
May	668
June	512
July	195
August	87
September	54
October	61
November	114
December	89
	4,166

As has been frequently pointed out, the number of deaths does not fully indicate the destruction of life due to measles, since this disease is commonly associated with bronchitis and pneumonia, and it is beyond any question that deaths primarily due to measles are entered in the returns as due to pulmonary disease. The isolation of the infectious sick in hospital is important and necessary. Hospital accommodation, for a limited number of cases, has now been made for measles, but the deaths from measles do not show a decline comparable to that which has taken place in the other forms of infectious disease for which hospital accommodation is available. In the great number of homes in which measles occurs, isolation in the house is difficult or impossible. In making arrangements for hospital isolation of measles, difficulties of a special kind arise owing to the tender age of the patient, and the peculiarities of the infection in this form of disease.

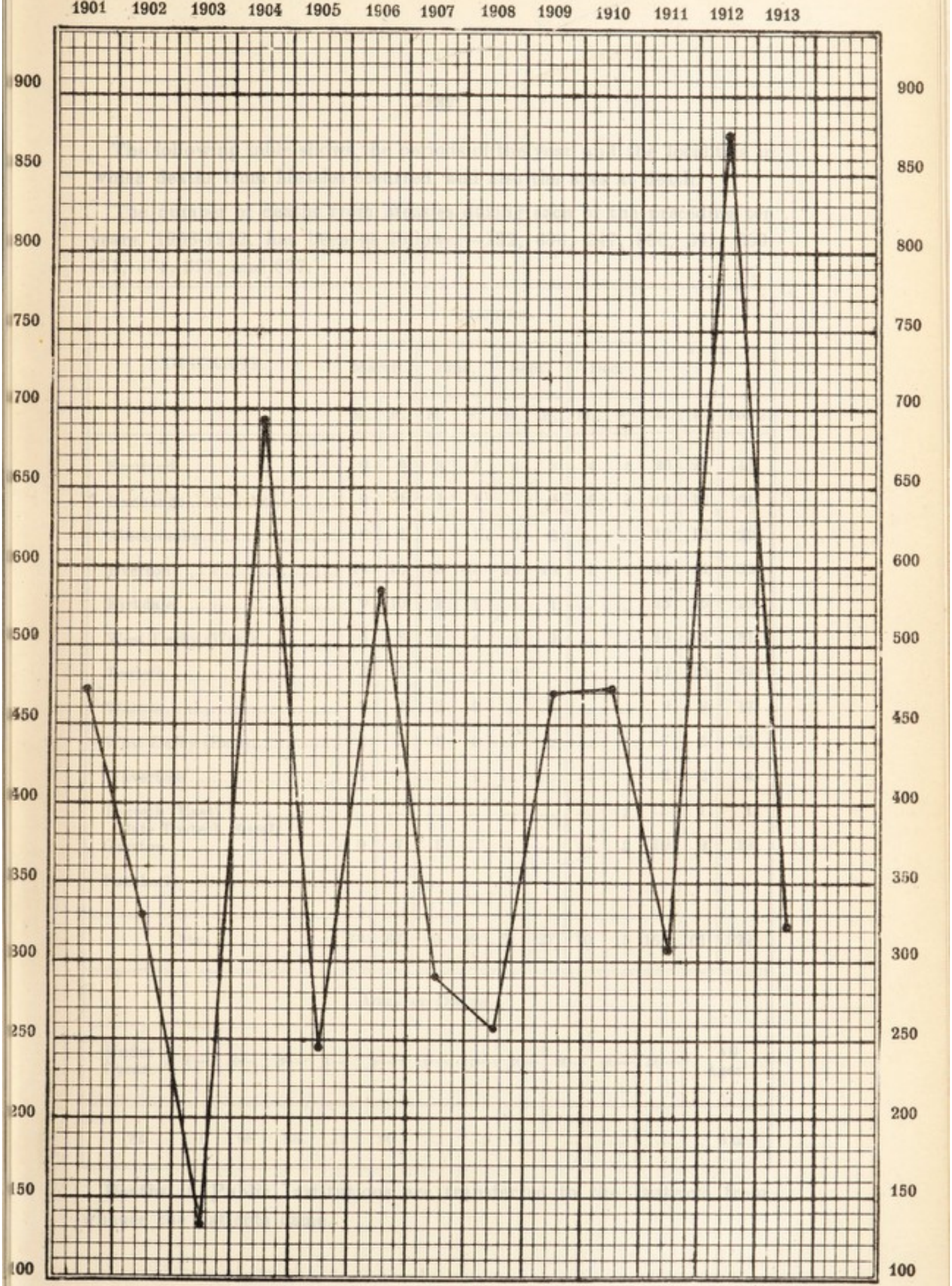
The powers obtained in the Liverpool Corporation Act, 1913, will no doubt prove valuable, when it is widely known amongst parents that every case of infectious disease, including measles and whooping cough, must be notified to the Head Teacher of a school, if any inmate of the house attends that school.

The disinfection of schools is carried out from time to time with the object of minimising the spread of infectious disease, but as a routine practice the method recommended is thorough cleansing of the school premises and furniture with soap and water, followed by the free ventilation of the classrooms.

Reliance is placed on the teachers noticing any child showing symptoms of illness, and immediately sending the child home. Printed postcards are supplied to all schools in order that such cases may be at once reported to the Health Department for investigation.

Many thousands of circulars have been distributed throughout the City in recent years, describing the symptoms of measles and the treatment to be adopted, as well as the precautionary measures to be observed in order to avoid the spread of infection.

M.15155. 1500. 5/14. ( ) 696.



DEATHS FROM MEASLES DURING THE YEARS 1901 TO 1913.

DEATHS FROM MEASLES DURING THE YEARS
1901 TO 1913.

The following table shows the periods of the year and the localities in which deaths from Measles occurred, and also the ages at death.

The number of deaths from Measles during each of the preceding ten years, 1903-1912, has been as follows:—132, 696, 247, 586, 291, 259, 471, 474, 327, and 877.

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	9	9	3	5	4	4	4	5	20	23	43
Exchange	2	1	1	5	5	8	5	4	13	18	31
Abercromby	6	2	1	6	3	2	...	...	10	10	20
Everton	14	15	23	18	11	10	1	1	49	44	93
Kirkdale	9	10	3	5	1	1	...	...	13	16	29
West Derby (West)	6	8	5	4	5	2	...	1	16	15	31
Toxteth	8	6	2	4	2	...	...	...	12	10	22
Walton	7	6	2	2	...	...	...	...	9	8	17
West Derby (East)	6	2	1	2	...	...	...	1	7	5	12
Wavertree	2	1	...	1	...	...	...		2	2	4
Toxteth (East) (late Toxteth Rural)	...	...	...	...	...	...	...	1	...	1	1
Garston	9	7	1	...	...	...	...	2	10	9	19
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
City	78	67	42	52	31	27	10	15	161	161	322

Ages at Death.												
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
72	116	68	23	17	26	...	...	...	...	...	...	322

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

WHOOPING-COUGH.

This disease, which again showed a considerable prevalence in the City, is one of the most distressing and painful causes of death in very early life; a large number of deaths certified to be primarily due to diseases of the lungs are found on inquiry to have originated in whooping-cough, the great majority of the deaths occurring below two years of age, and nearly one-half below twelve months of age. It is plain from this circumstance that isolation of the infected infant in hospital presents many difficulties, similar in character to those which arise in the case of Measles. In a large proportion of cases the patient would have to be accompanied by the mother, whilst the period of detention in hospital would in the majority of cases be protracted. During last year 232 deaths were directly attributed to whooping-cough, but this figure is by no means a complete representation of the mischief caused by it. The number of deaths in the preceding year was 272. The total number of cases reported was 2,603.

Notwithstanding the difficulties in the way, isolation for a limited number of cases has been found, and some lessening of this disease may be expected with confidence. Experience has repeatedly shown that the introduction of a case of whooping-cough into a court has resulted in the spread of the infection to practically the whole of the infant population in that court.

The following table shows the periods of the year and the localities in which deaths from Whooping-cough occurred, and also the ages at death.

The number of deaths from Whooping-cough during each of the preceding ten years, 1903-1912, has been as follows:—318, 426, 151, 362, 324, 346, 228, 450, 246, and 272.

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	5	5	3	7	1	6	3	5	12	23	35
Exchange	4	6	...	1	1	...	2	1	7	8	15
Abercromby	3	...	...	1	...	...	2	...	5	1	6
Everton	8	5	6	9	11	8	4	7	29	29	58
Kirkdale	9	8	7	2	1	3	1	5	18	18	36
West Derby (West)	2	5	4	3	3	4	...	2	8	14	23
Toxteth	...	2	2	1	1	2	4	...	7	5	12
Walton	7	7	4	4	1	1	2	3	14	15	29
West Derby (East)	...	...	1	...	...	1	...	4	1	5	6
Wavertree	...	1	1	1	...	1	1	...	2	3	5
Toxteth (East) (late Toxteth Rural).	...	1	...	...	1	...	...	1	1	2	3
Garston	1	...	...	...	...	...	1	...	2	...	2
Fazakerley	...	...	...	...	...	...	2	...	2	...	2
City	39	40	28	29	20	26	22	28	108	123	232

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
100	66	34	14	11	7	...	...	...	...	...	...	232

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

DIPHTHERIA.

Deaths from Diphtheria attained their maximum during the last quarter of the year. Appended is a table showing the periods of the year and the localities in which the deaths from Diphtheria occurred, and also the ages at death. The total number of cases reported was 1,006 of which 826 were removed to hospital.

The number of deaths during each of the preceding ten years has been as follows:—153, 181, 138, 137, 95, 124, 112, 100, 125, and 111.

DISTRICTS.	Quarters.								Year		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	...	1	...	...	1	...	1	...	2	1	3
Exchange	...	...	...	...	...	1	2	...	2	1	3
Abercromby	1	1	...	1	...	...	...	...	1	2	3
Everton	...	2	...	1	1	...	1	1	2	4	6
Kirkdale	2	1	1	...	1	...	1	...	5	1	6
West Derby (West)	2	4	2	4	3	1	4	...	11	9	20
Toxteth	3	1	1	2	...	1	3	2	7	6	13
Walton	...	1	...	...	1	1	1	2	2	4	6
West Derby (East)	...	...	...	...	...	...	2	2	2	2	4
Wavertree	...	2	1	...	...	1	2	1	3	4	7
Toxteth (East) (late Toxteth Rural).	...	...	...	1	...	...	1	...	1	1	2
Garston	...	...	...	...	2	...	...	1	2	1	3
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
City	8	13	5	9	9	5	18	9	40	36	76*

Ages at Death

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20 -	30	40—	50	60—	All Ages.
2	13	5	11	13	26	6	...	...	...	...	...	...	*76

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

* Note.—Two deaths certified as due to Membranous Croup are included in this number.

ZYMOTIC DIARRHŒA.

Zymotic Diarrhœa is one of the most fatal diseases of infants in this City; it is by no means confined to infancy, but during 1913 as in preceding years, more than one-half of the total number of deaths were of infants under twelve months old. The disease did not begin to figure prominently in the mortality returns until the beginning of August, and continued until October. No less than 645 deaths were registered from it, which is much in excess of last year, when a lower temperature prevailed.

Deaths from Enteritis under two years of age are now classified as Diarrhœa, at the request of the Registrar-General. The deaths from Enteritis amounted during the year to 296, making a total of 941 deaths attributed to diarrhœa.

Investigation proves incontestably that the deaths of infants from this cause are closely associated with the method of feeding, contaminated food being the medium by which the specific poison is commonly introduced. The deaths amongst children under three months of age, either wholly or partially fed on artificial foods, are fifteen times as great as they are amongst an equal number of infants fed upon breast milk; *e.g.*, investigation has tended to prove that, out of every 1,000 infants under three months of age, naturally fed upon breast milk alone, 20 die of autumnal choleraic disease; but if the same number of infants, at the same age, are artificially fed, then, instead of 20 dying, as many as 300 will die from this cause. It is mainly with a view to meet this excessive mortality that sterilized milk depôts have been established, to ensure a supply of food for infants which is bacteria-free, and which can be given without any exposure to sources of contamination. (See also pp. 63 and 72.)

The numbers of deaths during each of the preceding ten years have been as follows:—657, 1,785, 960, 1,298, 544, 630, 514, 540, 1,645 and 509.

Provision was made during the year for the treatment at the City Hospital, Fazakerley, of a limited number of infants suffering from infantile diarrhœa.

Valuable service has been rendered in previous years by the authorities of the Royal Infirmary, Stanley Hospital, David Lewis Northern Hospital, Belmont Road Hospital, and Children's Infirmary in receiving a considerable number of patients, all of them infants, suffering from this disease. In some instances the cost was defrayed by the Corporation.

DEATHS FROM DIARRHŒA.

The following table gives the Districts in which fatal diarrhœa occurred, the seasons in which it took place and the ages of the patients. It will be seen that the greatest fatality was amongst infants under 12 months of age:—

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	6	2	10	5	38	43	28	12	82	62	144
Exchange	4	5	6	4	21	31	3	6	34	46	80
Abercromby	3	2	3	2	7	5	6	6	19	15	34
Everton	3	3	16	11	65	48	27	27	111	89	200
Kirkdale	2	1	7	4	40	19	16	13	65	37	102
West Derby (West)	2	5	7	2	32	27	12	11	53	45	98
Toxteth	8	3	9	7	39	43	18	12	74	65	139
Walton	3	4	...	1	22	9	4	3	29	17	46
West Derby (East)	1	1	3	1	9	6	5	11	18	19	37
Wavertree	2	1	...	1	14	3	...	3	16	8	24
Toxteth (East) ... ... (late Toxteth Rural)	1	...	1	...	5	1	...	1	7	2	9
Garston	1	...	...	3	12	2	1	1	14	6	20
Fazakerley	...	...	...	...	2	3	2	1	4	4	8
City	36	27	62	41	306	240	122	107	526	415	941

Ages at Death.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
608	269	34	4	1	5	1	1	...	1	...	1	16	941

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

List of Streets in the City wherein Three or more Deaths from Diarrhœa occurred during the year 1913.

Streets.	No. of Deaths.	Streets.	No. of Deaths.
Arkwright	5	Kew	3
Aspinall	3	Kirby	3
Athol	13	Leyden	5
Beaufort	6	Limekiln Lane	3
Bond	5	Menai	4
Braemar...	7	Netherfield Road N.	4
Buckingham	6	Opie	4
Burlington	10	Portland...	3
Circus	4	Prince Edwin	4
Cockerell	4	Queen Anne	4
Cornwall...	5	Reading	4
Dalrymple	4	Robsart	3
Doncaster	4	Rockingham	4
Edge Lane	4	Rokeby	3
Eldon	4	Roscommon	3
Fairview Place	3	Salisbury	3
Field	4	Seacome	3
Fletcher	3	Sherwood	3
Furlong	3	Silvester	5
Garibaldi	3	Skirving	3
Gerard	6	South Chester	3
Goring	4	Thomaston	3
Gordon	5	Travers	4
Grafton	3	Upper Mann	3
Great Homer	3	Vesuvius...	3
Hankin	3	Weightman Grove	4
Hibbert	3	West	3
Hopwood	4	Wolfe	3
Hornby	4	Woodruff	3
Juvenal	5	York (Garston)	3

In arranging the foregoing list of streets, all deaths occurring in hospitals have been transferred to the streets from whence the patients were removed.

OTHER ZYMOTICS.

The following table indicates the localities in which deaths from other forms of zymotic disease occurred during the year:—

DISTRICTS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		Other Zymotics.		Year.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	4	2	...	...	2	3	1	3	...	2	...	2	19
Exchange	...	2	...	2	3	5	1	...	...	...	2	...	15
Abercromby	3	4	1	1	3	3	...	2	...	1	3	2	23
Everton	3	4	2	2	6	6	...	2	...	3	2	...	30
Kirkdale	4	2	1	...	1	3	1	6	...	4	...	...	22
West Derby (West) ..	2	1	4	2	2	1	3	2	...	3	1	3	24
Toxteth	4	2	1	1	10	9	2	4	...	2	7	1	43
Walton	1	1	1	2	1	...	...	1	...	...	1	...	8
West Derby (East)...	4	1	1	2	...	1	...	6	...	3	1	...	19
Wavertree	1	...	1	...	1	1	...	3	...	...	...	1	8
Toxteth (East) ..... (late Toxteth Rural)	3	2	...	...	...	...	...	...	...	...	1	2	8
Garston	...	3	...	1	2	1	1	1	...	...	...	...	9
Fazakerley	...	...	1	...	...	...	...	...	...	...	...	1	2
No Address	...	...	...	...	1	...	...	...	...	...	...	...	1
City	29	24	13	13	32	33	9	30	...	18	18	12	231

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

THE FOLLOWING TABLE SHOWING THE ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST FOUR DECENNIAL PERIODS, IS INTERESTING AND INSTRUCTIVE. THE DECLINE IN THE MORE FORMIDABLE FORMS OF INFECTIOUS DISEASES IS VERY MARKED.

Years.	Small Pox.	Typhus.	Typhoid.	Scarlet Fever.	Measles.	Whooping Cough.	Diarrhœa.
1866 to 1875	237·4	652·8	† —	789·4	425·7	496·8	995·3
1876 to 1885	90·8	238·0	126·4	421·2	517·8	472·3	658·4
1886 to 1895	8·8	37·1	153·0	257·5	399·5	322·4	600·6
*1896 to 1905	19·5	25·1	134·4	201·3	329·0	330·4	1,051·9
1906-13.....	·3	5·8	48·5	148·0	441·5	302·7	819

* Including extended City area.

† Records not available.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST FOUR DECENNIAL PERIODS, DISTINGUISHING THOSE OF PERSONS ABOVE AND BELOW FIVE YEARS OF AGE.

Years.	Smallpox.		Typhus.		Typhoid.		Scarlet Fever.		Measles.		Whooping Cough.		Diarrhœa.	
	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.
1866 to 1875	141·7	95·7	*—	*—	* —	* —	187·7	601·7	14·4	411·3	9·9	486·9	105·7	889·6
1876 to 1885	62·5	28·3	†190·0	† 5·1	†110·3	† 12·1	137·0	284·2	35·4	482·4	18·6	453·7	61·9	596·5
1886 to 1895	6·2	2·6	36·2	·9	142·0	11·0	87·6	169·9	28·3	371·2	15·1	307·3	60·2	540·4
**1896 to 1905	14·5	5·0	24·2	·9	128·4	6·0	61·7	139·6	17·1	311·9	11·9	318·5	53·6	1,008·3
1906-12	·2	—	6·4	·3	49·4	1·3	57·6	103·4	24·3	434·4	10·0	303·0	32·4	769·7
1913	1	—	—	—	32	1	20	37	26	296	7	225	25	916

* During these years the ages at death from Typhus and Typhoid were not differentiated.

† During the six years, 1880-1885.

** Including extended City area.

The following table shows the number of deaths, the annual average death-rate per 100,000 of the population from the undermentioned forms of disease during the last five decades, 1856 to 1905; during the last eight years, 1906-1913 and during 1913:—

DISEASE.		1856 to 1865.	1866 to 1875.	1876 to 1885.	1886 to 1895.	1896† to 1905.	1906-13.	1913.
	Average Population.....	443,938.	493,405.	538,651.	536,974.	691,351.	741,195.	756,553
Scarlet Fever	Total Deaths.....	5,994	7,894	4,212	2,575	2,013	1,184	57
	Rate per 100,000 per annum.	135·0	159·9	78·1	47·9	29·1	19·9	7·5
Typhus Fever	Total Deaths.....	7,482	6,528	2,380	371	251	47	—
	Rate per 100,000 per annum.	168·5	132·2	44·1	6·9	3·6	·8	—
Typhoid Fever	Total Deaths.....	*	*	1,264	1,530	1,344	388	33
	Rate per 100,000 per annum.			21·5	28·4	19·3	6·5	4·3
Measles	Total Deaths.....	3,215	4,257	5,178	3,995	3,290	3,533	322
	Rate per 100,000 per annum.	72·4	86·2	96·1	74·3	47·5	59·5	42·5
Whooping Cough	Total Deaths.....	4,779	4,968	4,723	3,224	3,304	2,423	232
	Rate per 100,000 per annum.	107·6	100·6	87·6	60·0	47·7	40·8	30·6
Smallpox	Total Deaths.....	1,673	2,374	908	88	195	3	1
	Rate per 100,000 per annum.	37·6	48·1	16·8	1·6	2·8	·05	·13
Phthisis	Total Deaths.....	15,572	16,476	13,754	11,436	12,632	9,045	1,183
	Rate per 100,000 per annum.	350·7	333·9	255·3	212·9	182·7	152·5	156·0

† City Boundaries extended in 1895. * Records not available.

ANTHRAX.

The Health Committee, on the 9th May, 1907, recommended the City Council to make the provisions of the Infectious Disease (Notification) Act, 1889, apply within the City for a period of three years, and on the 5th May, 1910, the Health Committee recommended the City Council that the disease should be made permanently notifiable within the City.

Seven cases of this disease occurred in the City during the year. The number of cases occurring during the past few years has remained low, owing to efforts which have been made by the Sanitary Authority of Liverpool.

The number notified in each year since 1908 has been as follows:—

Years.	1908	1909	1910	1911	1912	1913
Cases	3	9	10	4	8	7

An increased knowledge of the disease and the channels of infection have materially altered the incidence amongst workers in Liverpool, owing to prompt recognition and early treatment.

Those workers most often affected are wool sorters, dock labourers, and those engaged in tanneries.

It is interesting to note that two cases not included in the above figures occurred in neighbouring towns, and were admitted into the Liverpool hospitals for treatment. These cases occurred in tanneries in Runcorn and Litherland. The Medical Officers of Health of these districts were promptly notified.

Appended is a table showing details regarding each case during the past four years:—

CASES OF ANTHRAX REPORTED DURING THE YEARS 1910, 1911, 1912 and 1913.

Date.	Sex.	Occupation.	Material.	Origin of Material.	Situation of Pustule.	Result.	Information Obtained.
1910.							
February 5	M	Dock Labourer	Hides and Goat Skins	Bombay	Neck	Death	Gloves provided
February 15	M	Dock Labourer	Goat Hair.....	East India	Upper Lip	Recovery	Gloves provided
February 27	M	Wool Warehouseman	Wool	Unknown	Cheek	Recovery	Gloves provided
March 16	F	Bag Mender ...	Bags contained Egyptian Bones	Egypt	Lower Neck ...	Death	No Gloves
May 26	M	Wool Sampler ...	Goat Hair.....	Karachi.....	Lower Arm	Recovery	No Gloves
July 16	M	Dock Labourer	Bone Meal	India	Fore Arm	Recovery	No Gloves
July 29	F	Wool Packer ...	Wool	East India	Neck	Recovery	No Gloves
September 22	M	Dock Labourer	Goat Skins and Cow Hides	India	Neck	Recovery	Gloves provided
October 12	M	Dock Labourer	Unknown	Unknown	Cheek	Recovery	Gloves provided
November 7	M	Dock Labourer	Wool and Skins	East India and Russian Ports	Cheek	Recovery	Gloves provided
1911.							
March 29	F	Wool Sorter ...	Wool	Bombay	Cheek	Recovery	Bacilli cultivated from the wool

Date.	Sex.	Occupation.	Material.	Origin of Material.	Situation of Pustule.	Result.	Information Obtained.
1911. July 18	M	Hide Scraper ...	Hides.....	Madagascar and Cape of Good Hope	Left Neck	Recovery	
September 30	M	Dock Labourer	Dry Hides	China.....	Left Cheek	Recovery	Gloves and Overalls
November 30	M	Wool Warehouseman	Wool	Persia	Neck	Death	
1912. February 1	M	Labourer	Dry Hides	Abyssinia and Mombasa	Neck	Recovery	Gloves provided but not worn
February 11	M	Butcher.....	Slaughtered a Diseased Animal	—	Fore Arm	Recovery	
February 27	M	Labourer	Dry Hides	Singapore	Neck	Recovery	
March 16	M	Labourer	Hides.....	Africa, East Coast	Neck	Recovery	Gloves provided
March 19	M	Dock Labourer	Wool	Unknown	Cheek	Death	No Gloves used
May 8	M	Wool Warehouseman	Wool	Karachi.....	Forehead	Recovery	
September 14	M	Dock Labourer	Dry Hides	Bathurst	Left Side	Recovery	Gloves provided
November 26	M	Employed by Dairyman	Slaughtered a Diseased Animal	—	Right Wrist ...	Recovery	

Date.	Sex.	Occupation.	Material.	Origin of Material.	Situation of Pustule.	Result.	Information Obtained.
1913. February 25	M	Dock Labourer	Hides.....	Pernambuco.....	Side of Neck.....	Recovery	
July 18	M	Dock Labourer	Hides.....	West Africa	Right Cheek.....	Recovery	
July 27	M	Dock Labourer	Hides	West Africa	Right Cheek.....	Recovery	
August 20	M	Dock Labourer...	Hides	West Africa	Forehead. over eye	Recovery	
September 23	M	Wool Merchant	*Persian Wool ...	Persia	Right side of Neck	Recovery	
October 17	M	Dock Labourer...	Hides	West Africa	Right Cheek.....	Recovery	
December 10	M	Hide Washer in tannery	Hides	East Africa	Forehead	Recovery	

* This Persian Wool (sample 1427) was found by the City Bacteriologist to contain Anthrax Spores.

OPHTHALMIA.

Towards the end of the year an outbreak of Ophthalmia occurred in one of the Poor Law Institutions devoted to the housing and education, etc., of children. On enquiry being made, it was found that 49 cases had occurred in the Institution in question, and the means taken to deal with the disease had not proved effective in checking its extension. The Institution consists of a number of cottages with several apartments in each, housing altogether upwards of 600 children, in addition to the staff. The assistance of the Health Department was sought, and on inquiry it was found that each child washed in running water and was provided with a separate towel, and also that all the towels had been well washed and disinfected at the Home. It was decided to thoroughly disinfect the whole premises, which was carried out by means of four spraying machines, the walls, floors, and ceilings of every apartment being well sprayed with a 4 per cent. solution of Formalin, and each house closed up for three hours after. Articles used by the children, such as combs, sponges, nail and tooth brushes, were immersed in water to which a quantity of disinfectant had been added. All the affected children were removed to another Institution for isolation, and, it appeared from a later inquiry, that no further cases had developed. None of the staff were affected at any time.

Cases of Ophthalmia neonatorum have been specially dealt with by the Health Department since the year 1910, and a full account of this work will be found in the Child Welfare Section of the Report, pages 95 to 98.

ACUTE POLIOMYELITIS (INFANTILE PARALYSIS).

This disease became notifiable in the City of Liverpool on the first of January, 1912, and six cases were reported during the year 1913, compared with twenty-five in the previous year. Five cases were removed to hospital.

Three deaths from this disease occurred, viz., one in June, August, and December respectively. They all took place in hospitals. Details are as follows:—

26 June ...	...	1 female	...	5 months.
28 August	...	1 ,,	...	19 ,,
18 December	...	1 ,,	...	10 ,,

The months of onset of notified cases and fatal cases were January, 1; February, 2; June, 1; August, 3; and November, 1.

The type was paralytic in all cases, the regions affected being:—One leg 2, both legs 1, one arm 2, leg and back 1.

CEREBRO-SPINAL FEVER.

Eight cases of cerebro-spinal fever were notified during the year. Seven deaths occurred. A further six deaths occurred from cerebro-spinal meningitis, the type not being specified. In one house the death of a child, aged 2½ years, from cerebro-spinal meningitis in October was followed by the death of another child, aged 6 months, from cerebro-spinal fever. This was the only instance in which two cases could be directly or indirectly connected.

The dates of onset of notified cases were as follows:—December, 1912, 1; January, 1913, 3; February, 1; April, 1; June, 1; and October, 1.

ALCOHOLISM.

The total number of deaths certified by Coroner's Juries to be the result of excessive drinking was 123, the number in the previous year being 107. Eighty-one were males and 42 females.

In addition, one woman, aged 52, died from injuries to her head caused by an accidental fall whilst under the influence of drink; a public house manager, aged 47, fell into a hot bath whilst suffering from delirium tremens, and died from scalds; a publican, aged 40, died from hæmorrhage accelerated by delirium tremens, and a female, aged 40, fell against a firegrate whilst drunk, and died from the injuries sustained.

"Alcoholism" was certified to be the cause of death of three men and three women.

It has many times been pointed out that the number of deaths does not indicate the extent of the mischief caused by excessive drinking.

A comparison of three Districts in regard to the general death-rate, the proportion of deaths due to excessive drinking, and the proportion of deaths which take place in Workhouses and Hospitals, shows what proportion of the population in times of sickness are dependent upon charitable aid.

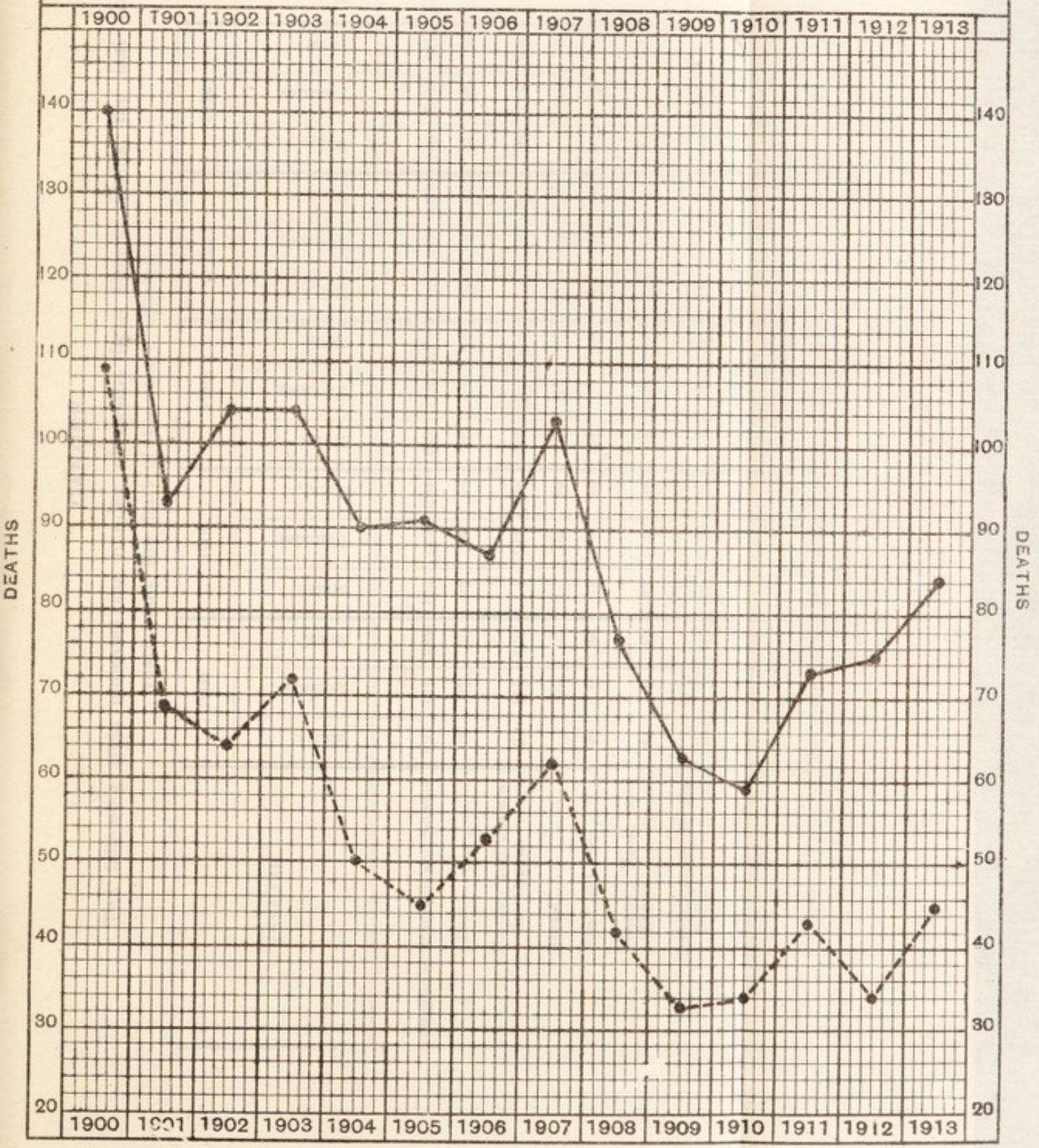
	Population.	General Death-rate per 1,000.	Proportion of Deaths in Workhouses and Hospitals.	Proportion of Deaths due to Excessive Drinking.
Exchange	36,262	28·4	37·4 per cent.	1·6 per cent.
Walton	80,617	12·3	28·6 ,,	·1 ,,
Wavertree	43,509	12·8	25·9 ,,	·3 ,,

The circumstance that many of the broken down and unfortunate classes from various localities drift into the lodging-houses in Exchange District, and so pass on into Workhouses, will not be lost sight of.

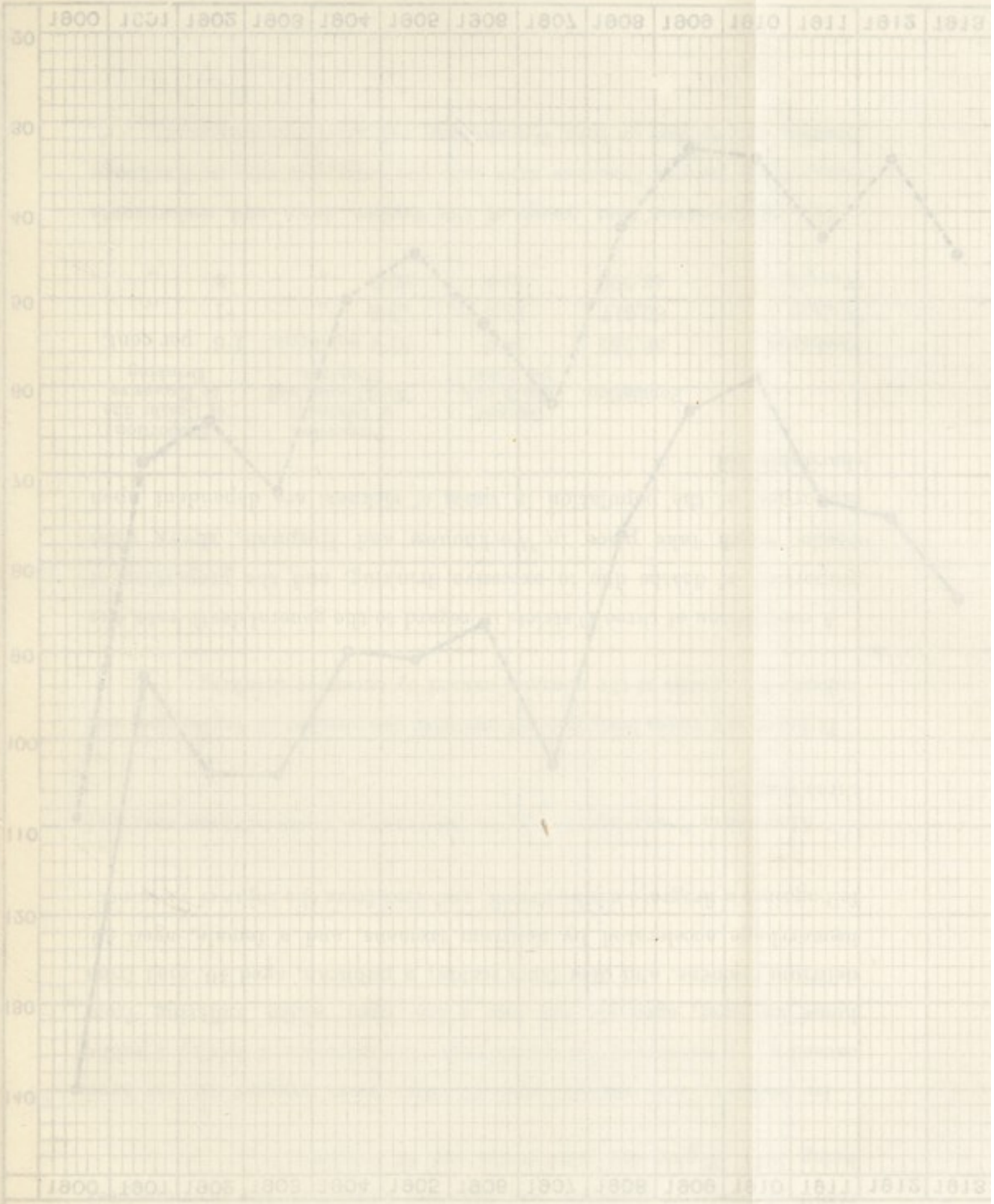
CITY OF LIVERPOOL.

DEATHS FROM EXCESSIVE DRINKING DURING THE 14 YEARS 1900 TO 1913.

The Black Line denotes Males and the Dotted Lines Females.



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CANCER.

The following table indicates the number of deaths from Cancer during the last six years, and the part of the body affected :—

DISEASE.	1908.			1909.			1910.			1911.			1912.			1913.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels..	150	132	282	135	149	284	169	132	301	176	149	325	195	142	337	202	156	358
,, Liver	23	37	60	33	55	88	46	48	94	32	51	83	31	53	84	30	36	66
,, Urinary and Generative Organs	21	111	132	4	121	125	29	112	141	17	104	121	26	118	144	12	79	91
,, Breast	1	51	52	...	53	53	...	60	60	...	58	58	...	54	54	...	50	50
,, Head and Face	29	9	38	24	8	32	22	3	25	18	3	21	21	6	27	18	2	20
,, Tongue, Neck, and Throat.....	51	6	57	61	6	67	55	10	65	61	4	65	70	7	77	60	13	73
,, Other parts of the Body	14	7	21	21	6	27	11	19	30	17	12	29	18	11	29	19	26	45
,, Parts not specified ...	9	7	16	9	9	18	10	19	29	8	16	24	10	7	17	6	8	14
Total	298	360	658	287	407	694	342	403	745	329	397	726	371	398	769	347	370	717

FEVER AND DIARRHŒA MORTALITY.

The following table shows the death-rate per 1,000 of the population, and the number of deaths from Fever and Diarrhœa during the last thirty-one years:—

Year.	*Death Rate per 1,000 of Population from all causes.	Deaths from Diarrhœa.	Deaths from Fever.		
			Typhus.	Typhoid.	Continued.
1883	27·7	541	408	108	24
1884	26·6	841	77	112	16
1885	25·6	422	71	95	16
1886	26·1	781	47	140	11
1887	26·4	619	52	130	12
1888	23·1	431	32	125	4
1889	24·9	575	45	167	...
1890	27·5	468	23	99	1
1891	26·8	330	37	92	2
1892	24·4	415	18	111	2
1893	26·7	866	44	221	5
1894	23·1	503	50	248	7
†1895	24·8	1,108	24	197	4
1896	21·4	851	36	166	2
1897	22·8	1,482	23	145	5
1898	22·2	956	19	148	5
1899	24·1	1,158	13	182	4
1900	23·1	900	11	120	4
1901	21·6	1,269	14	154	3
‡1902	21·7	611	25	190	2
1903	20·0	657	57	108	...
1904	22·1	1,785	25	82	1
§1905	19·5	960	28	49	1
1906	20·6	1,298	8	85	1
1907	18·7	544	18	92	...
1908	18·9	630	10	73	2
1909	18·8	514	8	54	...
1910	17·9	540	...	42	...
1911	19·5	¶1645	5	36	1
1912	17·7	‖ 509	2	23	...
1913	18·0	**941	...	33	..

* Calculated on corrected population as per Census Returns of 1891, 1901 and 1911.
† City Boundaries extended. ‡ Garston included. § Fazakerley included.
¶ Including 333 from Enteritis under 2 years of age.
‖ ,, 230 ,, ,, ,, ,, ,,
** ,, 296 ,, ,, ,, ,, ,,

INCORPORATION OF THE AREAS OF MUCH WOOLTON, LITTLE WOOLTON, ALLERTON AND CHILDWALL.

A representation which was presented to the Local Government Board in November, 1912, to alter the south-east boundary of the City so as to include the Urban Districts of Much Woolton, Little Woolton, Allerton and Childwall, resulted in an Inquiry being held in Liverpool on 6th March, 1913.

After hearing the evidence of a number of witnesses, the inspector reported to the Local Government Board, and the Board made a Provisional Order granting the extension. This Provisional Order was confirmed by an Act dated 15th August, 1913, entitled "Local Government Board's Provisional Order Confirmation (No. 14) Act, 1913."

The extension came into operation on 9th November, 1913, but the vital statistics for the whole of the year have been included in the tables which follow here, and in the appendix.

The population of the incorporated area at the middle of 1913 was estimated at 6,882. The number of births during the year was 133, namely, 81 males and 52 females, equal to a rate of 19·3 per 1,000 of the population.

The deaths during the year numbered 99, namely, 50 males and 49 females, equal to a rate of 14·3 per 1,000 of population.

The deaths under one year of age numbered 17, 13 being males and 4 females, resulting in an infant mortality rate of 127 per 1,000 births.

These rates compare favourably with those for the whole of the City, but as will be seen from the tables in the first section, the mortality rates are above those obtaining in districts of the City which are comparable with the added areas in respect to density of population, and the character of the inhabitants.

The deaths from zymotic disease include two deaths from measles, one from diphtheria, and two from diarrhœa and enteritis.

The table in the appendix gives a complete list of the causes of death at the different age periods, and sets forth the districts where the deaths occurred. The numbers have been corrected for transferable deaths, non-residents having been excluded, and residents dying elsewhere included.

INFECTIOUS DISEASE.

Very few cases of infectious disease occurred in the four districts comprising the added area during the year 1913, so far as can be ascertained from the records available. Three cases of diphtheria and four cases of scarlet fever were reported, and the prompt action in each case checked any extension of the disease.

There were also five cases of pulmonary tuberculosis notified, and the routine practice of investigation was carried out in each instance. Disinfection, removal to hospital and other precautionary measures were put in operation, and the incidence of infectious sickness was remarkably low even for areas of the semi-rural character of those in question.

SANITARY ADMINISTRATION.

On the incorporation of the areas within the City the existing officials accepted compensation and retired, and it therefore became necessary for new appointments to be made. For the supervision of Cowsheds, Dairies, Piggeries, Ice Cream Places, etc., and for the purpose of carrying out the provisions of the Food and Drugs Act, Margarine Act, &c., the Health Committee appointed a Special Inspector who has since been actively engaged in the work. A District Sanitary Inspector was also appointed by the Health Committee for general sanitary work, and since the date of incorporation, the greater part of the time of this officer has been taken up in systematic house-to-house inspection.

The general sanitary condition of the above Districts is quite up to the average of semi-rural districts, the only matter calling for special comment being the insanitary dwelling houses, mainly situated in the streets running at right-angles to Quarry Street, Woolton. These insanitary houses have been inspected in the usual course, and are specially referred to on page 290.

The medical inspection of school children had been undertaken by the County Authorities, and the schools were favourably reported upon as regards the general health and cleanliness of the children. The part time of two district nurses also had been taken up in the visitation of school children and their homes. This work will now be undertaken by the Female Inspectors.

METEOROLOGY.

Mr. Plummer, M.A., F.R.A.S., Astronomer to the Mersey Docks and Harbour Board, has kindly furnished the following tables relating to Meteorological observations made by him at the Liverpool Observatory, Bidston :—

LIVERPOOL OBSERVATORY, BIDSTON, BIRKENHEAD.

Latitude 53° 24′ 5″ N. Longitude 3° 4′ 20″ W.

Height above the Mean Level of the Sea 202 feet.

1913.	Barometer. Mean.	Temperature. Mean.	Rainfall.		Mean Humidity of the air (Complete Saturation equal 100).
			Amount.	No. of days on which ·01 in. or more fell.	
	Inches.	Degrees.	Inches.		
January	29·708	39·5	2·707	18	90
February	30·134	41·1	0·576	12	84
March	29·768	43·1	2·569	22	80
April	29·857	46·5	2·583	17	78
May	29·890	52·0	2·403	21	76
June	30·057	56·9	2·102	15	75
July	30·089	58·2	1·627	14	78
August	30·073	59·7	1·828	13	78
September	29·967	58·0	2·329	14	78
October	29·824	51·6	2·559	18	83
November	29·808	47·7	2·691	26	87
December	30·060	42·8	1·914	15	84

DIFFERENCE FROM THE AVERAGE QUANTITIES OBSERVED DURING THE LAST 45 YEARS.

1913.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January	...	0·246	0·3	...	0·560	...
February	0·200	...	...	0·1	...	1·094
March	...	0·125	0·9	...	0·757	...
April	...	0·040	...	0·9	0·918	...
May	...	0·074	0·2	...	0·487	...
June	0·071	...	...	0·5	...	0·022
July	0·141	...	...	2·6	...	1·026
August	0·157	...	...	0·8	...	1·184
September	0·005	...	1·8	...	...	0·459
October.....	...	0·047	2·0	...	...	0·917
November	...	0·084	4·5	...	0·111	...
December.....	0·209	...	2·9	...	...	0·706

OBSERVATIONS OF VELOCITY OF WIND.

1913.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date.	Minimum Hourly Velocity.	Date.
	Miles.	Miles.		Miles.	
January	17·8	48	Jan. 23, 31	1	January 12.
February....	16·4	70	Feb. 7	1	February 12, 13, 21, 28.
March.....	21·3	60	March 3	1	March 24, 25.
April	16·3	49	April 19	1	April 9, 23.
May	14·0	47	May 8	1	May 1, 5, 14.
June	16·3	52	June 10	0	June 22.
July	11·7	28	July 19, 20	1	July 1, 11, 12, 13, 21, 29,
August	11·2	32	Aug. 21	1	August 5, 14, 25, 30.
September..	12·0	31	Sept. 12	1	Sept. 2, 3, 13, 25, 26.
October.....	13·8	36	Oct. 6	0	October 22, 24.
November...	20·7	61	Nov. 18	1	November 6.
December...	20·9	65	Dec. 4	1	December 20, 21.

CHILD WELFARE.

INFANT MORTALITY AND ITS PREVENTION.

The dangers attending the early periods of life have always been realised, but systematic effort to guard against the risks to which the infants of the poorer classes are exposed, is a comparatively recent development. For many years attention had been arrested by the high mortality during the earlier years of life, and it had been customary in statistical returns to differentiate the deaths below five years of age from deaths taking place above that age. It was, however, about 1884 that the enormous wastage at the very beginning of life, by the deaths of infants below twelve months of age, began to be realised, and the Local Government Board directed special investigations to be made into its causation.

So far as Liverpool was concerned, the great number of insanitary courts and alleys, the thousands of hovel dwellings, the cellar dwellings, the overcrowding, the defective scavenging, the great prevalence of intemperance, ignorance, extreme squalor, the dirty and neglected condition under which large sections of the labouring classes and their families were living were obvious contributory factors in the destruction of infant life. As improvement has proceeded and some of the grosser factors are gradually lessened, or eliminated, it is obvious that necessary care and attention are not given to the infant; very commonly it is handed over to the custody of little children or irresponsible persons, whilst those really responsible are engaged in some other occupation. The rapid increase in the numbers of the little ones makes it almost impossible for them to receive proper attention, even when the care of the mother is not diverted by the necessity of going to work. The children of the very poor are in this way exposed to neglect and inattention which, together with improper food and scanty clothing, are reflected in the sacrifice of life.

But there is one outstanding fact which points the way very clearly to one direction by which this sacrifice may be lessened.

Mortality amongst infants is always highest during the summer and autumn months, a severe and fatal form of cholera regularly appearing amongst infants during those seasons; it was on the suggestion of Dr. Ballard of the Local Government Board, that the writer carried on an

investigation during the summer and autumn periods of 1884-5-6-7 into the causation of this prevalence. The investigation was facilitated by the then system of Vaccination Stations at which mothers assembled, and it was easy to substantiate the conclusions arrived at from other sources. The evidence was very clear that it was associated with polluted food; it was conclusively shown that infants whose mothers did not suckle them fell victims of this disease in a proportion fifteen times as great as those infants who were fed in the natural way; it was found that the substitutes usually given for mother's milk were eminently unsuitable in character, or were grossly contaminated by exposure to polluting influences before they were given to the infant. No one has ever doubted that there is only one way by which infants can be properly fed, and that is by the mother's milk, some of the reasons for this being that milk, as nature intended it to be given to infants, is never once exposed to the air, that it passes directly at the time of the manufacture in the gland, to the stomach; its composition, temperature, and mixture, adapt it to the varying needs of the offspring as its age increases; it has neither abstractions, adulterations, preservatives nor uncleanliness; it is, moreover, bacteriologically clean and pure. No artificial food can equal this.

Without referring further to the great sanitary operations gradually evolved as time progressed, the more specific methods adopted in lessening this form of disease may be summarised to include—instruction for the mother, more healthful surroundings for the infant, and above all, when the mother's milk was not available, to ensure a clean and suitable substitute for it. It became more and more apparent that educative measures were required by which the mothers in the poorer districts should receive some advice and guidance in regard to the feeding and rearing of infants, more especially during the hot weather; in 1897, a staff of Female Inspectors was inaugurated for the special purpose of dealing with the question on educational lines. Progress was slow—discouragingly so to those who could not appreciate the difficulties to be overcome, and the magnitude of the task undertaken. One great deficiency was the frequent inability of the poor mothers to follow the directions given. Progress, however, did result, the Female Staff, little by little, was added to, whilst various philanthropic associations co-operated with the Health Committee's Female Staff. Amongst them may be mentioned the Liverpool Ladies' Sanitary Association; small Day Nurseries were

established in Everton Road and Juvenal Street, and more recently in Beaumont Street, Smithdown Lane, and Hill Street. Their work was useful, but necessarily limited to the immediate vicinity. Cases of infantile cholera were treated at Fazakerley Hospital, the Royal Infirmary, and the Stanley Hospital without encouraging results.

In 1894, Dr. Dufour, of Fècamp, was suggesting for infants whose mothers could not suckle them the advantages of providing a suitable food ready prepared, and in such a manner as to need little, if any, attention, so as to be readily given to the infant, in the simplest way, with the least trouble to the mother, and with the least risk of contamination by exposure in doubtful surroundings. Cow's milk modified so as to imitate human milk, and by sterilisation rendered free from disease producing germs, and sent to the home in bottles so fastened that contamination would be impossible, but could be used as infants' feeding-bottles, were the bases of Dr. Dufour's methods.

The system was adopted temporarily at St. Helens in 1899, and the Liverpool Health Committee, amongst others in this country, resolved to make use of it in 1901. This system has gradually grown and extended, and its usefulness is placed beyond doubt. The method, modified perhaps in detail, has for many years been largely used in France, Germany, Spain, United States, and elsewhere, and has proved of the greatest value. It has far outlived the adverse criticisms which were originally directed to it, and its favour with the medical profession is evidenced by the fact that last year some 600 infants were sent by doctors in Liverpool to be fed in this way when other foods had been tried in vain.

In Liverpool alone some 25,000 infants have been fed by it, and attention may be called to some of the points in the method now adopted. Mothers who are suckling their infants, but whose milk supply is in danger of failing, perhaps from insufficiency of food, are recommended to apply for milk for themselves. In many cases, the supply of milk given to the mother enables her to continue to suckle the infant. These mothers are recommended to apply under such circumstances by the Superintendent of Midwives, Midwives in various districts, by the Lady Sanitary Inspectors, Matrons and Nurses at Liverpool Lying-in Hospital, Sisters in charge of the District Homes, Doctors at the North, East and

South Dispensaries, and also at the Medical Mission, various Charitable Societies, also by other mothers who have themselves benefited by taking the milk. Generally speaking, infants are brought to the depôts on similar recommendations, the greater number, however, being recommended by mothers who have had experience of their value.

The milk is distributed from five depôts, and from some 28 dairies.

It must not be supposed that all difficulty is ended when food suitable for the infant is handed over under proper conditions to the mother, even then, unhappily, the mother cannot be trusted to use it according to the directions, and an immense amount of home visiting, watching, and guidance are still necessary to ensure its proper use.

Humanised milk is supplied for infants whose mothers are not able to suckle them; in some cases it is supplied to infants during the day while the mothers are out working, the mother herself nursing the infant at night.

Nursing mothers are supplied with five bottles of milk daily, each containing six ounces, at a charge of 2d. per day. A limited number are allowed to be supplied at a 1d., or free, in accordance with the needs of the applicant.

The conditions which govern free milk, or milk supplied at 1d. daily, are chiefly:—

1. Mothers who have been paying 2d. regularly, and cannot continue, either the husband is ill, or out of work, and if the milk was not reduced in price they would not be able to continue.

2. Mothers whose husbands are out of work at the time of admission.

3. Cases recommended by midwives, where the earnings of the family are not sufficient to provide nourishment for the mother.

In the above cases the milk is only supplied for a short time until means have been found whereby the milk can be continued at 2d. daily, or is paid for by a charitable society, and in some cases referred to the Poor Law Authority.

The price of a full day's supply for each infant is 3d., a few are allowed to receive milk at 1½d. or 1d., or free, as the superintendent

may decide. The same conditions govern the reduction in the price of Infants' Milk as apply to the mothers receiving milk.

The children are brought to the depôt, from which the milk is received, each fortnight to be weighed, note is made of the progress, the milk supplied is altered, as the case may require, care and cleanliness of the child is noticed, and comments are made if necessary.

About one-fifth of the cases are supplied with milk through agents in various parts of the city (twenty-eight in all). A weekly charge is made by the agents; where a customer pays 3d. per day, the agent makes 3d. weekly; 2d. per day, the agent makes 2d. weekly; and 1d. per day, the agent makes 1d. weekly. A register is kept of the dairy cases, as well as a record book.

The infants supplied with milk through dairies are visited by the special staff at the depôts, progress is watched, and notes made in the case books.

It is very necessary in some cases to visit children who are supplied directly from the depôt. Sometimes older children are sent with the infant on weighing days, the mother being out at work, or possibly ill, the progress is not always satisfactory, and the elder child does not know why. Sometimes milk supplied for one child is divided between the baby and an older child. This is not allowed, and, where suspected, a visit to the home is made. Any complaints received by post, or notes brought by children are attended to in the same way.

The method of sterilisation adopted is by heat, the milk being suitably mixed, bottled, and afterwards sterilised.

Considerable interest attaches to the renewal of experiments in connection with the electrical sterilisation of milk. This method is full of promise, but it has not yet been possible to adapt it for the purposes now under consideration.*

DRIED MILK.

Dried milk is frequently used and the demand for it is on the increase, the number of children being fed by that means having practically doubled during the last 12 months.

* Full reports on this subject by Professor Beattie have been published.

All the children were delicate on admission, and other foods, including in some cases sterilised milk, had been tried and found not to agree; the dried milk used is supplied by the West Surrey Dairy Co., Ltd., Guildford.

It is found necessary to be very careful in recommending dried milk, in poor homes especially, for the following reasons:—It is not at all easy to mix, and careless people will not take the trouble to make a smooth paste first, and add the water gradually: consequently the child is given a bottle of "lumpy" food which cannot be drawn through the teat unless the hole is made larger, which causes trouble; it cannot be mixed in a feeding bottle, a cup and spoon have to be used, and careless people neglect to wash them after each feed has been mixed. Feeding bottles have also been found dirty.

During a recent visit to Leicester in connection with this subject, the Superintendent of the Depôts noticed particularly the better appearance of the Leicester poor, compared with those of Liverpool. They were cleaner and more intelligent; this is to be accounted for by the fact that there is practically no casual employment in Leicester, the wages, though small, are at least regular. In Liverpool the fathers of three-fourths of the children receiving milk from the Depôts are casual labourers, or dock labourers, and consequently the work and wages are uncertain, and the habits of the people careless, and they cannot be trusted to measure and mix the food properly, or cleanse the bottles, &c.

CAUSATION OF INFANTILE CHOLERA.

During the years 1907 to 1910, investigations concerning the cause of Choleraic Diarrhœa in infants were carried out at the School of Hygiene upon the cases admitted to the City Hospital at Fazakerley. In the year 1907 an organism, Bacillus F, was discovered in one case. On investigation, this Bacillus was found to belong to the Paratyphoid or Gaertner group, and was shown to be able to produce Diarrhœa in laboratory animals.

These investigations were continued during the three following years, and it was found that the Bacillus F. was closely related to Bacillus Suipestifer, an organism which frequently causes food poisoning. The question of the identity of these two organisms cannot be said to have

been finally settled. The evidence obtained seemed to show that a certain proportion of cases were due to one or other of these organisms, and in a few instances, both organisms were isolated from the same case. These results were in part confirmed by observations made at Fazakerley City Hospital, where it was considered that cases infected by these organisms differ clinically from other cases of epidemic Diarrhœa caused by other bacteria.

Since 1910, the work has been carried on by aid of grants from the Local Government Board, who desired inquiries to be made into the incidence and variety of those bacteria occurring in the stools of infants suffering from epidemic Diarrhœa, which neither ferment lactose nor liquefy gelatine, since this class of organism comprises the majority of the intestinal organisms which are pathogenic to man. In the last three years, 486 specimens have been examined from 394 children in the acute stages of the disease, and for comparison, during the same period 606 specimens from 212 normal, healthy children.

These organisms were found with great regularity, and in a high percentage in the fæces of children suffering from Choleraic Diarrhœa, and in a few instances in the fæces of normal children. Such organisms when isolated from normal children, as a rule, were incapable of reproducing the disease in animals, but the strains isolated from Diarrhœa cases generally produced acute and often fatal Diarrhœa when administered to animals. In 1911, in Liverpool, investigations were made into the number and variety of the bacteria found on flies from Diarrhœa and non-diarrhœa districts. The flies from the Diarrhœa Districts were shown to carry as many as 500,000,000 bacteria, whereas a fly from a non-Diarrhœa district, rarely carried more than 100,000. Organisms of the non-lactose fermenting type, occurred in greater numbers and more frequently on the flies captured in an area in which Diarrhœa was prevalent. A comparison between the organisms isolated from the flies, and the organisms isolated from the stools, have shown them to be identical in many instances.

The investigations carried on during the last seven years in Liverpool, upon this subject, full details of which will be found in the Report published by the Health Committee, have proved (1) That a consider-

able number of cases are caused by bacilli of the food-poisoning groups. (2) That a great number are caused by the invasion of the intestinal tract by several varieties of a group of bacilli which neither ferment lactose nor liquefy gelatine, many of which cause fatal Diarrhœa in animals. (3) That no one specific organism of summer Diarrhœa has been found. (4) In a Diarrhœa area, identical organisms are found, at the same time, in the intestines of both child and fly, which rather goes to establish the theory of transmission by flies.

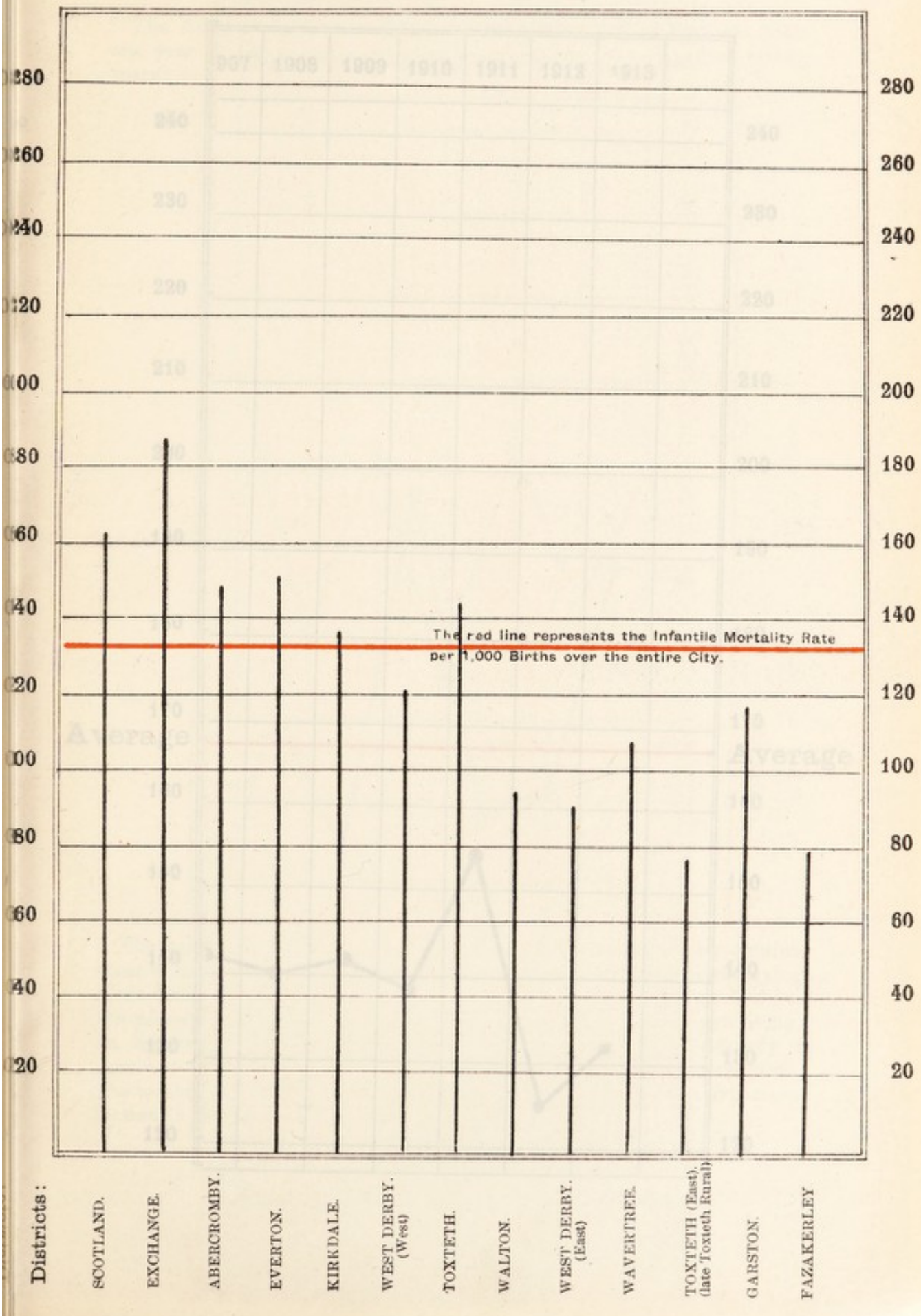
The relation which the deaths of infants under one year of age has borne to every hundred births in the various districts of the city during the year is shown in the following table:—

DISTRICTS.	Number of Births.	Number of Deaths under 1 year of age.	Percentage of Deaths under 1 year to total Births.
Scotland	1,969	320	16·2
Exchange	1,184	221	18·7
Abercromby	892	132	14·8
Everton	4,164	631	15·1
Kirkdale	2,137	292	13·7
West Derby (West)	2,678	323	12·1
Toxteth	3,248	466	14·3
Walton	2,018	190	9·4
West Derby (East)	1,642	149	9·1
Wavertree	1,129	119	10·5
Toxteth—East (late Toxteth Rural)	640	49	7·6
Garston	739	86	11·6
Fazakerley	115	9	7·8
City	22,555	2,987	13·2

CITY OF LIVERPOOL.

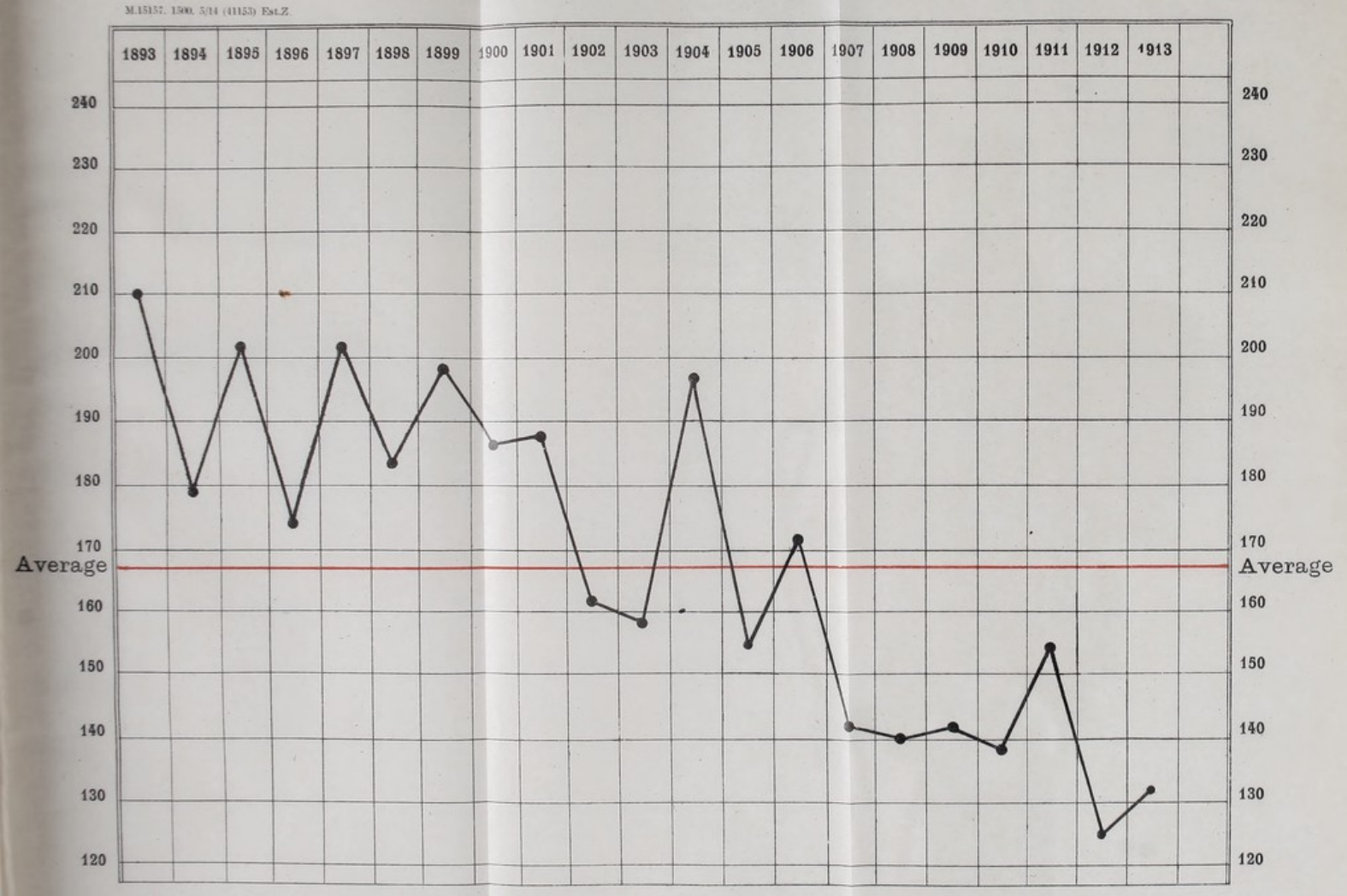
Comparative view of the Infantile Mortality per 1000 of the Births in the different districts of the City during the year 1913.

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CITY OF LIVERPOOL.

Infant Mortality per 1000 Births 1893—1913



Average for 21 years (1893-1913) = 168.

1893
1894
1895
1896
1897
1898
1899
240
230
220
210
200
190
180
170
Average
160
150
140
130
120

The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last twenty years:—

Year.	No. of Deaths below One Year of Age.	Rate per 1,000 Births.
1894	3,210	179
1895	4,441	202
1896	3,833	175
1897	4,488	201
1898	4,111	184
1899	4,481	199
1900	4,203	186
1901	4,089	187
1902	3,899	162
1903	3,775	159
1904	4,735	196
1905	3,710	154
1906	4,137	171
1907	3,383	143
1908	3,355	140
1909	3,377	143
1910	3,216	139
1911	3,466	154
1912	2,778	125
1913	2,987	132

The varying rates of mortality occurring in families similarly circumstanced has received a good deal of consideration, and the accompanying illustrations are typical instances of cases investigated. In two families the parents had 11 and 10 children born respectively, and all are living. In the other cases, 15 children were born in one family, and only 4 survive; in the other, 10 children were born and all but 2 have died. The method of feeding, and habits of the parents, appear to be important factors in the welfare of the children.

MILK DEPÔTS.

The high rate of infant mortality, attributable to improper feeding, justifies the continuation of the Depôts at which a preparation of pure cows' milk is made to resemble human milk as closely as possible. This preparation is intended for the use of infants, whose mothers are unable to suckle them.

Since the initiation of the scheme, in 1901, 25,836 infants have been fed upon humanised milk supplied from these Depôts. The average age at the commencement of such feeding is $3\frac{3}{4}$ months; very few (2,733) were, from one cause or another, admitted after twelve months of age.

The expenditure and income of the Depôts during the last five years is shown on the appended table, and the whole subject has been fully dealt with in the Report of 1909. The problem of finding a complete substitute for the milk of a healthy mother has not been solved, and, probably, never will be. As the infant grows, there are, no doubt, variations in the quality of the mother's milk, which specially adapt it to the needs of that particular infant, niceties in nature which cannot be approached artificially; but when artificial feeding becomes necessary, it is obviously important that the best possible substitute for mother's milk should be available.

It is the polluted cows' milk and the unsuitable artificial foods which cause the mischief, and as it is impossible by Municipal administration to reach and deal with all the sources of pollution, the justification for the present undertaking arises. The Municipality has spared no efforts to ensure a pure milk-supply.

The infants fed on humanised sterilized milk during the year were 3,656, viz., 728 on the books at the beginning of the year, and 2,928 admitted during the year. Since the commencement of the scheme the numbers which have been supplied are as follows:—

Netherfield Road Depôt	.....	4705
Earle Road do.	.....	3792
Park Road do.	.....	3893
Cazneau Street do.	.....	3578
Boaler Street do.	.....	1245
Hornby Street do.	.....	361
Total supplied from Depôts	.....	17,574
,, supplied from Dairies	.....	8,262
		25,836

In a limited number of cases, infants have been fed on Dried Milk with satisfactory results.



C—— family, 65, L—— Street. Ten children born, two living. Mother states that the children had been breast fed



R—— family, 21 J—— Street. Fifteen children, four living. All children artificially fed after first few weeks. Father is an iron moulder.



C—— family, 309, B—— Road. Ten children born, all living. All children breast fed. Father a Corporation labourer.



C—— family, 12, B—— Street. Eleven children born, all living. All children breast fed. Father a fish hawker.

Of the 17,574 infants supplied through the Depôts, and of whom accurate records are kept, there were 1,553 cases in which the infant died, but of these 99 had been fed on the milk for less than one week, or had been irregularly fed on it; 1,210 were ill, some of them hopelessly ill when the milk was first supplied. Each death formed the subject of a careful inquiry, and it was found that out of the total number of infants who died only 244 were fairly healthy at the time of admission, and had been properly fed since. In these 244 cases the registered causes of death were as follows:—

Convulsions	58
Diarrhœa	35
Bronchitis	22
Pneumonia	38
Phthisis	1
Marasmus	5
Dentition	10
Inflammation of stomach and bowels	6
Whooping Cough	13
Blood Poisoning	3
Disease of throat	2
Croup	1
Meningitis	4
Various other causes	46
	244

Out of the 17,574 coming promiscuously to the Depôts, at varied ages and in conditions of health below the average, the mortality was 88 per 1,000 as against an average for the last five years of 138 per 1,000 for the whole City, 83 for the best districts and 214 for the worst.

But it must be remembered that in the rate for the whole City, and for the best and worst districts, are included also, breast-fed infants; clearly if breast-fed infants were excluded, and artificially-fed infants only taken into account, the rate of mortality amongst them would be enormously higher, and would show even more forcibly the advantages of the sterilized food, which is, of course, an artificial food, over other methods of artificial feeding.

During the year the total number of customers supplied is shown as follows, viz :—

Number remaining on the books from previous year	728
Number admitted during the year	2,928
Total	3,656
Number of discharges during the year	2,778
Number remaining on books at end of year	878

It will be seen that the above figures show an increase in the number of customers remaining on the books of 150.

Of the 2,928 cases admitted to the Depôts during the year, 418 were of children above two years of age, and were referred to the Depôts by the Invalid Children's Association. Of the remaining 2,510 infants admitted, the average age was 3½ months, and 1,500 were more or less delicate on admission. Of these 1,500, 990 showed considerable improvement, 303 showed slight improvement, 102 received the milk casually, or for too short a time to gauge the effect, and 105 died.

There were 2,452 infants under twelve months of age admitted during the year, in addition to the 497 remaining on the books at the end of previous year, making a total of 2,949. Of this number 113 died, the causes of death being:—

Convulsions	44
Marasmus	24
Pneumonia	14
Tuberculosis	1
Meningitis	2
Shock from Burns	1
Dropsy	2
Dentition	2
Bronchitis	7
Diarrhœa	6
Congestion of Lungs	1
Whooping Cough	1
Measles	1
Accident	1
Severity of Delivery at Birth	1
Cause not obtainable	5
Total	113

Of the foregoing, 75 were ill on admission, 15 were more or less delicate, 8 received less than one week's supply of milk, 1 obtained the milk irregularly, and 14 were healthy and properly fed.

Over twelve months of age there were 58 children admitted during the year, in addition to 188 remaining on the books from the previous year, making a total of 246. Of these eight died from the following causes, viz. :—

Convulsions	1
Pneumonia	3
Tuberculosis	1
Blood Poisoning	1
Dentition	1
Diarrhœa	1
	8

Four were delicate on admission, two extremely ill, and two were healthy and properly fed.

Of the 2,778 customers discharged during the year, 382 were children above two years of age, who received milk through the Invalid Children's Association. The remaining 2,396 were discharged for the following reasons, viz. :—

In satisfactory condition	1,490
Milk said not to agree	207
Ill or gone to Hospital	248
Casual or irregular Customers	215
No reason obtainable	67
Parents will not pay	48
Died	121
	2,396

Of the 1490 discharged in a satisfactory condition, 782 were able to take more general food, 92 left the town, and 503 were cases in which, owing to the milk supplied to the mother, breast feeding was continued.

Sixty-two mothers obtained a few baskets to supplement the natural supply, which was then found sufficient.

In 51 cases parents preferred other food.

Of the 207 infants with whom the milk was said not to agree, 180 were ill or delicate on admission. In many cases various other foods had been tried unsuccessfully before sterilized milk was used.

Of the 248 discharged ill, 135 were suffering from illness or were delicate on admission, and of this number, 74 cases were taken into Hospital.

Of the 121 who died, 79 were ill on admission, 17 were more or less delicate, 8 received less than one week's supply, and in 30 cases the infants were breast fed.

Expenditure and Income for the 5 years 1909 to 1913.

	1909.	1910.	1911.	1912.	1913.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wages and Clothing	1,263 15 2	1,316 8 5	1,353 3 10	1,272 8 9	1,385 0 11
National Health Insurance (Corporation Contribution)	...	...	...	5 8 9	13 3 6
Rents	178 5 0	176 6 0	167 18 8	164 6 0	156 16 0
Rates, Taxes and Water Rent	67 11 1	67 19 3	67 18 1	73 3 2	71 0 6
Lighting	74 2 2	89 8 3	69 15 1	63 0 8	68 9 6
Fuel	41 6 0	40 10 4	41 4 0	50 2 10	46 7 8
Printing and Stationery	3 8 8	10 1 0	8 2 3	14 19 5	9 16 3
Disbursements	43 6 5	41 15 2	42 6 10	36 13 1	34 14 6
Cleaning Windows, &c.	31 10 10	36 0 2	38 17 1	25 10 11	35 0 7
Stores (Milk, &c.)	1,714 11 6	1,949 11 10	2,018 17 6	2,074 4 5	2,756 7 1
Telephone Rent	14 2 0	13 12 0	13 12 0	13 12 0	32 6 0
Machinery, Fittings and Repairs	48 7 0	134 8 9	61 19 3	75 15 2	228 13 3
Bottles, Stoppers, &c.	295 9 4	375 8 4	274 19 8	382 16 3	396 13 10
Building Repairs, Alterations, &c.	46 10 7	66 10 5	35 15 1	51 7 4	47 15 1
Horsing and repairing Vans, &c., and Hire of Float	252 8 8	161 9 8	454 7 4	310 5 8	322 1 3
Insurance	2 11 0	2 11 0	2 11 0	2 11 0	1 9 9
	4,077 5 5	4,482 0 7	4,651 7 8	4,616 5 5	5,605 15 8
Sale of Milk	1,328 13 3	1,554 4 6	1,678 18 0	1,761 1 2	2,072 19 10

THE WORK OF FEMALE SANITARY STAFF.

The work of the Women Inspectors has been carried out on the same lines as in former years.

In connection with the births which have occurred in the City during the year, 27,686 visits have been paid in the poorer parts of the town, or in those streets where experience shows such visits to be necessary.

These visits are well received, and much good results from them, although the amount of time expended is necessarily great.

Very often it is found that although the infant appears to be healthy and well cared for, the mother's own health is not satisfactory, and great assistance can be rendered to her, and thus indirectly to her family by inducing her to obtain medical treatment, or by giving her advice as to the best means to maintain her health and strength, and not infrequently by providing her with suitable nourishment in the form of milk, etc.

Where hospital treatment was necessary, the Inspectors have been fortunate in securing homes for the young children, and so have enabled the mothers to leave them, but in the majority of cases they are met with an insurmountable difficulty, owing to the want of accommodation for these children at a charge within the means of the parents.

For the past ten years the Female Inspectors have been systematically visiting the homes where births have occurred in those parts of the City inhabited by the poorer or poverty-stricken classes. At the commencement of this work the preliminary information was obtained from the District Registrar's returns, and later, in 1908, by the adoption of the Notification of Births Act.

On the occasion of these visits, it is the practice of the Female Inspector to ascertain the conditions under which the family is living, its income, its housing, health, cleanliness, habits, and feeding, with a view to

ascertaining if the best, under probably disadvantageous conditions, is being done for the baby. Advice is given to the mother on the best means of rectifying any curable defects in the household arrangements. Special emphasis is laid upon the feeding, clothing, and bathing of the infant, and to further impress upon the mind of the mother the instructions given, a card of instructions is left.

The form of these instruction cards has been frequently changed, and the information amplified, because it is found that when they are more than once left with the same mother in the same form, they do not always receive the attention they merit. It therefore seems desirable to vary, from time to time, the form of instruction and advice, in order to ensure attention.

During the summer special efforts were directed towards the checking of the spread of infantile diarrhœa. In conjunction with the male staff, a rigorous house-to-house visitation to ensure domestic cleanliness and the proper care of food, was carried on in the districts where, in former years, the disease had been most prevalent. Streets and passages found in a dirty condition were reported for cleansing; instructions were given to the parents as to the steps to be taken, and stamped addressed post-cards were left at the houses, where there were young children, to be forwarded to the Medical Officer of Health if necessary.

Visits were paid to all cases of infantile diarrhœa reported by medical men from the various Dispensaries, or from any other source, to ensure the carrying out of instructions given, and suitable cases were removed to the special wards reserved in the City Hospital, Fazakerley.

In previous years a large number of children have been re-inspected in the schools, following their medical inspection. During the past year this re-inspection has been carried out at the homes of the children to a great extent, the work being combined with the visitation of infants, and the system of house-to-house inspection by which supervision is exercised over young children below school age. The statistical tables show the effect of this alteration, but the amount of supervision over school children is practically unchanged.

SCHOOLS.

A great part of the time of the Inspectors has been devoted to visiting the schools in connection with the Medical Inspection of school children, and to visiting and keeping under supervision the homes of all children found to be verminous and neglected. On the whole, it is found that a higher standard of cleanliness is maintained, and that in many cases the children themselves are beginning to realise the comfort and advantages of this from a health point of view. In many cases of parental neglect, the parents, after being warned, have succeeded in cleansing the children, but where they have failed in their duty, the Inspectors have, after giving the necessary notice, removed the children from school, and have caused them to be cleansed at the Health Committee's station reserved for the purpose. There is a great need for more cleansing stations.

It is gratifying to note a reduction in the number of cases of neglect reported, but it is found by the Inspectors that the names of many families recur year by year at each Medical Inspection, showing that the parents are deliberately careless and neglectful. After advice and persuasion have failed to have any effect, attempts have been made to enforce on the parents by law their obligations to their children. In several cases they have been summoned under the Children Act, 1908, but unfortunately it has been found impossible to obtain a conviction, although it has been proved in all cases proceeded against that for years the children have been suffering through the default of their parents, and the Inspectors now find it inadvisable to make further attempts, as failure tends to lessen their influence over the people.

In November last it was decided to proceed under the Liverpool Corporation Act, 1913, against a father, two of whose children had for some time been attending school in a dirty condition, their bodies and clothing being infested with vermin. The mother had been frequently visited, and every effort made to influence her to keep the children clean; the father had also been interviewed, but, being very much under

the influence of drink, was exceedingly abusive, and quite unwilling to make any promise of amendment. No improvement was made, and the condition of the children continued to be a source of complaint from teacher and school nurse to the Health Department. The parents appearing to make no effort to improve matters, the statutory notices were left at the father's residence, and one child was cleansed at the Disinfecting Station, after which she was again (and has since been) found verminous. The father was summoned to appear at the Police Court, but the case was dismissed on the mother stating that she had not handed to him the preliminary notices which had been left at the house. It is interesting to note that while one child has since left school, the other was recently seen in school in a verminous condition, and the work of visiting and advising still continues. The father had regular employment, but was stated to neglect to attend to it, and, as will be seen from the above report, money which should be spent on the children goes in drink.

It is probable that the case will be taken to the Court of Appeal to test the Magistrate's ruling that the service of the notice was not in accordance with the Act.*

The number of cases of minor ailments among children (i.e., sore eyes, ringworm, eczema, etc.) reported by the School Teachers and School Attendance Officers, and visited by the Inspectors, shows a slight decrease, as compared with former years. It is to be hoped that this is due to greater cleanliness and to a realisation on the part of the parents of the means to employ in order to keep the children in health, and so to prevent the recurrence of disease. A larger number of children have been sent to Convalescent Homes during 1913 than in previous years, and the thanks of the Inspectors are due to the Committees of the Blundellsands Cottage Home, and the Freshfield Sanatorium, for their kindness in receiving so many children who have been greatly in need of fresh air and good food. A considerable proportion of these children have been discovered during the Medical Inspection of Schools, and they have greatly benefited by their holiday, and the care and attention received whilst in these Institutions.

* Whilst this Report was in the Press the appeal was allowed in the High Cou t, and the case again came before the Stipendiary Magistrate. A small fine was inflicted upon the defendant.

STATISTICS OF WORK DONE BY FEMALE SANITARY STAFF IN REGARD TO SCHOOLS, SCHOOL CHILDREN, &c.

	1912.	1913.
Number of Visits to School Cases	27,615	25,859
,, Re-visits ,, ,, ...	5,132	5,676
,, Special School Enquiries	1,203	1,044
,, Visits to Schools	2,670	2,483
,, Hours spent in schools	2,834	3,954
,, Children inspected in Schools	17,041	11,934
,, References to Education Department ...	10,757	9,786
,, ,, ,, District Sanitary Inspectors	949	955
,, ,, ,, Lodging-house Inspectors...	22	12
,, ,, ,, Central Relief Society ...	5	—
,, ,, ,, City Engineer	29	25
,, ,, ,, Water Engineer	34	28
,, ,, ,, The Shelter, Islington ..	114	99
,, ,, ,, Relieving Officer	2	2
,, ,, ,, Head Constable	—	1
,, Houses visited	2,520	11,824
,, Cellars visited	1,479	1,334
,, Families found dirty	328	324
,, Re-visits to Families	912	1,726
,, Houses found dirty	1,568	2,841
,, Cellars ,, ,, ...	301	242
,, Notices issued to cleanse dirty premises...	—	—
,, ,, ,, floors and woodwork	27	—
,, ,, to Parents of verminous Children	479	205
,, Verminous Children cleansed by Parents	519	94
,, ,, ,, ,, Staff ...	962	117
,, Special Visits	1,932	1,629
,, Visits to Lodging Houses	175	174
,, Police Aided Association Visits	101	87
,, Visits *re* Diarrhœa Cases	846	1,496
,, ,, ,, ,, (fatal)	294	542
,, Re-visits *re* ,, ,, ...	351	517
,, Visits Phthisis ,, ...	96	—
,, Enquiries *re* Fire Guards	—	9
,, Fire Guards distributed	18	—
,, Informations	14	1
,, Fined	3	—
,, Acquitted or Withdrawn	11	1
,, Enquiries *re* Burning, Scalding or Suffocation cases	—	71
,, ,, Infantile Mortality ...	—	1,173
,, Incidental calls	—	1,340
Amount of Fines and Costs ...	£1 4 0	£0 0 0

A considerable amount of information is summarised in the following table:—

STATISTICS RELATING TO VISITS PAID IN CONNECTION WITH NOTIFICATION OF BIRTHS ACT.

	1912.	1913.
Number of Births Notified	19,314	19,357
,, Visits relative to Births	16,208	18,977
,, Revisits ,, ,, ,, ...	1,145	8,709
,, children seen at addresses given	13,436	16,313
,, ,, dead	650	764
,, ,, could not be traced owing to removals	2,122	1,897
,, ,, illegitimate	254	347
,, ,, found to be clean	11,888	14,148
,, ,, ,, dirty	260	391
,, ,, ,, unwashed	1,288	1,774
,, mothers healthy	12,633	15,151
,, ,, delicate	651	1,011
,, ,, working	249	471
,, infants breast fed...	12,091	14,440
,, ,, partly breast fed	616	800
,, ,, artificially fed	729	1,073
,, ,, fed on Cow's milk	562	677
,, ,, ,, Tinned milk	332	674
,, ,, ,, other Foods	451	522
,, instances in which Boat-shaped bottle is used...	826	1,211
,, ,, ,, Long-tube ,, ...	135	140
,, families in which all children born are living...	4,803	5,973
,, ,, ,, half or over are living ...	5,572	6,539
,, ,, ,, under half are living... ...	835	748
,, ,, ,, child is first-born	2,104	2,902
,, families living in Court houses	520	659
,, ,, ,, Cellar dwellings	118	149
,, ,, ,, Corporation dwellings ...	351	359
,, families in which parents are Sober and careful	9,693	11,577
,, ,, ,, ,, Drunken ...	650	765
,, ,, ,, ,, Doubtful ...	2,961	3,811
,, casually employed fathers	—	7,253
,, regularly ,, ,, ...	—	8,900
,, delicate babies	—	790

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The Female Sanitary Inspectors have rendered valuable help to the School Medical Officers during the medical examination of school children. They have examined the condition of each child as far as cleanliness of the head and body, and the sufficiency of clothing are concerned; children whose parents have neglected them in these respects, as well as children who are found to have certain skin and eye affections, are visited at their homes by these Inspectors and kept under observation until the ailments are attended to. Many homes in which children not yet of school age are also neglected, are brought under the observation of the Health Department as the result of these visits.

As mentioned in previous reports, the provision for cleansing verminous children is very inadequate. The Education Authority is given power under the Children Act to make use of any cleansing facilities provided by a Sanitary Authority on payment of an equitable charge, but on the other hand, the Education Authority is given power by the Board of Education to equip and maintain on its own behalf suitable cleansing stations, with the probability of recovering up to half the cost, out of the Government Grant. This subject has been considered many times by the various Committees concerned, (Health, Baths and Education), and it is probable that the Health Committee will undertake the whole work, and that the Education Committee will make a payment towards the cost of each school child cleansed. Hitherto, the whole of the expense has been borne by the Health Committee, whose staff have conveyed the children to the Disinfecting Stations, and cleansed them there.

In addition to the assistance rendered by the staff at the Schools, and in following up cases of gross neglect, a considerable number of children whom the School Medical Inspectors considered more urgently in need of treatment, and whose parents could not be interviewed at the School, were visited at their homes in order that the necessary treatment might be urged. An extension of this scheme of following up by the Female

Staff, who, by their training, experience, and official position, and by the fact that they are present with the Medical Officer at the School when the defect is discovered, are specially qualified for the purpose, would lead to the saving of a considerable amount of overlapping. At present the Staff visit 25 to 35 per cent. of the homes of the children inspected in school, and possibly nearly one half of these are on the doctors' lists for various medical defects, which also require to be followed up. Visits are also made by the Female Inspectors to the homes of children suffering from certain communicable skin and eye conditions, as shewn in the following table:—

	1911.	1912.	1913.
Ringworm	2,310	1,810	1,587
Itch	612	600	555
Sore Eyes	3,143	2,675	2,496
Sore Heads, Impetigo, Eczema, &c.	5,833	6,467	6,723
Other Skin Diseases	868	707	431
Verminous cases	3,987	3,924	2,631
Neglect cases	3,596	5,097	4,706
Total	20,349	21,280	19,129

Most of the communicable defects are reported by the School Attendance Officers or the Head Teachers; the verminous and neglect cases are chiefly brought to light at the medical inspections, though the school nurses and teachers also report cases where the parents have taken no steps to remedy the conditions complained of. It is gratifying to learn that ringworm of the head has been steadily diminishing since the closer supervision of this disease at the schools by the medical officers, and there is also a reduction in some of the other infectious skin diseases. Itch, however, remains a very troublesome condition, and spreads to other members of the family. Probably institutional treatment is the most satisfactory method of dealing with this condition, especially amongst the poor.

INFECTIOUS DISEASE IN SCHOOLS.

The following tables show the age distribution and the monthly distribution of the school cases of infectious disease during the year:—

Table I.—SCHOOL CASES (Infectious Diseases).
AGE DISTRIBUTION—January–December, 1913.

DISEASE.	Under 5.	Under 6.	Under 7.	Total Under 7.	Under 8.	Under 9.	Under 10.	Under 11.	Under 12.	Under 13.	13 and over.	Total 7 years and upwards.	Grand Total.
Scarlet Fever	55	233	192	480	188	155	101	86	62	47	36	675	1155
Diphtheria	29	83	80	192	47	45	42	37	31	23	27	252	444
Measles	319	1008	630	1957	261	135	89	52	35	20	24	616	2573
Whooping Cough	168	801	427	1396	137	50	32	8	9	6	4	246	1642
Chicken-pox	143	690	582	1415	264	118	61	53	22	16	10	544	1959
Mumps	94	478	521	1093	224	199	128	89	98	73	74	985	2078
Totals	808	3293	2432	6533	1221	702	453	325	257	185	175	3318	9851
Per cent. of those on Roll	24·3	23·6	15·5	19·8	7·7	4·5	3·0	2·2	1·7	1·4	1·3	3·2	7·3

Table II.—SCHOOL CASES (Infectious Diseases).
MONTHLY DISTRIBUTION—January-December, 1913.

DISEASE.	January.	February.	March.	April.	May.	June.	*July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	81	81	86	92	99	85	78	63	119	101	129	141	1155
Diphtheria	28	32	25	17	25	28	36	28	52	46	63	64	444
Measles	507	362	244	356	449	354	109	21	20	25	71	55	2573
Whooping Cough	246	106	122	176	156	123	41	124	109	120	191	128	1642
Chicken-pox	184	12	135	291	336	264	42	25	85	146	166	156	1959
Mumps	67	101	147	145	168	206	56	18	106	196	435	433	2078
Totals	1113	811	759	1077	1233	1060	362	279	491	634	1055	977	9851

* Holidays—July 11th–August 19th.

The following is a list of the schools closed during the year owing to the prevalence of Measles and other infectious disease amongst the scholars:—

Date of Notice.	School.	Department.	Nature of Disease.	Period of Closure.
1913.				
Mar. 28	St. Margaret's, Princes Road	Infants	Measles, &c.	14 days
July 3	West Derby C.E.	,,	,,	Until after summer holidays
Dec. 5	St. Peter's C.E., Church Road, Woolton	,,	,,	Until after Christmas holidays

Easter Holidays — 21st March to 31st March.
Summer Holidays — 11th July to 19th August.
Christmas Holidays — 22nd December to 5th January.

The subject of school closure and its influence on the prevalence of measles was fully dealt with in the Annual Report for 1912.

PUBLIC ELEMENTARY SCHOOLS.

The Public Elementary Schools in the City are visited once each fortnight by the District Sanitary Inspectors, and an examination made of the sanitary conveniences. In all cases where the water-closets or latrines are found dirty or defective, an intimation is sent to the School Managers and the Director of Education, and in each case the necessary work has been done. The following table shows the number of visits, also the number of notices issued:—

	1912.	1913
No. of Visits to Schools	2,794	2,617
,, found incorrect	77	39
,, Water-closets and latrines found dirty or defective	127	57
,, Notices issued for defects	94	46

NOTICES TO SCHOOL TEACHERS.

The arrangements have been continued with the Education Committee that notice shall be sent to the Education Department and postcards to the Head Teachers of the various schools informing them when children from infected houses attend their schools. 11,277 cards were sent last year, as against 12,420 in the preceding year.

EMPLOYMENT OF CHILDREN ACT, 1903.

This Act is intended for the limitation and regulation of child labour, and affects children of school age, viz., under 14 years of age. Bye-laws have been made by the City Council by virtue of powers given them by the Act, placing further restrictions on the hours of employment.

The Act contains clauses prohibiting children carrying burdens likely to cause them injury, and from being employed in any occupation likely to be injurious to their lives, limbs, health or education.

Another clause prohibits children who are working half-time under the Factory and Workshop Act from being employed in any other occupation.

There are other clauses relating to children engaged in street trading. These have been dealt with by the Watch Committee, and are enforced by the Police.

During the course of enquiries in connection with the Shops Act, 1912, the following information was obtained by the Inspectors:—

Number of shops employing children under 14	1,290
,, children employed	1,507
,, ,, under age of 11, employed	24
,, shops, hours of children incorrect	171

The following table shows the periods of the day at which visits were made and result of the action taken:—

	No. of Visits. 1913.	No. of Contraventions Found. 1913.	No. of Informations. 1913.
Before 7 a.m. or after 8-15 a.m. ..	103	21	7
,, 12-30 p.m. or after 1-15 p.m. ...	6	3	—
,, 5 p.m. (or 5-30 p.m. to barbers' shops) ...	49	9	7
After 8 p.m. (or 8-30 p.m. to barbers' shops)	2,873	137	79
Saturdays before 10 a.m. (to barbers' shops)	9	6	4
Saturday *re* Maximum Hours (each shop is usually visited 4 times)	5,077	87	22
Saturday after 9 p.m.	31	20	17
Sunday after 9 a.m.	259	72	34
,, before 3 p.m. or after 4 p.m. ...	8	2	2
Employing Children under age ...	—	—	33
Total visits... ...	8,415	357	—
Total Number of Informations	...	...	205
,, ,, of Convictions	...	...	197
Amount of Fines and Costs ...		£169 0 0	

Of the 8,415 visits paid during the year, 813 were visits in connection with cases of illegal employment discovered during the Medical Inspection of School Children.

MIDWIVES ACT, 1902.

During the year 1913 two hundred and two midwives gave the required notice, under Section 10, of their intention to practise midwifery. The qualifications of these women are as follows, viz.:—

	1913.
Central Midwives Board Examination	75
Ladies' Charity and Lying-in Hospital	67
London Obstetrical Society	19
Rotunda Hospital, Dublin	3
Glasgow Maternity Hospital	2
Manchester Maternity Hospital	2
Coombe Lying-in Hospital	1
St. Mary's Hospital, Manchester	1
In bona-fide practice prior to the 31st July, 1901	32
	202

In addition to the above there is a considerable number of women in Liverpool whose names are on the Midwives' Roll but do not practise Midwifery on their own account, being employed as Maternity Nurses under the supervision of Medical Practitioners, or in some other way.

A total of 16,430 births were attended by these midwives during the year; in addition to these there were 1,527 attended by the midwives on the Staff of the Ladies' Charity, this is 79·6 per cent. of the total

number of births registered in the City. There were also two births, both of which were emergency cases, attended by uncertified women. This last figure is most satisfactory, as it will be seen that the employment of uncertified untrained women is rapidly disappearing.

The extent of the practice of individual midwives varies very considerably, two midwives having attended over 500 births each, while 60 attended less than 50 births each.

The average is 89 births to each midwife in practice.

STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING THE YEARS:—

	1912.		1913.	
Notifications Received from	Births.	Per centage of Births Registered in the City.	Births.	Per centage of Births Registered in the City.
Certified Midwives	14,828	66·70	16,146	71·58
Medical Attendants.....	1,641	7·38	1,306	5·78
Poor Law Institutions	727	3·27	541	2·39
Ladies' Maternity Hospital...	487	2·19	426	1·89
Charity District Homes	1,474	6·63	849	3·79
Uncertified Women.....	8	·03	1	0·00
Parents	149	·67	88	·39
	19,314	86·87	19,357	85·82

Total Number of Births registered in the City	1912 —	22,233
	1913 —	22,555

STILL BIRTHS.

The number of still births notified by midwives was 437, which is at the rate of 2·44 per cent. of the births attended. The prevalence of still births in the practice of midwives varies very much, the highest rate being 9·76 per cent., the lowest being 0·99 per cent., in the practice of midwives attending over 20 confinements per year. In no case does a midwife give a certificate of still birth unless she is present at the time of the birth; she is instructed that if the birth should take place before her arrival she must report the matter to the Coroner, who, upon inquiry, grants a certificate for the burial of the body. The Medical Officer of Health has arranged for still births to be received at the Mortuary, Ford Street, where, if the parent is unable to pay the fee the body is taken charge of and arrangements made for its burial.

The following figures give the months of pregnancy during which the still births took place, viz.:—

	1913.
Sixth month	14
Seventh month	96
Eighth month	101
Ninth month	214
Not specified	12
Total	437

MEDICAL ASSISTANCE.

Under the Rules issued by the Central Midwives' Board, a midwife must advise that medical assistance shall be called in where there is any abnormal circumstance connected with the confinement.

The following Table gives the details of the complications for which medical assistance was required during the past year:—

	1913.
MOTHER:—	
Abnormal Presentation—	
Brow or Face Presentation	41
Occipito-posterior Presentation	17
Transverse Presentation	38
Breech Presentation	26
Foot Presentation	11
Cord Presentation	27
Placenta Prævia	13
Deformed Pelvis	61
Ante-partum Hæmorrhage	59
Post-partum Hæmorrhage	51
Retained Placenta or Membranes	76
Ruptured Perinæum	107
Multiple Births	10
Abortion or Premature Birth	56
Pyrexia	51
Eclampsia	30
Obstructed Labour, Uterine Inertia, or requiring Instrumental Assistance	387
Various or not definitely specified	82
CHILD:—	
Injury at birth	4
Malformation	17
Feebleness and prematurity	64
Other conditions in child	30
Total	1,258

The increase in the number of notifications over previous years would show that midwives are availing themselves of medical assistance to an

increasing extent through following closely the requirements of the rules of the Central Midwives' Board as to sending for Medical Aid.

As no provision was made in the Midwives' Act for the payment of medical practitioners called in to assist in these emergencies, the Health Committee on September 1st, 1904, on the advice of the Medical Officer of Health, consented to pay a fee of one guinea for every case where emergency assistance had been rendered by a medical practitioner at the request of a midwife, and in which the fee could not be recovered either from the patient's friends or from the Board of Guardians. This arrangement gave general satisfaction.

The conditions, however, were somewhat changed after the passing of the National Insurance Acts. Under these two Acts, practically every woman who gives birth to a child is entitled to a maternity benefit of 30s., and the Insurance Commissioners allocated 15s. of this benefit towards the payment of a doctor who might be called in, in a case of emergency.

In practice it would appear that the midwives had difficulty in obtaining medical assistance under the terms of the Act, whilst in other cases, owing to the extreme poverty of the persons, the full maternity benefit was urgently needed in other directions.

The Liverpool and District Trained Midwives' Association was therefore very desirous of establishing a fund which would meet the expenses incurred where medical assistance is required in emergency, and, after consultation with the Medical Officer of Health, a scheme was devised for carrying out this idea.

The general arrangement includes the establishment of a Fund, known as the Midwives' Guarantee Fund, to which each midwife pays the sum of 1s. for every birth she attends, whether medical assistance is ultimately required or not, and an additional 1s. in each case where medical aid is summoned. These contributions are paid in to the City Treasurer, and are available for the purpose of paying about two-thirds of the fees due to medical practitioners who may be called in to render assistance under the Midwives' Act, the balance being paid by the Health Committee.

This scheme has been working since the 1st May, 1913, and, so far as can be ascertained, has been most satisfactory.

One result has naturally been that medical assistance has been sought in a larger number of cases than hitherto, showing a tendency to err on the side of safety.

The following table indicates the amounts paid during the past three years:—

	£	s.	d.
1911	513	2	0
1912	520	17	6
1913	619	5	10

The number of visits paid during the year for the purpose of investigating accounts for emergency assistance was 1,005. It may be mentioned that these visits have formed a very useful link between the midwives and the Medical Officer's Department, as by this means many special circumstances connected with their practice are brought to light, which sometimes lead up to important investigations.

PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 55 of which 18 proved fatal. This gives a death-rate of 0·80 per 1,000 births in the City.

Forty-one cases were removed to Hospital:—2 to Brownlow Hill Infirmary; 8 to Mill Road Infirmary; 25 to the City Hospital, Fazakerley; 2 to Toxteth Workhouse; 2 to the Maternity Hospital; 1 to Royal Infirmary; and 1 to Belmont Road Workhouse.

After the usual investigations were made, 33 cases, of which 13 died, were found to have occurred in the practice of midwives. Four midwives had 2 cases each.

The following table shows the Annual Rate of Mortality per 1,000 of the total births since the year 1907.

Year.	Total number of births in the City.	Total number of :—		Death rate per 1,000 births.	Removed to City Hospital Fazakerley.
		Cases.	Deaths.		
1907	23,654	58	12	0·50	10
1908	23,891	52	16	0·67	19
1909	23,591	62	21	0·89	22
1910	23,054	41	9	0·39	11
1911	22,493	52	21	0·93	27
1912	22,233	37	15	0·68	20
1913	22,555	55	18	0·80	25

The first removals to Fazakerley Hospital took place in March, 1907.

Every precaution was taken to prevent the disease being conveyed to other women, and it is gratifying to remark that much greater care is now taken by midwives in cleansing themselves and their clothing and appliances than in previous years.

The keeping of temperature charts during the puerperal period has proved of immense benefit in helping to direct the attention of the midwife to the possibility of puerperal complications, and enables her to recognise the necessity of calling in medical assistance at the earliest indication of danger.

ROUTINE VISITS TO MIDWIVES.

Rule 24 laid down by the Central Midwives' Board states as follows:— "The Local Supervising Authority shall make arrangements to secure "a proper inspection of the Register of cases, bag of appliances, etc., of "every midwife practising in the district of such authority, and when "thought necessary, an inspection of her place of residence, and an "investigation of her mode of practice."

In accordance with this Rule, 1,496 visits were paid, and a generally satisfactory condition is to be reported. The general condition of the homes of midwives and also their personal cleanliness has shown a marked progressive improvement since the Midwives' Act came into operation.

The adoption of the Notification of Births Act, which renders it obligatory on the part of the medical attendant or midwife, as well as the father of the child, to notify the occurrence of a birth, has been a very valuable aid to the working of the Midwives Act.

On two occasions only during the year was it necessary to bring midwives before the Health Committee for breaches of the Rules of the Central Midwives' Board. In both instances the offence was that of omitting to call in medical assistance when it was urgently required. One midwife was cautioned by the Committee, but the offence of the other midwife was considered to be more serious. The latter was, therefore, referred to the Central Midwives' Board to be dealt with, who summoned the midwife to London to give an explanation of her failure to comply with the Rules. The Board censured the midwife, and requested the Medical Officer of Health to report on her work after a period of three months. After the expiration of that time the Medical Officer was able to report that a very satisfactory improvement in the conduct of her practice had resulted, and as a consequence no further action was taken.

OPHTHALMIA NEONATORUM.

This is an extremely serious affection which attacks the eyes of newly-born infants. It is usually caused by the entrance of certain bacteria into the eyes at the time of birth. The symptoms, redness and swelling of the eyelids, make their appearance in about three or four days after birth, and the disease frequently runs such an acute course that if proper treatment is not applied immediately, the eyes are permanently damaged and the child is rendered blind for life.

The extent to which this disease is prevalent in this country is shown by the statements made by well-known authorities that over one-third of the inmates of schools for the blind have lost their sight as a result of this disease. On the other hand, it is no less certain that if the disease is

brought under efficient treatment when the symptoms first make their appearance the eyes can be saved from serious injury and the sight preserved.

Under the Midwives Act, midwives are compelled to inform the Local Supervising Authority (in Liverpool the Health Authority) of such cases, and to call in medical assistance. Much care has been taken to impress upon midwives the serious character of this disease, and they have been very quick to recognise it, so that now the majority of cases have prompt medical advice.

Since 1910 the Health Committee have had a Female Inspector with special Hospital training on the staff of the Medical Officer of Health for the purpose of dealing with this disease. Her duties consist in visiting all the cases which are notified to the Medical Officer and in taking such measures as are available for ensuring that the affected infants have prompt medical attention. An essential point in the treatment of this disease is that of constant and careful nursing, consequently a large portion of the Inspector's time is occupied in carrying out the treatment advised by the Hospital Authorities and by private medical practitioners.

The following figures give some details as to the sources of information and character of the cases dealt with during the year:—

Total number of cases brought to the notice of the Department, 446.

(1)	Reported by Midwives	342
(2)	do. Doctors and Eye Hospital ...	30
(3)	do. Female Inspectors	72
(4)	do. in other ways	2

The above cases consisted of:—

(1)	Mild cases	280
(2)	Severe cases	105
(3)	Not Ophthalmia Neonatorum	61

The following is the age distribution, viz.:—

Under one week	308
One week to one month	77

During the year 3,149 visits were made as follows:—

297 Cases required less than 10 visits.
56 Cases required between 10 and 20 visits.
28 Cases required between 30 and 40 visits.
4 Cases required over 90 visits.
18 Cases required more than 1 visit in 24 hours at some period of disease.

The majority of the cases that went to Hospital, either as out-patients or who were admitted as in-patients, were treated at St. Paul's Hospital.

The authorities of this hospital reserve 9 beds and 9 cots for this disease, so that infants who require constant supervision and treatment can be admitted with their mothers, and are therefore not deprived of the necessary maternal nourishment and care.

The results of this work have been most satisfactory, as is shown by the following figures:—

Number of cases treated in their homes		... ...	190
Do.	do.	sent to Hospital as Out-patients ...	102
Do.	do.	admitted to Hospital	36
Do.	do.	requiring supervision only ...	57

It is interesting to note that in 37 cases previous children in the family had been similarly affected.

Number of days between the onset of the disease and the date on which the case was seen:—

Within:—	24 Hours	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	8 Days	9 Days	10 Days & over	Total
Severe cases	36	20	17	6	5	1	0	3	3	14	105
Mild cases...	67	68	36	27	14	15	12	8	5	28	280

Number of cases cured			350
Do.	do.	sight badly affected	1
Do.	do.	sight slightly impaired	3
Do.	do.	blind in one eye	2
Do.	do.	not requiring supervision of Inspector	23

There were two instances in which the parents and the patient removed to other towns; the names and addresses were forwarded to the authorities of their destinations.

The following statement gives the total number of visits made by Female Inspectors during the year 1913 in connection with the Administration of the Midwives' Act:—

Routine visits to midwives	1,437
Enquiries as to cases of Puerperal Fever	42
Special enquiries *re* dirty bedding and insanitary surroundings	17
Special enquiries *re* Accounts for Emergency Assistance	1,005
Visits and Re-visits as to cases of Ophthalmia ...	3,149
Total	5,650

PRE-NATAL HYGIENE.

At the Maternity Hospital all patients, on entering their names, are seen by the Assistant Superintendent, and particulars as to the general health and domestic surroundings are ascertained. When any suspicion as to health is entertained, the woman is seen by the House Surgeon, and kept under his observation through the period of gestation.

There are four consultations in Liverpool, viz.:—

(*a*) Liverpool Ladies' Sanitary Association, 19, Beaumont Street.
(*b*) Liverpool Ladies' Sanitary Association, 278, Mann Street.
(*c*) Central Liverpool School for Mothers, 141, Smithdown Lane.
(*d*) Dispensary for Women and Children, 334, Netherfield Road

No arrangements have been made at any of these establishments for expectant mothers to consult physicians, but it frequently happens that a mother attends with one baby and is expecting another, and she can then obtain advice. Visits are paid to expectant mothers by nurses employed by the Liverpool Ladies' Sanitary Association. The patients' names are obtained from the Liverpool Maternity Hospital.

No special arrangements are made by the Public Health Department for visiting expectant mothers, but when such are met with in the course of their duties by the Female Sanitary Inspectors, they are, if necessary, advised.

The Liverpool and District Trained Midwives' Association provide instruction for the members of their Association, and the majority of the Liverpool Midwives (including the untrained midwives) are members of the above Association, and attend the lectures.

TUBERCULOSIS.

NOTIFICATION, TREATMENT, AND MORTALITY FROM TUBERCULOSIS.

INTRODUCTORY.

During the year under review the work of the Public Health Department in regard to tuberculosis has increased considerably. This is partly due to the normal expansion of the Department (it will be seen from previous annual reports that such increase has been steadily taking place during the last twenty years) and also to the stimulus afforded by the Sanatorium Benefit Regulations of the National Health Insurance Acts 1911-1913. During the year the main points of the Council's permanent scheme for the prevention and treatment of tuberculosis were under discussion and the whole of the position was carefully reviewed in order to form an estimate of the probable developments and requirements of a scheme which provides for, so far as treatment is concerned, all sections of the community, whether insured or non-insured.

In conformity with the requirements of the Local Government Board, this section in regard to tuberculosis has been prepared with a view of giving a connected account of the history, present procedure and future action in the matter of tuberculosis. In Part I (pages 101 to 109) statistics relating to notification, deaths, &c., are given on the lines laid down in previous annual reports of the Medical Officer.

In Part II, a connected account is given of the present administrative procedure of the Department.

PART I.

NOTIFICATION OF PHTHISIS AND OTHER FORMS OF TUBERCULOSIS.

A system of voluntary notification of those cases of consumption in which the services of the Health Department could be of use came into operation on 14th February, 1901.

A special notification form was circulated amongst medical men, and the usual notification fee paid.

A large number of notifications were received yearly, as will be seen from the tables, and the officers of the Health Department were called upon to carry out numerous duties such as disinfection of bedding, clothing and apartments, sanitary inspection of houses and places of business, and the distribution of cards containing information and advice to consumptive people and those living with them.

In 1908, the Local Government Board issued the Public Health (Tuberculosis) Regulations, which came into force on 1st January, 1909, and required the notification of all cases of tuberculosis coming under the notice of the Poor Law Authorities.

In 1911, the Public Health (Tuberculosis in Hospitals) Regulations were issued, coming into operation on 1st May, 1911, and required the notification of all cases seeking treatment at Public Hospitals and Dispensaries.

These Regulations were further supplemented by the Public Health (Tuberculosis) Regulations, 1911, which came into force on 1st January, 1912, and provided for the compulsory notification of all cases of pulmonary tuberculosis.

A further step was taken in 1912, when the Local Government Board issued the Public Health (Tuberculosis) Regulations, 1912, to come into operation on 1st February, 1913. These Regulations required the notification of all cases of tuberculosis, and superseded all previous requirements, and the need of voluntary notification was at an end.

The present Regulations call for notification under four heads, viz., A, B, C, D, as follows:—

Form A is to be used by a medical practitioner on first becoming aware that a patient is suffering from tuberculosis, unless he has reasonable grounds for believing that the case has already been notified.

Form B is used by School Medical Officers to make a weekly return to the Medical Officer of Health of all cases of tuberculosis

coming under their notice in carrying out the duties of medical inspection of children in Public Elementary Schools.

Form C is for the use of the Medical Officers of Poor Law Institutions and Sanatoria, to make a weekly return to Medical Officers of Health of cases admitted to their Institutions, and applies only to cases which have been previously notified on Form A.

Form D is similar in many respects to Form C, and is a weekly return of the discharge of patients and their intended destinations.

The notification in all cases is to be sent to the Medical Officer of Health of the district where the patient usually resides, or intends to reside.

The following table sets forth the number of notifications received each year since the commencement of the voluntary system in 1901 :—

Year.	Males.	Females.	Total.
1901	1148	649	1797
1902	1469	730	2199
1903	1153	721	1874
1904	1068	641	1709
1905	1257	604	1861
1906	1257	662	1919
1907	1446	784	2230
1908	1373	672	2045
1909	2674	1299	3973
1910	1631	1093	2724
1911	1700	1353	3053
1912	2090	1600	3690
1913	1910	1552	3462

The following table shows the various districts in the City where patients suffering from tuberculosis lived at the date of notification. The table refers to all cases notified during the year 1913, and differentiates between cases of Pulmonary and Non-Pulmonary Tuberculosis:—

Districts.	Phthisis.	Tuberculosis (non-pulmonary)
SCOTLAND	375	112
EXCHANGE	383	99
ABERCROMBY	281	64
EVERTON	536	228
KIRKDALE	258	93
WEST DERBY WEST	406	178
TOXTETH	470	199
GARSTON	78	26
WALTON	233	88
WEST DERBY EAST	203	107
WAVERTREE	125	79
TOXTETH EAST	58	22
FAZAKERLEY	2	1
OUTSIDE THE CITY	54	7
Total	3462	1303

Details as to the Ages and Sex of the Cases Notified during the Year 1913 are set forth in the following Tables, both in regard to Phthisis and Non-Pulmonary Tuberculosis.

PHTHISIS.

	Under 1	1-	5-	10-	15-	20-	25-	35-	45-	55-	65 upwards.	Total.
Males	6	65	152	108	148	174	404	413	280	123	37	1,910
Females ...	4	37	184	170	131	179	328	336	125	46	12	1,552
Total ...	10	102	336	278	279	353	732	749	405	169	49	3,462

TUBERCULOSIS (other than Pulmonary).

Males	27	127	215	156	56	36	33	18	14	4	1	687
Females ...	14	90	167	155	76	34	36	27	10	4	3	616
Total ...	41	217	382	311	132	70	69	45	24	8	4	1,303

DEATHS.

The Group of Tubercular Diseases includes Phthisis, Tabes Mesenterica, Hydrocephalus, and other forms of Tuberculosis. They occasioned 1,573 deaths in the City of Liverpool during the year 1913.

DEATHS FROM PHTHISIS.

The number of deaths from Phthisis during the year was 1,183. The number of deaths during each of the preceding ten years, 1903-1912, has been as follows:—1,258, 1,282, 1,245, 1,235, 1,183, 1,288, 1,116, 1,072, 1,313 and 1,189.

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	22	9	14	5	14	11	8	8	58	33	91
Exchange	23	9	20	11	11	10	18	11	72	41	113
Abercromby	22	11	21	7	12	7	14	6	69	31	100
Everton	30	27	27	27	28	17	29	13	114	84	198
Kirkdale	18	15	23	8	14	12	12	6	67	41	108
West Derby (West)	36	23	22	14	17	14	17	10	92	61	153
Toxteth	21	24	26	15	24	13	16	17	87	69	156
Walton	10	9	10	13	6	11	14	13	40	46	86
West Derby (East)	5	5	5	18	7	6	10	5	27	34	61
Wavertree	6	7	11	5	6	5	5	4	28	21	49
Toxteth (East) ... . (late Toxteth Rural)	8	5	3	3	3	1	5	4	19	13	32
Garston	4	1	3	2	5	2	7	2	19	7	26
Fazakerley	1	...	...	...	3	...	1	...	5	...	5
No Address	...	1	2	...	1	1	...	...	3	2	5
City	206	146	187	128	151	110	156	99	700	483	1,183

Ages at Death.

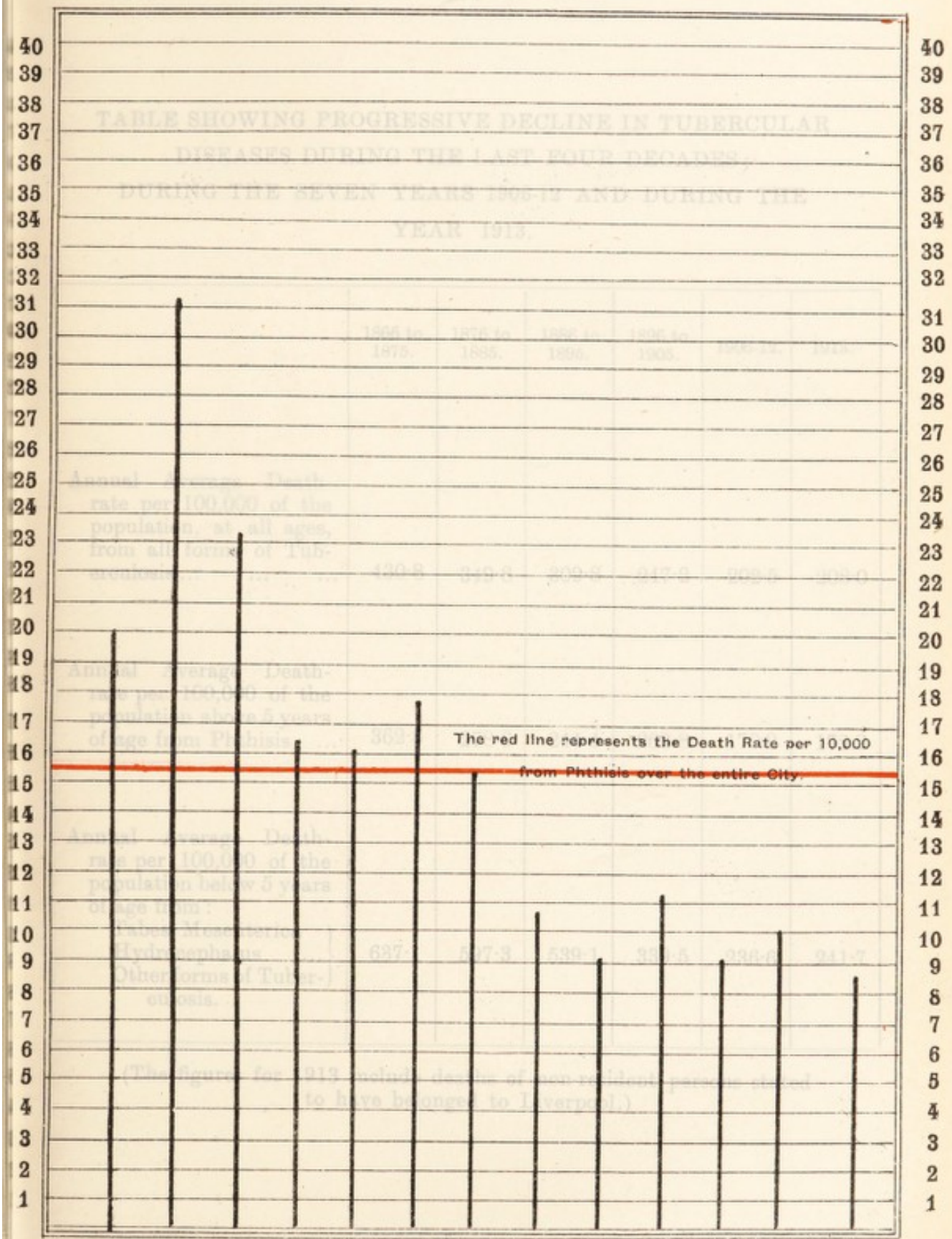
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
8	15	16	23	43	87	220	302	248	152	69	1,183

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

CITY OF LIVERPOOL.

Comparative view of the Death Rate from Phthisis per 10,000 of the Population in the different districts of the City during the year 1913.

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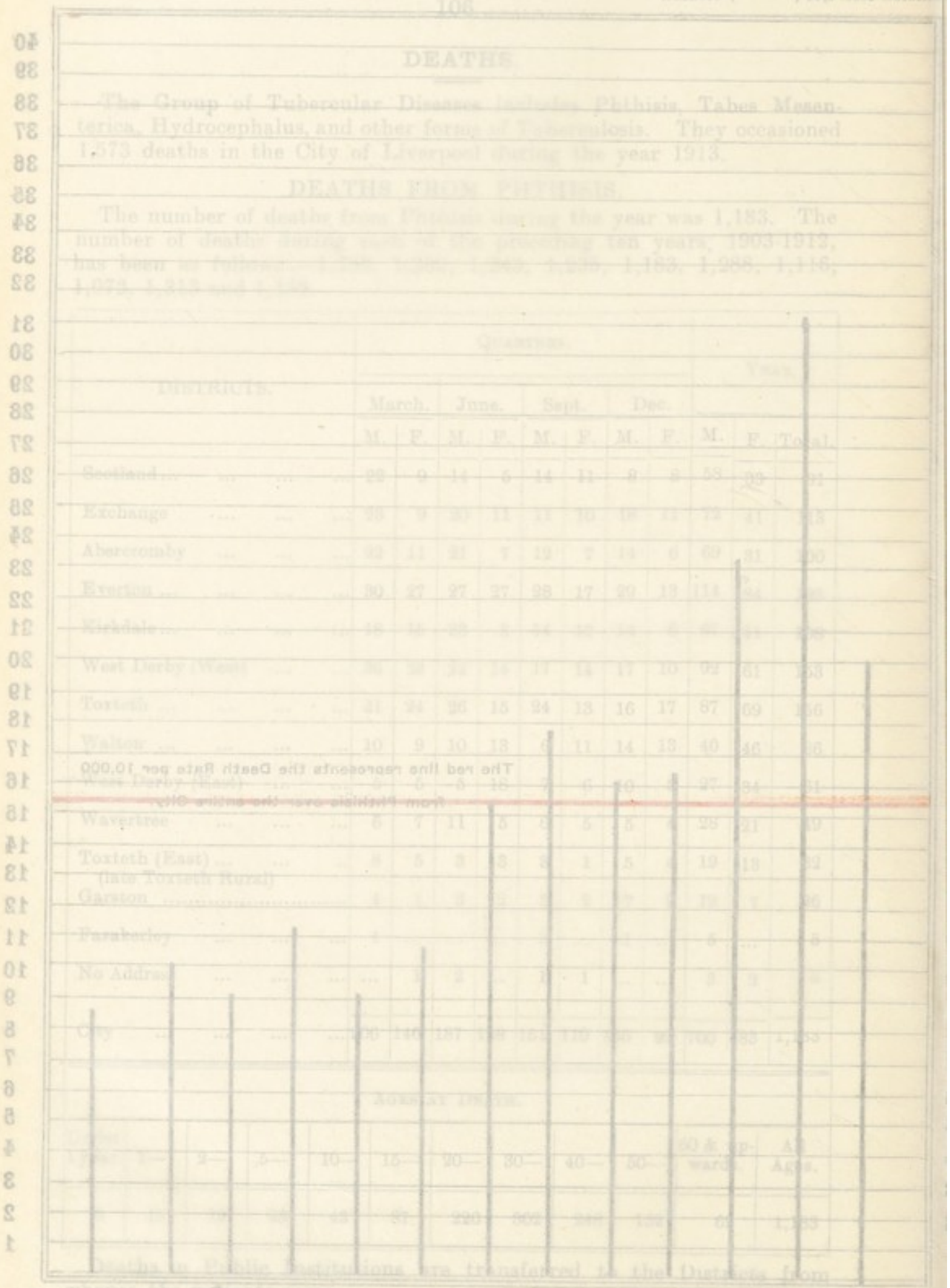

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AVENHEAD
GARSTON
TOXTETH (East)
WAVERTREE
WEST DERBY
WALTON
TOXTETH
WEST DERBY
KIRKDALE
EVERTON
ABERCROMBY
EXCHANGE
SCOTLAND
DISTRICTS.

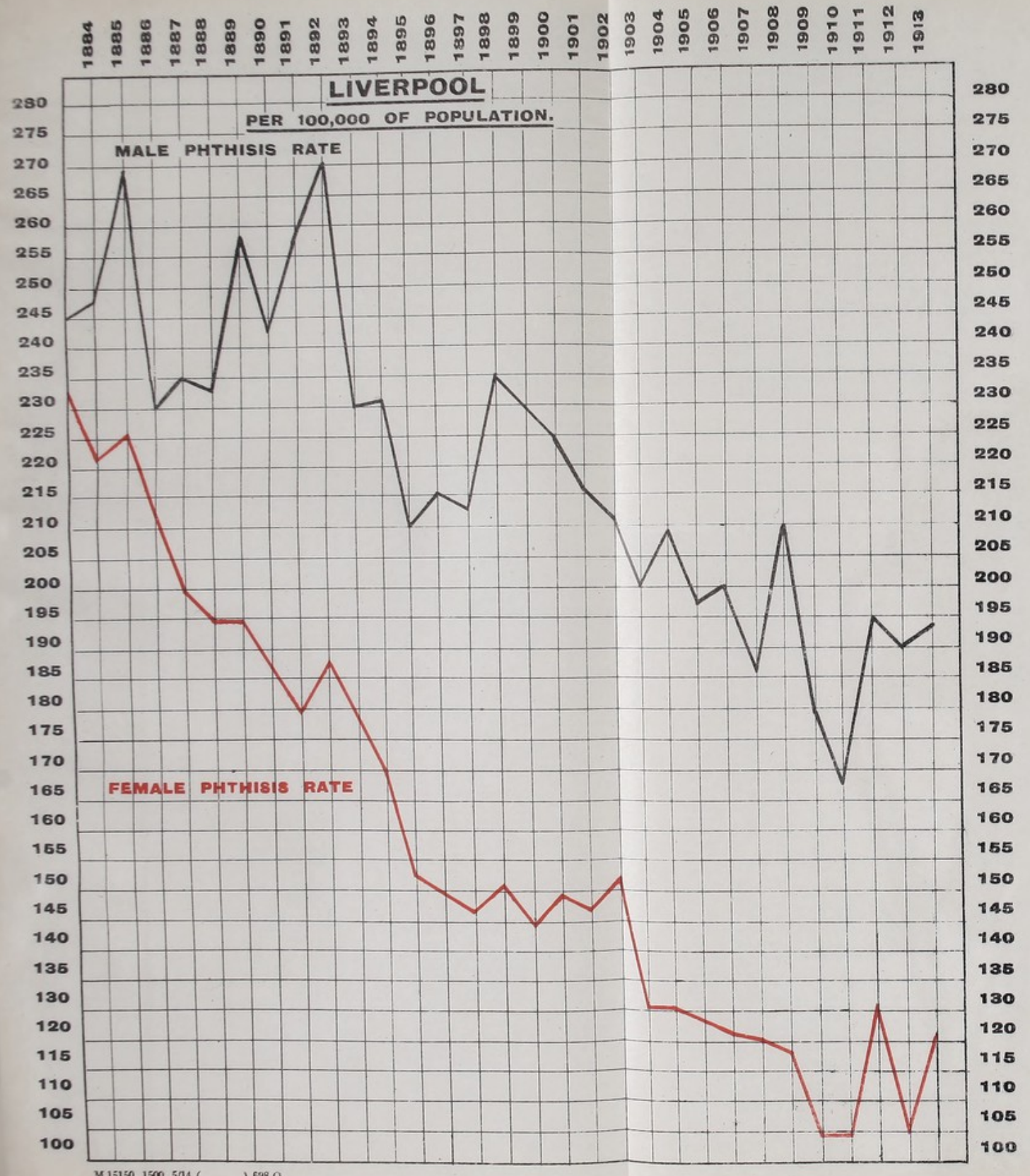
TABLE SHOWING PROGRESSIVE DECLINE IN TUBERCULAR DISEASES DURING THE LAST FOUR DECADES; DURING THE SEVEN YEARS 1906-12 AND DURING THE YEAR 1913.

	1866 to 1875.	1876 to 1885.	1886 to 1895.	1896 to 1905.	1906-12.	1913.
Annual Average Death-rate per 100,000 of the population, at all ages, from all forms of Tuberculosis	430·8	349·8	309·8	247·2	202·5	208·0
Annual Average Death-rate per 100,000 of the population above 5 years of age from Phthisis ...	362·8	278·6	244·4	203·8	170·9	172.2
Annual Average Death-rate per 100,000 of the population below 5 years of age from: Tabes Mesenterica Hydrocephalus ... Other forms of Tuberculosis.	637·1	597·3	539·1	339·5	236·6	241·7

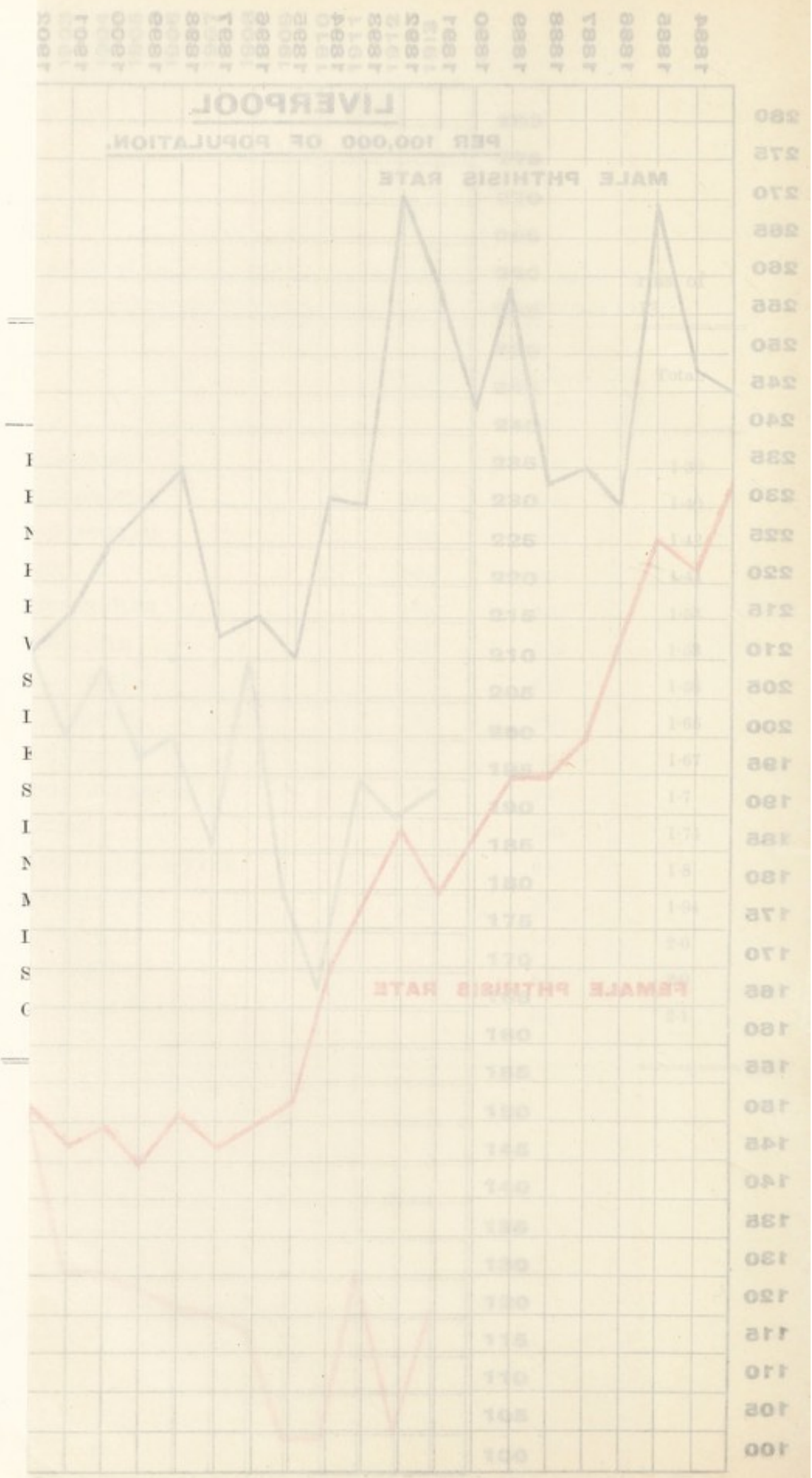
(The figures for 1913 include deaths of non-resident persons stated to have belonged to Liverpool.)

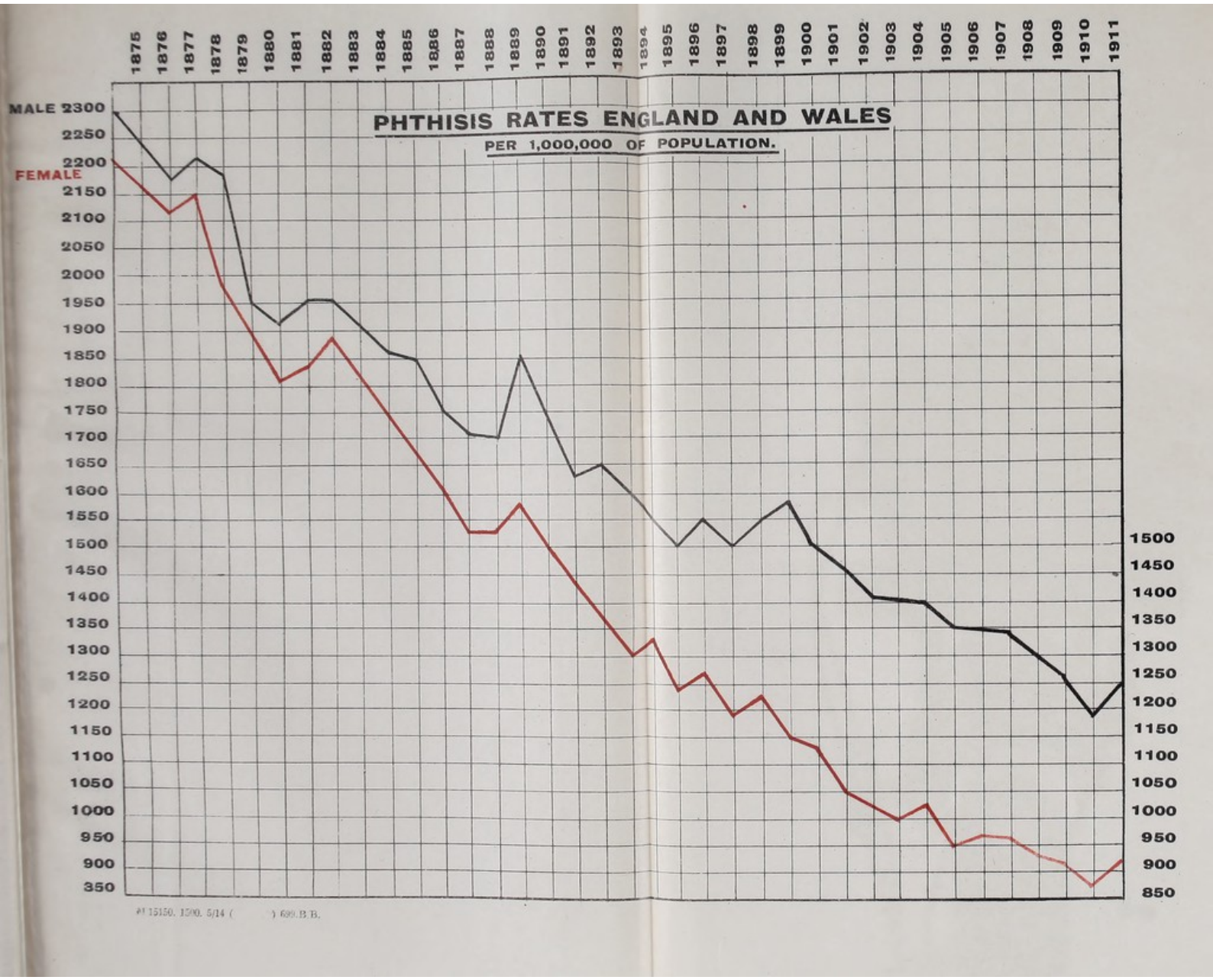
Death Rates from Pulmonary Tuberculosis and other forms of Tuberculosis in Sixteen Large Towns during the year 1913.

Town.	Pulmonary Tuberculosis.	Other Forms.	Total.
BRADFORD	0·99	0·40	1·39
PORTSMOUTH	0·96	0·44	1·40
NOTTINGHAM	1·13	0·29	1·42
HULL	1·04	0·4	1·44
BIRMINGHAM	1·19	0·34	1·53
WEST HAM	1·11	0·42	1·53
SHEFFIELD	1·17	0·41	1·58
LEICESTER	1·3	0·35	1·65
EDINBURGH	1·13	0·54	1·67
STOKE-ON-TRENT	1·2	0·5	1·7
LEEDS	1·2	0·54	1·74
NEWCASTLE-ON-TYNE	1·2	0·6	1·8
MANCHESTER	1·42	0·52	1·94
LIVERPOOL	1·5	0·5	2·0
SALFORD	1·4	0·6	2·0
GLASGOW	1·4	0·7	2·1

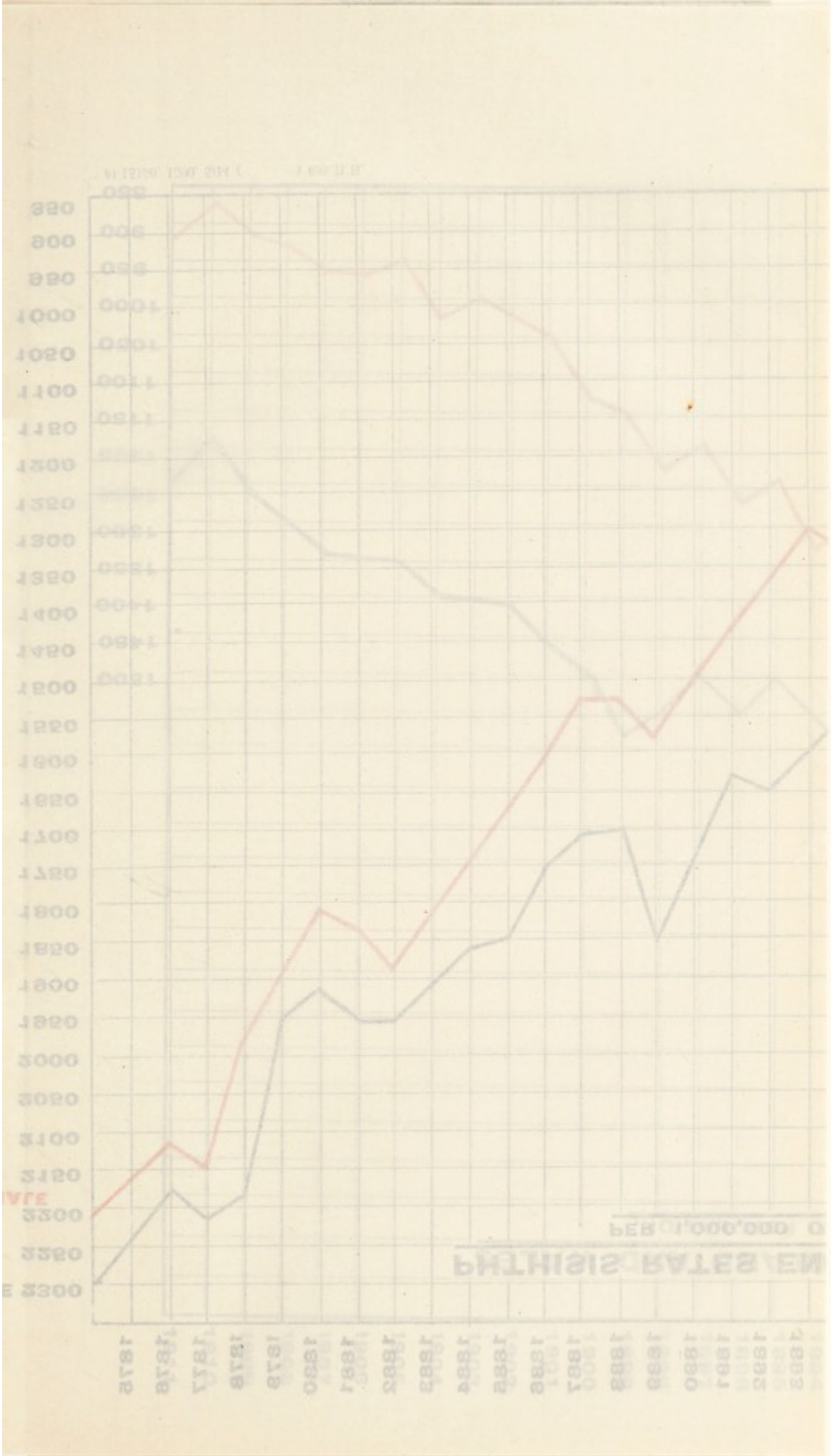


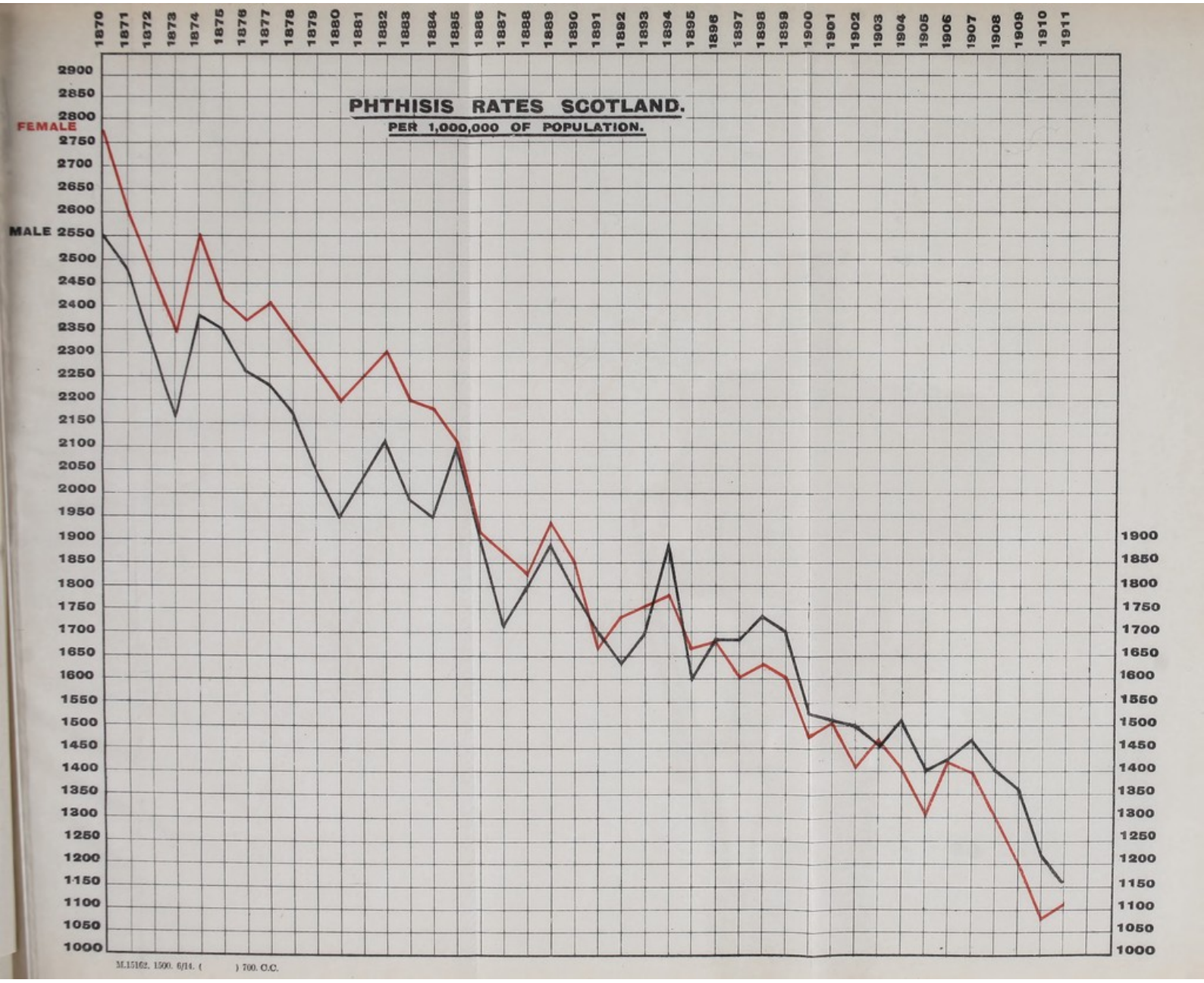
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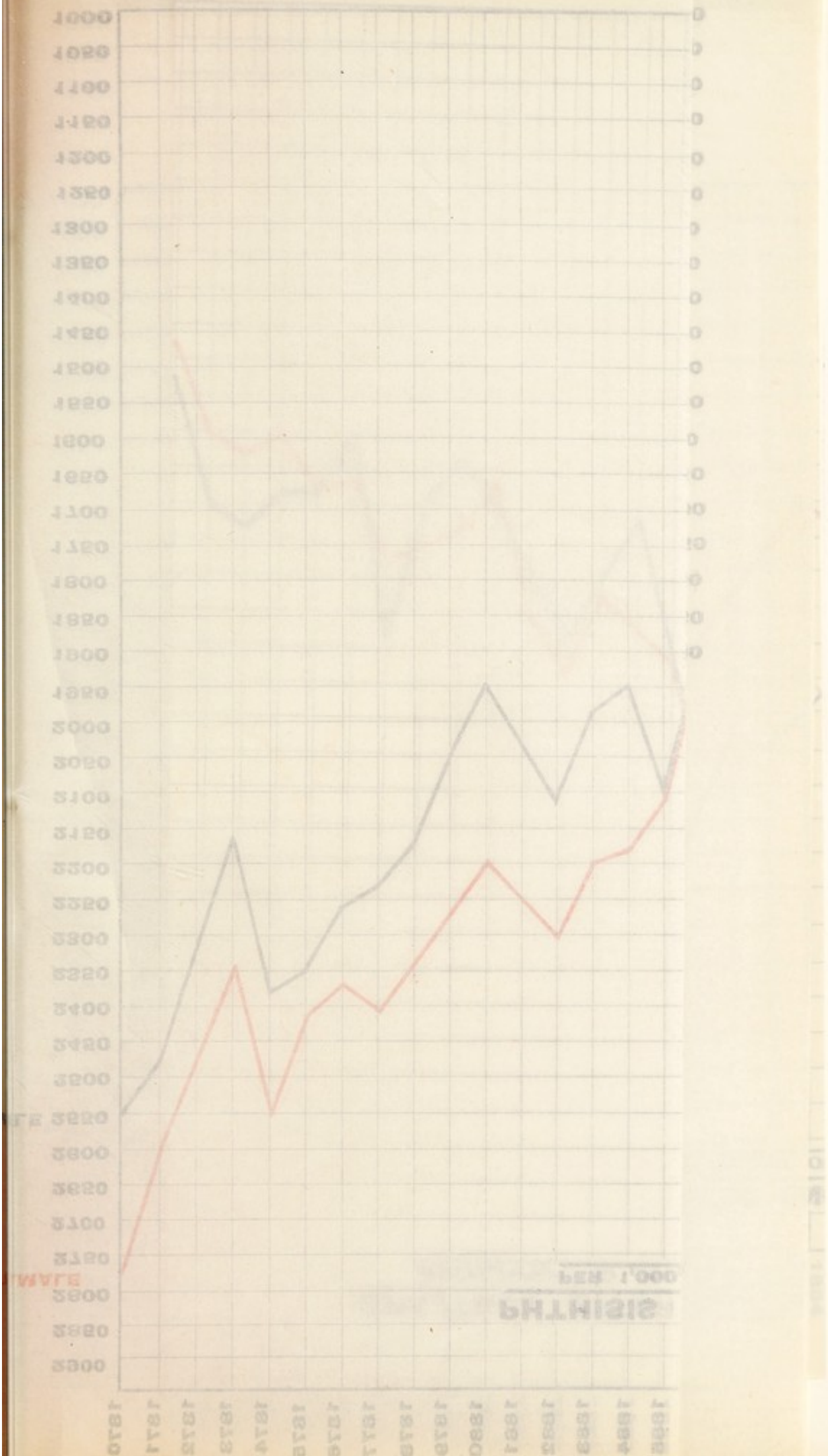


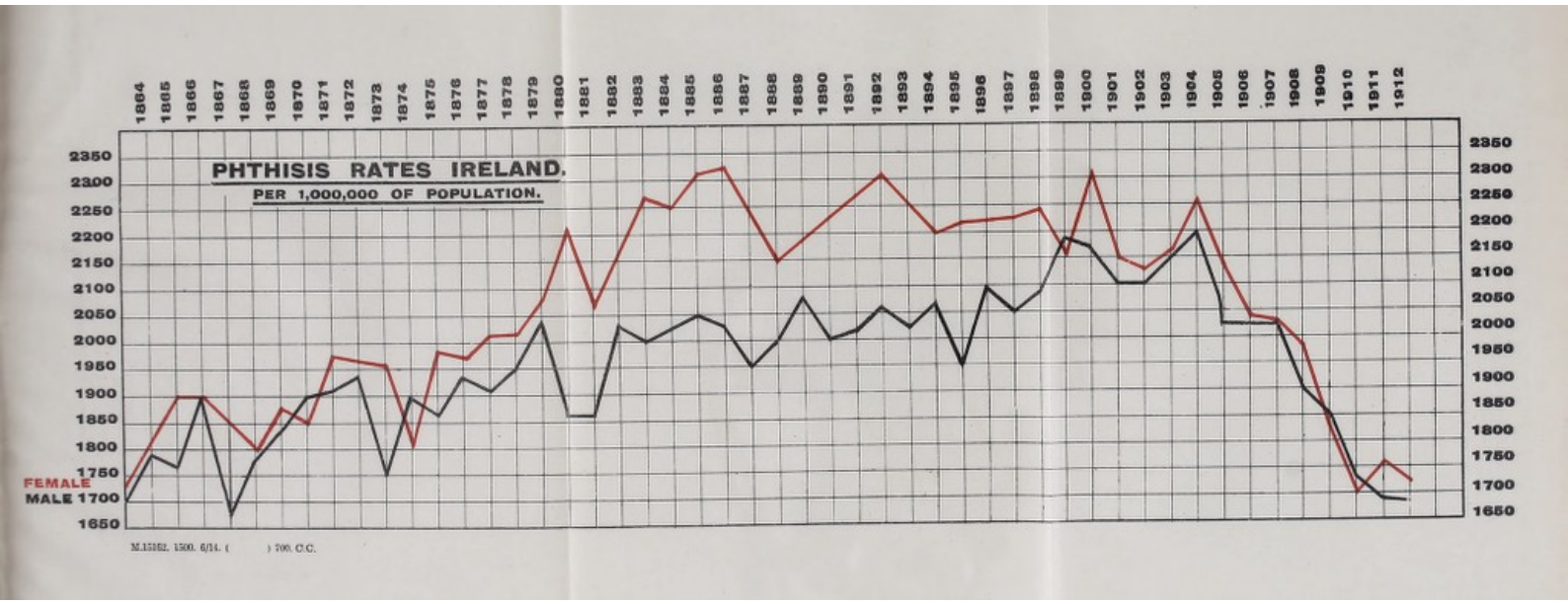
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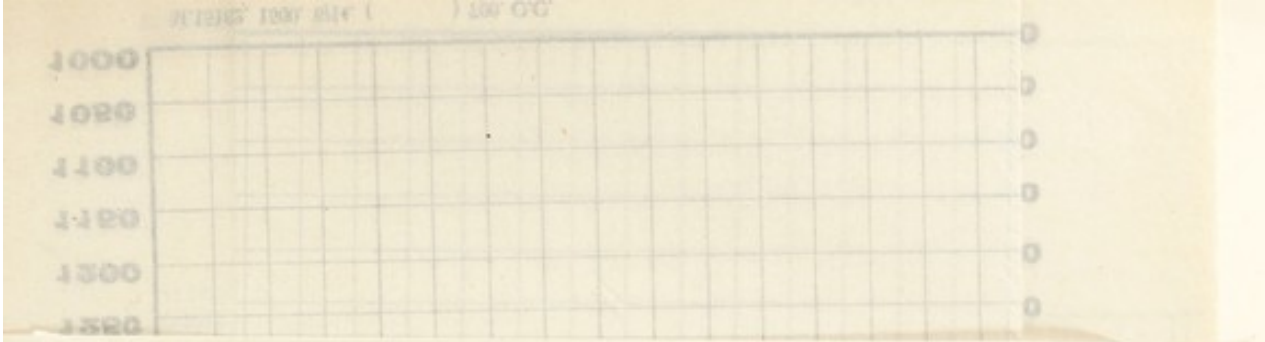


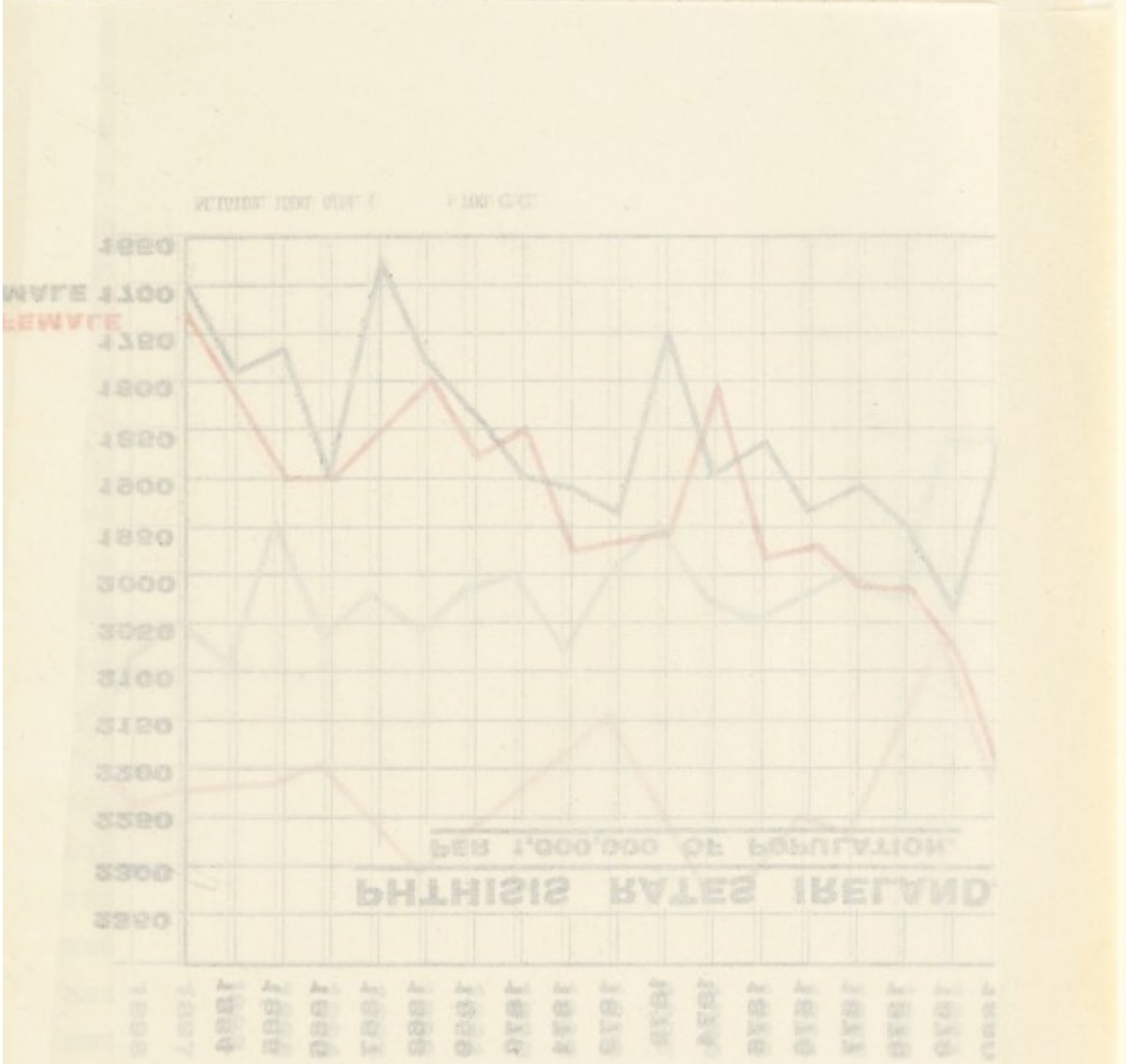
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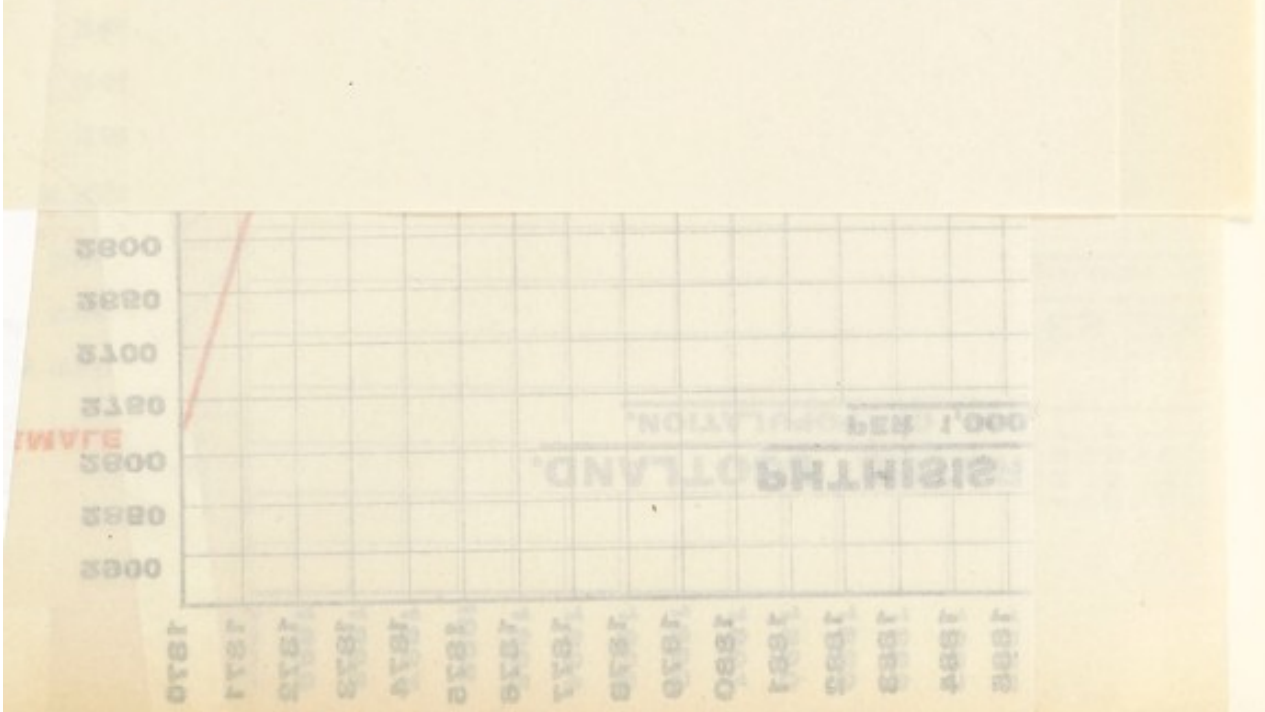




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PHTHISIS RATES IRELAND



DEATHS FROM OTHER TUBERCULAR DISEASES.

Viz. :—Tabes Mesenterica, Hydrocephalus, and other forms of Tuberculosis.

DISTRICTS.	Tabes Mesenterica.		Hydrocephalus.		Other forms of Tuberculosis.		Year.		
	M.	F.	M.	F.	M.	F.	M.	F.	T.
Scotland	2	...	10	6	8	9	20	15	35
Exchange	1	3	3	4	6	3	10	10	20
Abercromby...	...	2	9	2	10	6	19	10	29
Everton	4	6	7	8	17	16	28	30	58
Kirkdale	3	3	7	4	10	2	20	9	29
West Derby West	2	6	8	10	8	15	18	31	49
Toxteth	3	4	12	14	9	17	24	35	59
Walton	6	3	5	3	6	9	17	15	32
West Derby East	3	1	8	4	7	7	18	12	30
Wavertree	3	...	5	7	3	3	11	10	21
Toxteth East (late Toxteth Rural)	2	...	3	1	1	7	6	8	14
Garston	...	...	3	1	4	2	7	3	10
Fazakerley...	...	...	...	...	1	1	1	1	2
No Address	...	...	...	...	2	...	2	...	2
City	29	28	80	64	92	97	201	189	390

Ages at Death.

Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
72	66	85	41	30	17	28	19	15	12	5	390

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

PART II.

GENERAL PROCEDURE ON NOTIFICATION.

The basis of present procedure in regard to tuberculosis is the statutory notification received from the medical practitioner in attendance on the case. Since February 1st, 1913, compulsory notification has been in operation in regard to all forms of the disease, irrespective of the social position of the patient.

Persons in better circumstances in life have their medical advisers and appreciate the importance of precautionary measures and of treatment. The Department, however, has been mainly occupied attending to necessitous cases among the lower middle, working or more or less destitute classes.

Patients are from time to time notified as tuberculous on insufficient grounds. This naturally causes inconvenience to the patient and his or her friends and may lead to loss of time and money on the part of a wage earner or loss of education in the case of a child. As practitioners realise to a greater extent than at present the fact that they can obtain free of charge a consultation with, or the views of, the Tuberculosis Officer in charge of one of the Council's Tuberculosis Institutes, these irregularities in diagnosis will gradually diminish.

In accordance with the directions of the Local Government Board, registers are kept in which are entered the names, ages, addresses and occupations, etc., of notified cases of tuberculosis, distinguishing between disease of the lungs and other forms of tuberculosis. These registers are strictly confidential. Unless the notifying practitioner indicates that it is undesirable or unnecessary for enquiries to be made into the circumstances of the case, the patient is visited by the district sanitary inspector shortly after the notification has been received. At this visit full particulars of the patient's illness and surroundings are obtained and entered on a card, together with any other information bearing on the case which can be obtained, such as the names of any other persons in the house suspected to be suffering from the disease, particulars of milk supply, etc. The opportunity is taken at this visit to make a complete sanitary inspection of the dwelling, and in order that the patient may be placed in the most hygienic surroundings immediate steps are taken to remedy any sanitary defects. A printed booklet of

instructions for persons suffering from consumption, and for those who live with them, is left at the house. A copy of this has already been printed in previous reports.

Disinfection is carried out where necessary. If a suitable date for disinfection can be determined there and then, arrangements are put in hand forthwith, but if members of the family have to confer, a stamped postcard addressed to the Medical Officer of Health is left with the tenant whereon may be indicated the date for disinfection; a very large number of disinfections are carried out every year. Consequent on the thorough "spring cleaning," which of necessity takes place after fumigation, cleanliness is often indirectly obtained through disinfection of infected apartments.

Each case of pulmonary tuberculosis is re-visited at intervals of about two or three months by the same Sanitary Inspector, who sees that due precautions are being observed and that the patient remains in circumstances as healthy as possible. A considerable number of patients cannot be kept under continuous observation on account of frequent removals. Some families in the poorer parts of the City change their residence regularly at intervals of, say, two or three weeks.

In the case of non-pulmonary disease (for example tuberculous affections of the spine, brain, etc.), domiciliary visits are also paid to the patients by the Sanitary Inspector, but in such cases disinfection is rarely required and the directions given to the patients and their friends are suitably altered, inasmuch as non-pulmonary tuberculosis cannot in normal circumstances be regarded as a communicable disease.

Many valuable suggestions in regard to the provision of sanatorium or dispensary treatment are received from practitioners at the time of notification. These suggestions have been dealt with by the tuberculosis officers and the cases so recommended have been examined at one of the Council's tuberculosis institutes and if possible the treatment indicated has been supplied.

It will be understood that the visits of the Sanitary Inspector are in addition to those of the Doctor, and it is only at his request that they are made.

STAFF.

The whole of the staff of the Public Health Department may be regarded as directly concerned with the preventive administration of tuberculosis. All improvements in housing, the provision of open spaces, purity of milk and water supply, &c., have contributed to the decline of tuberculosis, and there is every need for such activity to continue with unabated vigour if it be desired to exterminate the disease.

A section of the Medical Officer's staff is specially organized to cope with the various administrative and clinical details incidental to the work. As described in previous reports, a special assistant to the Medical Officer has devoted his whole time to tuberculosis since 1910. The enormous increase in the number of references in regard to patients and the large amount of work to be undertaken in connection with the administration of "Sanatorium Benefit" under the Insurance Acts, rendered it imperative for the provision of further professional assistance. At the close of the year the following medical staff was engaged in the tuberculosis work of the Corporation:—

The Medical Officer of Health (Chief Tuberculosis Officer).

One Assistant to the Medical Officer of Health (Acting Chief Tuberculosis Officer).

Two Assistant Tuberculosis Officers (one further appointment to be made).

In addition to the above, two clerks were provided for the Assistant to the Medical Officer, while each Assistant Tuberculosis Officer was provided with a clerk, nurse, and porter, in connection with his respective Tuberculosis Institute.

The Assistant Medical Officer referred to assists generally in the detail of administration of Tuberculosis and of "Sanatorium Benefit." Some idea of the extent of the work of the central tuberculosis administrative office may be gained when it is stated that during the year under review no less than 6,700 letters, reports, &c., were prepared and forwarded, whilst 3,800 references from various departments, letters from patients, &c., were received and dealt with. A considerable amount of time has been spent in checking the numerous items in accounts submitted by the Corporation and others to the Insurance

Committee in respect of the provision of residential, dispensary, or domiciliary treatment, and "extra nourishment" for insured persons and their dependants.

TUBERCULOSIS INSTITUTES.

The three tuberculosis institutes which have been established by the Hospitals Committee of the City of Liverpool correspond to the so-called anti-tuberculosis dispensaries mentioned in the Astor Report of 1912. In order that the title of these premises should not clash with the old established district dispensaries, which have been a prominent feature in the medical treatment of the poor for many years in Liverpool, it was decided to call the new premises Tuberculosis Institutes.

The object of a tuberculosis institute may be briefly referred to at this point:—

"In a general way, the function of the tuberculosis dispensary should be to serve as:—

"(1) Receiving house and centre for diagnosis.
"(2) Collecting house and centre for observation.
"(3) Centre for curative treatment.
"(4) Centre for the examination of Contacts."
"(5) Centre for "After-care."
"(6) Information bureau and educational centre."

(Astor Report, page 11.)

The fullest use has been made during the year of the facilities afforded by these institutions, and in the complete scheme the work will be divided between the three establishments. Each institute is under the direction of an experienced medical officer, who has by his special training equipped himself in the diagnosis and treatment of tuberculosis. By arrangement with the Liverpool Queen Victoria District Nurses' Association, the services of a nurse are provided.

On receipt of notification, the patient is referred to the appropriate institute, and is informed that if he is not able to make the necessary journey, arrangements will be made for the tuberculosis officer to visit him at home. At the same time a letter is sent to the private practitioner associated with the case, in which he is invited to be present in consultation when the patient is examined.

A positive diagnosis of tuberculosis having been made, the form of treatment suitable and/or available for the case is next determined. In the majority of cases residential, i.e., sanatorium treatment is required, but it has been rarely possible during the year to admit the patient at once to a sanatorium owing to the pressure on the accommodation. In accordance with the regulations of the Insurance Commissioners, in such cases it has been the practice to make formal arrangements, whereby domiciliary treatment is provided by the patient's panel doctor.

A certain number of patients were found to be suffering from so advanced a phase of the disease that the question of removing them to a sanatorium could not be entertained.

On the 13th February, 1913, the Insurance Committee received the authority of the Commissioners to grant "extra nourishment" to insured persons and dependants who were receiving domiciliary or dispensary treatment. "Extra nourishment" was defined as including proprietary drugs or special articles of diet, directly ancillary to the treatment of tuberculosis, and it was expressly laid down that articles of ordinary food, *i.e.*, bread, meat, etc., were not allowed in this connection. The articles of nourishment most commonly prescribed are milk, eggs, and meat extracts, etc. By means of a circular addressed to the medical profession the responsibility of suggesting "extra nourishment," in cases receiving domiciliary treatment was put upon panel practitioners, because it was felt that these gentlemen being in frequent contact with their patients in their own homes, had more opportunities for judging the necessities of individual cases than the tuberculosis officers.

It has been observed that when an insured person has drawn his last instalment of sickness benefit (sickness benefit is paid at the rate of 10s. per week for the first twenty-six weeks of the illness), an application for "extra nourishment" is frequently made. It is in such cases that in all probability ordinary out-door relief is really required more than "extra nourishment."

The above remarks relate more especially to cases of pulmonary tuberculosis (consumption of the lungs), but in addition, numerous cases of non-pulmonary tuberculosis have received Sanatorium Benefit during the year. The majority of these applications have been in respect of

children and young persons, and in this connection the Invalid Children's Association has been intimately associated with the Corporation and Insurance Committee, and as stated in previous reports, this Association is recognised as a branch of the Public Health Department. On behalf of all children for whom admission to the following institutions is contemplated, viz. :—

Royal Southern Hospital.
Northern Hospital.
Royal Liverpool Hospital for Children, Heswall.
Children's Infirmary.
Children's Convalescent Home, West Kirby.

the Association has made itself responsible for the submission of the necessary forms of application for treatment in the case of dependants of insured persons. This action has relieved the Corporation and Insurance Committee of a very large amount of clerical work and home visitation, because the filling up of a comparatively simple form of application by ignorant or careless persons causes much difficulty and delay. The Insurance Committee having insisted upon the examination of all dependants prior to their admission to general and special hospitals, sanatoria, etc., a very large number of children have been examined at the tuberculosis institutes. The necessary recommendations have then been made in regard to treatment and in regard to the above named institutions, the Invalid Children's Association has taken steps to secure the provision of the recommended form of treatment.

Among patients for whom an examination at an institute has been frequently arranged are non-insured and non-dependant persons recommended by practitioners for the provision of sanatorium treatment. The existing Corporation sanatoria at Fazakerley and Parkhill have rendered it possible to deal with a limited number of such cases but it is at present not possible for the Corporation to maintain non-insured patients within other institutions. A considerable number of non-insured persons, however, were accepted for treatment at various charitable institutions as the result of a recommendation from the Public Health Department.

During the medical inspection of school children the School Medical Officers frequently discover children who present doubtful signs of

tuberculosis. The noise and want of clinical facilities associated with inspection on school premises are such as to interfere materially with the diagnosis of pulmonary tuberculosis. It is the practice of the School Medical Officers to refer any doubtful case to the Public Health Department. Arrangements are then made for the child to be carefully examined at a tuberculosis institute. A full report of the child's condition is subsequently forwarded to the school medical officer on a special form, and if active treatment appears to be required for definitely tuberculous cases, the necessary action is taken at once.

The Education Committee employ special Medical Officers to select candidates for and to be responsible in regard to the medical administration of the special schools for physically defective children. These officers recognise the fact that the final diagnosis of pulmonary tuberculosis is not an easy matter, and therefore refer them to the Public Health Department. In the case of definitely tuberculous children, arrangements were put in hand at once whereby such children were afforded as soon as possible the necessary sanatorium or other form of treatment.

During the year comparatively few direct applications from patients were received at the institutes. No doubt in the future the public will more and more of their own accord apply to these institutions, and from a public health point of view it is desirable that no difficulties should be placed in the way of their so doing. In the report of the Departmental Committee on Tuberculosis it was laid down that the tuberculosis officer should have at his disposal some beds for the purpose of observation. From the commencement of operations, facilities for this purpose have existed in regard to insured persons and their dependants. Special cases of difficulty in regard to the diagnosis of tuberculosis have by arrangement between the Insurance Committee and the Liverpool Chest Hospital, been admitted to the latter institution at the expense of the Insurance Committee, and a final diagnosis, in many cases quite impossible without observation in bed, has been made. It has not been possible during the year under review to make similar arrangements for non-insured or non-dependant persons, but the Corporation in their Permanent Scheme propose to extend these facilities so as to be applicable to all sections of the community.

"CLEARING HOUSE" FUNCTION OF INSTITUTES.

In regard to insured persons applying for "Sanatorium Benefit," as soon as a positive diagnosis has been made, the patient has been granted domiciliary or dispensary treatment forthwith. Every case of pulmonary tuberculosis should, if possible, be afforded a course of treatment, however short, in a sanatorium in order that the patient may acquire the necessary information regarding the nature of the disease, its infectivity, and the manner in which he should conduct himself in order to reside at home without danger to his friends. Efforts have been made therefore to admit every suitable applicant to a sanatorium.

TREATMENT AT INSTITUTES.

The Departmental Committee on Tuberculosis expressed the view that a very large number of patients suffering from pulmonary tuberculosis could be efficiently treated at a "tuberculosis dispensary" (Astor Report, P. 11). This so-called "dispensary" treatment consists as a rule in the administration of tuberculin with or without ordinary drugs. The precise value of tuberculin in the treatment of consumption of the lungs is still a matter of some doubt.

In Liverpool, before the establishment of the tuberculosis institutes, much attention had been directed to this matter by the staff of the Hospital for Consumption in the laboratory and out-patient department of that institution. Investigations were also conducted in the bacteriological laboratories of the University, in the Delamere Sanatorium, and in the Corporation Sanatorium, Fazakerley.

During the year 1913, the tuberculosis officers treated a number of patients with tuberculin at the institutes. The number so treated was not large, the view being held that only in certain specially selected cases is such treatment desirable.

No patient has been selected for a course of this treatment without a comprehensive and considered opinion as to the suitability of the particular case. Routine treatment by tuberculin as practised in certain "dispensaries" in other parts of the country has never been carried out in Liverpool, and until further experience has been gained it is not proposed to do so.

AFTER CARE.

Definite arrangements have been introduced during the year whereby patients discharged from Fazakerley, Parkhill and Delamere Sanatoria are kept under observation by the tuberculosis officers.

As pointed out on page 120, the Invalid Children's Association undertakes the after-care of children.

BUREAU OF INFORMATION, ETC.

Much general information relating to the distribution of the disease among various sections of the community, its incidence in various age groups, etc., is gained in the tuberculosis institutes, but during the year the staff have not been able to do more than keep the necessary records of cases examined, their full time having been occupied by routine work.

Distribution of anti-tuberculosis literature is at present carried out by the sanitary inspectors during the visitation of notified cases.

DOMICILIARY TREATMENT.

A considerable amount of domiciliary treatment under the Insurance Acts 1911-1913 has been afforded to insured persons, and a relatively small amount to the dependants of insured persons. No domiciliary treatment has yet been instituted in regard to non-insured and non-dependant persons, but in the Council's permanent scheme it is proposed to extend domiciliary treatment to all sections of the community.

The subject of domiciliary treatment of tuberculosis is open to difficulties, the chief being that many patients continue to reside in undesirable conditions. It is impossible, however, to accommodate all persons suffering from tuberculosis in sanatoria, hence domiciliary treatment will be necessary until the residential accommodation for tuberculosis patients is increased.

There has been a tendency for patients not to appreciate the fact that when domiciliary treatment has been arranged, something definite in the way of treatment for their case has been effected. The majority of patients desire either to enter a sanatorium or to regard themselves as not suffering from the disease.

In regard to patients above the poorest scale the Medical Officer would like to see a little more appreciation of the possibilities of routine

domiciliary treatment on both sides. The patient by better attention to the doctor's directions and the practitioner by the display of a little more interest in the subject, might with advantage unite to improve the status of official domiciliary treatment.

For many years large numbers of patients suffering from pulmonary and other forms of tuberculosis have received excellent nursing in their own homes through the agency of the Liverpool Queen Victoria District Nursing Association. This Association works in close co-operation with the Public Health Department.

The Insurance Committee make an annual grant to the Association in recognition of the valuable work performed in connection with the domiciliary nursing of insured persons.

NON-PULMONARY TUBERCULOSIS.

The Departmental Committee having referred in their report to the advisability of "Sanatorium Benefit" being extended to cases of tuberculosis other than pulmonary, the Liverpool Insurance Committee during the year under review treated a considerable number of these cases through the agency of the general hospitals of the City and sundry institutions for children. (These institutions were approved for the purpose in February, 1913, by the Local Government Board.)

The Insurance Committee's work in this connection chiefly concerned the dependants of insured persons, i.e., children, comparatively few insured persons being found to suffer from this form of tuberculosis. During the year no less than 230 cases were admitted and at the close of the year the following patients were actually under treatment:—

Institution.	Children.		Total.
	M.	F.	
Royal Liverpool Country Hospital for Children, Heswall	21	14	35
Children's Convalescent Home, West Kirby ...	22	31	53
Liverpool Children's Infirmary	7	4	11
Northern Hospital	2	1	3
	52	50	102

The operations of the Committee were much facilitated in the case of children by the willing and effective co-operation of the Liverpool Invalid Children's Association, which, as stated in a previous report, is recognised for all practical purposes as a branch of the Public Health Department. The Association was early in the year appointed by the West Kirby and Heswall institutions—where the majority of cases requiring *prolonged* residential treatment are received—as their agents in negotiations with the Insurance Committee. This arrangement has worked well and to the benefit of all concerned.

The Liverpool Children's Infirmary, and certain of the general hospitals similarly recognised the value of the help of the Invalid Children's Association.

The Association makes a special point of keeping in touch with the patients after they have completed active treatment: in fact the duties of an "After Care" committee are in respect of these children efficiently discharged by the Association.

RECORDS.

Complete clinical records are kept of every case of actual or suspected tuberculosis dealt with by the tuberculosis institutes. The records consist essentially of a quarto-size card specially designed for the purpose, with the necessary diagrams and ample space for observations relating to the after-history of the patient. This card is kept in a folder, which also contains copies of all letters, reports, memoranda, etc., concerning the case, so that full particulars in regard to a given patient can be found at a moment's notice. The folders are stored in vertical filing cabinets, and are indexed and numbered to facilitate reference.

It is understood that regulations will be issued by the Local Government Board in regard to the keeping of official, clinical and other records, but in the meantime the above provisional system has been found to work well.

In connection with domiciliary treatment of insured persons and their dependants, the statutory clinical cards prescribed by the Local Government Board have been supplied to practitioners. These cards have been

found to be somewhat too involved for the use of busy practitioners, and might with advantage be simplified.

THE FUTURE DEVELOPMENT OF THE PERMANENT SCHEME.

There is every indication that the activity of the Corporation in dealing with tuberculosis will be much extended during the next few years. Official Government communications and public opinion have supported the view of the Corporation that unification of administrative control in this matter is desirable. Tuberculosis may with certain reservations be regarded as an ordinary infectious disease, and as the Corporation now assume responsibility for the administration and treatment of smallpox and ophthalmia neonatorum there appears no reason why tuberculosis should be excluded. As shewn in previous reports and summarised in the preceding pages, the municipality has been making rapid strides to this end.

At the present time large numbers of tuberculous patients receive treatment at the hands of the three poor law authorities of the City. For many years certain of these bodies have made strenuous efforts to provide up-to-date treatment both for the "sanatorium" and "hospital" type of case. For example, the three boards of guardians until recently maintained an excellent sanatorium for adults at Heswall,* and the Select Vestry have in their Highfield institution several pavilions devoted to the open-air treatment of phthisis. Cases admitted to poor law institutions may roughly be divided into:—

(*a*) Ordinary early cases.
(*b*) Advanced cases (bedridden).
(*c*) Chronic destitute cases.

The last named class presents special difficulties in regard to administration. The experience of the poor law authorities in regard to these latter patients is most discouraging.

Such patients often leave institutions at their own request in a state of slight physical improvement. It frequently happens that a patient of this class is able to perform a few days' work and then relapses. Or

* Now used for children only.

work may not be forthcoming or sought, whereupon the patient suffers from starvation. In each case re-admission is probably applied for at one of the workhouse hospitals, and the patient again becomes an inmate. The cycle then commences afresh.

The medical officer of a Liverpool poor law hospital recently gave examples of this type of person, and stated that during a certain period of five weeks, forty such patients had been admitted to his institution. Eighteen of these remained for a period of fourteen days or less, and came in and out of the institution during the period mentioned (five weeks). *Of these, six men stayed out of the institution for only half a day.* The medical officer proceeded to say that the point to be realised in regard to such persons is that they have to be maintained rather than actively treated.

Great difficulties are experienced by patients who have completed actual treatment in securing suitable light out-door employment. Very often a patient discharged, with the disease arrested, is quite able to do a moderate day's work, but is quite unfitted for heavy manual labour, much less for sedentary clerical work.

The provision of a farm colony where patients would carry out carefully supervised labour and be paid for their services, would be a great advantage to the City. Many patients discharged from sanatoria in an improved condition would be so enabled to retain their health and at the same time to earn money to support themselves and their dependants.

It is desirable that at an early date some definite arrangements should be made for the provision of an "After Care" committee in connection with *adult* patients. The formation and procedure of such an organisation in so large a City as Liverpool presents many problems.

Lastly, it would appear desirable for the Corporation to provide a few beds, say a dozen for each sex—for the residential treatment of special cases of adults suffering from non-pulmonary tuberculosis for whom no accommodation exists at the moment.



SOUTH TUBERCULOSIS INSTITUTE.
General view of the outside of the premises.

TUBERCULOSIS INSTITUTES.

CENTRAL.

During the year the arrangements have been continued whereby the Central Tuberculosis Institute staff, consisting of an assistant tuberculosis officer, clerk, nurse and porter, are provided with the necessary accommodation in the Out-patient Department of the Liverpool Consumption Hospital, Mount Pleasant. The cordial co-operation of the Committee of this institution has facilitated the work of the Corporation at this centre, and an additional means of smooth working was provided by the appointment of one of the honorary assistant physicians to the position of assistant tuberculosis officer.

SOUTH.

The South Tuberculosis Institute, 365 Park Road, Dingle, was completed and brought into use in July, 1913. The premises are very complete, roomy, and afford every facility for the purpose for which they are intended. The Institute is convenient of access from the Southern portion of the City in that it is situated on one of the main tram routes. The accompanying illustration gives a general view from the outside of the premises.

On the ground floor are provided an enquiry room, waiting room for male patients, general office, and laboratory. The consulting room and waiting room for females and children are on the first floor. The second floor is occupied by the resident porter, whose wife acts as cleaner. A private office for the medical officer and a cloak room for the clerk and nurse, together with sanitary conveniences for staff and patients complete the accommodation.

Electric light, gas (for the laboratory), hot and cold water, are installed, and every convenience for the examination and treatment of patients is provided.

NORTH.

At the end of the year, the North Tuberculosis Institute, 330-332, Netherfield Road North, was almost ready for use. In this case, two moderately-sized houses have been converted into one. Considerable difficulty was experienced by the Hospitals Committee in finding suitable existing premises in the North end of the City, and the rooms of this Institute are not as large as those in the South Institute. The premises are, however, convenient of access to the inhabitants of Kirkdale, Walton and Everton. A view of the laboratory is given, this room being in all respects similar to that at the South Tuberculosis Institute.

THE SANITARY INSPECTION OF THE HOMES OF PATIENTS.

During the year 1913, 4,134 cases have been under the special observation of the Medical or Sanitary Staffs, 1,914 having been brought forward from 1912.

Of this total, 2,161 were males and 1,973 females. During the year, 692 have died; 264 are not being re-visited by request; 1,127 removed to new addresses not yet ascertained; 259 were at the time of the last re-visit inmates of various hospitals and institutions, and 1,792 were being visited at their homes at the end of the year.

AGES.

The ages of the patients, together with the percentage in relation to the total number of cases is shown in the following table:—

Under 15 years.	16 to 30 years.	31 to 50 years.	Over 50 years.
1,284 or 31%	1,245 or 30·1 %	1,327 or 32·1 %	278 or 6·7 %



NORTH TUBERCULOSIS INSTITUTE.
Photograph of laboratory.

The 4,134 cases dealt with during the year are housed as follows:—

2300 Occupy dwellings of six rooms and upwards.
238 ,, five roomed dwellings.
850 ,, four ,, ,,
262 ,, three ,, ,,
58 ,, two ,, ,,
5 ,, one ,, ,,
93 ,, two or more rooms in a sub-let house.
112 ,, one room in a sub-let house.
47 ,, insanitary cellars, shortly to be closed.
22 Reside in insanitary front houses.
147 ,, ,, court houses, many of them now under the consideration of the Housing Committee.

4,134

FAMILY HISTORY.

In 975 instances a definite record of the previous existence of the disease was given by other members of the family.

The relatives stated to have been previously affected are as follows:—

Father	Mother	Brother	Sister	Husband	Wife	Paternal Relative	Maternal Relative	Other Relatives	Total
212	187	143	140	38	19	81	100	55	975

EXTENT OF ISOLATION OF THE PATIENT.

1,579 Occupy a separate bedroom.
370 ,, ,, bed in room shared by others.
In 1,524 Cases, bed is shared by an adult.
,, 119 ,, the patient sleeps in the living room.
,, 542 ,, bed is shared by children

4,134

In a very large proportion of these cases the disease is not of the "open" variety, and there is no expectoration.

HABITS.

The following tables indicate the result of observations and enquiries into the habits of the patients:—

Over 15 years of Age.

	Temperate	Intemperate	Total
Males	1,368	134	1,502
Females	1,295	53	1,348

CLEANLINESS.

	Clean	Dirty	Total
Males	1,408	94	1,502
Females	1,276	72	1,348

1,284 patients are under 15 years of age.

OCCUPATIONS.

Actors	3	Boiler Scalers	11
Actress	1	Book Binders	7
Artificial Flower Maker	1	Boot Makers	22
Asphalter	1	Bottlers	12
Bagmakers	34	Bottle Washers	2
Bakers	14	Box Makers	6
Barbers	17	Brass Finishers	2
Barmen	9	Bricklayers	6
Bath Attendant	1	Broker	1
Blacksmiths	4	Brush Maker	1
Blue Factory Hand	1	Butchers	12
Bobbin Workers	10	Cabdrivers	11
Boiler Makers	12	Cabinet Makers	15

OCCUPATIONS.—*Continued.*

Canvassers	5	Feather Workers	4
Cap Dresser	1	Fitters	3
Caretaker	1	Firelighter Makers	3
Carpet Planners	3	Fish Salesman	1
Carters	62	Flour Mill Hands	9
Cattle Drivers	3	French Polishers	6
Charwomen	77	Gardeners	6
Clerks	105	Grocers	6
Coachmen	2	Hawkers	36
Coalheavers	18	Hospital Nurses	2
Commercial Travellers	10	Housewives	717
Confectioners	5	Inspector, Disinfecting	1
Coopers	7	Insurance Agents	15
Copper Worker	1	Iron Moulders	3
Cotton Porters	25	Iron Workers	8
Cotton Sorters	5	Joiners	21
Dental Mechanic	1	Knockers-up	6
Dock Labourers	259	Labellers	3
Domestic Servants	105	Labourers	267
Doorkeeper	1	Laundresses	19
Drapers	5	Laundrymen	4
Dressmakers	18	Lift Attendants	3
Electricians	7	Lint Worker	1
Engine Drivers	5	Licensed Victuallers	15
Engineers	9	Lithographer	1
Errand Boys	30	Machinists	21
Ex-Policeman	1	Marconi Operator	1
Ex-Soldiers...	4	Marine Firemen	37
Ex-Seaman...	1	Marine Store Dealers	3
Factory Hand	1	Match-worker	1

OCCUPATIONS.—*Continued.*

Messengers	4	Seamen	45
Metal polishers	4	Seamstresses	10
Milk Dealers	2	Ship Stewards	40
Milliners	5	Shopkeepers	13
Newsagents	2	Shop Assistants	53
Night Watchmen	6	Stonemasons	10
No occupation	181	Sugar Boilers	5
Nurses	3	Sweet Packers	3
Oil Cake Workers	7	Tanners	3
Packers	25	Tailors	19
Packing Case Makers	3	Tailoresses	20
Painters	36	Taxi and Motor Men	13
Paint Mixer	1	Telegraphists	3
Paper Bag Makers	5	Telephone Operators	2
Pattern Makers	4	Tinsmiths	9
Plasterers	7	Tobacco Workers	30
Plumbers	10	Tram Cleaners	2
Policemen	7	Tram Conductors	5
Porters (Railway)	20	Tram Drivers	4
Porters (General)	35	Tram Inspector	1
Porters (Fish and Fruit)	5	Upholsterers	11
Postmen	3	Vanmen	4
Printers	8	Waitresses	10
Rag Sorters	5	Watchmakers	3
Riveters	5	Warehousemen	16
Rope Workers	18	Wellsinker	1
Rubber Workers	5	Window Cleaners	4
Scavengers	13	Wood Turners	3
School Children	1,007	Children under school age	130
School Teachers	10	Total	4134

ANALYSIS OF OCCUPATIONS.

Indoor.	Outdoor.	School Children.	Children under School Age.	No Occupation.	Total.
1861	955	1007	130	181	4,134

BIRTH PLACE.

3,604 of the patients were born in Liverpool. Of the remaining 530 the great majority, viz., 501, were born in other parts of the United Kingdom, but have been resident in Liverpool for periods ranging from 6 months to 40 years; 114 were natives of Ireland. Persons of foreign birth numbered 29.

MEMORANDA IN RESPECT TO SCHOOL CHILDREN.

On December 31st, 1912, there were 563 school children on the re-visit list.

During the year 1913, 444 new cases have been added, making a total of 1,007 cases dealt with during the year.

ANALYSIS.

49 deaths (not in all cases from tuberculosis).

82 re-visits are unnecessary, and have been discontinued.

262 have removed from their original addresses and have temporarily been lost sight of.

614 were under observation on December 31st, 1913.

Total 1,007, 260 of whom were actually in attendance at school.

In 77 instances the child has received the advantage of Sanatorium treatment.

The type of dwelling occupied varies in character and accommodation:

In 572 cases the dwellings are sanitary, being provided with through ventilation, yard space, and separate water-closet accommodation, and are maintained in a fairly clean condition, although the isolation in some cases might be improved.

39 cases are housed in insanitary court houses, or cellars, which will shortly be closed.

In 3 cases, although the house was otherwise sanitary, the accommodation was limited to one room.

614

ISOLATION.

168 Occupy a separate bedroom.
122 ,, separate bed in a room shared by others.
In 324 cases the patient slept with others.

Total 614

SANITARY ADMINISTRATION.

SANITARY ADMINISTRATION.

For the purpose of carrying out the requirements of the various Sanitary Acts of Parliament and the Orders, Bye-laws, and Regulations made thereunder, the following staff of the Medical Officer of Health's Department has been employed during the year:—

	Males.	Females.
*Chief Sanitary Inspector	1	—
*Deputy Chief Sanitary Inspector	1	—
*Prosecuting Sanitary Inspectors	7	—
*Inspectors for General Sanitary Purposes ... (The Female Inspectors also assist at the Medical Inspection of School Children, and visit the homes where births have been notified under the Notification of Births Act, &c.)	33	25
‖*Inspector of Midwives	—	1
*[2]Inspector for Ophthalmia Neonatorum	—	1
Assistants at Humanised Milk Depôts	2	11
Temporary Assistants at Depôts	3	12
§Inspectors of Meat and Animals	5	—
Inspectors under the Diseases of Animals Act ... (The six Port Sanitary Inspectors also assist in carrying out the provisions of this Act.)	1	—
**Inspectors of Fish and Fruit	4	—
* ,, under the Sale of Food and Drugs Act	3	—
* ,, ,, ,, Shops Acts, and Employment of Children Act	3	1
* ,, of Workshops, Workplaces, and Bake-houses ... ... (These Inspectors are also appointed under the Shops Acts, and the Employment of Children Act.)	4	—
†Smoke Inspectors	3	—
***Inspectors of Common Lodging and Sub-let Houses	16	—
* ,, ,, Canal Boats	1	—
* ,, ,, Cowsheds and Milkshops	2	—
* ,, ,, Food and Drugs, and Cowsheds and Milkshops	1	—
***Notice Servers	3	—
Chief Clerk	1	—
Clerical Staff (Medical Branch)	14	—
,, ,, (Sanitary Branch)	14	
***‡Disinfecting Inspectors, for removing patients and infected bedding, and disinfecting infected houses, &c.	14	—
Persons engaged as Caretaker of Mortuary, and for the cleansing of verminous children ...	—	2
Motor Ambulance Drivers	2	—
Men engaged stripping walls of infected houses, limewashing middensteads, rat-catching, &c.	24	—
Total No. of Staff	162	53

In every case Officers are selected for these positions whose previous training and occupation have been such as to fit them for the special duties they are called upon to discharge. Those marked * are required to hold a certificate affording evidence of adequate sanitary instruction. ‖Registered midwife, a fully qualified nurse, and holds diploma of London Obstetrical Society. [2]A fully qualified nurse, and has had special training in Ophthalmia Neonatorum. §Butchers by trade, specially trained and certificated; candidates are submitted to practical examination upon the lines which have been indicated in the Report of the Royal Commission upon Tuberculosis. **Three are Fishmongers by trade, and one a Fruiterer. †Hold Marine Engineers' First Class Certificates. ‡The Superintendent holds certificate of St. John Ambulance Association. ***Several hold the certificate of the Sanitary Institute, or an equivalent thereto.

The number of occasions upon which the advice and assistance of the Health Department have been sought has decreased during the year. These applications fluctuate slightly year by year; in 1909 they were 8,779; in 1910, 9,354; in 1911, 9,688; in 1912, 10,451; and in 1913, 9,682. As in former years, complaint in many cases was made to the Health Department only after repeated requests addressed to the persons causing or allowing the nuisance, or to agents or owners of property, had been ignored. A great deal of the time of the Inspectors was taken up by these special examinations.

Requests to examine important public buildings and offices, as well as highly-rented dwelling-houses, are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system. Requests for the application of the smoke test are frequent, and involve considerable time in carrying out.

The District Sanitary Inspectors visit all premises where a nuisance is complained of, at the earliest possible moment, and last year 11,910 nuisances were discovered as the result of complaints, and preliminary notices were served either on the owners or the occupiers to remedy them, except where the matter was one which came within the province of another department, in which case it was referred to the other department to be dealt with.

The nuisances for which notices were served, numbering 10,743 were referred to the Prosecuting Inspectors for re-inspection, and where necessary further proceedings were taken.

In the case of ordinary nuisances, of which there were 91,321 discovered last year, preliminary notices were also served on the owner or occupier, but the nuisances in the first instance were re-inspected by the District Sanitary Inspectors. There were 60,170 re-inspections of nuisances made by the District Sanitary Inspectors, and 35,699 nuisances were found to have been abated. Statutory notices were served in respect of those nuisances found not abated, and these were again re-inspected by District Inspectors. Those found to be still not abated were referred to the Prosecuting Inspectors for further action. In addition to these numbers there were 25,312 references to other departments.

The following table shows the number of nuisances found by the District Sanitary Inspectors on routine inspection or on complaints, and the character of the proceedings taken by the Prosecuting Sanitary Inspectors to abate the nuisances, and the results:—

	1912.	1913.
Number of Complaints made by Inhabitants	10,451	9,682
,, Nuisances discovered on above complaints...	13,641	11,910
,, ,, ,, ,, house to house inspection ...	93,611	91,321
Total Nuisances ...	107,252	103,231
,, Preliminary notices issued	—	38,610
,, Statutory ,, ,, ...	—	11,912
,, Notices issued to Owners	53,650	48,598
,, ,, ,, Occupiers	2,067	1,924
Total Notices ...	55,717	50,522
,, Notes to Complainants	1,455	691
,, Re-inspections of Nuisances by District Inspectors. Preliminary Notices ...	64,862	60,170
,, Nuisances abated on first re-inspection ...	35,091	35,699
,, Re-inspections of Nuisances by District Inspectors. Statutory Notices	—	6,518
,, Nuisances abated on first re-inspection ...	—	3,564
,, Visits to Premises under observation ...	1,372	1,439
,, Incidental calls	26,307	23,254
,, Special nuisances referred to Prosecuting Inspectors...	10,811	10,743
,, Ordinary do. do. ...	29,575	28,149
Total Visits	40,386	38,892

	1912	1913
Number of visits made by Prosecuting Inspectors, *re* special reports	17,736	14,893
,, visits made by Prosecuting Inspectors, *re* ordinary reports	38,080	31,668
Total Visits	55,816	46,561
,, re-inspections of nuisances by Prosecuting Inspectors...	87,468	78,920
,, nuisances abated on re-inspection	31,306	28,659
,, notes sent to comply with notices	2,857	2,397
,, re-tests of drains after compliance with notices	188	188
,, Informations laid for nuisances	212	147
,, Magistrates' Orders	170	116
,, Fined	18	21
,, Acquitted or Withdrawn	24	10
Amount of Fines and Costs . .	£58 10 6	£39 8 6

The nuisances dealt with comprise mainly—defective and choked drains, sink waste pipes and spouts; defective roofs; defective flagging and paving; defective water-closet basins, putty joints, walls, floors, seats and doors; defective or dirty cisterns; defective supply pipes; insufficient or no supply of water; defective chimney flues; offensive matter, animals or poultry on premises; also dirty floors, &c.

IMPROVED SANITARY ASHBINS SUBSTITUTED FOR ASHPITS.

This important work has been steadily continued, and as a result, 3,207 insanitary ashpits have been abolished and improved sanitary ashbins substituted.

	1912.	1913
No. of defective Ashpits reported by District Inspectors	2,360	2,715
,, Notices	4,509	4,786
,, Visits to premises by Ashpit Inspectors	25,792	24,200
,, Re-inspections relative to abolition of ashpits and provision of ashbins	13,535	10,999
,, Improved Sanitary Ashbins supplied	7,370	5,433
, Ashpits abolished	4,478	3,207

The number of improved sanitary ashbins supplied in place of old insanitary ashpits was 5,433. In addition, approximately 449 improved bins have been placed in new property, 1,619 ashbins have been renewed, and 251 ashbins supplied to premises where neither ashpit or ashbin accommodation existed, making a total of 7,752. There were also 112 ashbins repaired.

There are now 119,953 sanitary ashbins in use in the City, and there are still approximately 12,000 ashpits in the City.

SPECIAL VISITS TO SANITARY CONVENIENCES.

	1912.	1913
Number of visits to offices	135	113
,, ,, public lavatories	2	8
,, ,, women's lodging houses	229	262

REFERENCES FROM OTHER DEPARTMENTS.

	1912.	1913.
Received from the Education Department ...	24,888	22,912
,, City Engineer	9,844	9,972
,, Water Engineer	12,059	2,064
,, Lodging-house Inspectors..	7,101	8,660

The references from the Education Department relate to school children said to be suffering from measles, whooping cough, ringworm, skin disease, neglect, &c.

The references from the other Departments mainly comprise insanitary conditions discovered by officers belonging to those departments, but with which it is not within their province to deal. The City Engineer's Department continues to report defects in private drains brought to light during the process of systematic flushing.

REFERENCES TO OTHER DEPARTMENTS.

A considerable number of conditions ascertained by the Male Sanitary Staff which did not come within the scope of the Health Department were referred to other departments to be dealt with:—

	1912.	1913.
Referred to City Engineer	12,730	14,426
,, Building Surveyor	2,614	3,716
,, Water Engineer	8,273	7,170
,, Education Department	22,112 *	18,919 *

The references to the Water Engineer comprise mainly, defective fittings, resulting in waste of water; also cases in which the supply was insufficient, owing to various causes.

The references to the City Engineer consist principally of choked main drains and street gullies, and defective street and passage pavement; the references to the Building Surveyor concern dangerous walls, floors, roofs, &c.

References to the Education Department chiefly relate to children from infected houses who are attending school.

HOUSE TO HOUSE VISITATION.

The following table indicates the results of the systematic house-to-house visitation by the District Male Staff:—

	1912.	1913.
Number of Inspections of Street Houses	85,252	85,180
,, Street Houses found Clean	84,075	84,001
,, Apartments in Street Houses Examined	436,299	435,271
,, Inspections of Court Houses	3,636	4,567
,, Court Houses found Clean	3,483	4,438
,, Apartments in Court Houses Examined.	11,436	14,621
Total Number of Houses Examined	88,888	89,747
Number of special visits to dwellings in connection with Infantile diarrhoea	—	19,481

The gradual diminution in the number of Courts enables a more frequent inspection to be made.

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* For number of references by Female Inspectors see page 81.

DIRTY HOUSES.	1912.	1913.
Number of Dirty Street Houses Inspected	1,177	1,179
,, ,, Court ,, ,, ...	153	129
,, ,, Cellars Inspected	137	128
,, Notices to Owners to Cleanse Dirty Houses	1,293	1,491
,, Notices to Occupiers to Cleanse Dirty Houses	70	1
,, Notices to Owners to Whitewash Exteriors of Court Houses	603	598
,, Informations...	5	—
,, Fined	2	—
,, Acquitted or Withdrawn	3	—
Amount of Fines and Costs ...	£1 4 6	£ —

All the above houses were subsequently cleansed.

INFECTED HOUSES.

The following table shows the number of houses visited where notifiable infectious diseases occurred, also the number of visits to these houses, and to houses where cases of non-notifiable infectious diseases had been reported to the department by the Education Department.

	1912.	1913.
Number of Infected Street Houses (notified cases) ...	11,024	11,841
,, ,. Court ,, (,, ,,) ...	296	308
,, ,, Cellars (,, ,,) ...	26	2
,, visits to infected Houses and Cellars (notified cases)	11,889	12,921
,, Smallpox, Typhus, &c., enquiries ...	2,830	2,446
,, Phthisis revisits	7,747	9,195
,, of Inspected Houses (non-notifiable disease) reported by School Authorities	13,638	11,726

EXAMINATION OF CELLARS AND CELLAR DWELLINGS.

	1912.	1913.
Number of Inspections of Street Cellars	16,311	22,980
,, Street Cellars found disused	570	1,706
,, ,, ,, used for Lumber, &c. ...	9,855	13,394
,, ,, ,, used as Kitchens	4,449	6,490
,, ,, ,, found illegally occupied ...	67	229
,, ,, ,, ,, legally ,, ...	1,370	1,161
,, Notices issued to Owners	108	257
,, ,, ,, Occupiers	63	172
,, Inspections of Court Cellars	1,038	1,145
,, Court Cellars found disused	86	28
,, ,, ,, used for Lumber, &c. ...	796	898
,, ,, ,, used as kitchens	156	215
,, ,, ,, illegally occupied	—	4

The number of cellars filled in by the Health Committee, free of charge to the owners, during the last ten years was 231.

The total number of cellars let as separate dwellings at present upon the Register is approximately 932, in which about 2,796 people are housed.

STATEMENT SHOWING THE NUMBER OF CELLAR DWELLINGS, AND POPULATION, FROM THE YEAR 1898 TO 1913.

	No. of Cellar Dwellings.	Approximate Population.
Year 1898.....	3,288	12,000
1899.....	3,288	11,000
1900.....	3,209	10,500
1901.....	3,201	9,400
1902.....	3,178	9,300
1903.....	3,123	9,200
1904.....	3,058	9,160
1905.....	2,558	7,860
1906.....	2,016	6,337
1907.....	1,955	6,154
1908.....	1,793	5,379
1909.....	1,776	5,328
1910.....	1,764	5,292
1911.....	1,685	5,055
1912	1,614	5,112
1913.....	932	2,796

Under the powers of the Liverpool Corporation Act of 1908, the occupation of cellars as separate dwellings, the floors of which are more than two feet below the ground, became illegal after December 31st, 1912, and the provisions of this Act are gradually coming into operation throughout the City.

COURT AND ALLEY EXAMINATIONS.

	1912.	1913.
Number of Inspections of Courts and Alleys... ...	28,618	25,662
,, ,, Closets	55,722	49,884
,, Closets found Dirty, but cleansed by Officer's Instructions	25,640	23,907

Special and systematic visits to courts and alleys are made with the object of ensuring the cleanliness of the domestic offices and the surface of the courts. The aim is to keep the courts and alleys uniformly clean throughout the week, and with this view the district inspectors are instructed that every tenant in each court is in turn to be held responsible for the cleanliness of the water-closets for a period of one week; the inspector records in his visiting book whose turn it is, and duly informs that tenant. Failing compliance with his requirements, an information is laid under a bye-law, made under the Liverpool Sanitary Act, 1846.

Under the Public Health Acts Amendment Act, 1890, somewhat similar proceedings may be taken.

The courts and alleys continue to decrease in number, owing to the demolition of low-class property for the extension of business premises, or to the removal of insanitary property by the Housing Committee.

STATEMENT SHOWING THE NUMBER OF COURTS AND ALLEYS SCHEDULED FOR INSPECTION FROM THE YEAR 1890 TO 1913.

Year 1890	2,165	Courts	and	Alleys.
1895	1,660	,,	,,	,,
1898	1,466	,,	,,	,,
1899	1,432	,,	,,	,,
1900	1,195	,,	,,	,,
1901	1,159	,,	,,	,,
1902	1,074	,,	,,	,,
1903	1,042	,,	,,	,,
1904	976	,,	,,	,,
1905	927	,,	,,	,,
1906	857	,,	,,	,,
1907	825	,,	,,	,,
1908	782	,,	,,	,,
1909	698	,,	,,	,,
1910	604	,,	,,	,,
1911	566	,,	,,	,,
1912	499	,,	,,	,,
1913	454	,,	,,	,,

This shows a diminution in twenty-three years of 1711 courts and alleys, of which 328 were demolished during the last five years.

In the months of July, August and September many of the water-closets were more frequently visited, and throughout the year all courts and alleys having covered entrances were specially washed and hosed down by the scavengers. Under the Liverpool Sanitary Act the exteriors of all courts and alleys require to be limewashed by the owners as often as may be necessary. The number of courts requiring limewashing in 1913 represented approximately 2,676 houses.

The Building Surveyor has kindly supplied the following table:—

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING THE YEAR ENDING DECEMBER, 1913.

DISTRICTS.	Number erected.	Number taken down
Scotland	—	118
Exchange	—	231
Abercromby	—	66
Everton	—	6
Kirkdale	—	23
West Derby (West)	—	2
Toxteth	90	26
Walton	168	16
West Derby (East)	269	6
Wavertree	183	2
Toxteth (East)	1	—
Garston	56	2
Fazakerley	—	—
Totals	767	498

The City Engineer has kindly supplied the following:—

Number of cellars filled in and bricked up during 1913	Nil
,, ,, ,, ,, the last 10 years ...	231

SEWER VENTILATION TO END OF 1913.

Number of 9-inch by 6-inch, 9-inch, 6-inch, 6-inch by 4-inch, 4-inch by 4-inch, 4-inch, and 3-inch Iron Pipe Ventilating Shafts	1,915
Number of Street Ventilating Manhole Covers and Gratings	4,517

COMMON LODGING HOUSES.

In the year 1866 there were 1,278 Common Lodging Houses on the Register. These houses were registered under the Liverpool Sanitary Act, 1844, and the Common Lodging Houses Acts of 1851 and 1853.

Bye-laws were made in 1848 and 1860 to regulate such houses. These bye-laws were repealed in 1869, when new bye-laws were made under powers given by the Common Lodging Houses Acts of 1851 and 1853, and these remain in force at the present time.

Further powers to deal with Common Lodging Houses are given under Part 5 of the Public Health Acts Amendment Act, 1907 (adopted in 1912) Sections 69 to 75.

During the year 1867 all Common Lodging Houses not having a separate day room for the use of lodgers, and all houses taking lodgers in and not having this accommodation, were registered as Sub-let Houses. The cubic space required in Common Lodging Houses was 300 cubic feet per head at that time, as against 400 cubic feet at present.

NUMBER OF COMMON LODGING HOUSES ADDED TO AND REMOVED FROM THE REGISTER SINCE 1866.

Year.	On Register.	Added to Register.	Removed from Register.	No. on Register at end of year.
1866.....	1,238	401	361	1,278
1867.....	1,278	297	349	1,226
1868.....	1,226	347	412	1,161
*1869.....	1,161	337	349	1,149
1870.....	1,149	278	293	1,134
1871.....	1,134	251	281	1,104
1872.....	1,104	249	318	1,035
1873.....	1,035	199	227	1,007
1874.....	1,007	310	226	1,091
1875.....	1,091	228	272	1,047
1876.....	1,047	271	272	1,046
1877.....	1,046	363	279	1,130
1878.....	1,130	263	298	1,095
1879.....	1,095	270	301	1,064
1880.....	1,064	307	283	1,088
1881.....	1,088	298	282	1,104
1882.....	1,104	274	343	1,035
1883.....	1,035	245	337	943
1884.....	943	251	306	888
1885.....	888	385	324	949
1886.....	949	292	339	902
1887.....	902	246	263	885
1888.....	885	262	293	854
1889.....	854	250	271	833
1890.....	833	233	253	813

* New regulations introduced.

REGISTERED COMMON LODGING HOUSES.—Continued.

Year.	On Register.	Added to Register.	Removed from Register.	No. on Register at end of year.
1891.....	813	294	251	856
1892.....	856	228	267	817
1893.....	817	202	238	781
1894.....	781	220	278	723
1895.....	723	179	197	705
1896.....	705	148	218	635
1897.....	635	172	200	607
1898.....	607	199	152	654
1899.....	654	213	172	695
1900.....	695	207	207	695
1901.....	695	132	207	620
1902.....	620	110	172	558
1903.....	558	124	145	537
1904.....	537	83	146	474
1905.....	474	105	143	436
1906.....	436	128	125	439
1907.....	439	132	120	451
1908,.....	451	76	114	413
1909.....	413	43	73	383
1910.....	383	57	98	342
1911.....	342	46	58	330
*1912.....	330	36	45	321
1913.....	321	43	40	324

* Part V. of the Public Health Acts Amendment Act, 1907, Sections 69 to 75 adopted.

INSPECTION OF COMMON LODGING HOUSES.

At the end of the year 1912 there were on the register a total (including emigration houses) of 321 lodging-houses, and at the end of 1913 the total number was 324, which furnished accommodation for 11,545 lodgers besides 602 members of the keepers' families.

During the year 40 houses were given up and removed from the register, and 43 new houses added.

In some of the better-class houses for men, separate cubicles are provided for each lodger, the price paid for them varying from 6d. to 1s. 6d. per night. These cubicles are much more appreciated than the ordinary accommodation provided.

The number of what are known as "model" lodging-houses, for men only, upon the register is 147; and these are registered to accommodate 6,207 lodgers, as well as 234 members of the keepers' families.

The term "model" appears now to be used as a trade designation to indicate premises used for the accommodation of one sex only.

There are also 22 registered "model" lodging-houses for the accommodation of women only. These have rooms for 685 lodgers, in addition to 34 members of the keepers' families.

Common Lodging-Houses for Women have been fully dealt with in the report for 1909.

The visits to lodging-houses are both by day and by night. The night visits are almost restricted to the lower districts and commoner class of house. The lodging and emigration houses of the better class, especially those provided only with single beds for each person, and with no more beds than are equivalent to the number of lodgers allowed, are only occasionally visited at night, unless special circumstances necessitate a closer supervision.

The number of day visits paid during the year was 14,352, and the night visits 869. During the preceding year the day visits were 14,402 and the night visits 1,096.

During the year 28 informations were laid against keepers of common lodging-houses for offences against the Bye-laws. The following table gives the figures for the last three years:—

	1911.	1912.	1913.
Not sweeping floors	10	4	5
Not washing floors	3	4	5
Overcrowding	16	4	12
Receiving lodgers in unregistered houses or rooms	2	4	5
Mixing sexes	6	0	1
Not limewashing	1	1	0
	38	17	28

Convictions followed in all the cases, the total amount of fines in 1913 amounting to £18 3s. 6d., and ranging from 1s. and 1s. costs to 40s. and 4s. 6d. costs. During the preceding year there were seventeen convictions, the fines amounting to £16 3s. 0d.

The number of lodging-houses found dirty was 32; in each case notices were served to limewash and cleanse the premises, and these notices were complied with.

There were 966 special visits and 50 re-visits made to lodging houses with reference to cases of Phthisis. These visits are included in the total visits for the year.

The following is a list of "Common Lodging-houses" for women now on the register:—

No.	Street.	Keeper.	Registered Deputy Keeper.
	Netherfield Road South, Ann Fowler Memorial Home.	Florence Booth	Miss Elizabeth Nichol
163	Islington	Marie Firth	Miss Annie Cartwright
46a	Everton Brow	Rev. Herbert Wood	Miss K. Douglas
44a	,, ...	,, ...	,,
45	,, ...	Edward Boreland ...	Mrs. Hannah Brown
79	Kempston Street	Margaret Ryan	Bridget Ryan
89	,, ...	Emily Baines	Mrs. Margaret Hewitt
94	,, ...	John Kelly	Mrs. Kelly
28	Wilton Street	Margaret Ryan	Mrs. Elizabeth Wright
87	Soho Street	Rose Dacy	Mrs. Mary Green
89	,, ...	,, ...	,, ,,
16	Queen Anne Street	Sarah Edwards	Mrs. Mary Bethell
8	Prince Edwin Street	Ernest Wight	Mrs. Wight
10	,, ,, ...	,, ...	,, ,,
121	Richmond Row	Thomas Lancaster ...	Mrs. Lancaster
123	,, ,, ...	,, ...	Mrs. Emily Hickey
165	,, ,, ...	Maria Baines	Mrs. Elizabeth Brown
36	Circus Street	Martin Carroll	Mrs. Margaret Sweeney
31	Baptist Street	,, ...	,, ,,
22	Springfield	Catherine Todd	Mrs. Mary E. Smith
3	Trinity Place	,, ,, ...	Jane Cummings
13	Devon Street	Elizabeth Buckley ...	Annie Howley

On the 10th May, 1913, the Local Government Board made an order declaring Part V of the Public Health Acts Amendment Act, 1907, to be in force in the City, on and after 28th June, 1913, and every keeper of a "common lodging-house" in the City was served with a copy of this part of the Act, which is as follows:—

PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.

PART V.

COMMON LODGING-HOUSES.

69.—(1) The local authority may, at their discretion, refuse to register any person as a common lodging-house keeper, unless they are satisfied of his character and of his fitness for the position.

(2) The registration of a person as a common lodging-house keeper shall, if that person is newly registered after the commencement of this section, remain in force only for such time not exceeding one year, as may be fixed by the local authority, but may be renewed from time to time by the local authority.

70.—(1) Either the keeper of a common lodging-house or a deputy registered under this Act shall manage and control the lodging-house and exercise supervision over those using it, and either the keeper or the deputy so registered shall be and remain at the lodging-house between the hours of nine in the evening and six in the morning of the following day.

(2) If any provision of this section is not complied with in the case of any common lodging-house, the keeper of the house shall, unless he shows to the court that there was a reasonable excuse for the non-compliance, be liable in respect of each offence to a penalty not exceeding forty shillings, and to a daily penalty not exceeding twenty shillings.

71.—(1) The local authority shall keep a register for the purposes of this section, and shall enter therein the name of any person whose name is submitted to them by a common lodging-house keeper as his deputy, and who is approved by them for the purpose.

(2) The local authority may register more than one deputy for any common lodging-house keeper.

(3) The local authority, if at any time they are of opinion that any person registered as a deputy of a common lodging-house keeper is not a fit person for the purpose, may cancel the registration.

72.—Where the keeper of a common lodging-house is convicted of any offence against any provision of the Public Health Acts or this Act relating to common lodging-houses, or of any bye-law made thereunder, the court before whom he is convicted may cancel his registration as a common lodging-house keeper, and he shall cease to be registered accordingly.

73.—If a person keeps a common lodging-house he shall, although he is not registered as a common lodging-house keeper, under section seventy-seven of the Public Health Act, 1875, be liable to the penalties imposed under section eighty-six of that Act for the offences named therein.

74.—(1) Every common lodging-house, whether registered before or after the commencement of this section, shall be provided—

(*a*) With sufficient and suitable sanitary conveniences, having regard to the number of persons who may be received in that house, and also, where persons of both sexes are received in the common lodging-house, with proper separate accommodation for persons of each sex; and

(*b*) With a water supply laid on sufficient for flushing any water-closets or urinals which are used in the house.

(2) If it appears to the local authority that, in the case of any common lodging-house, default is made in any respect in complying with the provisions of this section, the local authority may, by notice in writing specifying the default, require the keeper of the common lodging-house to remedy the default.

(2) If within twenty-eight days of the notice being served the default is not remedied to the satisfaction of the local authority, they may themselves do the work required to be done, and may recover in a

summary manner from the keeper of the common lodging-house the expenses incurred by them in so doing, or may by order declare these expenses to be private improvement expenses.

75.—(1) At a time not less than one month before the commencement of this Part of this Act the local authority shall give notice of the fact to the keeper of every common lodging-house in their district.

(2) On and after the commencement of this Part of this Act section seventy-eight from the words " and the local authority may " to the end of the section, and section eighty-eight of the Public Health Act, 1875, shall be repealed as far as relates to the district.

Twenty-one houses were registered under section 69 of this Act, and 152 deputy-keepers were registered under section 70 during the year.

During the month of September, in addition to advertisements in newspapers, as required, a copy of section 36 of the **Liverpool Corporation Act, 1913,** was served upon every Common Lodging-House Keeper in the City, and upon the tenants of houses let in lodgings who habitually received Armenian and Syrian emigrants. This section provides as follows:—

> (1) A keeper of a common lodging-house or of a house let in lodgings who shall by any means direct or indirect induce any person or persons suffering from trachoma or any other contagious disease of the eye to become a lodger or lodgers in any such house shall be liable on summary conviction to a penalty not exceeding fifty pounds for a first offence or not exceeding one hundred pounds for a second or subsequent offence. Provided that when any person so suffering is received as a lodger at any such house as aforesaid the proof that such person was not induced to become a lodger as aforesaid shall rest with the party charged.
>
> (2) The provisions of subsection (1) of this section (except the proviso thereto) shall extend to any other infectious or communicable disease to which it may be applied by an Order of the Local Government Board which Order that Board are hereby empowered to make.

(3) Forthwith after the passing of this Act the Corporation shall give notice of the provisions of this section to every keeper of a common lodging-house within the City and shall also give public notice of the said provisions by advertisement in two newspapers circulating in the City.

(4) This section shall not apply in respect of institutions of a charitable nature supported mainly by subscriptions from the public and not carried on for the purpose of profit or gain.

IMPROVEMENTS IN SANITARY ACCOMMODATION.

The following is a list of "Common Lodging-Houses" where structural alterations have been carried out during 1913 with the view of improving the kitchen and washing accommodation as well as the sanitary arrangements:—

7 and 9, Circus Street.—Two old water-closets abolished, three modern water-closets erected; four washbasins with hot and cold water service installed.

64, Circus Street.—Two old water-closets abolished, three modern water-closets erected; four washbasins with hot and cold water service installed.

6, Hunter Street.—Four trough water-closets abolished, four modern water-closets erected; five washbasins fixed.

125, Richmond Row.—One additional water-closet erected.

32 and 34, St. James Street.—One bath and five additional wash-basins, with hot and cold water service, installed, kitchen accommodation improved, additional light and ventilation provided.

128, Duke Street.—Two additional water-closets erected, two additional washbasins fixed.

166, Park Lane.—Trough water-closets abolished, three modern water-closets erected.

29, Everton Brow.—One additional water-closet erected.

2, Watmough Street.—Two washbasins fixed.

31, Everton Brow.—One additional water-closet erected.

21, Everton Brow.—One additional water-closet erected.

27, Everton Brow.—Three old water-closets abolished, six modern water-closets erected; three additional washbasins fixed.

68, Roscommon Street.—One additional water-closet erected.

98 and 100, Mill Street.—Additional light and ventilation provided to house, improved access to and exit from bedrooms provided. Old slate urine trough abolished; modern urinal, with flushing cistern, substituted.

115, Warwick Street.—One additional water-closet erected.

SEAMEN'S LICENSED LODGING-HOUSES.

The Corporation have made Bye-laws, with the sanction of the President of the Board of Trade, for the licensing of Seamen's Lodging-Houses, under the Merchant Shipping (Fishing Boats) Act, 1883, section 48.

Applications from the keepers of Registered Common Lodging-Houses for licenses authorising the designation of such Registered Common Lodging-Houses as Seamen's Licensed Lodging-Houses, are infrequent, only five such licensed houses now being on the register, these provide accommodation for 97 seamen.

The number of licenses granted since the adoption of the Seamen's Lodging-House Bye-laws is 33.

It has not been found necessary to institute proceedings under the bye-laws in question.

Some years ago the holders of licenses to keep Seamen's Lodging-Houses were authorised by the Board of Trade to board vessels and seek for lodgers, and while this privilege was granted there was an

advantage in holding such a license, but that privilege being now withdrawn, it does not appear that there is any advantage to the keeper of a common lodging-house to have his premises registered as a Seamen's Lodging-house, and, hence, probably, the small number upon the register.

HOUSES LET IN LODGINGS (SUB-LET HOUSES).

The first bye-laws made to deal with these houses were confirmed by the Secretary of State, November, 1866; and were made under powers given by the Liverpool Sanitary Act of 1866, Section 35. Previous to the adoption of these bye-laws overcrowding was dealt with under the Nuisance Removal Act, 1855. These bye-laws were amended in 1869 under the Act of 1866, and further amended in 1885 and 1886 under the Public Health Act of 1875, Section 90.

New bye-laws were made in 1901 requiring 400 cubic feet for each adult person, and 200 cubic feet for every person below ten years of age. Prior to the adoption of these bye-laws the cubic space required for each adult was 350 cubic feet, and two children below ten years of age counted as one person. Powers were also given to deal with the non-separation of sexes in lodgers' rooms, and to enforce the cleansing of stairs and passages used in common.

These bye-laws were repealed in 1911, and new bye-laws were made giving additional powers to deal with the non-separation of sexes in tenants' and lodgers' rooms, overcrowding, and to enforce the cleansing of rooms, stairs, and passages.

Powers were also given to enforce the provision of water-closet accommodation (one water-closet for every twelve persons) the lime-washing of walls and ceilings of houses, yards and water-closets at stated intervals.

NUMBER OF HOUSES LET IN LODGINGS ADDED TO AND REMOVED FROM THE REGISTER SINCE 1866.

Year.	On Register.	Added to Register.	Removed from Register.	No. on Register at end of year.	Remarks.
*1866	308	—	—	—	
1867	308	2,215	—	2,523	
1868	2,523	3,744	—	6,267	
*1869	6,267	1,272	—	7,539	
1870	7,539	1,264	—	8,803	
1871	8,803	477	—	9,280	
1872	9,280	400	—	9,680	
1873	9,680	482	—	10,162	
1874	10,162	436	—	10,598	
1876	10,598	344	—	10,942	
1875	10,942	336	—	11,278	
1877	11,278	763	—	12,041	
1878	12,041	253	—	12,294	
1879	12,294	850	—	13,144	
1880	13,144	1,044	—	14,188	
1881	14,188	515	—	14,703	
1882	14,703	565	—	15,268	
1883	15,268	548	—	15,816	
1884	15,816	1,450	—	17,266	
*1885	17,266	2,201	—	19,467	
*1886	19,467	1,289	—	20,756	
1887	20,756	1,131	—	21,887	
1888	21,887	765	3,685	18,967	
1889	18,967	630	230	19,367	
1890	19,367	712	349	19,730	

* New Bye-laws introduced this year.

HOUSES LET IN LODGINGS. Continued.

Year.	On Register.	Added to Register.	Removed from Register.	No. on Register at end of year.	Remarks.
1891	19,730	845	331	20,244	
1892	20,244	487	597	20,134	
1893	20,134	554	—	20,688	
1894	20,688	510	840	20,358	
1895	20,358	1,272	†2,557	19,073	†Removed from the Register mainly owing to the work of Insanitary Property Committee, now known as the Housing Committee.
1896	19,073	580	†1,945	17,708	
1897	17,708	629	973	17,364	
1898	17,364	581	682	17,263	
1899	17,263	750	464	17,549	
1900	17,549	1,030	530	18,049	
*1901	18,049	953	85	18,917	
1902	18,917	1,489	430	19,976	
1903	19,976	1,956	213	21,719	
1904	21,719	1,097	415	22,401	
1905	22,401	878	2,761	20,518	434 demolished.
1906	20,518	397	1,201	19,714	1201 ,,
1907	19,714	669	551	19,832	223 ,,
1908	19,832	440	496	19,776	262 ,,
1909	19,776	373	495	19,654	214 ,,
1910	19,654	440	658	19,436	430 ,,
*1911	19,436	325	888	18,873	70 ,,
1912	18,873	531	2,929	16,475	499 ,,
1913	16,475	347	417	16,405	180 ,,

* New Bye-laws introduced this year.

INSPECTION OF HOUSES LET IN LODGINGS.

The supervision of these houses and the prevention of overcrowding and other breaches of the bye-laws constitute an important branch of sanitary administration.

There is a decrease in the number of these houses now on the register, the number at the end of the year, 16,405, contrasting with 18,873 at the end of 1911, a decrease of 2,468. The decrease in the number of houses is principally owing to a large number being included in two areas comprised within the operations of the Housing Committee, the areas in question being Beau Street and St. Anne Street.

The number added to the register during 1913 was 347; the number cancelled, owing to their being no longer sub-let, was 237. The number returned as demolished was 180, making a total on the register, on December 31st, 1913, of 16,405, as against 16,475 at the close of the preceding year.

DAY VISITS AND GENERAL CLEANLINESS.

The systematic visitation by day has been fully maintained, the number of visits being 97,809, and the result has been a general improvement in the cleanliness of the rooms, stairs and passages of these houses.

The number of offences arising from neglect to cleanse floors, stairs, &c., was 423, as against 432 during the previous year, a decrease of nine cases.

The steps taken to put a house, intended for the working classes and occupied by members of more than one family, on the register are as follows:—

When the Inspectors on house to house visitation find such a house they serve a copy of the bye-laws as to "Houses let in lodgings" on the tenant of such house, a notice in writing, as required by bye-law No. 6, to furnish to the Council information necessary to register such house, and a form to be filled in and signed by the tenant or his duly authorised agent.

Copies of the forms used are as follows:—

CITY OF LIVERPOOL.

FORM 1.

Sir,

I have to request you to furnish me with the following information required by the enclosed Bye-laws relating to Houses let in lodgings or occupied by more than one family, viz.:—

Premises No. ..... Street.

(*a*) The total number of rooms in the house.

(*b*) The total number of rooms let in lodgings or occupied by members of more than one family.

(*c*) The manner and use of each room.

(*d*) The number, age, and sex of the occupants of each room used for sleeping.

(*e*) The Christian name and surname of the tenant of each room; and

(*f*) The amount of rent or charge payable by each tenant.

FORM 2.

Information supplied in accordance with requirements of Bye-laws relating to Houses Let in Lodgings or occupied by members of more than one family.

Premises .....

Name of Tenant .....

Rent of Premises .....

Total Number of Rooms in House .....

Number of Rooms Let in Lodgings .....

The occupation of the Rooms is as follows, viz.:—

In No. 1 Room.	In No. 2 Room.	In No. 3 Room.
In No. 4 Room.	**In No. 5 Room.**	**In No. 6 Room.**

Dated.....day of.....191

Signature of Tenant .....

When the particulars are furnished as required by the bye-laws, the house is re-visited and each room measured for cubic space. A report is then submitted to the Medical Officer of Health, who certifies to the Health Committee that the house is suitable for registration by the Council.

The Committee pass a resolution authorising the premises to be placed on the Register of "Houses let in lodgings," after which the following notice is served on the tenant or his agent showing the maximum number of persons allowed to occupy each room as a sleeping apartment in accordance with the Bye-laws.

FORM 3

HOUSES LET IN LODGINGS.

Or Occupied by Members of more than One Family.

No. ..... in ..... Street.

Number of Persons who may occupy each room in the above House.

In No. 1 Room.	In No. 2 Room.	In No. 3 Room.	Total.
Persons.	Persons.	Persons.	
In No. 4 Room.	In No. 5 Room.	In No. 6 Room.	
Persons.	Persons.	Persons.	

EXTRACTS FROM BYE-LAWS.

Every person must have 400 cubic feet of free air space, but if a separate day room is provided, the amount of cubic space for each person under 10 years of age must be not less than 200 cubic feet.

No person above the age of 12 years shall occupy as a sleeping apartment any room if the room is occupied by more than one person above that age and of the opposite sex.

The floor of every room must be well and sufficiently swept once in each day before eleven o'clock in the forenoon,

The floor of every room must be washed once a week, viz.: every Saturday before eleven o'clock in the forenoon,

The staircase, landings or passages must be cleansed as often as may be requisite,

The windows of every sleeping room must be opened to the full width during one whole hour before eleven o'clock in the forenoon and during one other whole hour between eleven o'clock in the forenoon and four o'clock in the afternoon, every day, unless prevented by tempestuous weather, or the illness of any inmate of such room, which must then be aired and ventilated at suitable times.

Power of entry for purpose of inspection is granted to the Medical Officer of Health and the Inspector of Nuisances at all times, by Sections 20 to 24.

The houses are then inspected periodically both by night and day to ensure that the Bye-laws are complied with, viz.:—

No overcrowding of rooms as sleeping apartments, the separation of the sexes, the cleansing of the floors of every room, and of the stairs and passages.

In the case of any breach of the Bye-laws an Information is laid against the person responsible, and he is summoned to appear before the Magistrates.

The small penalties which are inflicted have proved most salutary in carrying out the supervision of these houses, and the number of convictions has gradually decreased year by year, notwithstanding that the inspection has been in no way relaxed.

The houses registered comprise the following, viz. :—

(*a*) Houses rented by a tenant who resides on the premises, and lets one or more rooms furnished or unfurnished.

These houses comprise the largest number on the register.

(*b*) Houses rented by a tenant who does not reside on the premises, and lets furnished or unfurnished rooms. It is not uncommon for a tenant to have a number of houses containing eight or ten rooms in several streets.

(*c*) Houses where one or more lodgers are received and live with the tenant's family, occupying bedrooms only.

(*d*) Houses where the landlord collects the rent from each room-keeper, who has a separate rent book.

These are usually large houses containing 12 or more rooms. The landlord finds a great difficulty in obtaining a tenant for this class of house, he therefore becomes tenant and landlord.

This type of house comprises the smallest number on the register.

Under the Bye-laws sanctioned by the Local Government Board on the 7th day of February, 1911, provision is made to serve notice on the Owners of Houses let in Lodgings to thoroughly cleanse from time to time every room, staircase and passage in such houses. The Bye-law is as follows:—

Subject to the provisions of these Bye-laws, the landlord of a lodging-house shall in the months of April and October in every year, and at such other times as may be necessary, cause every part of the premises to be thoroughly cleansed. He shall at the same time, and at such other times as may be necessary, except in such cases as are hereinafter specified, cause every area, the interior surface of every ceiling and wall of every water-closet belonging to the premises, and the interior surface of every ceiling and wall of every room, staircase and passage in the house to be thoroughly washed with hot lime-wash.

Provided that the foregoing requirement with respect to the lime-washing of the internal surface of the walls of rooms, staircases, and passages shall not apply in any case where the internal surface of any such wall is painted, or where the material of or with

which such surface is constructed or covered is such as to render the lime-washing thereof unsuitable or inexpedient, and where such surface is thoroughly cleansed and the paint or other covering is renewed, if the renewal thereof be necessary for the purpose of keeping the premises in a cleanly and wholesome condition.

Under this Bye-law the following notices were served:—

Preliminary Notices	194
Statutory Notices	34
Comply Notes	5
Number of rooms cleansed	1026
Number of yards and water-closets cleansed ...	12
Number of Notices not complied with at the end of December, 1913	3

The Bye-laws also require that sufficient closet accommodation shall be provided in connection with sub-let houses, in the proportion of not less than one water-closet to every 12 persons.

NIGHT VISITS AND OVER-CROWDING.

Cases of overcrowding were more numerous than in the previous year, the number of convictions being 660, as against 612 in 1912. There has, however, been a steady decline in the offence of overcrowding during the last seven years. The percentage of convictions to the number of visits was 4·88 in the year 1906; during the year under review it was only 2·87.

The number of visits paid to houses let in lodgings during the day was 97,809, and during the night 22,938, with the result that 835 rooms were found overcrowded. In addition to overcrowding, 290 cases of indecent occupation came under the notice of the inspectors, as against 325 last year. These cases appear to be the outcome of ignorance and indifference, and not of immoral intent. Additional powers have been given to deal with the offence of non-separation of sexes, with the result that during the year 196 informations were laid. In the remaining cases the offenders were cautioned by the Inspectors.

The Bye-laws dealing with this offence are Nos. 18 and 19, and read as follows:—

18.—The tenant of a lodging-house shall not knowingly suffer any person above the age of twelve years to occupy as a sleeping apartment any room in such lodging-house if the room is occupied by more than one person above that age, and of the opposite sex.

19.—A lodger in a lodging-house shall not suffer any person above the age of twelve years to occupy as a sleeping apartment any room let to such lodger in such lodging-house if the room is occupied by more than one person above that age and of the opposite sex.

Informations were laid against 1,326 tenants and lodgers (room-keepers) for breaches of the bye-laws, viz.:—

Overcrowding	707
Floors not washed	279
Floors not swept	70
Not cleansing stairs, &c.	74
Non-separation of sexes	196
Total	1,326

Three cases were acquitted, three cases were withdrawn, ninety-eight cases were discharged with a caution, and in five cases the defendants had left the premises before the summonses could be served.

As the result of proceedings before the Stipendiary and other Magistrates, fines were inflicted amounting during the year to £164 18s. 6d.

The number of offences against the bye-laws is larger than in the preceding year, the total number of offences against the bye-laws being 1,326, which is 43 more than the number last year, which was 1,283.

The increase in the number of offences is principally due to the introduction of the new Bye-laws, which gives additional powers for dealing

with the offences created by not cleansing room floors, stairs and passages, and the non-separation of sexes. The tenant is now amenable, in addition to the lodger.

The gradual diminution in overcrowding led the Health Committee, in 1901, to amend the bye-laws relating to houses let in lodgings, and the City Council, with the sanction of the Local Government Board, adopted amended bye-laws, which amongst other important provisions contained clauses providing that every lodger above 10 years of age shall have not less than 400 cubic feet of free air space, and every person below 10 years of age shall have not less than 200 cubic feet, but if the room is used as a day room as well as a bedroom, then every inmate must have at least 400 cubic feet. Under the previous bye-law a space of 350 feet only was required, and two persons under twelve were regarded as one adult.

One result of these bye-laws—which required so relatively large an addition to the cubic space allowed for each lodger—was to put an entirely new definition upon the offence of overcrowding, and although the great majority of people quickly appreciated the effect of the new bye-laws, yet there was necessarily a considerable increase in the number of persons proceeded against for overcrowding amongst those who neglected to comply with the altered provisions.

The table showing the number of houses let in lodgings on the register, together with the number of visits for the detection of overcrowding, for the past 13 years will be found on page 298, in the insanitary property section of the Report.

CANAL BOATS ACTS, 1877 and 1884.

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the City, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 4,972, and the condition of the boats and their occupants, as regards matters dealt with in the Acts and Regulations, is indicated by the following information:—

Thirteen boats, not registered by their present owners, were found to be used as dwellings. Written notices were sent to the owners in eight cases, and five verbal notices were given. The notices were complied with.

Seventeen boats were found without certificates on board. Notices were sent to the owners in 16 cases, and one verbal notice was given. The notices were complied with on 16 boats; the other boat has not been seen in the district since.

Twenty-five boats were found without the registered number painted on both sides of the boat, and 20 written and five verbal notices were given to the owners. The omission was rectified in 22 instances; in the other instances informations were laid against the owners, and fines were inflicted.

On four boats defective second bulkheads were reported. Notices were sent to the owners in three cases, and one verbal notice was given. The defects were remedied in each case.

In nine boats the cabins required re-painting. Eight notices were sent to the owners, and one verbal notice was given. All were complied with.

Dirty cabins were reported in eleven cases. In eight cases verbal notices were given to the masters, and in others written notices were sent to the owners. In ten cases the notices were complied with, and in the other instance the boat had not been re-inspected.

Besides the foregoing, there were 28 instances of infringements of the Acts and Regulations, caused by:—

Leaky decks	11
Leaky conditions of Boats	3
Defective scuttle covers	1
Defective floors	1
No water casks on board	8
Defective stoves	3
Defective bed-berths	1
Total	28

Twenty-four notices were sent to the owners, and four verbal notices were given, in respect to the above infringements. In 26 instances the notices were complied with, and in the two other cases the boats have not been seen in the district since.

Three boats were found with the cabin indecently occupied, and the masters were cautioned. In each instance the caution was sufficient.

The total number of infringements of the Acts and Regulations referred to in the report was 110, which occurred on 89 boats.

Informations were laid against four owners and one master of boats as follows:—

Nature of Contravention.	Penalty.
Registered Number not painted on boat (Owner)	2/- and 4/- costs.
Do. do. do.	2/- ,, 4/- ,,
Do. do. do.	2/6 ,, 2/6 ,,
Dilapidated Cabin do.	5/- ,, 4 6 ,,
Overcrowding (Master)	5/- ,, 4/6 ,,

The total fines and costs amount to £1 16s. 0d.

One case of Ophthalmia Neonatorum was found on a canal boat, the patient being a child aged three weeks, son of the master. The mother was advised to stay in Liverpool and take the child regularly to the Eye Infirmary for treatment, which she did, and the patient recovered. The cabin and contents were thoroughly cleansed.

Five notices were sent to the Education Department relating to children living on canal boats, and not attending any school.

The number of boats on the register is 589. Ten boats have been removed from the register, as it was ascertained that three had been broken up, and seven had left the district.

During the year twelve new boats were registered; three re-registered on account of ownership; seven re-registered on account of change of owners and name of boat; and three on account of structural alterations.

A copy of the registration certificate was issued to the owner of a boat, owing to the original certificate being worn out.

The number of boats on the register regularly plying in the district is 530. It is probable that the other 59 boats have either been broken up, left the district, or ceased to be used as dwellings, but in the absence of definite evidence of this the boats remain on the register.

There are no motor propelled boats registered by this Authority.

In 1898 the Canal Boat Inspectors were appointed as Port Sanitary Inspectors—an appointment which authorised them to inspect all classes of boats, as a difficulty arose in regard to certain boats plying upon the canal which were not registered under the Canal Boat Acts, but which had been registered by the Board of Trade under the Merchant Shipping Act. Thirty-four visits were made to boats of this class, and all were found correct.

In 1903, the Port Sanitary Inspectors were appointed as Canal Boat Inspectors. This appointment authorised them to inspect canal boats which ply to and from the docks, and on the river. During last year these Inspectors made 868 visits, which are included in the foregoing report. The number of contraventions for which notices were served on the owners was 26 on 23 boats.

SMOKE NUISANCES.

Proceedings for the abatement of Nuisances caused by the emission of excessive smoke from factory chimneys or from steamers were taken under the Liverpool Sanitary Amendment Act, 1854, sections 24 and 25, the Liverpool Improvement Act, 1882, section 77, the Liverpool Corporation Act, 1902, section 57, and the Liverpool Corporation (General Powers) Act, 1905, section 7, with the following results:—

	1912.	1913.
Number of reports of excessive smoke from Manufactories ...	111	91
,, ,, ,, Steamers in river	174	161
,, ,, ,, ,, dock	19	14
Total	304	266

Admonished by the Health Committee or written to in respect to nuisances caused by the emission of excessive smoke:—

	1912.	1913.
Manufacturers	24	6
Steamship Owners	52	30
Total	76	36

	1912.		1913.	
Chief Inspector and Assistants gave M'facturers	463	Cautions	439	Cautions
,, ,, ,, Steamship Owners	114	,,	119	,,
Total... ...	577	,,	558	,,
Number of enquiries respecting Owners	383		413	

	1912.	1913.
Informations against Manufactories	87	85
,, ,, Steamers in river...	139	142
,, ,, ,, dock...	2	3
Total	228	230
Acquitted or withdrawn, Manufactories	5	3
,, ,, Steamer cases	1	3
Total	6	6

	1912.	1913.
Fined, Manufactories	82	82
,, Steamers	140	142
Total	222	224

	1912.	1913
Amount of Fines, Manufactories ...	£200 15 0	£185 7 0
,, ,, Steamers ...	276 1 0	268 19 10
Total ...	£476 16 0	£454 6 10

It is the duty of the Police to deal with nuisances arising from the firing of domestic chimneys.

SMOKE INSPECTION.

The falling off previously noted in the number of reports relating to excessive smoke still continues, and is an indication of the additional care exercised by manufacturers and steamship owners.

Out of 161 cases of excessive smoke from steamers in the river which were observed, 27 vessels were bound for foreign ports, two were towing other vessels in emergency, and consequently no proceedings were taken, and the owners of one were not traced.

In 11 cases of excessive smoke from foreign trading steamers in dock no proceedings were taken, but the owners were written to.

	1912.	1913
Complaints received of smoke from defective house flues and low chimneys, and fumes from gas engines ...	133	132
Visits relating thereto	846	870
Chimneys raised in consequence of complaints	28	32
Flues altered and repaired	30	39
Attention promised	68	56
Referred to other departments	6	2
Frivolous complaints	1	3
Total complaints dealt with... ...	133	132

The smoke in our atmosphere is very largely contributed to by the combustion of coal in domestic firegrates, steam boiler furnaces, and other furnaces used for manufacturing processes.

It is a common error to lay the blame of the pollution of the atmosphere by smoke entirely upon the factory chimney, and this is no doubt due to the fact that it is more easily noticeable than the individually small quantities of smoke which are emitted from the chimneys of dwelling-houses, and which reach a very large amount in the aggregate.

SMOKE ABATEMENT.

A very great improvement in the condition of the atmosphere has been effected in recent years by the reconstruction of the furnaces in many manufactories and the installation, where possible, of automatic appliances for stoking of a type much superior to those previously in use.

In factories where hand-stoking is still adhered to, more intelligent attention is given to the work by the firemen, who are better remunerated, and their employers evince much more interest than formerly in the improved methods of utilising fuel because of the resultant ecomomy as regards the "life" of the furnace as well as its increased efficiency, the consequent combustion of gases, which used to be emitted from the chimneys, conducing to the abatement of the smoke nuisance.

As a result of the increasing use of internal combustion engines many complaints have been received of the smell and noise from them. A new duty has therefore been thrown upon the Inspectors, who have been called upon to give advice as to the methods to be adopted to counteract the smell and noise by the provision of deodorants and silencers. thus making the work of the Inspectors more advisory and less punitive.

The series of lectures and demonstrations on Smoke Prevention, which were delivered at Ashton Hall under the auspices of the Liverpool University to persons in charge of furnaces, were much appreciated,

and were attended by engineers in charge of works and employers as well as by the firemen.

These lectures aroused a great amount of interest not only in Liverpool but also in the adjacent boroughs, and as a result there has been a considerable diminution in the quantity of smoke emitted from the chimneys of works.

OFFENSIVE TRADES.

Applications for permission to carry on the following offensive trades were made during the year, and a report by the Medical Officer of Health on each application was submitted to the Health Committee:—

Premises.	Business.	Granted.	Refused.	Date, 1913.
13, St. Andrew Street..	Gut Scraping	for 12 months	—	Jan. 23rd
16, Carruthers Street...	Do.	1	—	Feb. 20th
Lightbody Street	Vitriol Manufacture	1	—	Mar. 27th
44 & 44a, Oriel Street	Dripping Manufacture	1	—	,,
4, Islington Row	Oleo Margarine Manufacture	1	—	April 10th
4/10, Marquis Street ...	Gut Scraping.....	—	1	July 31st
Edgar Street	Storage of Manufactured Leather and Cured Hides	1	—	Nov. 27th
41/7, Hornby Street ...	Soap Boiling	1	—	Dec. 11th
	Total.....	7	1	

In cases in which permission is granted, conditions are imposed requiring that the premises be put in proper order to the satisfaction of the City Engineer, Building Surveyor and Medical Officer of Health, that no public or private nuisance be caused, and that the business be discontinued whenever the Council shall so require.

The number of inspections of premises where offensive trades are carried on was 1,946, as against 1,873 in 1912.

		1912.	1913.
Total No. of Visits to	Bone Boilers	177	168
,,	Bone Stores	—	22
,,	Cotton Seed Oil Works	33	36
,,	Destructors	—	26
,,	Dripping Factories	27	64
,,	Fat and Tallow Melters	309	285
,,	Fell Mongers	50	49
,,	Fertiliser Works	—	23
,,	Fish Oil Works	1	34
,,	Gut Scrapers	236	218
,,	Ham Cooking and Potted Meat Works	96	94
,,	Hide and Skin Works	—	36
,,	Knackers' Yards	169	155
,,	Lard Refiners	31	17
,,	Liver Boilers	—	8
,,	Oleo Margarine Works	—	16
,,	Paint and Resin Works	41	42
,,	Palm Oil Works	14	14
,,	Patent Manure Manufacturers ...	24	43
,,	Preserved Skin Works	—	2
,,	Rubber Works	1	—
,,	Seed Crushers	—	8
,,	Soap Boilers	331	241
,,	Sulphuric Acid Works	—	18
,,	Tanneries	110	119
,,	Tar and Naphtha Works	12	31
,,	Tripe Boilers	211	177
	Total...	1,873	1,946

FRIED FISH SHOPS.

Periodical visits have been paid to Fried Fish shops with a view to minimising the nuisance caused by the smell from the cooking. The sanitation of the premises and the materials used have also been kept under supervision. The number of visits paid during the year by the District Sanitary Inspectors was 320.

KNACKERS' YARD, CARRUTHERS STREET.

THE ANIMAL SLAUGHTERING CO.

The Health Committee, in accordance with the Orders of the Board of Agriculture and Fisheries, have licensed the above Company and premises for the purpose of destroying carcases of animals affected with contagious disease.

Carcases of diseased horses and cattle, are destroyed under the supervision of an Inspector of the Public Health Department, at the Knackers' Yard, where specially tested iron pans with covered lids have been erected for the purpose. The carcases are placed in the tanks intact, sulphuric acid added, and steam applied until a temperature of 250° to 260° Fahr. is reached. An exhaust pipe conveys steam and all offensive odours to the furnace, thus preventing any nuisance arising.

Unsound meat is destroyed on these premises in a similar manner.

The carcases of horses which are destroyed on account of old age or minor complaints are also dealt with.

The following are the Returns for 1913:—

Horses Destroyed.	Horses taken in Dead.	Asses Destroyed.	Cows Destroyed.	Other Beasts.	TOTAL.
88	1,714	32	142	—	1,976

MARINE STORES.

	1912.	1913.
Number of Visits by District Sanitary Inspectors ...	1,592	1,533

(Visits are also paid by Workshop Inspectors).

COMMON HOUSE FLY.

During the year observations on the prevalence of the House Fly in certain districts were continued on the lines laid down by Professor Newstead, details of which have been given in previous reports.

Charts have been prepared and registers compiled in accordance with the suggestions made as the result of the special investigation carried out by Professor Newstead at the request of the Health Committee in the year 1907.

Observations were made at 42 centres, the majority of the houses being in those areas in which Epidemic Diarrhœa is known to prevail. The investigation commenced in June, and was continued until September, the total number of flies caught being 271,429. As might be expected, flies were found to be most prevalent in August, September coming next with double the number caught in July. Ordinary sticky fly papers, sticky reels, and balloon traps were used, and collected every 48 hours, the best results being obtained from the sticky reels. The flies were most prevalent in Rachel Street, Dryden Street, Leyden Street, and Charters Street centres, and it was found in these centres, apart from external conditions, that where food was left exposed and the habits of the people were dirty, the largest number of flies were found. In other centres, where cleanliness prevailed and care exercised in the removal of particles of food, the flies were not so numerous. In two instances in which the houses were fly infested, the number of flies immediately decreased with the cleansing of the rooms.

In view of the obvious mischief occasioned by the Common House Fly, a large number of cards containing the following information have been circulated throughout the City during the past few years:—

PUBLIC HEALTH DEPARTMENT.

FLIES.

Common house flies are well known to be carriers of disease germs. The presence of large numbers of flies clearly indicates filth in the vicinity.

Their chief breeding places are accumulations of manure, but decaying vegetable or animal material and filth of any kind also afford them breeding places. Their food, however, is not limited to filth, and it is this circumstance which renders them dangerous, for after feeding on garbage of the most offensive description, they will convey that filth to foodstuffs used by human beings, and so contaminate that food.

The mischief done by flies is not confined merely to the conveyance of filth; they also carry disease germs from persons suffering from infectious disease to healthy persons. Flies are specially attracted to patients suffering from infectious sickness.

TO AVOID DANGER.

All house refuse should be burnt, or placed in proper receptacles and kept covered. These receptacles should be frequently and completely emptied.

Food of all descriptions should be carefully screened with muslin or with wire covers.

Food offered for sale should be properly screened. Therefore, in buying food give preference to shops where the food is properly protected against flies.

Keep all rooms, especially the kitchen, free from dirt.

Keep flies away from the sick, and kill every fly in the sick room. His body is covered with disease germs.

Sinks and gullies should be well flushed with water, and the drainage system kept in good order.

Any nuisance in the neighbourhood should be at once reported to the Medical Officer of Health, at the Municipal Offices, Dale Street, Liverpool.

INSPECTION OF STABLES AND REMOVAL OF MANURE.

The usual attention has been given to the inspection of stables and the necessity for the frequent removal of manure emphasised.

The applications to the City Engineer's Department for the removal of manure have been frequent, and the owners of stables have again been informed of the facilities offered by the Health Committee in the following terms:—

NOTICE.

REMOVAL OF MANURE FROM STABLES.

The Health Committee are very desirous that matter in the nature of Manure should be removed with as little delay as possible, and with this object in view, arrangements have been made with the City Engineer for its speedy removal.

On application to the City Engineer, Municipal Offices, Dale Street, Manure will be removed from stable yards as often as required, free of charge.

DISINFECTION OF MIDDENSTEADS.

The disinfection of middensteads has proceeded as in the previous year, the middensteads, after being emptied, being disinfected by spraying with lime.

	1912.	1913.
Number of Visits to stables by District Sanitary Inspectors...	19,689	19,451
Number of disinfections of midden-steads	11,008	11,379

RAILWAY CARRIAGES.

	1912.	1913.
Number of Carriages Inspected	1,299	1,327
,, found dirty	—	—

EXTERMINATION OF RATS.

A staff of rat-catchers is systematically employed in the destruction of rats.

All the rats caught are taken to Charters Street Corporation depôt and drowned in petrol, those not sent for bacteriological examination are subsequently placed in the Destructor furnace.

The premises dealt with are mainly buildings of the warehouse class, and business premises in the City. In a few instances Virus has been used, but the results have not altogether realised expectations. Dead or dying rats were subsequently found on adjoining premises to which the rats also had access. Trapping has the advantage that it permits of the identification of species, the number of rats destroyed is known with certainty, and a bacteriological examination may be made if necessary.

Where traps and Virus have not been successful, tin trays containing a preparation resembling bird-lime have been successfully used.

The Mongoose is used by a few firms, but while in some instances they appear to be successful, in other cases they are said to have failed.

Rat catching in the public sewers by means of baited traps has been pursued for the past fourteen years with very satisfactory results, 61,595 rats having been caught up to December 31st, 1913, of which 5,828 were caught during the year 1913.

Number of rats caught within the City, 10,740 (including 5,828 which were caught in sewers). Of this total, 4,006 rats were sent to the City Bacteriologist at the University for examination.

A large number of rats were also caught on ships, and about the docks and warehouses by the Officers of the Port Sanitary Authority.

Various companies, such as the Zeba Company, perform a very useful work in connection with the destruction of rats, and a large number of rats were destroyed by men employed by these firms during the year.

The removal of the foul deep ashpit from the rear of dwellings and the substitution of suitable covered galvanized bins, whilst providing a sanitary improvement, has also undoubtedly been a material factor in the removal of rats from proximity to dwellings.

The following Memorandum as to the Destruction of Rats has been widely circulated, and the information contained therein has been found helpful:—

The Health Committee invite the careful attention of Owners and Occupiers of Warehouses and other Premises to the following Memorandum, and their co-operation in the measures suggested for dealing with Rats.

INFECTION is liable to be carried by RATS and is to be prevented:—

(1) By wholesale destruction of rats.

(2) By their exclusion from dwellings, warehouses, and places of business generally, and by the destruction of their haunts and feeding places in the vicinity of dwellings.

Rats gain access to Buildings chiefly:—

(1) By burrowing through the earth below the flooring;

(2) Along the course of drainage and other pipes led through main walls in holes which are too large; and

(3) By badly fitting doors, doors broken at the foot, and other openings on ground floors.

This is to be met:—

(1) By cementing or asphalting earthen basements where these are burrowed.

(2) By packing loosely fitting holes through which drain or other pipes pass;

(3) By refitting doorways, protecting the foot if necessary with sheet iron, and by wire-netting openings in basements which cannot otherwise be dealt with. Rat runs in buildings should be discovered and destroyed.

Rats are attracted to buildings in search of food.

Ashpits, collections of garbage, stable yards, &c., afford them food; lumber heaps or disused structures are suitable for nesting.

All household refuse should, as far as possible, be burned by the householder.

The Local Authority rely on the willing co-operation of landlords and householders in these directions, and tenants will forward the work of repression by informing the Sanitary Department of premises which are rat infested.

To Destroy Rats.—Trapping and poisoning are the means most readily available; hunting with dogs, ferrets, or mongoose is practicable in markets, stables, warehouses, &c., but the rat cannot be followed into its burrow. Good cats are serviceable in places where food-stuffs are stored in bulk.

Trapping.—A useful form of trap is a spring trap, baited with ham. Cage traps of various kinds are useful if not too large. They should be handled as little as possible, and with gloved hands to prevent the human scent clinging to the trap and alarming the rat.

Attention is specially called to the various preparations for the extermination of rats, such as the Liverpool Virus, Ratin, Danysz Virus, and others, all of which can be obtained through Chemists.

Although rats are carriers of disease it is possible that other animals may convey it, and it is therefore undesirable to keep animals unnecessarily as domestic pets.

The following memorandum has been circulated by the Port Sanitary Department:—

RATS AND PLAGUE.

Local Government Board (Plague) Regulations, September, 1907, *and Order relating to Rats, November*, 1910.

SPECIAL INSTRUCTIONS

To Shipmasters and other Officers (including Stewards), Dockmasters, Wharfingers, Warehouse-keepers, Rat-catchers, &c.

Rats are largely responsible for the conveyance of Plague, and it is most important that all persons employed on shipboard, or whose

business is in connection with dock quays, sheds, or in warehouses, should co-operate with the Sanitary Authority, and attention is called to the following suggestions:—

1. Any unusual prevalence in the number of rats on vessels, both at sea and in dock, on dock quays, or in warehouses, should be noted and reported.

2. The presence of sick or dead rats is of great importance, and must be at once reported to the Medical Officer at the Offices of the Port Sanitary Authority (Telephone No. Central 5666).

Danger is attached to the handling of dead or sick rats, and any found will be at once carefully removed by the Inspectors of the Port Sanitary Authority on being informed.

3. Encourage the persistent catching and destruction of rats by means of traps, poisons, sulphur fumigation (in vessels), &c.

4. Render each building as far as possible rat-proof, by concrete floors, or the use of sheet iron and other means, and render their harbourage near dwellings or rooms impossible.

5. Prevent the egress of rats from ships in dock by efficient rat guards on ropes, and one gangway only in use when the ship is not working.

6. Do not allow accumulations of waste food or garbage from ships on quays, and no dunnage, ropes, empty cases, barrels, or rubbish to accumulate which might attract and harbour rats.

7. All rats caught on shipboard must be burned in ship's furnace, and those caught on quays or warehouses must be drowned in a disinfecting fluid, such as Carbolic Acid Solution, so as to destroy the rat fleas.

8. No rats (alive or dead) shall be removed from ships for sale or other purposes without the written permission of the Medical Officer.

CINEMATOGRAPH HALLS.

In pursuance of a Resolution of the Health Committee, the Medical Officer of Health reported upon 51 premises holding Justices' Licenses, namely, seven Theatres, two Music Halls and 42 Cinematograph Halls, in regard to the means of ventilation; several premises have also been re-visited on different dates.

Provision is made for ventilation by external windows in 33 cases, and, in addition, in 15 instances the ventilation is assisted by gas jets or electric fans.

In 12 instances there are no external windows, the auditorium being artificially lighted by electric light (with gas stand-by), and ventilated by electric fans and external doors. The absence of external windows does not permit of the simple method of natural ventilation, and the great advantage of direct sunlight is lost; the purity of the atmosphere is dependent upon the efficiency and constant use of mechanical means. It does not appear to be the general practice to arrange for the removal of the air in the auditorium when not in actual use, nor during the interval between the performances.

Visits of inspection have been made to 45 premises between the hours of 7 and 10.30 p.m. (during performances) when the weather conditions were mild and dry, and the difference between the indoor air and the outside atmosphere in point of freshness was recorded. In 19 instances the air was satisfactory, and in 28 instances unsatisfactory, being stuffy and close.

With regard to 26, the air was obviously impure, although in some cases artificial means of ventilation were provided, and the auditorium

not fully occupied. This condition may have arisen owing to the want of regular attention to the existing means of ventilation and would indicate the need for systematic supervision.

The sanitary conveniences also require to be regularly inspected to see that they are maintained in a cleanly condition, as there were occasional evidences of neglect; attention should be directed to the method of cleansing.

Regarding the question of Statutory Powers, the Public Health Act, 1875 (Sec. 91) provides that any premises which are injurious to health are a nuisance, and may be dealt with accordingly.

It may be assumed that the presence of impurities in the air, to an extent prejudicial to health, could be dealt with by the Licensing Justices on report of the Medical Officer of Health, more conveniently than by the provisions of the Public Health Act.

It is important when plans are submitted for the erection of new premises, that the Health Committee should be satisfied before the plans are approved, that the means of lighting and ventilation are satisfactory.

At the Theatrical Licensing Committees' Annual Session, held at the City Police Court on October 23rd, the Stipendiary Magistrate directed attention to the adverse comments in the Report of the Medical Officer of Health regarding the inadequate ventilation of the buildings themselves and the exclusion of sunlight owing to the absence of external windows, ventilation of the operating chamber, general cleanliness of the premises and sanitary conveniences, and the absence of seats for the attendants, and expressed a hope that this matter would receive the attention of the Licensees, and also intimated the whole question would be considered at their meeting in July, 1914.

The City Analyst subsequently took samples and made an examination of the air of 42 premises, and found distinct evidences that the majority were badly or imperfectly ventilated. The Analyst's Report also emphasises the need for maintaining the ventilating appliances in working order, the admission of sunlight, greater cleanliness, and general maintenance of the premises.

PARLIAMENTARY POWERS.

Liverpool Corporation Act. 1913.

On the report of the Medical Officer of Health, a number of matters which were not controlled by existing legislation were included in a General Bill, and the necessary powers are now embodied in the Liverpool Corporation Act, 1913.

A closer supervision can now be exercised in regard to food stuffs stored or intended for the food of man; the trade in inedible fat is controlled; the original vendor of unsound food may be proceeded against; persons suffering from pulmonary tuberculosis may, under certain conditions, be removed to hospital; the cleansing of verminous children is facilitated; a penalty is provided in the event of a keeper of a common lodging-house or of a house let in lodgings who shall induce any person suffering from trachoma or other contagious disease to become a lodger in any such house. An obligation is also now placed upon parents or guardians of school children to notify measles, German measles, whooping cough and chicken-pox to the Head Teacher of the school. For the purpose of this Section, "School" includes a Sunday School.

Bye-laws may also be made for securing the sanitary condition of premises where potted or preserved food stuffs are prepared for the food of man.

Administration of the Factory and Workshop Act, 1901, in connection with FACTORIES, WORKSHOPS, WORKPLACES & HOMEWORK.

The following Tables are prepared by request of the Secretary of State :—

1.—Inspection of Factories, Workshops and Workplaces.

Including Inspections made by Sanitary Inspectors.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories ... ... (Including Factory Laundries.)	482	105	—
Workshops ... ... (Including Workshop Laundries.)	13,916	1,413	—
Workplaces ... ... (Other than outworkers' premises included in Part 3 of this Report.)	971	144	—
Total	15,369	1,662	—

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

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	510	504	—	—
Want of ventilation	31	28	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	19	18	—	—
Other nuisances	634	625	—	—
†Sanitary accommodation (insufficient	46	44	—	—
†Sanitary accommodation unsuitable or defective	453	447	—	—
†Sanitary accommodation not separate for sexes..	28	27	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	1	1	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	216	212	—	—
Other offences ... ... (Excluding offences relating to outwork which are included in Part 3 of this Report).	—	—	—	—
Total	1,938	1,906	—	—

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

† Section 22 of the Public Health Act Amendment Act, 1890, has been adopted by the City Council. The standard of sufficiency and suitability of sanitary accommodation for persons employed in Factories and Workshops is in accordance with the Sanitary Accommodation Order of 4th February, 1903.

3.—Home Work.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.											Number of Inspections of Outworkers' premises.	OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.						Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.									
	Twice in the year.			Once in the year.														
	a Lists.	a Outworkers.		Lists.	a Outworkers.				Notices served on Occupiers as to keeping or sending Lists.	Failing to keep or permit inspection of Lists.	Failing to send Lists.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
		Contractors.	Workmen.		Contractors.	Workmen.												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Wearing Apparel—																		
(1) Making, &c.	501	1,794	746	21	59	8	47	86	49	—	—	754	—	—	—	—	—	—
(2) Cleaning and Washing	2	7	4	—	—	—	—	2	—	—	—	4	—	—	—	—	—	—
Sacks	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Furniture and Upholstery	6	17	12	—	—	—	1	1	—	—	—	12	—	—	—	—	—	—
Feather Sorting	2	—	22	—	—	—	—	3	—	—	—	22	—	—	—	—	—	—
Umbrellas, &c.	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper Bags	2	4	12	—	—	—	—	—	—	—	—	12	—	—	—	—	—	—
Boxmaking	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fur pulling	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Electro-Plate	—	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Making stuffed toys	—	—	2	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—
Processes incidental to above	—	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	513	1,871	799	21	59	8	48	92	49	—	—	807	—	—	—	—	—	—

* Several Employers give out work of more than one of the classes specified in column 1. The lists are included among those in column 2 against the principal class *only*, but the outworkers are assigned in columns 3 and 4 into their respective classes.

The figures in columns 2, 3 and 4 are the *total* number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists. They are, therefore, double of the number of such employers and (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 is often repeated.

4.—Registered Workshops.

Workshops on the Register (S. 131) at the end of the year.	Number.
Workshops	3,412
Cooking Kitchens of Restaurants	380
Bakehouses	870
Total number on Register	4,662

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)		93
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 ...	101
	Reports (of action taken) sent to H.M. Inspector	101
Other...		—
Underground Bakehouses (S. 101)		
Certificates granted during the year		4
In use at the end of year		151

FACTORY AND WORKSHOP ACT, 1901.

BAKEHOUSES.

The sanitary control of Bakehouses is dealt with under the Factory and Workshop Act and the Public Health Acts; the regulations prescribed were set out in the Annual Report for 1904.

Fifty-two bakehouses were added to the Register during 1913; seven are ground-floor bakehouses for bread bakers and confectioners, the remaining 45 are confectioners only.

During the year five plans were submitted and approved of for ground floor bakehouses. 3,877 visits were paid to bakehouses and 190 visits were paid to premises to ascertain if they were bakehouses.

Number of Bakehouses on Register, 31st December, 1913	...	870
,, ,, ,, but not in use	... ...	93
,, ,, added to Register during 1913	... ...	52
,, ,, struck off Register during 1913	... ...	68
,, visits to Bakehouses on complaints	... ...	49
,, ordinary visits to Bakehouses	... ...	2,961
,, re-inspections of nuisances	... ...	867
,, Bakehouses found incorrect	... ...	835
,, ,, requiring limewashing and cleansing	...	214
,, ,, with deficient ventilation	... ...	6
,, ,, with unsuitable, insufficient, or defective water-closet accommodation	...	75
,, ,, with bedroom in direct communication with bakehouse	... ...	1
,, ,, underground not in conformity with the Act	... ...	1
,, ,, where other sanitary defects were found		139
,, Preliminary notices issued	... ...	282
,, Statutory notices issued	... ...	19
,, Comply notes issued	... ...	9

All the above notices were complied with by the owners or occupiers.

UNDERGROUND BAKEHOUSES.

The number of underground bakehouses on the register at the end of the year was 187. Of this number 151 are in use, 36 are unoccupied, or have been structurally altered and occupied for other purposes. Since the passing of the Act in 1901, two hundred and thirty-nine underground bakehouses have ceased to be used for baking purposes.

FACTORIES.

Factories include all places in which mechanical power is used.

During the year a routine inspection of factories was commenced. 482 visits being made. The duty devolving upon the Health Department in connection with Factories is the enforcement of the provision of suitable and sufficient sanitary conveniences, but at the request of H.M. Inspector of Factories, the drainage, &c., of those Factories visited has been examined.

WORKSHOPS.

Workshops include any premises (not being Factories) in which manual labour is exercised by way of trade, or for purposes of gain in, or incidental to, the making, altering, repairing, finishing or adapting for sale of any article, and to or over which the employer of the persons working there has the right of access or control.

There were 3,412 workshops on the register at the end of the year, the majority of which are bootmakers, cabinet makers and joiners, dressmakers and milliners, laundries, smiths, and tailors; there are also workshops in connection with the following trades:—

Bamboo Workers
Basket Makers
Blindmakers
Block Makers
Bottlers
Bottle Washers
Box Makers
Brush Makers
Canned Goods
Cap Makers
Carvers and Gilders
Chair Makers
Chemists' Sundries
Coach Builders
Confectioners
Coopers
Cork Cutters
Cotton Sorters
Cycle and Bassinette Makers
Dentists
Drysalters
Electricians

Engravers
Firewood Manufacturers
Fish Curers
Flag Makers
French Polishers
Furriers
Galvanizers
Glass Blowers
Ham Curers
Hatters
Image Makers
Knitters
Marble Masons
Marine Stores
Mattress and Bed Makers
Metal Polish Makers
Musical Instrument Makers
Opticians
Paint and Varnish Manufacturers
Paper Cutters
Photographers
Pickle and Sauce Manufacturers
Picture Framers
Pipe Mounters
Plumbers
Relief Stampers
Sack and Bag Makers
Saddlers
Sail and Tarpaulin Makers
Sign Writers
Trunk and Portmanteau Makers
Umbrella Makers
Underclothing Makers
Upholsterers
Watchmakers and Jewellers
Wheelwrights
Wig Makers
Wire Workers
etc., etc., etc.

Every workshop and workplace is visited at least once each year.

The Workshop Inspectors made 10,039 inspections of workshops, of which 255 were in consequence of complaints, 7,755 were ordinary inspections, and 2,029 re-inspections of nuisances found. On 2,036 occasions the premises were found to be incorrect. The number of inspections in 1912 was 9,298. (The bakehouse workshops visited by the Bakehouse Inspector are not included in the foregoing figures.) In addition, 1,700 visits were made to premises to ascertain if they were workshops, and measurements were taken of two workrooms.

There are approximately 300 basement workshops, but all of them comply with the essential requirements in respect to light and ventilation, and are, in the main, situated in the centre of the City.

Three hundred and ninety-eight new workshops have been added to the Register, and 510 taken off the Register.

WORKPLACES.

Workplaces include any place where work is done permanently, and where people assemble together to do work permanently of some kind or other. The kitchens of restaurants, &c., though they are not workshops, come within the meaning of the term "workplace."

971 visits were paid during the year to the kitchens of restaurants by the Workshop Inspectors, of which 63 were in consequence of complaints, 686 were ordinary visits, and 222 re-inspections of nuisances found. On 234 occasions the premises were incorrect. The number of visits in 1912 was 728. Attention is being particularly paid to the nuisances arising from the removal of swill, and the Inspectors make a practice of visiting the premises early in the day when the swill is generally removed. Fifty new kitchens have been added to, and 32 taken off, the Register.

The nuisances found were in every instance remedied on notices being served, and it was not necessary to take further proceedings. The fines in the previous year amounted to £3 0s. 6d.

Several defects were found which could not be dealt with by this Department, and they were referred to the City Engineer, Water Engineer or the Building Surveyor.

HOME WORK.

In accordance with Section 107 of the Factory and Workshop Act, 534 lists of outworkers were received (269 in February, and 265 in August) giving the names and addresses of 2,737 employees. The number of lists received in 1912 was 554, containing the names of 2,937 employees.

On examination of the lists they were found to contain 1,930 Workshops or Domestic Workshops already on the Register (936 in February, and 994 in August). The other addresses, excepting those situated outside the City, were visited by the District Sanitary Staff,

and in several instances the premises were found to be new workshops or Domestic Workshops, *i.e.*, where the work done constituted the sole or principal means of living of the family. These were placed on the Workshop Register, to be visited periodically by the Workshop Inspectors. The home work in 807 cases was found to be an additional source of income only.

FURNITURE REMOVERS' VANS.

	1912.	1913.
Number of Visits	117	140
,, Vans examined	98	92
,, found correct	95	90

In each case where the vans or wraps were found dirty, a notice was served on the owner to cleanse them.

SHOPS ACT, 1912

This Act, which consolidates the previous enactments, came into operation on May 1st, 1912, and ensures that every shop assistant shall have a weekly half-holiday, regulates their meal-times, fixes the maximum number of hours to be worked by persons under the age of 18 employed in or about a shop, and also requires the provision of seats for female shop assistants.

With certain exceptions, every shop is to be closed for the serving of customers not later than one o'clock in the afternoon on one week-day in every week. The Act also enables the Local Authority to make an order fixing the day on which the shop is to be closed, or they may, by Order, exempt any particular class of shops in any area from the provisions of the Act in respect to closing.

In addition to the three Half-Holiday Orders made in 1912, three new Orders were made last year, as a result of petitions from traders exempted under the Liverpool (Central Area) Exemption Order. The trades originally exempted in the Central Area and now coming under Half-Holiday Orders are:—

Auctioneers.
Bedsteads and Bedding.
Curtains.
Floor Coverings (Carpets, Oilcloth, Linoleum and Rugs).
Furniture (House and Cabinet).
Pawnbrokers.
Perambulators, Invalid and Baby Chairs and Carriages.
Pictures, Picture Frame Dealers, Makers and Carvers.

The Central Area Exemption Order has also been revoked as far as it concerns Booksellers, Bookbinders and Librarians, and Clothing (Men's and Boys' Ready-made), and a Half-Holiday Order for these trades will shortly come into operation.

SHOPS ACT, 1913.

This Act, which came into operation on the 7th March, 1913, applies to premises used for the sale of Refreshments, and its adoption as an alternative to the 1912 Act is optional.

The Act requires that an assistant shall not be employed for more than 65 hours in any week exclusive of meal times, that every assistant shall have 32 whole holidays or 64 half-holidays on a week-day in every year (including a holiday on full pay of not less than 6 consecutive days), and 26 whole holidays on Sundays in every year; the meal times are also regulated.

This Act also brings within its scope any person wholly or mainly employed in any capacity at the premises in connection with the business.

SHOPS ACT, 1912 AND 1913.

Day Visits (Statements)

		*1912.	1913.
No. of Shops visited		8,390	14,201
No. of Shops employing young persons		2,038	2,547
No. of young persons employed		2,851	3,438
No. of Shops	Young persons' hours incorrect	29	28
	No extract of Act exhibited	947	993
	Employing Assistants	3,048	4,584
No. of male assistants employed (including any under 18 years of age)		5,375	6,640
No. of female assistants employed (including any under 18 years of age)		3,293	3,400
No. of Shops	Seats incorrect	14	15
	Notices, *re* Assistants' Half-holiday, incorrect	594	1,246
	Assistants' Half-holiday incorrect	47	284
	Meal times incorrect	3	23
	Notices, *re* closing, incorrect	591	902
	Contravening Act or Orders	29	2,897

Revisits.

No. of Shops	Revisited (day)	1,404	9,117
	Revisited (after 6 p.m.)	1,358	11,106
	Young persons' hours incorrect	17	29
	No extract of Act exhibited	199	424
	Seats incorrect	—	2
	Notices, *re* Assistants' Half-holiday, incorrect	176	1,141
	Assistants' Half-holiday incorrect	35	279
	Meal times incorrect	—	67
	Closing incorrect	21	36
	Notices, *re* closing, incorrect	36	206

Special Visits *re* Closing Orders.

No. of Shops visited		14,375	71,589
No. of Shops not closed		1,521	753
No. of Shops' notices incorrect		2,272	1,861

* From 1st July to 31st December.

INFORMATIONS LAID UNDER THE SHOPS ACT, 1912.

	1912.	1913.
Number of Informations:—		
Not giving Assistants Half-Holiday	—	19
Not exhibiting notice *re* Assistant's Half-Holiday...	3	44
Not exhibiting notice *re* hours of young persons ...	1	5
Under Half-Holiday Order No. 1 for not closing either Wednesday or Saturday	14	36
Under Half-Holiday Order No. 2 for not closing either Wednesday or Saturday	1	14
Under Half-Holiday Order No. 3 for not closing either Wednesday or Saturday	—	1
Trading elsewhere than in shops on Weekly Half-Holiday	—	5
Not covering up non-exempted goods when shop was open for sale of exempted goods on either Wednesday or Saturday	—	1
Number fined	14	121
Number acquitted or withdrawn	5	4
Fines and costs...	£4 6 0	£142 14 9

THE AMBULANCE AND DISINFECTING STAFF.

The following table shows the number of patients removed to Hospitals during 1913, by Officers of the Ambulance Staff, and the Hospitals to which they were taken:—

City Hospital, Fazakerley.	Fazakerley Annexe.	City Hospital North, Netherfield Road.	City Hospital South, Grafton Street.	City Hospital East, Mill Lane.	City Hospital, Park Hill.	Port Sanitary Hospital.	Stanley Hospital.	Royal Infirmary.	Southern Hospital.	David Lewis Northern Hospital.	Hahnemann Hospital.	Consumption Hospital, Mount Pleasant.	Total.
886	492	785	669	928	124	1	2	1	4	1	—	5	3,898

Details of the methods employed have been given in previous Annual Reports, in which also the general procedure in disinfection has been explained.

In 1910, the Health Committee provided a 20 horse-power Motor Ambulance to be used as a conveyance for the removal to hospital of patients suffering from infectious disease.

Since the introduction of this ambulance, patients have been removed much more speedily and comfortably to the City Hospitals than would have been the case had they been removed by horse Ambulance.

This ambulance has been in use about 16 hours a day, it is doing the work of four horses, and has given such satisfaction that an additional ambulance of a similar type has been ordered.

INFECTED PREMISES STRIPPED AND DISINFECTED BY STRIPPING STAFF.

	1912.	1913.
Houses	9,876	8,642
Rooms Stripped or sprayed with solution of Perchloride of Mercury or Formalin	25,775	23,151
,, Disinfected with sulphurous gas	9,024	8,029
Number of Notes to Owners after stripping and cleansing	2,214	2,021
,, Visits by Superintendent of Staff	1,930	1,965
,, Enquiries respecting disinfection	10,944	8,684

LIBRARY BOOKS FOUND IN INFECTED HOUSES.

	1912.	1913.
Number of Library Books disinfected	1,986	1,501
,, ,, ,, destroyed	20	9

Compensation was paid for all Books destroyed.

For a number of years it has been the practice to inquire for library books at every house where infectious disease is reported, and to remove from the house any books found. The inquiry also determines whether or not the books have been used by the patient, or have been in the sick room, and incidentally the character of the house and of the occupants is reported upon, and further information for other purposes ascertained.

The manner in which the books are dealt with is explained in the Report for 1909.

THE DISINFECTING APPARATUS.

The number of articles disinfected at the various apparatus during the year amounted to 54,204, and consisted of the following articles:—

Date. 1913.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	No. of Pieces of Wearing Apparel.	Total Number of Articles.
January	297	44	1,795	1,499	3,635
February	289	29	1,793	1,417	3,528
March	414	45	2,474	2,450	5,383
April	341	48	2,101	2,395	4,885
May	408	16	2,431	2,176	5,031
June	386	30	2,136	1,942	4,494
July	353	24	1,918	928	3,223
August	340	18	1,908	981	3,247
September	370	42	1,798	1,716	3,926
October	374	33	1,908	4,794	7,109
November	484	31	2,543	1,729	4,787
December	420	28	2,386	2,122	4,956
Totals	4,476	388	25,191	24,149	54,204

The number of articles destroyed at the various apparatus during the year amounted to 1,285, compensation being paid in conformity with the provisions of the Public Health Act. Details are as follows:—

Date. 1913.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	No. of Pieces of Wearing Apparel.	Total Number of Articles.
January	22	32	120	20	194
February	23	30	82	5	140
March	17	18	73	—	108
April	26	30	119	—	175
May	16	20	69	—	105
June	14	12	69	—	95
July	10	16	54	—	80
August	19	26	60	—	105
September	13	16	37	—	66
October	11	26	30	—	67
November	13	26	30	—	69
December	14	14	53	—	81
Totals	198	266	796	25	1,285

PRINCE'S DOCK MORTUARY.

The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed, or found dead, and upon which the Coroner desires to hold inquests. Bodies are taken to this Mortuary by the police, and when it may be necessary to make post-mortem examinations, any medical practitioner may have the assistance of an inspector on sending a communication to the Ambulance Superintendent, 54, Gascoyne Street.

BODIES REMOVED TO THE PRINCE'S DOCK MORTUARY.		
Number from River.	Number from City.	Total.
10	273	283

FORD STREET MORTUARY AND DISTRICT MORTUARIES.

BODIES REMOVED TO MORTUARIES.						
Green Lane.	Lark Lane.	Wavertree.	Ford Street.	Park Hill.	Smithdown Road.	Total.
—	4	—	266	—	—	270

The Mortuary in Ford Street is provided for the reception of bodies, which cannot be kept at the homes in which death had taken place, without injury to the health of the inmates. The address of the caretaker is 112, Whitefield Road.

The District Mortuaries are, it will be seen, seldom used. For the convenience of juries, as well as for other reasons, it is preferable that bodies should be conveyed to the Central Mortuaries.

The method of transport of the bodies of persons killed, or found dead in the street, has been more adequately provided for.

The Health Committee have authorised the Head Constable to make arrangements with certain firms of undertakers in suitable parts of the City, to supply a hearse on short notice, together with a shell coffin, for these purposes.

This plan is expeditious, inasmuch as only short distances have to be travelled by the hearse to the place where the body is lying; it is working well.



NECROPOLIS BURIAL GROUND, PRIOR TO LAYING OUT AS A GARDEN.



NECROPOLIS BURIAL GROUND, PRIOR TO LAYING OUT AS A GARDEN.



GRANT GARDENS.

View from West Derby Road. This was formerly the Cemetery known as the Necropolis.

CREMATORIUM.

The Crematorium in Anfield Cemetery is availed of by an increasing number of persons as a means of reverent disposal of the dead by cremation, but the system has not yet found the favour which it does in many important centres of population throughout Europe and America.

When the Corporation became the Burial Authority for the City, the suggestion which had been previously made of transferring the Crematorium to the control of the Burials Committee was carried out. Subsequently, in October, 1908, the administration was taken over by the Crematorium Sub-Committee. In order, however, that the continuity of the administration should be preserved, the late Mr. Alfred Holt, one of the original founders, and Dr. Nicholson, the former Medical Referee, were asked to assist the Sub-Committee as Advisory Members, and this they kindly consented to do.

Since 1896, when the Crematorium was opened, until the end of 1913, 669 cremations have taken place. The following table gives the number for each year.

1896	2
1897	10
1898	27
1899	23
1900	40
1901	40
1902	54
1903	35
1904	40
1905	35
1906	46
1907	34
1908	32
1909	46
1910	37
1911	50
1912	52
1913	66
	669

The charge for a Cremation is £5 5s., and arrangements can be made for the retention of the ashes in a suitable receptacle in the Columbarium attached to the building, or they can be disposed of by burial or in other ways to meet the wishes of those concerned.

The Crematorium buildings are open to the Public from 9-30 a.m. to 4 p.m. on Week-days, and from 2 p.m. to 4 p.m. on Sundays. All information, with the necessary forms, may be obtained from the Manager at the Crematorium, by letter or telephone (Telephone No. 267 Anfield), and at the Public Health Department, Municipal Buildings.

PROCEEDINGS UNDER THE DISEASES OF ANIMALS ACTS, 1894 TO 1903.

The duties of the Inspectors under the Diseases of Animals Acts, 1894 to 1903 have been explained in the Report for 1909.

The accompanying table gives the result of the visits made under the Acts or under the Orders of the Board of Agriculture:—

	1912.	1913.
Number of Visits and revisits to Railway Stations, including inspections made on Sundays ...	2,866	2,842
,, Inspections and reinspections of Pens ...	93,897	93,538
,, found clean	77,841	75,906
,, ,, dirty and cleansed before being used...	16,056	17,632
,, Inspections and reinspections of Trucks ...	36,465	37,242
,, found clean	30,817	30,442
,, found dirty and cleansed before being used...	5,181	6,241
,, ,, leaving the City before being cleansed,	467	559
,, Inspections and reinspections of Horse Boxes	1,697	1,714
,, found clean	1,430	1,423
,, ,, dirty and cleansed before being used	214	272
,, ,, ,, not ,, ,, ,, ,,	53	19
,, Inspections and reinspections of Vessels ...	4,823	5,672
,, found clean	3,069	3,266
,, ,, dirty and cleansed before being used	1,738	2,288
,, ,, going to Sea before being cleansed, without cattle or cargo	16	118
,, Inspections and reinspections of Gangways...	4,588	5,921
,, found clean	2,713	3,298
,, ,, dirty and cleansed before being used...	1,875	2,623
,, Inspections and reinspections of Lairages and Sale Yards	5,676	5,458
,, found clean	4,296	4,591
,, ,, dirty and cleansed before being used...	1,380	867

	1912.	1913.
Number of Carts used to convey Pigs, inspections and re-inspections	748	—
„ found clean	748	—
„ dirty and cleansed before being used.. ...	—	—
„ of visits to Manure yards and wharves ...	632	718

INSPECTION OF SLAUGHTER-HOUSES, &c.	1912.	1913.
Number of Visits to Slaughter-houses made by Meat Inspectors	6,127	5,775
Number of Visits to Butchers' Shops made by Meat Inspectors	66,923	89,191
Number of Visits to Fish and Fruit Shops made by Fish Inspectors	51,307	49,181
Number of Visits to Fruit Shops made by Fruit Inspectors	21,981	20,929

FOOD HAWKERS' PREMISES.

Number of Visits made by Inspectors	1,827	1,941

FISH PLATFORMS.

Number of Visits made by District Sanitary Inspectors...	60	37

POULTRY DEPOTS.

Number of Visits made by District Sanitary Inspectors...	450	526

PICKLE AND JAM WORKS.

Number of Visits made by Fruit Inspectors	—	11

INSPECTION OF MEAT, FISH, FRUIT AND GENERAL FOOD STUFFS

The methods adopted have been explained in the Report for 1909.

RETURNS OF ANIMALS KILLED IN THE CITY SLAUGHTER-HOUSES, AND OF MEAT IMPORTED FOR SALE.

The number of fat cattle from local dairies slaughtered in the City during 1913 was 2,424, as compared with 2,837 in 1912.

The small number of cattle slaughtered in the City is probably due to the importation of States cattle, and also to the importation of frozen meat, chiefly from the River Plate district.

There is an increase in the number of sheep slaughtered, and an increase in the number imported, as compared with the year 1912.

With regard to pigs, it will be noticed that there is a decrease in the number killed in the City.

STREET.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Dead Meat Imported for Sale.			
						Beasts.	Sheep.	Calves.	Pigs.
Abattoir.	9162	170641	...	19656	22096	13109	35374	481	...
Gill Street Market.	...	...	...	...	...	43605	439147	198	758
*60a, Allerton Road, Woolton	10	10	...	...	25	...	...	...	...
*66, Allerton Road, Woolton ..	9	68	...	1	14	...	...	...	...
Pack Castle Street	294	40	...	...	...	...	...	...	...
Copperas Hill.....	...	...	...	...	14071	...	...	...	...
Corlett Street.....	504	6036	947	21	109	...	...	...	...
Carried forward	817	6154	947	22	14219				

RETURNS OF ANIMALS KILLED IN THE CITY SLAUGHTER HOUSES AND OF MEAT IMPORTED FOR SALE—*Continued.*

STREET.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Dead Meat Imported for Sale.			
						Beasts.	Sheep.	Calves.	Pigs.
Brought forward	817	6154	947	22	14219	...	...	...	...
Derby Lane, Old Swan.....	...	412	165	1	4	...	...	...	...
Edgeware Street	...	13	...	...	...	...	...	...	...
Foley Street	...	...	...	...	...	...	...	...	...
Frederick Street.....	...	4	...	...	216	...	...	...	...
105, High Street, Wavertree.	3	1	...	2	21	...	...	...	..
Norman Street	...	...	...	...	1196	...	...	...	. .
Peel Street	...	...	7	...	...	...	...	...	..
Prescot Road, Knotty Ash ...	5	780	220	2	12	...	...	...	...
Sandown Lane, Wavertree ...	2	50	...	...	5	...	...	...	...
Sidwell Street, Garston	59	34	...	4	138	...	...	...	...
Soho Street.....	...	...	...	...	1754	...	...	...	...
St. Mary's Road, Garston ...	2	...	...	...	...	...	...	...	...
Upper Milk Street.....	...	...	...	...	3884	...	...	...	...
West Derby Road, Tue Brook	10	762	375	1	398	...	...	...	...
*Woolton Street, Woolton ...	9	49	20	2	18	...	...	...	...
Total in Private Slaughter-houses	907	8259	1734	34	21865	...	...	...	...
Total in the City	10069	178900	1734	19690	43961	56714	474521	679	758

* From November 9th, 1913.

PRECEDING YEAR.

Total in Private Slaughter-houses	984	7034	829	61	22241	...	...	...	...
Total in the City	12090	146111	829	21140	52556	49150	449049	1103	377

	1912.	1913.
Number of Boxes of Offal imported, for sale	13,606	22,336

ABATTOIRS.

The position in regard to the slaughtering of animals throughout the City is practically the same as at the close of last year.

In the interests of public health, the Health Committee have during the last 10 or 15 years declined to renew or transfer licenses for private slaughter-houses, and a gradual decline in the number of the eminently unsuitable places has, therefore, taken place. The central abattoir and the associated offensive trades remain in the condition which has been so frequently commented upon. Every effort is made to palliate the nuisances inseparable from the conduct of businesses of this kind in situations which are cramped, confined, and unsuitable. The subject has been fully dealt with in previous reports.

SLAUGHTER-HOUSES WHICH HAVE CEASED TO BE USED.

PREMISES.	DATE.	REASON.	REMARKS.
180, Scotland Road (in "Wheat Sheaf" yard)	27th March, 1890	Licence refused. Situation unsuitable; too near dwelling-houses.	
Byles Street	8th Nov., 1892	,, ,,	
Benledi Street	June, 1894	,, ,,	
Hodson Street	28th March, 1895	,, ,,	
Lydia Ann Street ...	28th May, 1896	,, ,,	
Embledon Street	12th Nov., 1896	,, ,,	
1, Back Commutation Row	August, 1897	Lease expired. Licence surrendered.	
Gelling Street	24th Nov., 1897	,, ,,	
Salisbury Road, Walton	May, 1898	Licence refused. Situation unsuitable; too near dwelling-houses.	
Town Row, West Derby	28th July, 1900	(Registered) Premises vacated.	Now used as a Laundry.
West Derby Village ...	10th Oct., 1900	Licence surrendered.	
Norfolk Street	13th May, 1902	Licence refused. Situation unsuitable; too near dwelling-houses.	
Bolton Street	12th June, 1903	Licence surrendered.	
Finch Place	5th July, 1902	,, ,,	
Darnley Street	25th Feb., 1903	,, ,,	
Crown Street	31st Jan., 1905	,, ,,	
Cotter Street	1st April, 1905	(Registered) Premises sold to St. James' Church Mission.	Now used as Ironworker's store.
2, Back Commutation Row	30th June, 1906	Lease expired. Licence surrendered.	Now used as a Motor Garage
101, High Street, Wavertree	31st Dec., 1907	(Registered) Bought by Corporation.	Not used.
Byrom Street.....	12th Sept., 1908	Lease expired. Licence surrendered.	
Bevington Hill	30th April, 1909	Licence surrendered.	Premises sold to W. Moore, Wheelwright.
Back Mount Vernon Green	31st Jan., 1912	Licence surrendered.	Premises now used as a Marine Stores.
Allerton Road	1st July, 1912	,, ,,	Premises now used for storing Agricultural Implements.
Brecon Street.....	26th Oct., 1912	,, ,,	Premises demolished.

MEAT AND OFFAL FOUND TO BE UNFIT FOR HUMAN FOOD.

UNWHOLESOME MEAT.

Cause of seizure or surrender.	Beef.	Mutton and Lamb.	Veal.	Pork.	Goats.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Tuberculosis	67,696	—	1,905	6,367	—	75,968
Abscesses	692	10	25	131	—	858
Anthrax	2,960	—	—	—	—	2,960
Cancer.....	—	—	—	146	—	146
Damaged	7,795	7,323	95	1,612	50	16,875
Dropsy	13,375	1,082	1,451	242	24	16,174
Emaciation.....	5,862	4,681	3,303	756	365	14,967
Immaturity	423	480	1,973	—	—	2,876
Inflammation ...	14,020	50	1,804	1,038	—	16,912
Jaundice	—	—	344	82	—	426
Necrosis	—	—	—	53	—	53
Pneumonia.....	1,831	—	—	—	—	1,831
Putrefaction	16,069	5,330	79	5,206	—	26,684
Suffocation	640	2,697	907	1,379	—	5,623
Total	131,363	21,653	11,886	17,012	439	182,353

UNWHOLESOME OFFAL.

Cause of seizure or surrender.	Beef.	Mutton and Lamb.	Veal.	Pork.	Goats.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Tuberculosis	4,522	—	2	55	—	4,579
Inflammation and Congestion	9,898	185	24	687	—	10,794
Putrefaction	10,838	4,781	107	1,903	—	17,629
Distomatosis	19,550	485	—	40	6	20,081
Hydatid	2,604	4	—	—	—	2,608
Anæmic	26,505	346	14	38	—	26,903
Emphysema	106	—	—	—	—	106
Septicæmia	24	—	—	—	—	24
Cirrhosis	17,363	7	23	206	—	17,599
Necrosis	286	—	—	12	—	298
Abscesses	2,290	4	10	22	—	2,326
Cysts	10,425	7	16	114	—	10,562
Actinomycosis ...	367	—	—	108	—	475
Total	104,778	5,819	196	3,185	6	113,984

Refuse consisting of Pigs' intestines, &c., 13,120 lbs.

CARCASES OF DISEASED OR INJURED ANIMALS SURRENDERED OR SEIZED.

The following table shows the number of carcases surrendered to, or seized by, the Medical Officer of Health and Inspectors:—

	1912.	1913.
Cattle	204	212
Sheep	341	412
Calves	144	236
Pigs	154	108
Goats	12	12
Totals	855	980

The following table shows the result of the examination of above carcases of diseased or injured animals:—

	Beasts.	Sheep.	Calves.	Pigs.	Goats.	Total.
Abscesses	1	...	...	...	...	1
Anthrax	4	...	...	...	...	4
Cancer	...	...	...	1	...	1
Damaged	1	131	...	...	...	132
Dropsy	27	25	18	6	1	77
Emaciation	14	129	94	33	11	281
Immaturity	1	20	55	...	...	76
Inflammation	27	1	35	9	...	72
Jaundice	...	...	6	1	...	7
Pneumonia	3	...	...	...	...	3
Putrefaction	5	55	1	16	...	77
Suffocation	1	51	17	10	...	79
Tuberculosis	128	...	10	32	...	170
Total	212	412	236	108	12	980

	1912.	1913.
Number of carcases condemned by Justices under Section 117 of the Public Health Act, 1875	3	—
Number of carcases dealt with under a Local Act which does not require a Justices' Order	852	980

The following table shows the district *via* which the Tuberculous cattle came:—

Where from.	Cattle.	Calves.	Pigs.	Total.
Bootle	3	—	—	3
Broughton	—	—	1	1
Burscough	—	1	—	1
Chester	3	—	1	4
Crewe	—	—	1	1
Crosby	—	—	1	1
Ellesmere	—	—	1	1
Formby	—	—	1	1
Gateacre	1	—	—	1
Greasby	—	—	1	1
Hale	1	—	1	2
Hellifield	1	—	—	1
Huyton	—	—	6	6
Ireland	36	—	2	38
Isle of Man	1	—	—	1
Kirby Lonsdale	1	—	—	1
Litherland	—	—	1	1
Maghull	1	—	—	1
Malpas	—	—	1	1
Mold	—	—	1	1
Moreton	1	—	—	1
New Ferry	1	—	—	1
Oswestry	—	—	1	1
Page Moss	1	—	—	1
Preston	15	7	8	30
Rock Ferry	—	1	—	1
St. Helens	—	—	1	1
Seaforth	1	—	—	1
Sefton	1	—	—	1
Shrewsbury	1	—	—	1
Simonswood	—	—	2	2
Upton	5	—	—	5
Whiston	3	1	—	4
Wiltshire	1	—	—	1
Woolton	2	—	1	3
Wrexham	1	—	—	1
Local Cowsheds	47	—	—	47
Totals	128	10	32	170

The number of carcases condemned in 1912 in consequence of the animal having suffered from Tuberculosis was as follows:—

Cattle	126
Calves	2
Pigs	51
Total	179

ANIMALS SMOTHERED OR INJURED IN TRANSIT ON BOARD SHIP.

Beasts	Sheep.	Pigs.	Number found fit for food.	Number found unfit for food.	Weight of meat unfit for food lbs.
1	2	5	6	2	400

FISH, POULTRY, &c., FOUND TO BE UNFIT FOR HUMAN FOOD.

Fish:—	lbs.
Wet Fish	100,811
Dried Fish	7,746
Crabs	1,352
Lobsters	2,150
Prawns	738
Crayfish	644
Total	113,441

Poultry:—	Head.
Fowl	696
Ducks	379
Geese	62
Turkeys	18
Total	1,155

Game:—	Head.
Pheasants	10
Partridges	31
Grouse	17
Total	58
Rabbits	10,171
Hares	44
Total	10,215

Shellfish :—	Bags.
Cockles	43
Mussels	153
Winkles	10
Total	206

Various:—	
Eggs	588
Wild Birds	245
Sardines	34 tins
Oysters	11,850
Venison	432 lbs.
Pigeons	725
Condensed Milk	150 1lb. tins

FRUIT, VEGETABLES, &c., FOUND TO BE UNFIT FOR HUMAN FOOD.

FRESH FRUIT.

	lbs.
Apples	1,960
Bananas	97,584
Blackberries	3,004
Currants (Black and Red)	1,120
Grapes	7,690
Gooseberries	122
Mangoes	536
Melons	125
Oranges	17,930
Peaches	3
Pears	12,802
Pineapples	2
Plums	1,140
Rhubarb	527
Strawberries	12
Tomatoes	21,060
Total	165,617

DRIED FRUIT.

	lbs.
Chestnuts	224

VEGETABLES.

Artichokes	1,560
Beans	2,720
Carrots	58,007
Gherkins	560
Lettuce	2,792
Mushrooms	266
Onions	38,409
Parsley	80
Parsnips	18,420
Peas	280
Potatoes	4,812
Sage	540
Shallots	50
Spinach	280
Sprouts	1,622
Turnips (Swede)	3,360
Watercress	600
Total	134,358

TINNED FRUIT.

Pineapples	448 tins.
Tomatoes	264 tins.

MEAT, FISH AND FRUIT, &c., FOUND TO BE UNFIT FOR HUMAN FOOD

The following table summarises the amount of unsound food which was either seized or surrendered during the year, and which was destroyed:—

	Meat.				Offal.				Total.			
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.
Beef	58	12	3	15	46	15	2	2	105	8	1	17
Mutton and Lamb	9	13	1	9	2	11	3	23	12	5	1	4
Veal	5	6	—	14	—	1	3	—	5	7	3	14
Pork	7	11	3	16	1	8	1	21	9	—	1	9
Venison	—	3	3	12	—	—	—	—	—	3	3	12
Goats	—	3	3	19	—	—	—	6	—	3	3	25
Total	81	12	0	1	50	17	2	24	132	9	2	25

	Tons.	cwts.	qrs.	lbs.
Fish	50	12	3	13
Fresh Fruit	73	18	2	25
Dried Fruit	—	2	0	0
Vegetables	59	19	2	14
Tinned Fruit			712	tins.
Sardines			34	,,
Condensed Milk			150	lbs.
Poultry			1,155	head.
Game			58	,,
Wild Birds			245	,,
Pigeons			725	,,
Rabbits and Hares			10,215	,,
Mussels, Winkles, and Cockles ...			206	bags.
Oysters			11,850	,,
Eggs			588	

This does not include fish removed as refuse by Officers of the Cleansing and Scavenging Department under the City Engineer.

The great bulk of this material was not exposed for sale, and did not require a Justices' order for its destruction.

The quantity of fish condemned includes both fresh fish and salt fish which had become tainted during transit or storage.

	1912.	1913.
Number of informations in respect of diseased meat	4	3
Number of informations in respect of unsound fruit	2	4
Total number of informations	6	7
Number Fined	4	6
,, Withdrawn or Dismissed...	2	1
Amount of Fines and Costs... ...	£17 4 6	£17 2 0

RETURN OF THE NUMBERS OF CATTLE, SHEEP AND SWINE EXPORTED FROM IRELAND TO LIVERPOOL DURING THE YEAR 1913, SHOWING THE PORTS IN IRELAND AT WHICH THE ANIMALS WERE SHIPPED.

	Cattle.	Sheep.	Swine.
Ballina	206	13,655	3,810
Belfast	10,456	1,608	1
Cork	54,857	29,945	10,828
Drogheda	49,651	40,864	3,463
Dublin	109,391	188,444	18,146
Dundalk	45,026	58,347	31,394
Londonderry	12,244	17,009	446
Newry	17,714	17,395	1,273
Sligo	71	6,643	12,576
Waterford	50,177	47,607	15,074
Westport	1,102	25,498	6,105
Wexford	529	1,715	604
Total	351,424	448,730	103,720

RETURN SHOWING THE TOTAL NUMBERS OF THE SEVERAL KINDS OF CATTLE, SHEEP AND SWINE EXPORTED FROM IRELAND TO LIVERPOOL, DURING THE YEAR 1913.

CATTLE.	No.
Fat	197,496
Stores (for fattening)	126,595
Milch Cows ...	16,707
Springers ...	2,947
Other Cattle ...	385
Calves	7,294
Total Cattle ...	351,424

SHEEP.	No.
Fat	209,244
Stores	4,692
Lambs	234,794
Total Sheep ...	448,730

SWINE.	
Fat	100,680
Stores	3,040
Total Swine ...	103,720

THE GLANDERS AND FARCY ORDER OF 1907.

The provisions of the Diseases of Animals Acts and the Glanders and Farcy Order of 1907 have been circulated amongst the horse owners of the City. Accompanying these regulations were notices indicating the means of combating the disease, and the necessary precautions to be taken.

The following table indicates the number of affected animals during the last six years. It will be noticed that in 1913 the City was again entirely free from the disease.

Year.	No. of cases.
1908	—
1909	1
1910	—
1911	—
1912	—
1913	—

Immediate notification of suspected cases of Glanders is received either from the owner, police, or the veterinary surgeon who may be called in to the case. As a further safeguard, the Veterinary Department examine the lungs of all equines sent to the horse slaughterer's yard (there is only one in the City), and it is by these inspections that unreported cases can be discovered.

This precaution is also taken to ensure owners being notified of the existence of the disease which may be in a latent state, and to detect unscrupulous persons who may not conform to the requirements of the Order.

The following table gives the number examined during the last three years—

Year	Lungs Examined.	Affected.	Not Affected.
1911	1,970	—	1,970
1912	1,946	—	1,946
1913	2,711	—	2,711

INSPECTION OF HORSE AUCTIONS.

The sale yards in the City have been regularly visited, and the animals exposed for sale therein examined for the presence of any contagious disease, and as to their fitness to travel in accordance with the Animals (Transit and General) Order of 1912, and the Protection of Animals Act of 1911.

MARKET INSPECTION.

At the Liverpool Cattle Market during 1913, the following animals were inspected by the Veterinary Department. The figures for 1912 are also given for comparison:—

	1912	1913
Cattle	31,304	9,012
Sheep	173,635	204,477
Other animals	—	—
Total	204,939	213,489

THE PARASITIC MANGE ORDER OF 1911.

Under this Order, immediate notification of actual or suspected cases of mange in horses is received from the owner, police, horse slaughterers, or veterinary surgeons who may be called in to the case. The suspected animals are then examined by the Veterinary Department, and also the entire stud when at rest. Affected animals are immediately isolated and kept under observation until the disease has disappeared. Thorough disinfection of the premises, harness, utensils, feeding troughs, &c., is carried out under the supervision of the veterinary inspectors.

Prosecutions were instituted in four cases. Three convictions resulted, and one case was dismissed.

The total number of outbreaks or premises where the disease was found to exist was 207, and the number of visits paid to these premises was 1,242.

The following table shows the figures for 1913, with previous years for comparison:—

Year.	Number of Animals and Carcases Examined.	Number not affected.	Number affected.	Recovered.	Died or Slaughtered.
1910	6,616	297	87	67	20
1911	8,223	1,397	251	183	68
1912	11,686	4,900	553	421	132
1913	9,376	2,539	338	244	94

THE EXPORTATION OF HORSES ORDER OF 1910.

Under this Order of the Board of Agriculture and Fisheries, no horse, ass, or mule can be shipped from any port in Great Britain to the Continent of Europe unless accompanied either by a veterinary or Jockey Club certificate, or a special permit issued by the Board of Agriculture.

All horses intended for shipment from Liverpool are inspected before going on board by the officers of the Veterinary Department, and if in their opinion any horse, ass, or mule, which, through old age, infirmity or sickness, might undergo unnecessary suffering in transit, they have power under the Order to stop shipment.

During the year 1913, 44 horses were shipped to the Continent; they were all valuable animals and in first-class condition.

This Order was instituted to control the trade of old worn-out horses between this country and the Continent.

THE ANTHRAX ORDER OF 1910.

Several reported cases of anthrax were investigated by the Health Department under this Order. Some were found, on microscopical examination, not to be suspicious of anthrax, but 5 cases were reported by the Veterinary Department to be anthrax, 4 of which were confirmed by the Board of Agriculture.

In one case it was found that an animal suffering from anthrax had been removed from Bootle to a slaughterhouse within the City. An information was laid which resulted in a fine of £5 and £1 15s. 6d. costs being imposed on the owner of the animal for removing it in contravention of the Anthrax Order.

In connection with the spread of anthrax to farm animals owing to the contamination of cattle food products with the spores of the bacillus during shipment in foreign parts and during the voyage, the staff of the city and port have kept this matter constantly before them, and systematic enquiries have been made as to the possibility of the contamination of cattle food products. In addition, the Board of Agriculture have issued a notice to shipowners and others concerned, pointing out that special precautions should be adopted when cargo containing animal products likely to be infected (such as hides, hair, wool, &c.) is carried in the holds and other parts of vessels before such places are used for carrying any cargo likely to be utilised as cattle food.

THE RABIES ORDER OF 1897.

Six suspected cases of rabies were dealt with under this Order. These were examined by the Corporation Bacteriologist and certified to be free from rabies. In another case where a suspected dog bit a child, the Veterinary Superintendent examined the dog and found it free from disease. No further action was taken in this case.

LIVERPOOL DOGS' HOME, EDGE LANE.

The stray dogs seized by the City Police are collected from the different Pinfolds, and conveyed to the Liverpool Dogs' Home by a driver and vehicle provided by the Home. Fresh Pinfolds have recently been opened by the Police in the outlying districts. The total number of dogs received during 1913 was 2,755. They are kept for the statutory period of seven days to allow owners to find lost animals, and 251 were thus claimed during the year. The dogs are sorted out, those in a

bad state from disease or injury being promptly destroyed. From amongst the others 395 were sold to new owners, each buyer being required to sign a statement as to the purpose for which the dog is required; no sale is permitted to a Dog Dealer. The unclaimed and unwanted animals are all destroyed, the painless system of lethalisation by chloroform being invariably employed.

The Home also encourages owners to bring dogs to the Institution when no longer wanted, so that they may be destroyed without unnecessary suffering. In this way 1,183 dogs were brought in 1913. Of these, 270 were dealt with free, the owners being unable to pay, and there is no doubt that but for this charitable arrangement the number of those unhappily turned adrift would be even greater than it is. The provision of kennels for the boarding of dogs during the temporary absence from home of their owners is another facility which is much appreciated by the public. During the last ten years the number of dogs received at the Home from all sources totals 44,150. The work of the Home is carried on under Act of Parliament in close co-operation with the City Police and the Health Committee, and a substantial grant is made each year by the Corporation in aid of the work carried out for the benefit of the public health, and the expense incurred in dealing with stray dogs found wandering in the public thoroughfares.

THE IMPORTATION OF CANINE ANIMALS ORDER OF 1909.

This Order was issued by the Board of Agriculture in 1909 to control the importation of animals such as wolves and jackals, and so prevent the introduction of rabies by animals other than dogs whose importation was already controlled by the Importation of Dogs Order of 1901.

No examinations were made under this Order during the year.

THE PROTECTION OF ANIMALS ACTS, 1911.

Under this act the police have power to call in a veterinary surgeon in cases of cruelty and act upon his advice. The Veterinary Department have been consulted on several occasions in this respect.

SWINE FEVER ORDER.

With a view to facilitate the trade in the import of pigs from Ireland, and in order to fulfil the obligations of the Board of Agriculture, certain premises have been scheduled by the Health Committee to which pigs may be licensed, viz. :—

> Stanley Cattle Market; pens at South end of the East side of the Nelson Dock; pens at East side of the Collingwood Dock; pens at South-west side of the Collingwood Dock; pens at South end of Prince's Pierhead.

The exigencies of the import trade appear to be met by this arrangement, the pigs being re-licensed after sorting at the places named. Objection to the arrangement was raised on the grounds that these premises were used for market purposes. An investigation was made into the matter, but it was found desirable, on the whole, that the arrangement should continue.

Owing to an outbreak of Foot and Mouth Disease among Irish Cattle, which was first discovered at the Liverpool Abattoir in July, 1912, all pigs since that date coming from Ireland to Liverpool must first be landed at the Foreign Animals Wharf at Birkenhead and detained 12 hours for Veterinary Inspection by Board of Agriculture officials, after which they receive a movement license under the Order.

PIGGERIES.

There were 7 applications made during the year for licenses to keep pigs. In three cases a transfer of license was requested, the other four being new applications. These four applications involved the keeping of 74 pigs; two of these applications were refused, and two are still in abeyance.

DAIRIES, COWSHEDS AND MILKSHOPS.

There is no change in the method of procedure respecting the licensing of cowsheds and the registration of dairies, milkshops and milkstores.

STATISTICS RESPECTING COWSHEDS.

	1913.
Number of applications to keep cows on premises not previously licensed	4
,, ,, granted	2
,, ,, in abeyance	2
,, cows applied for	36
,, ,, granted	2
,, applications for transfer to fresh tenants of cowsheds previously licensed	33
,, ,, granted	33
,, ,, to keep more cows than the number for which the license was originally granted	6
,, ,, granted	5
,, ,, in abeyance	1
,, additional cows applied for	24
,, ,, granted	15
,, Cowsheds on the register 31st December, 1912 ...	432
,, ,, ,, ,, ,, 1913 ...	415
Number of cows licensed to be kept within the city area	6,431

COWSHED INSPECTION.

	1912.	1913.
Number of Inspections of Cowsheds	4,322	4,238
,, found Incorrect	78	65
,, of Informations	2	1
,, ,, ,, Withdrawn ...	—	1
Amount of Fines and Costs	£2 9 0	—

Forty-six notices have been issued to occupiers directing their attention to minor contraventions of the regulations.

Number of cowsheds in the City during the years 1904 to 1913, inclusive, together with the number of cows licensed to be kept, and the number of applications for new cowsheds:—

Years.	Cowsheds.	Cows.	Applications.	
1904 ...	449 ...	6,359 ...	7	
1905 ...	456 ...	6,426 ...	17	Incorporation of Fazakerley
1906 ...	466 ...	6,666 ...	7	
1907 ...	462 ...	6,734 ...	11	
1908 ...	466 ...	6,768 ...	3	
1909 ...	466 ...	6,778 ...	2	
1910 ...	447 ...	6,691 ...	4	
1911 ...	436 ...	6,428 ...	0	
1912 ...	432 ...	6,589 ...	3	
1913 ...	415 ...	6,431 ...	4	

MILKSHOPS.

	1913.
Number of Applications for registration	*99
,, ,, granted	91
,, ,, withdrawn	6
,, ,, in abeyance	2
Number of Milkshops on the register at the end of 1909	834
,, ,, ,, ,, 1910	821
,, ,, ,, ,, 1911	847
,, ,, ,, ,, 1912	838
,, ,, ,, ,, 1913	802

* Seventy-four of these applications were transfers.

DAIRIES AND MILKSHOPS INSPECTION.

	1912.	
Number of Inspections of Dairies and Milkshops	7,221	7,153
,, found incorrect	40	15
,, of Informations	0	0
,, Fined	0	0
,, Withdrawn	0	0
Amount of Fines and Costs	Nil	Nil

Forty-seven caution notices have been issued to occup'ers of milkshops, and eight notices were sent to farmers for minor contraventions of the Regulations.

LEAVELOOKERS' VISITS TO COWSHEDS FOR THE PURPOSE OF EXAMINING COWS.

No. of Visits.	No. of Examinations of Cows.	No. found Healthy.	No. found ill.	No. referred to the Veterinary Superintendent.
1,794	22,102	21,882	220	220

ICE CREAM MAKERS AND VENDORS.

The usual inspections have been made of the premises utilised by street traders solely for manufacturing ice cream.

The dwellings which these street traders occupy have also been kept under observation, and in no instance during the past year has it been found that ice cream has been made or stored in or about these dwellings.

A systematic inspection has also been made of shopkeepers' premises which are used for the manufacture or sale of ice cream.

	1912.	1913.
Number of premises under Inspection	1,032	1,022
,, visits made	2,946	3,125
,, caution notices issued	26	15
,, Informations	—	—

TUBERCULOSIS AND THE MILK SUPPLY.

LIVERPOOL CORPORATION ACT, 1900.

The examination of cows and cowsheds within the city has been duly carried on throughout the year, and all cases of sickness found by the Leavelookers reported to the Veterinary Department. In cases where the cows are reported to be suffering from any disease of the udder, or any other disease likely to be inimical to the public health, the Medical Officer of Health directs that the animal be submitted to Veterinary examination and reported upon.

Should clinical symptoms of tuberculosis of the udder or tuberculosis with emaciation be in evidence, the animals are dealt with under the Tuberculosis Order of 1913 (see page 230).

The Veterinary Department have submitted a great number of cowsheds in the town to an annual inspection. This explains the large increase in the figures for 1913 over 1912.

The following is a table showing the number of visits made by the Veterinary Inspectors to cowsheds within the city boundary.

Year.	No. of Visits to Town Cowsheds.	No. of Cases notified by Owners.	Other Visits.	No. of Cows examined.	No. of Cows not affected.	No. of Cows Suspicious of Tuberculosis of the Udder.	No. of Convictions for Offences under the Act.
1902	12	—	—	13	7	6	1
1903	61	27	34	121	97	24	7
1904	305	168	137	665	595	70	12
1905	239	176	63	298	241	57	1
1906	198	172	26	225	211	14	—
1907	188	137	51	238	235	3	—
1908	171	121	50	255	252	3	—
1909	177	114	63	203	200	3	—
1910	144	103	41	189	188	1	—
1911	128	85	43	215	213	2	—
1912	207	78	129	1755	1738	17*	—
1913	505	102	403	4732	4704	18*	—
Totals	2335	1283	1040	8909	8681	218	21

* Cases of tuberculosis of the udder, all of which were confirmed either by bacteriological or post-mortem examination.

It has been necessary during the routine examination for the Veterinary Inspectors to take 71 samples of milk for bacteriological examination. Three of these were control samples, and 68 were from abnormal udders. Of the control samples, one proved tubercular, and two non-tubercular. The explanation of the tubercular control sample is that an obscure case of tubercular milk in a herd was encountered,

TABLE SHOWING THE VARIOUS COUNTIES FROM WHICH MILK HAS BEEN SENT INTO THE CITY FROM JANUARY, 1901, TO DECEMBER, 1913, TOGETHER WITH OTHER STATISTICAL DETAILS OF WORK DONE UNDER THE LIVERPOOL CORPORATION ACT, 1900.

A—Samples direct from Cows at affected Farms.
B—Samples of mixed Milk taken at various places within the City.
C—Combined Totals.

Year.	Cheshire.						Shropshire.						Denbighshire.						Lancashire.						Flintshire.						Staffordshire.						Other Counties.					
	Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.			Total Number of Samples Examined.			Found to be Tubercular.		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
1901	10	206	216	2	13	15	3	42	45	—	2	2	2	6	8	—	2	2	—	29	29	—	—	—	—	10	10	—	1	1	—	2	2	—	—	—	—	2	2	—	—	—
1902	18	247	265	2	13	15	4	52	56	—	5	5	6	14	20	3	5	8	—	27	27	—	—	—	1	6	7	1	—	1	1	4	5	—	3	3	—	2	2	—	—	—
1903	4	194	198	1	10	11	3	60	63	—	6	6	—	23	23	—	1	1	1	44	45	—	1	1	—	11	11	—	—	—	—	10	10	—	—	—	—	1	1	—	—	—
1904	5	203	208	1	12	13	6	58	64	1	9	10	3	27	30	2	8	10	—	27	27	—	—	—	—	25	25	—	1	1	—	2	2	—	2	2	2	12	14	—	1	1
1905	10	205	215	1	8	9	—	44	44	—	—	—	—	44	44	—	3	3	—	31	31	—	2	2	—	6	6	—	—	—	—	3	3	—	—	—	—	5	5	—	—	—
1906	4	165	169	1	12	13	3	47	50	—	4	4	3	28	31	—	1	1	2	34	36	—	2	2	2	16	18	—	1	1	—	1	1	—	1	1	—	16	16	—	—	—
1907	4	142	146	1	7	8	—	39	39	—	—	—	—	20	20	1	4	5	—	21	21	—	—	—	—	16	16	—	1	1	—	4	4	—	—	—	—	11	11	—	—	—
1908	3	203	206	1	4	5	1	48	49	—	4	4	1	5	6	—	—	—	—	2	2	—	1	1	—	3	3	—	—	—	—	—	—	—	—	—	—	6	6	—	—	—
1909	5	213	218	1	5	6	3	48	51	3	1	4	—	37	37	—	—	—	—	15	15	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—	10	10	—	—	—
1910	3	190	193	2	6	8	1	69	70	—	6	6	—	19	19	—	—	—	—	22	22	—	—	—	1	12	13	—	1	1	—	4	4	—	—	—	—	2	2	—	—	—
1911	7	247	254	2	14	16	—	26	26	—	—	—	1	24	25	1	1	2	2	16	18	—	—	—	—	20	20	—	—	—	—	—	—	—	—	—	—	3	3	—	—	—
1912	70	217	287	6	19	25	—	79	79	—	—	—	—	6	6	—	—	—	3	17	20	—	1	1	—	17	17	—	—	—	—	—	—	—	—	—	—	6	6	—	—	—
1913	27	247	274	6	20	26	—	90	90	—	6	6	1	26	30	—	1	1	—	22	22	—	—	—	—	18	18	—	1	1	—	3	3	—	—	—	—	11	11	—	—	—
Totals	170	2679	2849	27	163	170	24	702	726	4	43	47	20	279	299	7	26	33	8	367	315	—	7	7	4	170	174	1	6	7	1	33	34	—	6	6	2	87	89	—	1	1

but was ultimately traced. Of the direct samples from abnormal udders, twelve were tubercular, and 56 non-tubercular. The reason for the great number of non-tubercular direct samples is that in several instances it was necessary to take samples from all the cows in a herd in order to trace the tubercular contamination. All the above figures are included in the table of samples submitted for bacteriological examination within the City.

MILK SUPPLIED FROM OUTSIDE THE CITY BOUNDARIES.

Under the Liverpool Corporation Act, 1900, Inspectors systematically visit various places supplied with milk from the country, including the railway stations and hospitals, and there take samples. These samples are then submitted to bacteriological examination. Should they be found to contain tubercle bacilli (the germs of consumption), the Veterinary Superintendent or his Assistant, accompanied by the Medical Officer of Health or his representative, and furnished with an Order signed by a magistrate resident within the county from which the milk is consigned (as prescribed by the Act), visits the farm or dairy and examines the stock therein. The cowsheds from which the affected supplies have been derived during the last twelve years are situated in the counties included in the following tables:—

NUMBER OF FARMS FROM WHICH MILK WAS FOUND TO BE AFFECTED WITH TUBERCLE.

Year.	Cheshire.	Shropshire.	Denbighshire.	Lancashire.	Flintshire.	Staffordshire.	Derbyshire.
	Affected Farms.	Affected Farms.	Affected Farms.	Affected Farms.	Affected Farms.	Affected Farms.	Affected Farms.
1902...	11	2	2	—	1	1	—
1903...	7	3	1	1	—	—	—
1904...	7	6	1	—	1	1	1
1905...	7	—	1	1	—	—	—
1906...	7	2	2	2	1	—	—
1907...	6	1	2	—	—	1	—
1908...	2	1	1	1	—	—	—
1909...	4	2	—	—	—	—	—
1910...	4	4	—	—	1	—	—
1911...	6	—	1	—	—	—	—
1912...	6	—	—	1	—	—	—
1913...	7	4	1	—	1	—	—
Totals	74	25	12	6	5	3	1

The cows housed in the City cowsheds yield approximately 17,000 gallons per day; the daily consumption of milk amounts to more than 35,000 gallons, or over seven ounces per head per day of the population.

The quantity of milk sent into the City from the different counties included in the foregoing table also amounts to between 17,000 and 18,000 gallons per day: of this quantity upwards of 60 per cent. comes from Cheshire. It may be mentioned that over 100,000 cows are in milk within the county of Cheshire, which is the largest dairy district in the United Kingdom.

The country cowsheds generally are found to be much inferior (from a sanitary point of view) to those within the City of Liverpool, and although, owing to the passing of the Liverpool Act, a large number have been greatly improved, there are many which are in a most unsatisfactory condition. In a number of cases farmers have expressed their approval of the beneficial results of the inspections made by the Liverpool Authorities owing to the consequent improvements made in the premises by the landlords.

Many of the cattle also are neither so good, nor are they kept in the same cleanly condition, as those of the city.

When tuberculosis of the udder is suspected the necessary proceedings are taken as prescribed by the Act. They are similar in principle to those adopted within the city. Samples of milk are also taken from suspected animals, and submitted to a further bacteriological test to verify the diagnosis of the case. In the meantime the animals are isolated, and the milk dealt with as in the city.

It is not possible in all cases to find evidence of disease of the udder in the herd, the explanation usually being that the infected animals have been sold during the time which elapses between the taking of the sample in Liverpool and the visit of the Corporation officials to the farm.

Affected animals are usually disposed of for slaughter, but, it has been found that they are occasionally sold as milking cows, and, as a natural consequence, upon going into other herds would be likely to further disseminate the disease.

The following table gives statistical details concerning visits to farms outside the city boundary:—

Year.	No. of Farms Visited.	No. of Re-Visits to Farms.	Total No. of Visits to Farms.	No. of Cowsheds Examined.	No. of Cows Examined.	No. of Cows Suspicious of Tuberculosis of the Udder.	No. of Convictions for Offences under the Act.	No. of Orders Prohibiting the Sale of Contaminated Milk within the City.
1902	17	5	22	66	760	18	3	3
1903	13	2	15	32	364	10	3	2
1904	17	1	18	39	604	19	1	5
1905	9	1	10	20	266	9	4	1
1906	14	—	14	25	391	10	6	1
1907	12	1	13	31	462	7	1	1
1908	11	1	12	31	568	5	3	1
1909	12	8	20	76	1153	6	—	—
1910	13	5	18	60	871	4	1	2
1911	10	13	23	71	1365	3	2	1
1912	12	7	19	54	1121	4	2	2
1913	11	6	17	62	784	4	—	—
Totals ...	151	50	201	567	8709	99	26	19

During the examination of cattle outside the city, it has been necessary to take a number of samples of milk for bacteriological examination. Of these, 17 were control samples, and 14 were direct samples from abnormal udders. Of the control samples, four proved tubercular, and 13 non-tubercular.

The explanation of the tubercular control samples is that obscure cases of tubercular milk in herds were encountered, but these were ultimately traced. Of the direct samples from abnormal udders, two were tubercular, and 12 non-tubercular. The reason for the great number of non-tubercular direct samples is that in several instances it was necessary to take samples from all the cows in herds in order to trace the tubercular contamination.

All the above figures are included in the table of samples submitted for bacteriological examination from the country.

Local Authorities in Rural Districts are often negligent in regard to the supervision of cowsheds. In every district, Bye-laws should be made and enforced in accordance with the Parliamentary powers given with this object.

Although the application of the Act involves a considerable amount of expense to the Liverpool Corporation and takes up a good deal of the time of its officials, the result is that the city is protected to a great extent from the evils which follow an impure milk supply, The Local Authorities of many surrounding districts have also become alive to the necessity of insisting upon better sanitation of farms and cowsheds, and the farmers themselves in many instances show a willingness to be advised as to the best methods to adopt to keep their cattle and cowsheds in the most healthy and sanitary condition, so that the benefits of the Act are by no means limited to the purchasers of milk in the City of Liverpool.

TUBERCULOSIS ORDER, 1913.

This Order of the Board of Agriculture and Fisheries came into force on May 1st, 1913.

Under its provisions, owners of cattle are compelled to notify to the local authority the suspected existence of tuberculosis of the udder, and tuberculosis with emaciation, in their herds. Veterinary surgeons attending such animals are also required to give notice of the existence of the disease.

When an animal is reported, the whole herd is examined by the Veterinary Inspector, and if the disease in either of its forms exists, the animals are slaughtered after a valuation for compensation has been made. Two valuations are made, one assuming that the animal is not suffering from tuberculosis, and the other that the animal is affected. If on post mortem examination the carcase is found to be free from tuberculosis, the owner becomes entitled to the sum of the first valuation, plus £1. If, on the other hand the carcase is diseased he becomes entitled to three-quarters of the diseased valuation provided the animal is not suffering from advanced tuberculosis. If advanced tuberculosis exists, he is entitled to only one quarter of the diseased valuation, with a minimum of 30s.

In the event of a slaughtered animal realising more than the assessed compensation, that amount goes entirely to the owner. On the contrary, if the carcase does not realise the due amount of compensation, this is made up by the local authority. Of the detailed compensation paid during each quarter by the local authority, half is refunded by the Board of Agriculture.

The definitions of diseased and advanced tuberculosis are laid down in the Order. In the detection of the disease, a number of tuberculin tests have been applied, and microscopical examinations of the milk carried out.

Provision is also made in the Order for the detention and isolation of suspected animals, and for prohibiting the sale of suspected milk. The following table shows the number of cases dealt with, etc., during 1913:—

No. of premises where disease was found to exist.	No. of animals examined on these premises.	Number not affected.	Total number slaughtered.			Total amount of compensation paid to owners.	Total amount realized by sale of carcases.	Amount actually paid by Local Authority.
			Tuberculosis of the udder.	Tuberculosis with emaciation.	Not affected.			
25	318	290	17	8	3	£155 1 8	£132 1 5	*£23 0 3

* Half of this amount is refunded to the Local Authority by the Board of Agriculture and Fisheries.

SALE OF FOOD AND DRUGS ACT.

During the year 3,000 samples purchased under the Sale of Food and Drugs Act were analysed and reported upon. In 1912, the number analysed was 2,500.

The number of samples which were adulterated or not up to standard was 303 (10·1 per cent.). In 1912, it was 287 (11·5 per cent.).

The percentage of adulteration must not be taken as indicating the percentage of traders practising Food Adulteration, as many cases of Adulteration are carefully investigated by the Food Inspectors for the City, who endeavour to trace the source or origin of the adulteration by means of further samples. This necessarily increases the number of adulterated samples analysed, as is instanced by the following case:—

> In November last, a sample of milk purchased from a milk dealer in the City was found on analysis to contain 7 per cent. of added water. Samples were then purchased from the wholesale dealer who supplied the original milk, one of these contained 15 per cent. and the other 7 per cent. of added water. Later samples were taken in the course of delivery from the farmer to the wholesale dealer. These samples contained 11 per cent. and 12 per cent. of added water respectively. On the following day, two further samples taken in the course of delivery from the same farmer were found to contain 12 per cent. and 9 per cent. of added water respectively. Proceedings were instituted against the farmer, who was subsequently fined.

In this manner, the actual offender was caught, and the innocent vendors were not subjected to the annoyance and stigma of a criminal prosecution.

In the case of butter and some other articles, samples are frequently purchased without any intimation to the Vendors that they are to be analysed. If these informal samples are not genuine, samples are then purchased with all the necessary formalities, and if these formal samples are found to be adulterated, proceedings are instituted.

Summary of Samples Submitted for Analysis from January 1st, 1913, to December 31st, 1913, and other statistical details.

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
1	1	—	—	Arrowroot	8	8	—	—	—	—
1	1	—	—	Apple Wine	—	—	—	—	—	—
—	—	—	—	Baking Powder	17	17	—	—	—	—
—	—	—	—	Barley	7	7	—	—	—	—
1	1	—	—	Barley Kernels	—	—	—	—	—	—
—	—	—	—	Barm Beer	1	1	—	—	—	—
66	64	2	—	Beer	39	39	—	—	2	—
—	—	—	—	Bi-Carbonate of Soda	3	3	—	—	—	—
3	3	—	—	Boracic Ointment	—	—	—	—	—	—
4	4	—	—	Brandy	3	3	—	—	—	—
1	—	1	—	Brawn	—	—	—	—	—	—
35	35	—	—	Bread	—	—	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
2	2	—	—	Burgundy	—	—	—	—	—	—
440	416	24	—	Butter	66	56	9	1	3	6
—	—	—	—	Buttermilk	1	1	—	—	—	—
1	1	—	—	Cake Flour	—	—	—	—	—	—
3	1	2	—	Calves Feet Jelly	2	2	—	—	—	—
2	2	—	—	Camphorated Oil	—	—	—	—	—	—
8	8	—	—	Castor Oil	—	—	—	—	—	—
—	—	—	—	Cayenne Pepper	8	8	—	—	—	—
5	5	—	—	Cheese	11	11	—	—	—	—
—	—	—	—	Chicory	1	1	—	—	—	—
4	4	—	—	Cider	—	—	—	—	—	—
3	3	—	—	Claret	—	—	—	—	—	—
4	4	—	—	Cocoa	32	32	—	—	—	—
10	10	—	—	Cod Liver Oil	—	—	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued*.

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
32	32	—	—	Coffee	29	29	—	—	—	—
—	—	—	—	Coffee and Chicory	2	2	—	—	—	—
1	1	—	—	Compound Liquorice Powder	1	1	—	—	—	—
—	—	—	—	Condensed Milk	6	6	—	—	—	—
98	98	—	—	Confectionery	9	9	—	—	—	—
5	5	—	—	Cornflour	14	14	—	—	—	—
1	1	—	—	Cotton Stearine	—	—	—	—	—	—
3	3	—	—	Cream	24	23	1	—	1	—
—	—	—	—	Cream of Tartar	3	3	—	—	—	—
1	1	—	—	Cream Soda	—	—	—	—	—	—
—	—	—	—	Curry Powder	1	1	—	—	—	—
—	—	—	—	Custard Powder	2	2	—	—	—	—
—	—	—	—	Dandelion Beer	2	2	—	—	—	—
1	1	—	—	Dandelion and Burdock Stout	—	—	—	—	—	—

SUMMARY OF SAMPLES, &c.—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
6	6	—	—	Dried Milk	—	—	—	—	—	—
—	—	—	—	Dripping	1	1	—	—	—	—
—	—	—	—	Epsom Salts	2	2	—	—	—	—
3	3	—	—	Extract of Malt	—	—	—	—	—	—
4	4	—	—	Extract of Malt with Cod Liver Oil	—	—	—	—	—	—
7	7	—	—	Flavouring Essences	—	—	—	—	—	—
1	1	—	—	Florence Cream	—	—	—	—	—	—
29	29	—	—	Flour	1	1	—	—	—	—
25	25	—	—	Flour, Selfraising	1	1	—	—	—	—
1	1	—	—	Flowers of Sulphur	—	—	—	—	—	—
23	23	—	—	Gin	3	3	—	—	—	—
3	3	—	—	Ginger Ale	—	—	—	—	—	—
1	1	—	—	Ginger Beer	—	—	—	—	—	—
—	—	—	—	Ginger Wine	3	2	—	1	—	—

SUMMARY OF SAMPLES, &c.—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
		Adulterated.					Adulterated.			
Number taken.	Number genuine.	Schedule A.	Schedule B.		Number taken.	Number genuine.	Schedule A.	Schedule B.	Number caut'nd.	Information.
17	16	1	—	Glycerine	1	1	—	—	—	—
7	7	—	—	Golden Syrup	—	—	—	—	—	—
—	—	—	—	Green Ginger Wine	1	—	—	1	—	—
—	—	—	—	Ground Almonds	2	2	—	—	—	—
—	—	—	—	Ground Cinnamon	3	—	3	—	3	—
1	1	—	—	Ground Ginger	25	20	3	2	3	—
1	1	—	—	Ground Linseed	—	—	—	—	—	—
—	—	—	—	Ground Mace	5	5	—	—	—	—
—	—	—	—	Ground Nutmegs	1	1	—	—	—	—
—	—	—	—	Half and Half	1	1	—	—	—	—
8	8	—	—	Honey	1	1	—	—	—	—
1	1	—	—	Hop Bitters	—	—	—	—	—	—
1	1	—	—	Infants' Food	—	—	—	—	—	—
—	—	—	—	Jam	29	24	1	4	1	—

SUMMARY OF SAMPLES, &c.—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
—	—	—	—	Lard	51	50	—	1	—	—
5	5	—	—	Lemonade	—	—	—	—	—	—
1	1	—	—	Lemonade Crystals	—	—	—	—	—	—
1	1	—	—	Lemonade Powder	1	1	—	—	—	—
—	—	—	—	Lemon Squash	7	4	—	3	—	—
1	1	—	—	Lemon Squash Crystals	—	—	—	—	—	—
—	—	—	—	Lime Juice	4	1	—	3	—	—
—	—	—	—	Lime Juice Cordial	10	2	—	8	—	—
2	2	—	—	Lime Juice and Soda	—	—	—	—	—	—
1	1	—	—	Lime Juice and Soda Crystals	—	—	—	—	—	—
—	—	—	—	Linseed Liquorice and Chlorodyne Lozenges	1	1	—	—	—	—
—	—	—	—	Macaroni	1	1	—	—	—	—
1	1	—	—	Malted Cocoa	—	—	—	—	—	—
1	1	—	—	Mango Chutney	—	—	—	—	—	—

SUMMARY OF SAMPLES, &c.,—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
		Adulterated.					Adulterated.			
Number taken.	Number genuine.	Schedule A.	Schedule B.		Number taken.	Number genuine.	Schedule A.	Schedule B.	Number caut'nd.	Information.
1	1	—	—	Margarine	41	41	—	—	—	—
1	1	—	—	Marmalade	12	12	—	—	—	—
6	1	—	5	Meat Pies	—	—	—	—	—	—
3	3	—	—	Medicated Wines	—	—	—	—	—	—
9	7	2	—	Medicine	7	6	1	—	—	1
70	59	6	5	Milk	1082	908	115	59	26	70
1	1	—	—	Mist Sennae Co.	—	—	—	—	—	—
—	—	—	—	Mixed Spice	14	11	3	—	3	—
—	—	—	—	Mustard	9	9	—	—	—	—
1	1	—	—	Mustard Oil	—	—	—	—	—	—
5	5	—	—	Oatmeal	—	—	—	—	—	—
1	1	—	—	Oil of Eucalyptus	—	—	—	—	—	—
12	12	—	—	Olive Oil	1	1	—	—	—	—
—	—	—	—	Orange Wine	3	—	—	3	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
—	—	—	—	Pepper	61	55	6	—	—	3
8	7	—	1	Pickles and Piccalilli	—	—	—	—	—	—
2	2	—	—	Plum Pudding Mixture	—	—	—	—	—	—
9	9	—	—	Port Wine	7	7	—	—	—	—
—	—	—	—	Potted Shrimps	4	—	—	4	—	—
1	1	—	—	Preserved Black Currants	—	—	—	—	—	—
1	1	—	—	Preserved Damsons	—	—	—	—	—	—
1	1	—	—	Preserved Gooseberries	—	—	—	—	—	—
1	1	—	—	Preserved Greengages	—	—	—	—	—	—
—	—	—	—	Preserved Peas	1	1	—	—	—	—
2	2	—	—	Preserved Plums	—	—	—	—	—	—
1	1	—	—	Raspberry Flavoured Crystals	—	—	—	—	—	—
—	—	—	—	Raspberry Wine	1	1	—	—	—	—
—	—	—	—	Rice	33	20	—	13	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Information.
		Schedule A.	Schedule B.				Schedule A.	Schedule B.		
19	18	1	—	Rum	3	3	—	—	—	—
—	—	—	—	Sago	3	2	—	1	1	—
—	—	—	—	Sandwich Beef	2	2	—	—	—	—
3	3	—	—	Sarsaparilla	2	2	—	—	—	—
9	8	—	1	Sauce	—	—	—	—	—	—
—	—	—	—	Sausages	4	2	—	2	—	—
—	—	—	—	Seidlitz Powders	8	8	—	—	—	—
—	—	—	—	Semolina	1	1	—	—	—	—
2	2	—	—	Sherry Wine	3	3	—	—	—	—
11	11	—	—	Stout	—	—	—	—	—	—
—	—	—	—	Sugar	30	30	—	—	—	—
—	—	—	—	Sulphur Tablets	1	1	—	—	—	—
—	—	—	—	Tapioca	11	11	—	—	—	—
—	—	—	—	Tartaric Acid	1	1	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
		Adulterated.					Adulterated.			
Number taken.	Number genuine.	Schedule A.	Schedule B		Number taken.	Number genuine.	Schedule A.	Schedule B.	Number caut'nd.	Information.
14	14	—	—	Tea	46	46	—	—	—	—
1	1	—	—	Tinned Apricots	—	—	—	—	—	—
1	1	—	—	Tinned Peaches	—	—	—	—	—	—
1	1	—	—	Tinned Pears	—	—	—	—	—	—
1	1	—	—	Tinned Peas	—	—	—	—	—	—
1	1	—	—	Tinned Pineapple Chunks	—	—	—	—	—	—
7	7	—	—	Tinned Salmon	—	—	—	—	—	—
1	1	—	—	Tinned Sardines	—	—	—	—	—	—
2	2	—	—	Tomato Catsup	—	—	—	—	—	—
5	3	—	2	Treacle	—	—	—	—	—	—
1	1	—	—	Turtle Soup	—	—	—	—	—	—
2	2	—	—	Vaseline	—	—	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
		Adulterated.					Adulterated.			
Number taken.	Number genuine.	Schedule A.	Schedule B.		Number taken.	Number genuine.	Schedule A.	Schedule B.	Number caut'nd.	Infor-mation.
8	8	—	—	Vinegar	2	1	1	—	—	1
—	—	—	—	Wheaten Meal	1	1	—	—	—	—
25	25	—	—	Whiskey	16	15	1	—	—	1
—	—	—	—	Yeast.....	4	4	—	—	—	—
1	1	—	—	Zinc Ointment	—	—	—	—	—	—
1139	1086	39	14		1861	1611	144	106	43	82
The figures for 1912 were	887	839	34	14		1613	1374	147	92	34	93

Summary of Samples in which legal proceedings were instituted during the year ending December 31st, 1913, together with result.

No. of Informations.	Nature of Samples.	Nature of Offence.	Result of Legal Proceedings.				
			No. of Convictions.	No. withdrawn on payment of costs.	No. withdrawn and dismiss'd without costs.	Fines.	Costs.
						£ s. d.	£ s. d.
33	Milk	Deficient in cream	20	13	—	45 0 0	29 9 0
11	„	Deficient in Cream & adulterated with water	9	2	—	21 0 0	9 7 6
24	„	Adulterated with water	11	12	1	20 10 0	20 7 0
1	Skimmed Milk	Adulterated with water	1	—	—	2 0 0	0 17 0
1	Machine Skimmed Milk	Adulterated with Boracic Acid	1	—	—	0 10 0	0 17 0
5	Butter	Selling Margarine for Butter	5	—	—	14 0 0	4 17 6
1	„	Adulterated with 1·2 % of Cane or Beet Sugar	—	—	1	—	—
1	Scotch Whiskey	3·6 degrees below the statutory limit	1	—	—	2 0 0	0 18 0
1	Malt Vinegar	Adulterated with 40 % of non-malt vinegar	—	—	1	—	—
1	Medicine Prescription	Deficient by 40 % of the Acidum phosphoricum prescribed	—	—	1	—	—
3	White Pepper	Adulterated with pepper husk	1	—	2	10 0 0	10 10 0
82			49	27	6	£115 0 0	£77 3 0

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

	1912.	1913
Number of Samples purchased on week-days in Town ..	330	399
,, Informations	50	41
,, Samples taken at Railway Stations on week-days...	255	270
,, Informations	11	8
,, Samples purchased on Sundays in Town ...	188	180
,, Informations	19	19
,, Samples taken at Railway Stations on Sundays	155	215
,, Informations	1	2
,, Samples taken at City Hospitals	66	57
,, Informations	—	—
,, Samples taken at Corporation Milk Depôts...	25	31
,, Informations	—	—

MARGARINE ACT.

	1912.	1913.
Number of Visits to Wholesale Dealers in Margarine ...	788	821
,, Visits to Shops	6622	6332
,, Informations	—	—

SPECIAL EXAMINATIONS.

The following samples were submitted during 1913 for special examination :—

Nature of Sample	No. of Samples.	Nature of Sample.	No. of Samples.
Cinnamon Chips	1	Peas	2
Dried Milk	1	Rag Flock	14
Flour	3	Sterilized Milk	1
Herbs	2	Synthetic Milk	3
Magnesite	1	Water	1
Milk	1	Whole Ginger	1
Mixed Spice	1	Total	32

FERTILISERS AND FEEDING STUFFS ACT, 1906.

On 1st January, 1907, a Fertilisers and Feeding Stuffs Act, which replaced the old Act of 1893, came into operation.

Under it the City Analyst was appointed official agricultural analyst, and the three inspectors under the Sale of Food and Drugs Act were appointed official samplers.

A certain remuneration was agreed to in respect of the work done under the Act.

The following table shows the number of samples procured during the year :—

Nature of Sample.	No. of Samples.	Nature of Sample.	No. of Samples.
Crushed Oats	3	Fertilizer	2
Dairy Meal	5	Indian Meal.....	1
Decorticated Cotton Cake Meal	1	Linseed Cake Meal	6
Feeding Meal	1	Nutted Dairy Cake	1
		Total.....	20

POISONS AND PHARMACY ACT, 1908.

The Poisons and Pharmacy Act, 1908, came into operation on the 1st April, 1909.

The object of the Act is to regulate the sale of certain poisonous substances, and to amend the Pharmacy Acts. It is fully referred to in the Annual Report for 1909.

During the year 16 licenses were renewed under this Act.

BACTERIOLOGICAL EXAMINATIONS AND ANALYSES.

The Bacteriological Analyses comprise:—

1. The examination of food-stuffs of various kinds.

2. The daily and monthly examination of the water supplied to the City.

3. The examination of rats taken on shipboard and in the town for the presence or absence of plague.

4. The examination for diagnostic purposes in cases of anthrax, diphtheria, plague, rabies, typhoid fever, tuberculosis, etc.

The total number of foodstuffs examined bacteriologically in 1913 was 1,405, a detailed list of which follows:—

SUMMARY OF FOOD-STUFFS.

Sample.	No.	Sample.	No.
Butter	33	Meat, Cooked	5
Cheese	20	Meat Extract	15
Cockles	40	,, Pies	24
Condensed Milk	80	,, Potted	30
Cream	8	,, Tinned	14
Cream Cheese	4	Milks	752
Dried Milk	3	Mincemeat	2
Fish Paste	30	Mussels	53
,, Potted	6	Oysters	30
,, Tinned	41	Pasteurised Milk	8
Florence Cream	1	Peas	2
Flour	3	Periwinkles	10
Fruits, Preserved	15	Polony	2
Fruit Salad	1	Sauce	13
Honey	3	Sausages	4
Ice Cream	12	Soups	30
Jam	20	Syrup and Treacle	5
Jelly	33	Tomatoes, Tinned	1
Lemon Cheese	9	Watercress	11
Lettuce	7	Whelks	2
Margarine	13		
Marmalade	10	Total	1,405

Water (Special) 1

SUMMARY OF ALL EXAMINATIONS during the year 1913.

Food-stuffs		1,405
Waters, including one for Health Committee ...		474
Actinomycosis		37
Anthrax		60
Diphtheria		210
Plague (Rats)		7,913
Rabies		6
Typhoid		235
Tubercle, Mastitis, etc. (Animal specimens) ...		44
,, Sputa		270
Miscellaneous—		
(*a*) For Practitioners	53	
(*b*) For Health Department	7	
(*c*) For Port Sanitary Authority	29	
	——	89
Total		10,743

Further details of the examination of the most important of these foodstuffs will be found in the tables which follow. The other samples were sterile, or did not show any evidence of serious bacteriological contamination.

MILK ANALYSES FOR THE YEAR.

All the samples of milk were examined for:—

1. The *Bacillus tuberculosis*.
2. The *Bacillus coli*.
3. The *Bacillus enteritidis sporogenes*, or allied forms.
4. Other bacteria.

The presence of B. tuberculosis indicates in the great majority of cases that the animals from which the milk was taken were affected with tuberculosis.

The B. coli is found in all ordinary milk samples, but the cleaner the milk, the smaller is the number of this organism found.

The detailed table which follows shows that in some cases B. coli was not present in 1 c.c. of the milk, whereas in other cases, it was present in ·001 c.c. The presence of the organism usually indicates contamination of the milk with manure, either during the milking, or from dust.

The B. enteritidis sporogenes is rarely found, and always indicates contamination with intestinal contents.

1. The Bacillus Tuberculosis.

As a result of the inoculation test, the presence of the Bacillus tuberculosis was shown to be present in the following samples:—

	Samples.
Railway Milk	23
Town Milk	30
Hospital Milk	9
Depôt Milk	3
Total	65

The total number of milks submitted was 752.

2. The Bacillus Coli.

Presence of the *Colon bacillus* in Milk.

In the 280 samples of Railway Milk examined, the Colon Bacillus *was present*—

43 times in 1 cubic centimetre.
58 ,, ,, .1 ,, ,,
18 ,, ,, .01 ,, ,,
123 ,, ,, .001 ,, ,,

and *absent* in 1 c.c. in the remaining 38 samples.

In the 303 samples of Town Milk examined, the Colon Bacillus *wa present*—

48 times in 1 cubic centimetre.
32 ,, ,, .1 ,, ,,
13 ,, ,, .01 ,, ,,
53 ,, ,, .001 ,, ,,

and *absent* in 1 c.c. in the remaining 157 samples.

In the 111 samples of Hospital Milk, the Colon Bacillus *was present*—

5 times in 1 cubic centimetre.
16 ,, ,, .1 ,, ,,
11 ,, ,, .01 ,, ,,
56 ,, ,, .001 ,, ,,

and *absent* in 1 c.c. in the remaining 23 samples.

In the 58 samples of Depôt Milk, the Colon Bacillus *was present*—

12 times in 1 cubic centimetre.
11 ,, ,, .1 ,, ,,
7 ,, ,, .01 ,, ,,
16 ,, ,, .001 ,, ,,

and *absent* in 1 c.c. in the remaining 12 samples.

3. The Bacillus Enteritidis Sporogenes.

Bacillus enteritidis sporogenes was not found in any of the 752 samples examined.

TABLE SHOWING SAMPLES OF MILK DRAWN DIRECT FROM SEPARATE COWS, SAMPLES OF MIXED MILK, TOGETHER WITH OTHER PARTICULARS RELATING TO SAMPLES OF MILK TAKEN FOR BACTERIOLOGICAL EXAMINATION FROM JANUARY 1ST, 1901, TO DECEMBER 31ST, 1913.

Year.	TOWN.										COUNTRY.								Total number of samples taken during the year.
	Samples.					Tubercular.					Samples.				Tubercular.				
	Taken in routine practice direct from cows.	Taken direct from suspicious cows.	Mixed milk from town cows taken at the dairy.	Control samples of milk.	Total.	Direct from cows.	Direct from suspicious cows.	Mixed milk.	Control samples of milk.	Total.	Direct from suspicious cows at farms.	Control samples from cows at farms.	Mixed milk from country cows.	Total.	Direct from suspicious cows at farms.	Control samples from cows at farms.	Mixed milk from country cows.	Total.	
1901.....	215	—	39	—	254	2	—	—	—	2	15	—	297	312	2	—	18	20	566
1902.....	180	—	33	—	213	1	—	—	—	1	30	—	352	382	6	—	26	32	595
1903.....	202	1	28	—	231	2	—	—	—	2	7	—	344	351	1	—	18	19	82
1904.....	160	3	38	—	201	1	1	2	—	4	16	—	354	370	4	—	33	37	571
1905.....	188	8	16	—	212	1	—	—	—	1	10	—	338	348	1	—	13	14	560
1906.....	143	—	66	—	209	3	—	—	—	3	14	—	307	321	1	—	21	22	530
1907.....	86	4	104	—	194	3	—	1	—	4	5	—	252	257	2	—	12	14	451
1908.....	132	9	115	—	256	1	—	4	—	5	5	—	267	272	1	—	9	10	528
1909.....	135	12	112	—	259	—	4	—	—	4	8	—	333	341	4	—	6	10	600
1910.....	167	7	115	—	289	1	—	3	—	4	5	—	318	323	2	—	13	15	612
1911.....	190	3	122	—	315	2	—	1	—	3	10	—	336	346	3	—	15	18	661
1912.....	54	65	171	30	320	—	10	9	—	19	*62	11	342	415	6	—	20	26	735
1913.....	65	68	173	3	309	—	12	18	1	31	14	17	412	443	2	4	28	34	752
Totals ...	1,917	180	1,132	33	3,262	17	27	38	1	83	201	28	4,252	4,481	35	4	232	271	7,743

* 48 samples of this number were taken direct from cows not suspicious.

TABLE SHEWING THE DISTRIBUTION OF THE COLON BACILLUS IN MILK.

SAMPLES OF MILK.

Source.	No. of Samples.	The Colon Bacillus.										B. Enteritidis Sporogenes.			
		Absent in 1 c.c.		Present in 1 c.c. but Absent in ·1 c.c.		Present in ·1 c.c. but Absent in ·01 c.c.		Present in ·01 c.c. but Absent in ·001 c.c.		Present in ·001 c.c.		Absent.		Present.	
		Times.	Per cent.	Times.	Per cent.	Times.	Per cent.	Times.	Per cent.	Times.	Per cent.	Times.	Per cent.	Times.	Per cent.
Railway Borne Milks	280	38	13·6	43	15·3	58	20·7	18	6·4	123	43·9	280	100	—	—
Milk from Town.....	303	157	51·7	48	15·8	32	10·6	13	4·3	53	17·5	303	100	—	—
Milk supplied to Hospitals	111	23	20·7	5	4·5	16	14·4	11	9·9	56	50·4	111	100	—	—
Milk supplied to Sterilized Milk Depôts	58	12	20·7	12	20·7	11	18·9	7	12·0	16	27·6	58	100	—	—

RESULTS OF ANALYSES OF BUTTER, CONDENSED MILK, and SHELL FISH.

Butter.

Thirty-three samples of butter were examined, the Bacillus Coli not being found in any case, and all samples proved to be non-tubercular.

Condensed Milk.

Attention is called to the very large number of bacteria present in the samples of condensed milk, the average number in the 80 samples examined being 8,726 per gram.

Shell Fish.

One hundred and forty-seven samples of shell fish of various kinds were submitted for examination, and most of the samples showed evidence of contamination with B. coli.

This contamination may take place in the beds and in transit, but particularly in the storing of the fish.

The following table shows the number of times the Colon Bacillus was found :—

Table shewing the presence and absence of the Colon Bacillus in Shell Fish.

Sample.	No. of Times	Colon Bacilli. In a Shellfish.					Total Number.
		·1	·01	·001	·0001	·00001	
Cockles	13	+	—	—	—	—	
	16	+	+	—	—	—	
	4	+	+	+	—	—	
	7	+	+	+	+	—	40
Mussels	24	+	—	—	—	—	
	21	+	+	—	—	—	
	13	+	+	+	—	—	
	7	+	+	+	+	—	*65
Oysters	13	+	—	—	—	—	
	10	+	+	—	—	—	
	6	+	+	+	—	—	
	—	+	+	+	+	—	
	1	+	+	+	+	+	30
Periwinkles ...	4	+	—	—	—	—	
	3	+	+	—	—	—	
	1	+	+	+	—	—	
	2	+	+	+	+	—	10
Whelks	1	+	+	—	—	—	
	1	+	+	+	—	—	2
Total							147

* Twelve samples of mussels were sent by the Port Sanitary Authority, and 53 were sent by the Health Department.

B. Enteritidis Sporogenes was absent from all samples.

The total numbers of foodstuffs examined bacteriologically up to 1913 are as follows :—

1896	122
1897	162
1898	311
1899	505
1900	1,067
1901	1,055
1902	1,097
1903	1,061
1904	1,107
1905	1,147
1906	1,075
1907	1,028
1908	1,043
1909	1,216
1910	1,225
1911	1,280
1912	1,433
1913	1,405
	17,339

WATER ANALYSES.

The monthly and daily examinations of the water supplied to Liverpool during the year 1913, demonstrate that its bacterial purity has been well maintained.

Number of Bacteria present per c.c. in the daily samples:—

Year.	Highest Number.	Lowest Number.	Average.
1907	37	19	28
1908	29	10	19
1909	31	17	23
1910	50	16	30
1911	37	17	27
1912	34	8	20
1913	28	15	20

The total number of water analyses were:—

365 daily.
64 monthly.
44 special.

473

Investigation of the Prescot Water and also of the Well Water during 1913.

Source.	Average Number of Bacteria.	Colon Bacilli.						B. Ent. Sporog.	Total Number of Examinations.
		Absent from 50 c.c.	Present 50 c.c. Absent 40 c.c.	Present 40 c.c. Absent 30 c.c.	Present 30 c.c. Absent 20 c.c.	Present 20 c.c. Absent 10 c.c.	Present 10 c.c. Absent 1 c.c.		
PRESCOT Vyrnwy	14	—	—	—	—	—	—	—	13
Rivington	15	—	—	—	—	—	—	—	13
Mixing Well	25	—	—	—	—	—	—	—	13
New Reservoir	15	—	—	—	—	—	—	—	12
WELLS Dudlow Lane Well ...	28	—	—	—	—	—	—	—	6
George Holt Well ...	44	—	—	—	—	—	—	—	3
John Holmes Well ...	31	—	—	—	—	—	—	—	4
								Total.....	64

Table shewing the number of Bacteria present per c.c., and the presence and absence of the Colon Bacillus.

1913. Month.	Per Month.	Colon Bacilli.							Total Number of Samples
	Average Number of Bacteria per c.c.	Absent from 50 c.c.	Present in 50 c.c. but absent from 40 c.c.	Present in 40 c.c. but absent from 30 c.c.	Present in 30 c.c. but absent from 20 c.c.	Present in 20 c.c. but absent from 10 c.c.	Present in 10 c.c. but absent from 1 c.c.	B. Ent. Sporog. in 10 c.c.	
January ...	17	—	—	—	—	—	—	—	31
February	19	—	—	—	—	—	—	—	28
March	17	—	1	—	—	—	—	—	31
April	18	—	—	—	—	—	—	—	30
May	17	—	—	—	—	—	—	—	31
June	24	—	—	—	—	—	—	—	30
July	28	—	—	—	—	—	—	—	31
August ...	21	—	—	—	—	—	—	—	31
September	17*	—	—	—	—	—	—	—	*30
October ...	15	—	—	—	—	—	—	—	31
November	22	—	—	—	—	—	—	—	30
December	23	—	—	—	—	—	1	—	31
									365

* In September one of the plates liquefied and was therefore uncountable

ACTINOMYCOSIS.

The following specimens were specially investigated for Actinomycosis:

Nature of Specimen.	Result of Examination.	Number.
Udders	Several shewed necrotic areas with calcareous deposits. There was no evidence of actinomycosis or tubercle	13
Pig's Udder	Actinomycosis	1
Glands	6 Actinomycosis ... ... 1 Not actinomycosis ... ... 6 Tubercular ... ... 1 Non-tubercular ... ... 1 Chronic Inflammation	15
Tongues	3 Actinomycosis ... ... 2 Not actinomycosis ... ... 1 Tubercular ... ... 2 Chronic Inflammation	8
		37

ANTHRAX.

The following specimens were examined for Anthrax:—

Nature of Specimen.	B. Anthracis.		Total.
	Present in.	Absent in.	
Blood	1	5	6
Cake	—	1	1
Dust	—	4	4
Hay	—	1	1
Hides, Dry	—	32	32
,, *Salt	—	3	3
Meal	—	7	7
Wool	—	6	6
Total	1	59	60

* Sent by the Officers of Port Sanitary Authority.

DIPHTHERIA.

City Hospitals	Positive	10		
	Negative	12		
			22	
Practitioners	Positive	34		
	Negative	142		
	No growth	9		
	Suspicious	3		
			188	
				210

Examination of Rats for the presence of Plague.

1913.	Port.	Town.	Total.
January	234	298	532
February	377 & 2 Mice	310	689
March	283	397	680
April	507	459	966
May	475	575	1,050
June	197	324	521
July	204	291	495
August	248	316	564
September	201	302	503
October	277	238	515
November	466	323	789
December	436	173	609
Totals	3,907	4,006	7,913

Number of Rats examined from January 1902 to December 1913.

Year.	Port.	Town.	Total.
1902	703	—	703
1903	560	23	583
1904	3,332	88	3,420
1905	5,251	1,186	6,437
1906	2,979	1,860	4,839
1907	7,582	1,232	8,814
1908	1,637	309	1,946
1909	1,769	597	2,366
1910	1,630	507	2,137
1911	2,927	393	3,320
1912	4,130	1,622	5,752
1913	3,907	4,006	7,913
Totals	36,407	11,823	48,230

. Rabies.—Six dogs' heads were sent for investigation for suspected rabies, but all proved negative.

TYPHOID.

City Hospitals	Positive	90		
	Negative	41		
	Indefinite	12		
		——	143	
Practitioners	Positive	47		
	Negative	37		
	Indefinite	8		
		——	92	
			——	235

TUBERCLE, MASTITIS, INFLAMMATION, ETC.

Nature of Specimen.	Tubercle Bacilli.		Total
	Present in	Absent in	
Udders	20	2	22
Glands	7	4	11
Cooked Lamb	—	1	1
Ox Intestine	1	—	1
Udders	Non-Tuberculous Mastitis ...		6
Udder	Localised abscess		1
Udder	Acute Inflammation		2
			44

TUBERCLE.

Sputa (sent by City Practitioners).

Positive	70
Negative.....	200
	270

MISCELLANEOUS.

A. EXAMINATIONS FOR PRACTITIONERS IN THE CITY..... 53

B. EXAMINATIONS FOR HEALTH DEPARTMENT:—

Nature of Specimen.	Result of Examination.	No.	
Glands.....	Inflammation	1	
Pig's Kidney	Acute inflammation	1	
Growth from Pig's diaphragm	Rapidly growing malignant adenoma	1	
Cow's Spleen	Condition was that of an infarct undergoing organisation	1	
Pig's Intestine	Normal	1	
Cow's Kidney	Chronic inflammation.....	1	
Cow's Liver	Sarcomatous	1	
			7

C. EXAMINATIONS FOR PORT SANITARY AUTHORITY:—

Nature of Specimen.	Result of Examination.	No.	
Fish Pastes	These were not examined as they were in a state of putrefaction	3	
Salmon	Was wrapped in a cloth which was in itself in an offensive state. Bacteria were present upon the surface of the salmon, but apparently had not penetrated into the deeper tissues.	1	
Brine	1160 Bacteria were present per c.c., but colon was absent from 1 c.c.	1	
Ducks	Black spots were found which were merely superficial and consist of mould fungi probably Cladosporium herbarium. Several of the ducks showed other moulds on the surface of the skin. This condition is not considered to render the ducks unfit for food except when the infection is very extensive.	24	
			29
	Total	.....	89

CLEANSING AND SCAVENGING.

CLEANSING AND SCAVENGING.

The washing of streets, courts, back passages, &c.,and the improvements in scavenging have been extended during the past year with beneficial results.

During the summer season the street washing was continued:—

244 streets were washed once a week,
133 streets „ „ twice a week,
53 streets „ „ three times a week, and
214 streets „ „ as occasion required,

and all passages and tunnel entrances to courts were also regularly washed.

Owing to the defective planning of many minor streets and the absence of adequate back passages some difficulties have yet to be overcome before the collection and removal of domestic refuse can be regarded as satisfactory. The concessions which have been made by the Health Committee in the substitution of sanitary ashbins for old insanitary ashpits have resulted in a distinct advantage to the public health.

The following is a statement of the number of improved sanitary ashbins which were fixed at the 31st December, 1913:—

In properties assessed at over £10 per annum and new properties	41,739
In properties of £10 assessment and under	33,789
Total	75,528

The number of brick ashpits has been reduced from 65,000 to approximately 12,000.

Under the Bye-laws now in force, all newly-erected houses must be provided with suitable ashbins.

All private, domestic and office drains are flushed by the City Engineer's Staff twice a year, and there can be no question that a more frequent and very thorough flushing would be attended with great advantage.

The City Engineer has kindly supplied the following tables, which indicate the operations carried out by the Cleansing Staff under his control:—

TABLE No. 1.

NIGHT SERVICE

FOR EMPTYING COURT, &c., ASHPITS AND MIDDENS.

Middens have been practically abolished in the Old City, and consequently the operations of the night service are limited to the removal of domestic and office refuse from the neighbourhood of the Exchange, where it is impracticable to perform the work during business hours.

In the year 1900 an Improved Sanitary Ashbin was introduced, and 2,425 of these Bins have been fixed for the use of Courts, some of which have been removed owing to property being demolished.

Notices Received.	Collections from Ashpits, etc.	Quantity of Ashes Collected.	Quantity of Refuse Deposited at Chisenhale Street Depot.	Average Working Staff per night.				Analysis of Work.		Average quantity removed from each Ashpit at each Collection
				Ashpit Men.	Wharf Men.	Carts.	Horses.	Loads per Man per Night.	Loads per Cart per Night.	Cart Loads.
No.	No.	Loads.	Loads.	No.	No.	No.	No.			
143	1,146	933	933	3·0	1·0	1·0	1·0	1·01	3·05	·81

TABLE No. 2.

SERVICE FOR THE COLLECTION & REMOVAL OF DRY ASHPIT & ASHBIN ASHES, & COLLECTIONS BY BELL CART.

The number of notices received to empty ashpits during the year 1913 was 1,011 or 0·85 per cent. of the total collections.

The number of brick ashpits within the City is approximately 12,000.

From the year 1898 to the 31st December, 1913, Improved Sanitary Ashbins have been fixed as follows:—

In properties of over £10 assessment, and new properties	41,739
In properties of £10 assessment and under	33,789
	75,528

During this period the number of brick ashpits has been reduced from approximately 65,000 to 12,000.
In premises unsuitable for fixture bins, 42,000 loose bins have been provided.
During the year 1913 each ashpit was emptied on an average 9·07 times. The total quantity of refuse collected was 116,668 loads.

Total Collections from Ashpits.	Dry Ashes.									Average Daily Working Staff.			Analysis of Work.	
	Total Quantity of Refuse Removed from Ashpits & Ashbins	Depots at which Refuse was Deposited.												
		Chisenhale Street.	Rathbone Road Destructor.	Smithdown Road Destructor.	St. Domingo Destructor.	Lavrock Bank Destructor.	Garston Destructor.	Sandhills.	Various Tips, &c.	Ashpit Men.	Carts and Wagons.	Horses.	Loads per Man per day.	Loads per Cart per Day.
No.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.					
118,840	116,668	34,699	8,414	11,982	15,699	18,769	5,300	2,565	19,240	348·96	104·76	89·14	1·07	3·58

The Bell-Cart service provides for the daily removal of domestic refuse from shops, business premises and dwelling houses where no provision is made for the storage of this description of refuse. This service has to be conducted within limited hours of the morning to suit the convenience of occupiers, and the exigencies of business.

TABLE No. 3.

SERVICE FOR FLUSHING AND CLEANSING TROUGH WATER-CLOSETS, &c.

The frequent flushing of trough water-closets is a sanitary measure, this type of closet being provided principally in the more densely-populated areas of the City.

A large number of the public urinals and trough water-closets are also cleansed and disinfected twice daily during the Summer season, and once daily during the remaining part of the year.

Underground Urinals.	Overground Urinals.	Trough Water-Closets.	Average Working Staff per day.	
			Trough W. C. Men.	Urinal Men.
No. and Stalls.	No. and Stalls.	No.	No.	No.
30—259	150—557	890	20·92	17·09

TABLE No. 4.

SERVICE FOR THE CLEANSING OF STREETS, COURTS, AND PASSAGES, AND COLLECTION OF REFUSE.

Total Quantity of Refuse Collected.	Depôts at which Refuse was Deposited.					Average Daily Staff.				Average Number of Loads Removed Daily per Cart and Motor.
	Chisenhale Street.	Sandhills.	Wavertree.	Depots.	Various Tips, &c.	Sweeping Machines.	Average Number of Men Employed.	Carts.	Horses.	
Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Per day.	Per day.	No.	No.	No.
53,249	21,812	5,633	4,579	9,258	11,967	4·81	449	46·09 Motors 2·49	50·90	3·24

TABLE No. 5.

CLEANSING AND REMOVAL OF REFUSE FROM STREETS, COURTS, AND PASSAGES ON SUNDAYS.

On Sunday mornings a number of the principal streets in the central parts of the City are cleansed, and, as a sanitary measure, the domestic refuse in certain districts of the City is also collected.

Street Sweepings.											Average Daily Staff.		
Removed.			Depôts where Deposited.										
			Chisenhale Street.		Sandhills.		Wavertree.		Tips.				
Saleable Refuse.	Unsaleable Refuse.	Total.	Saleable Refuse.	Unsaleable Refuse.	Saleable Refuse.	Unsaleable Refuse.	Saleable Refuse.	Unsaleable Refuse.	Saleable Refuse.	Unsaleable Refuse.	Men.	Horses.	Motor Wagon.
Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	Loads.	No.	No.	No.
363	488	851	363	446	—	—	—	—	—	42	247·52	1·80	7·21

TABLE No. 6.

SERVICE FOR STREET WATERING.

In connection with Street Watering approximately 33 million gallons of Water were distributed during the season, in addition to which a large quantity was used for street washing.

Number of Days on which Carts were out during year.	Quantity of Water Distributed.		Average Daily Staff employed during the Season.			Average No. of Loads distributed Daily per Cart.
	Large Loads.	Small Loads.	Watermen.	Motor Tank.	Carts and Horses.	
	Day.	Day.				
162	105,943	25,122	20·35	—	21·09	Motor Tank ... — Horse-cart ...31·01 Hand-cart ...40·00

DUST LAYING.

During the season 1,058,728 sq. yards Carriageways were treated with Dust Laying Compositions.
Of which 121,171 ,, ,, ,, in Sefton and Newsham Parks.

TABLE No. 7.

REMOVAL OF GARBAGE FROM ABATTOIR.

Loads Removed during year.	Where Deposited.		
	Chisenhale Street.	Sandhills.	Collingwood Dock.
907	907	—	—

TABLE No. 8.

RETURN OF HORSE MANURE COLLECTED FROM FIRE STATIONS AND CORPORATION STABLES, AND DELIVERIES TO CHISENHALE STREET DEPÔT, &c.

Total Quantity dealt with during the year.	DEPÔTS AT WHICH MANURE WAS DEPOSITED.		
	Chisenhale Street.	Sandhills.	Wavertree.
Loads.	Loads.	Loads.	Loads.
1,955	1,304	290	361

Of the above 560 loads were collected from Fire Stations.

TABLE No. 9.

DESPATCHES OF MANURE AND REFUSE.

DEPÔTS.	Quantity of Saleable Refuse.				Quantity of Unsaleable Refuse.				Clinker to Works.	Grand Total.
	Street Sweepings	Mixture.	Ordinary Refuse to Farmers.	Total.	Sea.	Destructors.	Tips.	Ordinary Refuse to Farmers.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Chisenhale St., by Flats...	11,280	3,696	33,669	48,645	...	...	...	...	...	48,645
Sandhills Flats & Rail ...	...	139	8,326	8,465	...	...	...	...	...	8,465
Wavertree do. ...	4,579	...	...	4,579	...	...	...	...	...	4,579
Chisenhale Street and Sandhills, *viâ* Collingwood Dock per Barge "Beta"	...	...	...	...	12,462	...	...	...	...	12,462
Clinker per "Beta"	...	...	...	...	8,920	...	...	...	...	8,920
Charters Street Destructor.	...	...	...	...	...	54,330				
Rathbone Road ,, ...	...	...	...	...	...	13,505				
Smithdown Road ,, ...	...	...	...	...	...	24,769	...	...	...	165,122
St. Domingo ,, ...	...	...	...	...	...	34,283				
Garston ,, ...	...	...	...	...	...	7,950				
Lavrock Bank ,, ...	...	...	...	...	...	30,285				
Sundry Tips.....	2,802	...	...	2,802	...	...	26,318	9,706	...	38,826
Clinker to Tips	...	...	...	...	...	...	19,775	...	...	19,775
Ground Clinker to Works...	...	...	...	...	...	...	...	...	14,342	14,342
Rough Clinker to Works ...	...	...	...	...	...	...	...	...	635	635
Totals	18,661	3,835	41,995	64,491	21,382	165,122	46,093	9,706	14,977	321,771

The foregoing Table shows that not less than 321,771 tons of Town's refuse have been disposed of, and this large total does not represent the actual quantity collected and carted to the Wharves, as during the Winter months a proportion of the street sweepings is in a liquefied condition, and drains away before despatch of the refuse from the Wharves.

TABLE No. 10

HORSES.

DAILY AVERAGE NUMBER EMPLOYED ON CLEANSING WORK.

Night Ashes.	Dry Ashes.	Bell Ashes.	Street Cleansing.	Sweeping Machines.	Markets.	Tar Spraying.	Watering.	Abattoir.	Canals.	Destructors.	Various.	Daily Average. Total
0·90	8·54	73·48	46·09	4·81	1·88	2·24	10·11	0·65	1·90	12·19	1·00	163·79

TABLE No. 11.

AVERAGE DAILY STAFF OF MEN EMPLOYED.

General						Night Service.				Day Service.																Wharves, Depôts, &c.						Grand Total.
Superintendent.	Chief Inspector.	Inspectors (Divisional).	Timekeepers.	Clerks.	Total.	Working Foreman.	Midden Men.	Wharf Man.	Total.	Inspectors.	Watchmen.	Watermen.	Tar Spraying.	Sweepers and Casual Men.	Cart Followers (Sweeping and Bell and Box Ashes).	Passage Men.	Washing Streets & Passages	Gully Men.	Washing Courts.	Trough Water Closet and Urinal Men.	Orderly Boys.	Ash Men.	Boat Men.	Hopper Barge Crew.	Waste Paper.	Private Work.	Total.	Foreman.	Chiswhale St. and Sandhills.	Labourers.	Wavertree.	Labourers.	Various Tips.	Labourers.	Collingwood Dock.	Total.	
1.	1.	2.	7.	4.	15.	1.	3.	1.	5.	22·0	9·99	9·75	5·74	238·99	331·97	50·06	27·96	11·07	1·28	38·01	59·30	50·27	6·0	8·0	3·0	3.74	877·13	1·0	16·0	2·0	6·0	2·0	27·0	924·13	

INSANITARY PROPERTY.

INSANITARY PROPERTY AND HOUSING OF THE WORKING CLASSES.

A detailed description of the insanitary dwellings which have been dealt with from time to time, their general arrangements and situation, has been given in previous reports, and illustrations are given of some recent operations.

The following mortality rates of insanitary areas, mainly taken over a period of years, indicates the prevalence of disease and death in these localities, notwithstanding that every possible available sanitary adjunct was applied, for example, systematic scavenging, cleansing of the courts, special staff of male and female Inspectors, provision of hospitals for infectious disease, etc. :—

Year.	Number of the Presentment, &c.	Population of Area.	Illustrative Death Rates.	City Death Rate.
1894	12th	1960	Ford Street, 63·1 Arley Street, 71·4	23·1
1896	13th	764	Birkett Street, 72·8	21·4
1897	14th	3272	Paul Street, 79·6	22·8
1898	15th	1528	Hornby Street, Area, 40·4 Mann Street Area, 49·0	22·2
1899	16th	3059	Newsham Street and Kew Street, 63·8 Henry Edward Street. 64·0	24·1
1901	17th	1446	Eccles Street, 73·0 Eldon Street, 73·0	21·6
1904	18th	1325	Adlington Street Area, 44·0	22·1
1906	Housing of the Working Classes Act.	607	Burlington Street	20·6
1907	,,	576	Beau Street.	18·7
		952	Bevington Street	
		540	Holly Street	
		585	Frank Street	
		306	Grafton Street	
		88	Saltney Street	
1912		737	Prince Edwin Street, 38·7	
		445	Rathbone Street, 42·3	
		301	Saltney Street, 35·5	17·7
		230	Blenheim Street, 33·0	
		488	Penrhyn Street, 37·5	
		78	Gore Street, 26·6	
		153	Sparling Street, 43·5	
		—	Jordan Street	

Average death rate for one year, 44·0

It will be appreciated that the removal of notorious centres of degradation and disorder is followed by municipal advantages in which the general public share, for example, the street widening is a general public advantage, the construction of pleasing and attractive buildings is another, whilst it must always be remembered that the evil consequences of insanitary housing are not confined to the dwellers. Communicable disease, endemic in these places, has again and again assumed epidemic proportions, and flowed into parts of the City which presented no pronounced structural defect.

It is a matter for some surprise that so little effort has been, or is made by owners to anticipate the action of the Housing Committee in regard to insanitary dwellings, by themselves taking the initiative, and putting blocks of property, which admitted of it, into a sanitary condition. It is quite true that, under pressure from the Committee, certain properties have been so dealt with, but the protracted delay, and the neglect of the owners, certainly accentuated the difficulties.

In the great majority of the cases the condition of the property is admittedly hopeless, but the anomaly exists in the fact that ten years ago, a large and influential deputation of the Houseowners' Association which waited upon the Committee had no suggestion to make, nor remedy to put forward, beyond asking:

> "That when a house was found to be insanitary the owner should "have an opportunity of putting it into tenantable order."

And they further asked the Committee that if it is possible structurally to put a house into sanitary condition would the Committee leave it alone for a time.

There is not only every opportunity given to every owner to put his property into sanitary condition, but it is an obligation resting upon every owner to do so, and it is in default of any recognition of such responsibility that so many notices under the Public Health Act and other Sanitary Acts are served upon owners.

The Deputation at that time proceeded to deal specifically with houses situated in a court in which during the previous three years the mortality had averaged 60 per thousand, and which the preceding year rose to 83 per thousand. The fact that a Deputation from the Liverpool and Bootle Property Owners' and Ratepayers' Association could come to the Committee and seriously ask them "to leave alone for a time" property associated with such an appalling destruction of human life does not suggest any bona fide effort on the part of that Association to give the Committee the necessary assistance in the way of reconstructing property, nor is it apparent that they realise that any responsibility rests upon them.

One criticism now urged by the Liverpool and District Property Owners' Association is that the people in the Corporation Dwellings are no longer the poorest of the poor. Obviously that is so, because they are living better lives, a result which would not have been possible had they remained in their former surroundings.

No doubt very much less is being spent on drink, and a margin left for domestic comfort. In this particular the following paragraph relating to the Hornby Street Area occurs in a recent Annual Report of the Medical Officer of Health:—

> "The Medical Officer feels constrained to refer to the question of the licensed premises upon these Areas, and urges that in no instance should these premises be excluded in dealing with areas. The Medical Officer is fully aware that the cost of previous schemes has been greatly increased by the large amount of compensation paid for licensed premises, but at the same time the advantages to the district, from the reduction of their numbers, are so great that it would be a misfortune to depart from the previous practice.

> The Committee have never had occasion to regret the adoption of this course of action in areas conspicuous for their extreme squalor and poverty, and it is in these very areas in which large sums of money are expended in these premises. Indeed, one firm, whose extensive ownership entitles their views to consideration, stated that a public-house in such a situation "is situated perhaps in the best neighbourhood for the public-house trade, to be found in all Liverpool," and occupies "a particularly commanding position, and the people were the right sort, from the publican's point of view, as customers." Without in any way contesting this view, it appears that the best interests of the public health would be served by pursuing the course of removing these houses, notwithstanding the amount of money involved."

At that time the Corporation, owing to the great cost, did not buy the public houses, but built round them, but that policy was subsequently abandoned and any public houses which may exist on an area to be dealt with are purchased. Although this action adds very considerably to the cost of the scheme, still the Committee fully appreciate the immense importance and value of it. In the case of the Hornby Street Area, the purchase of Public-houses added £10,000 to the cost of the Scheme.

CLOSING ORDERS.

During the year, 139 dwelling-houses were dealt with by Closing Orders, the majority of them being the worst type of insanitary houses, situated in confined sunless courts, and without through ventilation, yard space, and separate and suitable closet accommodation.

The details in respect to the houses dealt with are on pages 283-4.

In addition, Closing Orders were made in respect of 91 insanitary houses previously included in Schemes (for details see page 285).

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1913. 21st Feb.	Ogden Weint— Nos. 1, 2, 3, 4, 5, 6 in 2 Court	6
"	Upper Frederick Street— Nos. 5, 6 in 25 Court	2
18th April	Feather Street— Nos. 1, 2 in 2 Court Nos. 4, 6 (fronts)	4
"	Richmond Row— No. 2 in 2 Court Nos. 1, 2 in 4 Court	1 2
"	Blake Street— Nos. 1, 2 in 5 Court	2
"	Westminster Road— Nos. 1, 2, 3, 4 in 1 Court	4
"	Clayton Street— Nos. 1, 6 in 7 Court No. 49 (front)	3
"	Green Lane— No. 2 (front)	1
"	Baptist Street— Nos. 10, 68, 70 (fronts)	3
"	Cuerdon Street— No. 28 (front)	1
"	Mill Lane— No 36 (front)	1
30th May	Gilbert Street— No. 1 in 4 Court Nos. 1, 2, 3, 4 in 10 Court Nos. 28, 28a, 38, 40 (fronts)	1 4 4
"	Back Highgate Street— No. 2 in 2 Court	1
27th June	Gascoyne Street— Nos. 1, 2, 3, 4, 5, 6, 8 in 5 Court	7
"	Lad Lane— Nos. 1, 2 in 1 Court No. 15 (front)	3
"	Hawke Street— Nos. 1, 2 in 7 Court	2
		52

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1913.	Forward	52
27th June	Trowbridge Street—	
	Nos. 2, 3, 4 in 6 Court	3
,	Upper Frederick Street—	
	Nos. 1, 2 in 4 Court	4
	Nos. 30, 32 (fronts)	
,,	Virgil Street—	
	Nos. 1, 2, 3, 4, 5 in 5 Court	5
12th Dec.	Union Street—	
	No. 1 in 2 Court	1
,,	Worfield Street—	
	No. 1 in 6 Court	1
,,	Porter Street—	
	No. 2 in 18 Court	1
,,	Gay Street—	
	Nos. 1, 3, 4, 5, 6 in 1 Court	5
	Nos. 1, 2, 3, 4 in 8 Court	4
	Nos. 1, 2, 3 in 10 Court	3
,,	Clare Street—	
	Nos. 1, 2, 3, 4, 5, 6 in 2 Court	6
	Nos. 1, 2, 3, 4, 5, 6 in 4 Court	6
	Nos. 1, 2, 3, 4, 5, 6, 7 in 6 Court	7
,,	Birkett Street—	
	Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 in 3 Court	10
	No. 39 (front)	
,,	Pembroke Street—	
	Nos. 2, 4, 6, 8, 10 in 4 Court	6
	No. 6 (front)	
,,	Back Seel Street—	
	No. 1 in 6 Court	2
	No. 6 (front)	
,,	Parr Street—	
	Nos. 1, 2, 3 in 5 Court	4
	No. 29 (front)	
,,	Cropper Street—	
	Nos. 1, 2, 3 in 3 Court	3
,,	College Lane—	
	Nos. 1, 2, 3, 4 in 4 Court	4
,,	Henry Street—	
	Nos. 1, 2 in 1 Court	2
,,	Northumberland Street—	
	Nos. 1, 2, 3 in 4 Court	3
	Nos. 1, 2, 3 in 2 Court	3
,,	Goring Street—	
	Nos. 1, 2, 3, 4 in 1 Court	4
	Total	139

To prevent re-occupation, Closing Orders were also made by the Housing Committee on the Report of the Medical Officer of Health, in respect to the following insanitary dwelling-houses, already included in Schemes:—

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1913. 29th Jan.	Rathbone Street—	
	Nos. 7, 17b, 29, 31, 37, 39, 45, 47 and 35 (fronts)	9
	Nos. 2, 4, 6 in 1 Court	6
	No. 4 in 3 Court	
	Nos. 2, 3 in 7 Court	
,,	Mount View—	
	Nos. 1, 3, 5 (fronts)	4
	No. 6 in 6 Court	
30th May	Nos. 6, 12 in 2 Court	3
	No. 3 in 4 Court	
12th Dec.	Nos. 8, 10, 4 in 4 Court	4
	No. 10 in 2 Court	
29th Jan.	Back Rathbone Street—	
	Nos. 8, 12, 14, 16, 18, 20, 22, 28, 30 (fronts)	10
	No. 1 in 2 Court	
30th May	No. 2 in 6 Court	2
	No. 10 (front)	
29th Jan.	Mason Street—	
	Nos. 1, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 in 5 Court	13
	Nos. 2, 4, 8, 9, 11, 12, 13, 14, 15, 16, 18 in 7 Court	11
	Nos. 1, 7, 9, 11, 15, 17 in 9 Court	6
	Nos. 1, 5, 9, 11, 13, 17 in 11 Court	6
30th May	No. 6 in 5 Court	1
	Nos. 1, 5, 10 in 7 Court	3
	No. 13 in 9 Court	1
	No. 3 in 11 Court	1
29th Jan.	Saltney Street—	
	Nos. 1, 2 (fronts)	2
30th May	Highgate Street—	
	Nos. 1, 3 in 4 Court	2
,,	Silvester Street—	
	No. 6 in 2 Court	2
	No. 3 in 4 Court	
	Penrhyn Street—	
	No. 8 in 3 Court	1
	Prince Edwin Street—	
	Nos. 3, 9 in 4 Court	4
	No. 8 in 10 Court	
	No. 6 in 12 Court	
		91

From the summary on page 314, it will be observed that the number of insanitary houses finally disposed of during the eight years, 1906 to 1913, averaged 400 per annum.

DEMOLITION ORDERS.

Demolition Orders were made by the Housing Committee on the Report of the Medical Officer of Health in respect of the undermentioned insanitary dwelling houses:—

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1913. 10th Jan.	Gilbert Street—	
	Nos. 1, 2 in 8 Court	3
	No. 36 (front)	
,,	Wakefield Street—	
	Nos. 7, 8, 9, 10, 11, 12 in 3 Court	6
,,	Naylor Street—	
	Nos. 4, 6, 8 in 22 Court	3
,,	Bond Street—	
	Nos. 1, 2, 3, 4, 5, 6 in 11 Court	6
,,	Northampton Street—	
	No. 1 in 15 Court	1
27th June	Hopwood Street—	
	Nos. 1, 2, 3, 4, 5, 6, 7, 8, 10 in 5 Court	9
,,	Back Claremont Street—	
	Nos. 1, 2, 3, 4, 5 in 2 Court	5
	Nos. 2, 3 in 4 Court	2
,,	Mill Street—	
	Nos. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 in 4 Court	10
12th Dec.	Ogden Weint—	
	Nos. 1, 2, 3, 4, 5, 6 in 2 Court	6
,,	Richmond Row—	
	No. 2 in 2 Court	1
	Nos. 1, 2 in 4 Court	2
,,	Blake Street—	
	Nos. 1, 2 in 5 Court	2
,,	Westminster Road—	
	Nos. 1, 2, 3, 4 in 1 Court	4
,,	Gilbert Street—	
	Nos. 1, 2, 3, 4 in 10 Court	6
	Nos. 38, 40 (fronts)	
	Forward	66

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
	Forward	66
1913. 12th Dec.	Back Highgate Street— No. 2 in 2 Court	1
,,	Gascoyne Street— Nos. 1, 2, 3, 4, 5, 6, 8 in 5 Court	7
,,	Lad Lane— Nos. 1, 2 in 1 Court	2
,,	Hawke Street— Nos. 1, 2 in 7 Court	2
,,	Trowbridge Street— Nos. 2, 3, 4 in 6 Court	3
,,	Upper Frederick Street— Nos. 1, 2 in 4 Court Nos. 30, 32 (fronts)	4
,,	Virgil Street— Nos. 1, 2, 3, 4, 5 in 5 Court	5
,,	Baptist Street— Nos. 68, 70 (fronts)	2
	Total	92

Unhealthy Areas.

PRINCE EDWIN STREET, RATHBONE STREET, MASON STREET, SALTNEY STREET, BLENHEIM STREET, PENRHYN STREET.

The above unhealthy areas, embracing 646 houses, are fully described in the Medical Officer of Health's Annual Report for the year 1912.

The Official Representation was made in June, 1912, and following the usual public inquiry by the Local Government Board on February 6th, 1913, the formal approval of the Board was received on the 1st August, 1913.

In view of certain proposed street improvements and street widening, these areas have since received the careful consideration of a Special Committee, consisting of members of the Health and Housing Committees, and there is now every likelihood of the work of demolition and re-building being proceeded with at an early date.

Three hundred and fifty-seven of the houses are now unoccupied, and with the exception of 33 premises, all the properties have been purchased by the Housing Committee.

The erection of dwellings on these areas will provide increased accommodation and afford an opportunity to proceed by Closing Orders in respect to a number of insanitary houses situated in isolated courts in the immediate vicinity of each of the respective areas.

GORE STREET, SPARLING STREET, JORDAN STREET AREAS.

A detailed description of these Areas, in respect to which proceedings were taken under Part 3 of the Housing of the Working Classes Act will be found in the Medical Officer of Health's Report for 1912.

The formal inquiry was held by the Local Government Board on the 7th January, 1913, and the necessary confirmation of the Board was received on the 19th February, 1913.

Plans and models indicating the proposed type of dwellings to be erected on each area have been approved, and the City Council on the 4th March sanctioned the borrowing of £34,500 for the purchase of land, etc., in connection with the above Areas.

The accommodation proposed to be provided is as follows:—

Area.	Dwellings.	Rooms.
Gore Street	18	3
Gore Street	6	2
Sparling Street	16 (two story)	5-room, self-contained
Jordan Street	6	4
Jordan Street	24	3 (together with Keeper's house)

Each tenement will be provided with the usual sanitary conveniences, and a portion of the Gore Street and Jordan Street sites will be laid out as an open space, and provided with the necessary shelters, conveniences, and gymnasia.

There are 110 dwellings on these Areas, of which only 16 are now occupied, and all the properties are in the possession of the Housing Committee.



NO. 3 COURT, BIRKETT STREET.

Insanitary houses closed at the instance of the Housing Committee.

The completion of these dwellings will also increase the available accommodation and facilitate the closing of other isolated insanitary houses in close proximity.

BAPTIST STREET AREA.

The Baptist Street Area, an area lying within Clayton Street and Richmond Row, has long been a centre of squalor and disease. The value of the site, as well as the value of many buildings on it, has hitherto prevented any comprehensive scheme being put in operation in regard to it, and ameliorative measures only have been possible. These, however, have resulted in the demolition of considerable numbers of courts and alleys and slum property, but it still contains a number of insanitary back to back houses, and many, in addition to being insanitary, are in bad repair.

The question of opening out this area has been under the consideration of the Committee, and before long it is expected that something definite will be done in the matter. Baptist Street and Lionel Street require attention and are included in the suggested scheme.

SALTNEY STREET SCHEME.

To complete the Saltney Street Scheme, and to provide increased dwellings, the Housing Committee on the 3rd October, 1913, recommended to the Council that an application be made to the Local Government Board to confirm an Order for the compulsory acquisition by the Corporation of the dwelling-houses Nos. 8 to 72, Dublin Street, and the Board have since confirmed the Compulsory Order. These dwellings differ somewhat from the ordinary type of insanitary house, all of them being provided with through ventilation and separate closet accommodation.

PITT STREET (ST. PETER'S WARD).

The possibility of a Housing Scheme in the locality of Pitt Street (St. Peter's Ward) has also occupied the attention of the Housing Committee.

A careful survey of the district was made, and sketch plans prepared, but it appears that out of an approximate total of 106 houses, only 22 were insanitary. The majority of the premises are Corporation leasehold, and in some instances the leases have but a few years to run.

There is a possibility of carrying out a Scheme of re-building in this area under Part 3 of the Act, as in the case of Dublin Street (Saltney Street Extension), Jordan Street, Gore Street, and Sparling Street areas.

ST. ANNE STREET AREA.

The work of re-building on the Saint Anne Street Area (referred to in previous reports as Holly Street Area) is now approaching completion, and very shortly there will be available for the persons dispossessed, 36 two-roomed dwellings, 36 three-roomed dwellings, and 6 four-roomed dwellings, total 78 dwellings. Several views are given showing the progress of the work, and elevations of the buildings.

ADDED AREAS.

The majority of the working class dwellings in the recently added areas have been examined in the ordinary course of house-to-house inspection by the staff of the Public Health Department.

The following summary gives the approximate return of the existing insanitary houses in these areas, the majority of them being situated in the Much Woolton District, in close proximity to the Quarry Street Area.

Number of houses without through ventilation, yard space, or separate closet accommodation	68
Number of houses at present derelict, or unfit for human habitation	38
Number of houses in which the ventilation is unsatisfactory, although in some instances they are provided with separate yard or closet	44
	150

Of the above 44 houses, 33 are provided with separate yard and watercloset, and an improvement of the ventilation would render them sanitary.

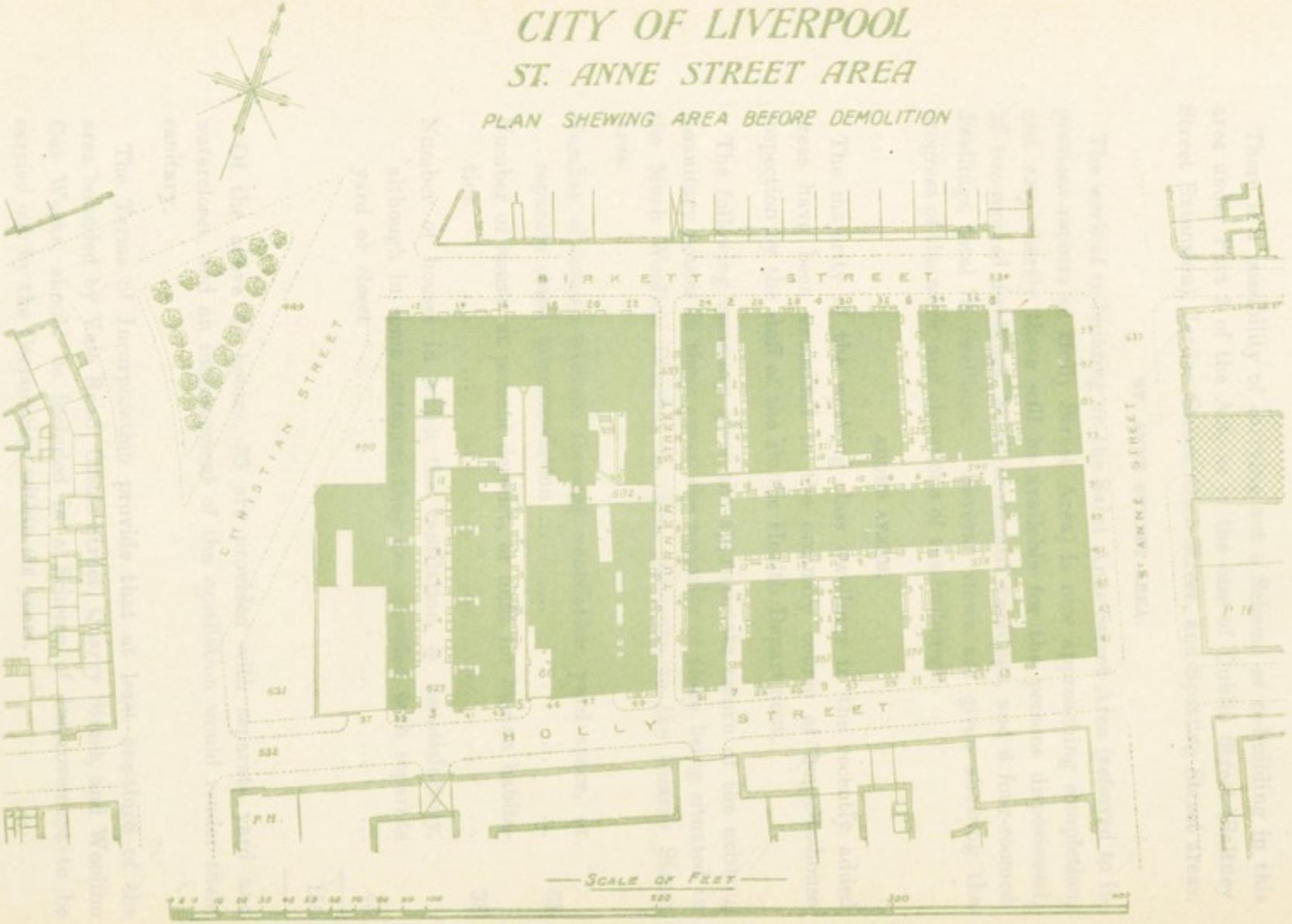
The Terms of Incorporation provide that at least one-third of the area bounded by Vale Road, Castle Street, Quarry Street, and Woolton Gas Works, should be included in a Scheme of Improvement to be carried out by the Corporation within six years.

CITY OF TORONTO
ST. JAMES STREET AREA
AREA SHOWING PROPOSED DEMOLITION

CITY OF LIVERPOOL

ST. ANNE STREET AREA

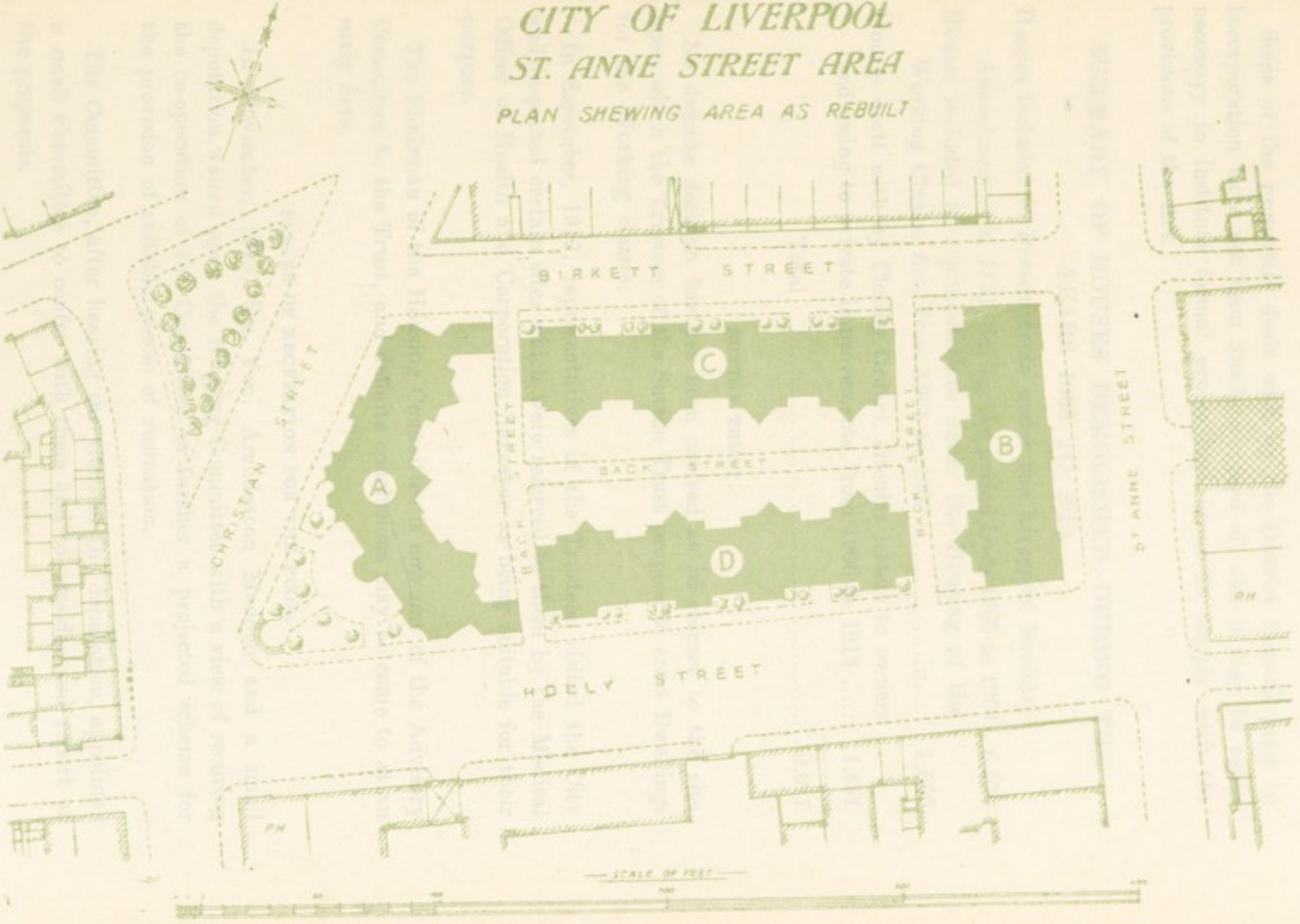
PLAN SHEWING AREA BEFORE DEMOLITION



CITY OF LIVERPOOL

ST. ANNE STREET AREA

PLAN SHEWING AREA AS REBUILT



Some of the properties dealt with by the District Council prior to Incorporation have not been finally disposed of, and it may be again necessary to institute formal proceedings so as to comply with the provisions of the Act.

SUMMARY OF HOUSES DEMOLISHED DURING THE YEARS 1865 TO 1913.

Houses included in Presentments under the Liverpool Sanitary Amendment Act, 1864, during the period from 1865 to 1904	6,300
Houses included in representations under the Housing of the Working Classes Act, from 1901 to 1907	1,666
Houses dealt with by Closing Orders, circular letters to owners and owing to private improvements, from 1906 to 1913	1,651
Total	9,617

SUTTON TRUST.

No definite decision has yet been arrived at in respect to the site upon which the Trustees of the Sutton Trust propose to erect Dwellings for the Working classes.

In Sepember, 1913, representatives of the Trustees visited the City and inspected certain sites which were referred to them by the Medical Officer of Health and Corporation Surveyor as being suitable for their purpose.

The Chairman of the Housing Committee is now one of the Advisory Committee to the Trust, and definite conclusions may be come to at an early date.

PLACES OF RECREATION FOR THE POOR.

In November, 1913, the Ven. Archdeacon Madden and a small deputation waited upon the Housing Committee with a view of securing the co-operation of the Committee to further a projected scheme for the provision of suitable places of recreation.

The Committee, after hearing the views of the deputation, appointed a small Committee to confer with them and to consider and report on the proposals.

In connection with the several Housing Schemes which the Housing Committee have now in hand, arrangements are being made for setting aside a portion of the site as an open space, which will be provided with shelters, suitable conveniences, and up-to-date gymnasia.

CELLAR DWELLINGS.

About 20 years ago, a careful return was prepared of the 11,000 cellars then existing within the City, which were then occupied as separate dwellings, and the details in respect of the lighting, ventilation drainage, etc., were recorded into two special Registers. In the course of house-to-house inspection, it is the practice to inspect cellars, and whenever they are found illegally occupied, the usual notice is served.

In 1908, powers were obtained in a Local Act which prohibited the occupation of cellars as separate dwellings after the 31st December, 1912, and the Health Committee have since directed special attention to the illegal occupation of these dwellings.

All the cellars recorded on the Registers were specially visited during the latter part of 1912, and it was then found that 1,614 cellars were still let and used as separate dwellings.

These 1,614 cellars have been again specially re-visited during December, 1913, and it was then found that over 600 had been vacated.

As far as possible, a careful record is kept indicating the class of houses to which the occupiers of cellars have removed, also a comparative statement with regard to the rentals.

During the year, 188 applications for Corporation Tenements have been received from persons who occupied insanitary court dwellings, and in respect of 231 cellars occupied as separate dwellings, and in which the occupation could not be continued owing to the provisions of Section 28 of the Liverpool Corporation (General Powers) Act, 1908. These applications were investigated in the usual way by officers of the Public Health Department who verified the claims of the applicant.

Number of applications received	419
,, ,, recommended	211
,, ,, not recommended or pending...	208



ST. ANNE STREET AREA.

New dwellings in course of erection with front walls of the property still standing, showing contemplated street widening.



ST. ANNE STREET AREA.

Showing the old fronts with new houses at the rear, indicating contemplated street widening.



ST. ANNE STREET AREA.

Showing portion of the old and the new property, and the street widening.



ST. ANNE STREET AREA.

Showing the old fronts with new houses at the rear, and indicating street widening.



ST. ANNE STREET AREA.

Illustrating the widening of Holly Street following the operations of the Housing Committee.



ST. ANNE STREET AREA—DWELLINGS FRONTING CHRISTIAN STREET.



ST. ANNE STREET AREA—HOLLY STREET. DWELLINGS LOOKING FROM CHRISTIAN STREET.



ST. ANNE STREET AREA—HOLLY STREET DWELLINGS.

RE-HOUSING.

With regard to the re-housing of the dispossessed, the Corporation commenced to provide tenements as far back as 1869, and subsequently erected further tenements in Victoria Square and Juvenal Street, but these dwellings were let to any respectable tenant who paid the rent, ranging from 1s. 9d. per week for a one-roomed tenement, to 5s. 6d. per week for a three-roomed tenement. They were not, as is now the custom, reserved specially for persons dispossessed by any action of the Corporation taken in the interests of health.

At first when the areas were cleared, it was not difficult to show that within say half-mile of them were a considerable number of untenanted houses, at the same rentals, available for dispossessed persons, but as years went on it became impossible to shew that there were a reasonable number of dwellings available, and consequently the Corporation initiated the policy of building houses for those who had been dispossessed by any action of the Corporation on sanitary grounds.

The number of dwellings provided by the Corporation up to the present is 2,825, and their situations, dates of opening, and number of rooms, are as follows:—

Situation.	Date Opened.	Number of Tenements.	Number of Rooms.
St. Martin's Cottages	1869	124	316
Victoria Square	1885	282	610
Juvenal Dwellings	1891	102	160
Arley Street	1897 (1902/3)	46	114
Gildart's Gardens	1897 1904	229	526
Dryden Street	1901	182	392
Kempston Street	1902	79	210
Kew Street	1902/3	114	282
Adlington Street Area	1902/3	272	671
Stanhope Cottages	1904	60	144
Mill Street	1904	55	136
Hornby Street	1904 1906/7	455	1225
Clive Street and Shelley Street	1905	84	234
Eldon Street	1905	12	36
Upper Mann Street	1905/6	88	239
Combermere Street	1909	49	108
Burlington Street	1910	114	318
Saltney Street	1911	48	120
Grafton Street	1911	60	144
Bevington Street Area	1912	224	683
Northumberland Street Area	1913	68	174
St. Anne Street Area	In course of erection.	78	204
Grand Total		2,825	7,046

A Census of the population of the above dwellings, with the exception of St. Anne Street Area, was taken at the middle of the year, and was found to be 10,223. At the time the Census was taken 140 tenements were unoccupied.

The new dwellings are situated in various parts of the City, and consist of one, two, three, and four-roomed dwellings, let at rentals varying from 1s. 9d. to 7s. per week.

It is extremely gratifying to notice the improvement in the health and habits of the occupiers. There is a higher moral tone, the removal of public-houses tends to lessen the wastage of money, and consequently the people, once so steeped in poverty, have become more self-respecting, and show a keener appreciation of a decent home. The condition of the children shows a very marked improvement: they are better cared for, more suitably clothed, and are being trained and reared in an environment which is bound to be productive of much moral and physical good. In connection with the more recently erected dwellings, well equipped playgrounds are also provided for the children.

The advantages of living in a Corporation tenement are fully realised by the tenants, and many applications are made by persons who are not living under insanitary conditions, but these applications cannot be complied with.

Quite apart from the improved health-conditions of those immediately concerned, one effect of the removal of insanitary property is that the time of the officers of the Public Health Department, formerly absorbed in efforts to mitigate slum conditions, may now be concentrated on other important work in different parts of the City. The time of the Lodging-house staff is also similarly economised, as it was in these courts that overcrowding was most prevalent. In the year 1895 there were 1,510 courts, and in the year 1913 the number had been reduced to 323. It is estimated that by the removal of these courts there is a saving of upwards of £3,000 per annum, in the cost of cleansing and sanitary administration.

DESCRIPTION OF TENEMENTS.

Number of 1 roomed dwellings	193
„ 2 „ „	1,293
„ 3 „ „	1,034
„ 4 „ „	279
(61 of which are self-contained)	
„ shops	26
	2,825

Rentals.

The rentals of the tenements vary from 1s. 9d. to 5s. 6d., and those of the self-contained cottages range from 6s. to 7s.

Restricted Dwellings

The great majority, namely, 2,193 of these dwellings are reserved for persons who have been dispossessed, and before an application is granted the Housing Committee is satisfied that the applicant formerly resided in an insanitary house or insanitary cellar, or was dispossessed from an overcrowded sub-let house. All applications from overcrowded or insanitary houses and cellars are referred in the first instance to the Medical Officer of Health for report, and careful investigation is made to verify the claims of the applicant.

The total number of applications investigated during the year 1913 was 660, and particulars concerning them are not without interest, as showing an appreciation of the advantages offered by the Corporation dwellings.

It was found that in 469 instances the circumstances of the applicant did not comply with the Committee's conditions. Of this number 104 applicants gave false addresses, and in 365 cases there was no evidence that the alleged overcrowding or illegal occupation existed. Of the remaining 191 cases investigated, 33 were found to be cases of one

family overcrowding a house or occupying an insanitary house. These were dealt with under the Public Health Act and the Housing of the Working Classes Act. 158 were claims on account of alleged overcrowding in sub-let houses, of which, in 76 cases, it was found that there was no overcrowding, or the alleged overcrowding was easily remedied by some of the occupants leaving the premises, or by re-arranging the sleeping apartments. There were 82 cases of overcrowding found in sub-let houses, and in 78 of these instances informations were laid against the tenants, and convictions followed.

The total number of cases of overcrowding in ordinary dwellings, and sub-let houses was 115 arising out of 660 applications investigated, and in 54 instances the applicants were allowed to rent a Corporation dwelling. In a considerable number of cases the overcrowding was of a very recent date, and the offence had evidently been committed with the intention of qualifying for a Corporation house. For instance, in 16 cases the length of the tenancy ranged from three days to three weeks before the application was made.

As further evidence of the desire to obtain a Corporation dwelling, and as showing the necessity for investigating the applicants' claims, it is interesting to note that out of 4,141 applications dealt with during the past six years, in 2,963 instances the circumstances of the applicants did not comply with the Committee's conditions.

From time to time the Medical Officer has received requests to allow the Lodging House Inspectors to visit Corporation Tenements for the purpose of ascertaining if overcrowding or sub-letting exists. During the past five years, 253 tenements have been visited at night, with the result that in 129 cases the tenements were found occupied contrary to the Committee's regulations; in some instances rooms were grossly overcrowded, or even indecently occupied. Many of these infringements would have been avoided had the inmates been differently distributed in the sleeping rooms, a condition quite easily complied with.

It must not be forgotten that many of the tenants of the Corporation dwellings have hitherto been accustomed all their lives to insanitary surroundings and insanitary habits, and have always relied upon the

friendly services of the Sanitary Inspectors. To their new surroundings many of them carry their old customs, and the evidence is overwhelming that if the occupiers of the new dwellings are to maintain the necessary standard of personal and domestic sanitation, the caretakers appointed to supervise the dwellings must themselves be persons trained to understand and to appreciate the elements of hygiene, and so be able to influence the poorer class of tenants in the right direction. This matter has a very serious bearing upon the future of these dwellings; obviously if the official caretaker himself is ignorant of the objects of sanitation and sets the example of overcrowding or condones other conditions prejudicial to health, his influence for good is nil.

The total number of day visits paid during the year was 711, and 100 night visits were made, the total for the year being 811, from which it will be seen that a considerable amount of the Inspectors' time was taken up by investigating these applications.

During the year the Manager of the Dwellings referred 30 Corporation tenements to the Medical Officer's Department for night visitation, as against 41 referred during the year 1912.

Night visits were paid to these tenements, with the result that 6 tenements were found to be sub-let, of which number, 4 were also found overcrowded. There were also 6 tenements found overcrowded, but not sub-let, i.e., occupied by one family and their relations (or friends in some instances), and 2 cases of indecent occupation of sleeping rooms, viz., in both cases one man and two women were found in the same bedroom.

During the year, 18 cases of improper or irregular occupation were found in 14 Corporation tenements out of 30 visited, compared with 19 cases in 15 tenements out of 41 the preceding year.

Although many persons have been temporarily displaced as the result of the operations of the Housing Committee, it has not resulted in overcrowding in other parts of the City. The following facts in regard to houses let in lodgings bear out this statement :—

In December, 1885, the Local Government Board allowed Bye-laws which provided for 350 cubic feet per adult (two children below 12 years of age to count as one adult). In January, 1901, the Bye-laws were further amended, requiring 400 cubic feet per adult, and 200 cubic feet per child below 10 years of age.

Although the requirements in respect to cubic space have materially increased, and two additional Inspectors have been appointed (making a total number of 17), and the number of night visits increased, the cases of overcrowding have decreased. The following figures are a sufficient answer to the suggestion that the removal of slum areas resulted in an increase of sub-letting and overcrowding:—

Year.	No. of Sublet Houses.	No. of night visits for detection of overcrowding.	No. of convictions for overcrowding.	Per centage of convictions to number of visits.
1901	18,917	17,863	1,351	7·56
*1902	19,976	17,274	1,150	6·65
1903	21,719	18,439	1,264	*6·85
1904	22,401	17,886	1,148	6·41
1905	20,518	19,193	1,326	6·90
1906	19,714	18,838	920	4·88
1907	19,832	22,982	962	4·18
1908	19,776	23,074	738	3·19
1909	19,654	23,534	576	2·44
1910	19,436	23,273	414	1·77
1911	18,873	21,788	526	2·41
1912	16,475	22,173	612	2·76
1913	16,405	22,938	660	2·87

* Garston included in the City on 9th November, 1902.

CORPORATION TENEMENTS.

VITAL STATISTICS, 1913.

Population 1913 (at middle of year) 10,223
Population 1912 8,885

	1912.		1913.	
	Total Number,	Rate per 1,000.	Total Number.	Rate per 1,000.
Births	476	53·5	590	57·7
Deaths	274	30·8	284	27·7
Infantile Mortality (deaths under one year)	85	178·5 per 1,000 births	86	145·7 per 1,000 births
Phthisis	21	2·3	21	2·0

VITAL STATISTICS, 1913.

Population of unrestricted Dwellings at middle of June 1,799

	Unrestricted Dwellings.	
	Total Number.	Rate per 1,000.
Births	124	68·9
Deaths	40	22·2
Infantile Mortality. (Deaths under one year)	12	96·7 per 1,000 births.
Phthisis	2	1·1

Growth of the Suburbs.

During the past ten years the Building Surveyor reports that 12,817 houses, under £25 rental, have been erected in the suburbs.

Recently, in the course of inspection of houses let at a rental not exceeding £18 per annum, in the suburban areas, viz., Walton, Old Swan, and Wavertree, the Medical Officer caused enquiries to be made

of the occupiers of 400 houses, erected during the past three years, and it was found that 187 families (consisting of 561 persons) had removed from dwelling-houses in the older and more congested parts of the City, no doubt attracted by the more open localities and superior domestic arrangements of the houses. In 61 instances the occupiers were newly married couples, commencing housekeeping; the tenants of 30 houses came from districts without the City Area, and a few were from the Cheshire side.

Previous enquiries gave like results.

It is generally considered that the dwellings intended to replace the insanitary ones should be provided upon the original site or in the immediate vicinity, in order that the occupants may not be removed to a distance from their work, but the Medical Officer would again take occasion to express his belief that the best interests of the labouring classes—those for whose benefit the work is undertaken—will be served by housing them, so far as circumstances will permit, in more open localities in the suburbs.

UNOCCUPIED HOUSES.

The detailed returns of unoccupied houses within the City, dated 6th January, 1913, prepared by the Head Constable, have been carefully analysed, and, in addition, the 526 houses referred to in the return, let at rentals under 5s. per week, have been inspected.

The analysis is as follows:—

Number of houses without through ventilation, yard space, and water-closet; also derelict houses unfit for human habitation	156	
NOTE.—29 of these houses are closed as the result of the operations of the Housing Committee.		
Number of houses having through ventilation to the ground floor only, small and confined yards, and separate water-closets	80	
Total number of insanitary houses	——	236
Total number of sanitary houses		290
Total number of houses to let at rentals under 5s. per week		526

Statement in respect of the 290 sanitary houses, let at rentals under 5s. per week:—

Situated in recently added areas (Much Woolton, &c.) ...	34
Situated in many streets beyond the Old City Boundary...	90
Scattered throughout the Old City area; a few, however, are in Courts which have been improved	166
Total number of sanitary houses to let at rentals under 5s. per week	290

Of the remaining 2,212 houses to let at rentals ranging from 5s. per week and upwards, 10 were unfit for human habitation, or found used as workshops.

COST.

The total cost of Demolition and Housing up to the 31st December, 1913, is £1,163,465, which involves an annual charge, after deducting the rents of the Dwellings, of £34,213, which is equivalent to 2¼d. in the £.

During the years 1908-1913, 819 houses, other than those included in Schemes, were demolished, and £3,837 paid as Compensation in respect of 370 of these houses, equal to about £10 7s. 6d. for each house demolished, and as a consequence, the owner cannot build on the site without the consent of the Corporation.

The following Tables indicate the progress of work during 1913 and preceding years:—

Statement howing cost of Presentments under Sanitary Amendment Act, 1864; Act, 1875, and the Housing of the Working Classes Acts, 1890 to

Presentments and Dwellings.	Cost of Land (after deducting Receipts from Sales of Surplus Lands). (1)	Cost of Buildings. (2)	Total Cost of Land and Buildings, 31st December, 1913. (3)	Percentage of Net Receipts on Total Cost (Col. 3). (4)
	£ s. d.	£ s. d.	£ s. d.	
1.—PRESENTMENTS under Sanitary Amendment Act, 1864	**306,095 17 8**	—	**306,095 17 8**	—
2.—UNRESTRICTED DWELLINGS—				
Victoria Square	52,391 18 7	57,952 6 11	110,344 5 6	0·95
Juvenal Dwellings	14,854 18 4	13,121 7 11	27,976 6 3	1·04
Arley Street Dwellings.....	3,405 19 0	7,610 19 5	11,016 18 5	3·23
	70,652 15 11	**78,684 14 3**	**149,337 10 2**	**1·13**
3.—RESTRICTED DWELLINGS—				
Adlington Street	22,091 14 8	41,973 9 7	64,065 4 3	2·18
Bevington Street	51,922 19 0	54,629 10 2	106,552 9 2	1·49
Burlington Street	17,642 18 1	22,822 0 0	40,464 18 1	1·57
Clive Street	5,895 8 1	18,549 3 8	24,444 11 9	0·45
Combermere Street	3,724 0 0	9,186 0 0	12,910 0 0	1·69
Dryden Street	8,949 14 8	26,602 8 9	35,552 3 5	1·89
Eldon Street	1,015 0 0	3,080 18 8	4,095 18 8	0·85
Gildart's Gardens	16,251 10 0	30,607 2 3	46,858 12 3	1·71
Grafton Street	6,641 5 4	12,555 14 5	19,196 19 9	1·53
Hornby Street	58,214 16 5	82,736 13 9	140,951 10 2	1·43
Kempston Street	(a) —	17,430 6 0	17,430 6 0	1·68
Kew Street.....	5,074 13 6	19,955 7 10	25·030 1 4	1·89
Mill Street	2,766 0 0	10,512 19 3	13,278 19 3	*—
Northumberland Street (opened 10th Feb.)	14,129 11 1	13,423 11 0	27,553 2 1	0·99
Saltney Street	5,761 16 8	8,836 0 0	14,597 16 8	1·50
Stanhope Cottages	4,261 2 6	10,073 13 6	14,334 16 0	1·53
Upper Mann Street	9,938 6 1	18,747 5 7	28,685 11 8	1·01
	234,280 16 1	**401,722 4 5**	**636,003 0 6**	**1·49**
4.—WORKS IN PROGRESS	54,763 1 1	17,266 1 8	72,029 2 9	—
Totals	**£665,792 10 9**	**497,673 0 4**	**1,163,465 11 1**	—

CITY TREASURER AND CONTROLLER'S OFFICE,

LIVERPOOL, 20th March, 1914.

also cost of Dwellings under the Artizans' and Labourers' Dwellings Improvement

1909 (*compiled by the City Treasurer and Controller of Accounts*).

Deduct from Col. 3 amount apportioned by Surveyor for Street Widenings, and Open Spaces. (5)	Total Net Cost of Land and Buildings. (6)	Percentage of Net Receipts on the Net Cost. (Col. 6). (7)	Proportion of Total Net Cost (Col. 6) attributable to Sanitary Improvements Demolition of Insanitary Areas, &c. (8)	Proportion of Total Net Cost (Col. 6) attributable to Housing after reducing value of Land required for Dwellings to 12/– per square yard (9)	Percentage of Net Receipts on the Net Cost (Col. 9). (10)
£ s. d.	£ s. d.		£ s. d.	£ s. d.	
—	306,095 17 8	—	306,095 17 8	—	—
25,504 8 7	84,839 16 11	1·23	21,487 10 0	63,352 6 11	1·65
7,557 18 4	20,418 7 11	1·43	5,774 4 0	14,644 3 11	1·99
—	11,016 18 5	3·23	2,077 11 0	8,939 7 5	3·98
33,062 6 11	116,275 3 3	1·45	29,339 5 0	86,935 18 3	1·95
2,026 15 4	62,038 8 11	2·25	13,847 3 4	48,191 5 7	2·90
15,168 9 0	91,384 0 2	1·74	28,510 10 0	62,873 10 2	2·52
1,790 10 7	38,674 7 6	1·65	11,694 7 6	26,980 0 0	2·36
912 8 1	23,532 3 8	0·47	2,607 0 0	20,925 3 8	0·53
—	12,910 0 0	1·69	2,366 16 0	10,543 4 0	2·08
926 13 8	34,625 9 9	1·94	4,457 5 0	30,168 4 9	2·22
123 12 0	3,972 6 8	0·88	643 12 0	3,328 14 8	1·05
1,621 13 0	45,236 19 3	1·77	9,228 1 0	36,008 18 3	2·22
252 0 0	18,944 19 9	1·55	4,464 9 4	14,480 10 5	2·03
7,699 12 0	133,251 18 2	1·51	36,146 8 5	97,105 9 9	2·08
—	17,430 6 0	1·68	—	17,430 6 0	1·68
—	25,030 1 4	1·89	2,736 9 6	22,293 11 10	2·13
60 0 0	13,218 19 3	*—	1,353 0 0	11,865 19 3	*—
1,315 5 1	26,237 17 0	1·04	10,392 14 0	15,845 3 0	1·72
—	14,597 16 8	1·50	4,290 12 8	10,307 4 0	2·12
—	14,334 16 0	1·53	2,556 13 6	11,778 2 6	1·86
1,529 16 1	27,155 15 7	1·06	5,396 10 0	21,759 5 7	1·33
33,426 14 10	602,576 5 8	1·57	140,691 12 3	461,884 13 5	2·05
—	72,029 2 9	—	72,029 2 9	—	—
66,489 1 9	1,096,976 9 4	—	548,155 17 8	548,820 11 8	—

*Payments exceed Receipts owing to cost of New Washhouse.

(*a*) Annual Ground Rent paid for Site.

COMPARATIVE DEATH-RATES.

Some comparisons have recently been made between the districts where housing operations have been most active, and other districts where practically no re-housing has taken place.

The death-rates in these various districts have been re-calculated on the revised census returns, and, in order to obtain a fair average, three years have been taken in each case, i.e., the census year and the two following years.

The figures extend back to 1871, and the districts taken are the same in all cases, Kirkdale being included with Everton for the sake of comparison, as the figures for these two districts were not kept separate in bygone years. The decrease in the death-rate is remarkable, and the tables show what a great improvement has resulted. Somewhat similar figures could be given for other districts of the City, but would only tend to corroborate the obvious fact that much benefit has accrued to the general health of all districts by the sanitary operations carried out. The districts principally dealt with by the Housing Committee are Scotland and Exchange Divisions.

DEATH RATES IN SELECTED DISTRICTS,

1871—1873 and 1881—1883.

District.	Years.			Average.	Years.			Average.
	1871.	1872.	1873.		1881.	1882.	1883.	
Scotland	40·8	32·5	32·0	35·1	35·1	31·7	36·9	34·5
Exchange	40·0	31·5	31·5	34·3	38·4	36·7	37·4	37·5
Abercromby	28·4	21·2	24·2	24·6	23·9	25·2	24·7	24·6
Everton	30·8	24·6	24·0	26·4	22·5	24·4	24·8	23·9
West Derby West	27·2	21·3	21·2	23·2	23·2	22·3	21·6	22·3
City	35·1	27·0	25·8	29·3	26·7	27·0	27·7	27·1

1891—1893 and 1901—1903.

District.	Years.			Average.	Years.			Average.
	1891.	1892.	1893.		1901.	1902.	1903.	
Scotland	37·1	34·2	34·2	35·1	32·0	33·4	30·4	31·9
Exchange	37·9	36·1	36·3	36·7	31·0	34·5	30·2	31·9
Abercromby	25·9	22·9	25·2	24·6	21·0	22·4	22·4	21·9
Everton	24·3	21·1	25·2	23·5	22·7	24·8	20·7	22·7
West Derby West	21·4	19·8	22·6	21·2	20·0	19·9	18·9	19·6
City	26·8	24·4	26·7	25·9	21·5	21·7	20·0	21·1

1911, 1912, 1913.

District.	Death Rates			Average.
	1911.	1912.	1913.	
Scotland	32·4	28·7	27·5	29·5
Exchange	31·5	28·7	28·4	29·5
Abercromby	19·3	19·8	21·1	20·0
Everton	21·5	19·6	19·8	20·3
West Derby West	18·5	17·5	17·6	17·8
City	19·5	17·7	18·0	18·4

REMOVAL OF INSANITARY PROPERTY.

The following tables indicate the progress of work during 1913 and preceding years.

Table 1.

			Courts.	Court houses.		Approx. No. of front houses.
Approximate number of insanitary houses existing on 1st January, 1913.			366	1977		962
Proceedings authorised by the City Council during the year 1913, in regard to houses not previously referred to ...	Courts.	Court houses.			Front houses.	
"A" By Closing Orders ...	36	119			20	
"B" By schemes under the Housing of the Working Classes Acts, (Parts 1 and 3.)	—	—			—	
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation	—	—			—	
'D" Dealt with by owners for private improvements ...	7	29			—	
Total No. dealt with during 1913	43	148			20	
Leaving for future consideration			323	1829		942

Of the above 148 Court houses and 20 Front houses dealt with in the year 1913 41 have been demolished, 5 rendered sanitary, 69 closed, and 53 are occupied.

Closing Orders have also been obtained in respect to 91 unoccupied houses previously included in schemes.

The insanitary houses in the Woolton and other recently added areas are not included in the above figures, but the approximate number will not exceed 130, and the majority of them are situated in the locality of Quarry Street.

Table 2.

Statement showing the number of houses dealt with during the year **1912**, and indicating the action taken :—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1912.	No. of Houses.	De-molished	Rendered Sanitary.	Closed.	Occupied
"A" By Closing Orders	6	5	—	1	—
"B" By Schemes	81	—	—	36	45
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation.....	—	—	—	—	—
"D" Dealt with by owners for private improvements	—	—	—	—	—
Total.....	87	5	—	37	45

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	De-molished	Rendered Sanitary.	Closed.	Occupied.
"A" By Closing Orders	141	136	4	1	—
"B" By Schemes	437	1	—	264	172
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation.....	—	—	—	—	—
"D" Dealt with by owners for private improvements.....	17	17	—	—	—
Total No. dealt with during 1912...	595	154	4	265	172

Table 3.

Statement showing the number of houses dealt with during the year **1911**, and indicating the action taken :—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1911.	No. of Houses.	Demolished.	Rendered Sanitary.	Closed.	Occupied
"A" By Closing Orders	30	6	24	—	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation.	—	—	—	—	—
"D" Dealt with by owners for private improvements.....	1	1	—	—	—
Total	31	7	24	—	—

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	Closed.	Occupied
"A" By Closing Orders	157	123	23	11	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation	—	—	—	—	—
"D" Dealt with by owners for private improvements.....	5	5	—	—	—
Total No. dealt with during 1911	162	128	23	11	—

Table 4.

Statement showing the number of houses dealt with during the year **1910,** and indicating the action taken:—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1910.	No. of Houses	Demolished.	Rendered Sanitary	Closed.	Occupied
"A" By Closing Orders	15	3	—	11	1
"B" By Schemes	—	—	—	—	—
"C" Alterations and Improvements authorised on circular letter. or on the action of the Health Committee in asking for more closet accommodation.....	10	10	—	—	—
"D" Dealt with by owners for private improvements.....	8	8	—	—	—
Total	33	21	—	11	1

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary	Closed.	Occupied
"A" By Closing Orders	216	152	45	19	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation.....	42	25	17	—	—
"D" Dealt with by owners for private improvements.....	45	38	7	—	—
Total No. dealt with during 1910	303	215	69	19	—

Table 5.

Statement showing the number of houses dealt with during the year **1909**, and indicating the action taken:—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1909.	No. of Houses.	Demolished.	Rendered Sanitary.	Closed.	Occupied
"A" By Closing Orders	6	3	3	—	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation	16	2	14	—	—
"D" Dealt with by owners for private improvements	6	6	—	—	—
Total	28	11	17	—	—

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	Closed.	Occupied
"A" By Closing Orders	206	159	40	7	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation	51	30	21	—	—
"D" Dealt with by owners for private improvements	95	95	—	—	—
Total No. dealt with during 1909	352	284	61	7	—

Table 6.

Statement showing the number of houses dealt with during the year **1908**, and indicating the action taken:—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1908.	No. of Houses.	Demolished.	Rendered Sanitary.	Closed.	Occupied.
"A" By Closing Orders	3	2	1	—	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter or on the action of the Health Committee in asking for more closet accommodation	32	4	28	—	—
"D" Dealt with by owners for private improvements	11	11	—	—	—
Total.....	46	17	29	—	—

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	Closed.	Occupied.
"A" By Closing Orders	104	71	25	8	—
"B" By Schemes	—	—	—	—	—
"C" Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation	117	42	75	—	—
"D" Dealt with by owners for private improvements	53	53	—	—	—
Total No. dealt with during 1908	274	166	100	8	—

Table 7.

Statement showing the number of houses dealt with during the year **1907,** and indicating the action taken:—

FRONT HOUSES.

Total No. of Front Houses dealt with during the year 1907.	No. of Houses.	Demolished.	Rendered Sanitary	In Schemes but still occupied	Closed
"A" By Closing Orders	23	21	2	—	—
"B" By Schemes	14	14	—	—	—
"C" Cases in which summonses have been issued, but for which Closing Orders were not obtained up to 31st December, 1907.	21	—	21	—	—
"D" Alterations and improvements authorised on circular letter or on action of Health Committee in asking for more closet accommodation.	55	14	41	—	—
Total	113	49	64	—	—

COURT HOUSES.

How Dealt With.	Total No. of Houses Dealt with.	Demolished.	Rendered Sanitary	In Schemes but still occupied	Closed.
"A" By Closing Orders	111	90	16	—	5
"B" By Schemes	54	54	—	—	—
"C" Cases in which summonses have been issued, but for which Closing Orders were not obtained up to 31st December, 1907.	67	29	38	—	—
"D" Alterations and improvements authorised on circular letter, or on action of Health Committee in asking for more closet accommodation.	60	26	34	—	—
Total	292	199	88	—	5
Less Houses included in Schemes, but also dealt with by Closing Orders.	5	—	—	—	5
Total No. of Court Houses dealt with during year 1907.	287	199	88	—	—

Table 8.

Statement showing the number of houses dealt with during the year **1906**, and indicating the action taken:—

FRONT HOUSES.

Total No. of front houses dealt with during year 1906.	No. of Houses.	Demolished.	Rendered Sanitary.	In Schemes but still Occupied.	Closed.
"A" Closing Orders.....	19	18	1	—	—
"B" By Schemes.....	102	89	—	—	13
"C" By Circular letter	72	13	59	—	—
Total	193	120	60	—	13

COURT HOUSES.

How Dealt With.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	In Schemes but still Occupied.	Closed.
"A" Closing Orders	329	293	30	—	6
"B" By Schemes.....	517	409	—	—	108
"C" By Circular letter	170	99	71	—	—
Total	1,016	801	101	—	114
Less houses dealt with by Closing Orders, and included in Schemes ...	50	44	—	—	6
Total No. of Court Houses dealt with during the year 1906	966	757	101	—	108

Table 9.

SUMMARY.

Showing the total number of houses dealt with during the years **1906, 1907, 1908, 1909, 1910, 1911, 1912** and **1913.**

FRONT HOUSES.

Year.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	In Schemes but still Occupied.	Closed.	Occupied.
1906	193	120	60	—	13	—
1907	113	49	64	—	—	—
1908	46	17	29	—	—	—
1909	28	11	17	—	—	—
1910	33	21	—	—	11	1
1911	31	7	24	—	—	—
1912	87	5	—	45	37	—
1913	20	3	4	—	12	1
Total	551	233	198	45	73	2

COURT HOUSES.

Year.	Total No. of Houses dealt with.	Demolished.	Rendered Sanitary.	In Schemes but still Occupied.	Closed.	Occupied.
1906	966	757	101	—	108	—
1907	287	199	88	—	—	—
1908	274	166	100	—	8	—
1909	352	284	61	—	7	—
1910	303	215	69	—	19	—
1911	162	128	23	—	11	—
1912	595	154	4	172	265	—
1913	148	38	1	—	57	52
Total	3,087	1,941	447	172	475	52

The nett result shows that during the eight years 1906, 1907, 1908 1909, 1910, 1911, 1912 and 1913, 2,174 insanitary dwellings have been demolished, 548 have been closed and await demolition or reconstruction, and 645 have been reconstructed and rendered sanitary, making a total for the eight years of 3,367 (excluding those still occupied) dealt with as follows: —

1906	**1159**
1907	**400**
1908	**320**
1909	**380**
1910	**335**
1911	**193**
1912	**465**
1913	**115**
Total	**3367**

HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910

Return in pursuance of Article 5 of the above Regulations:—

Number of dwelling-houses inspected for general sanitary administration, and for the purposes of Section 17 of the Housing, Town Planning, etc., Act, 1909	85,180 front houses 4,567 court houses	
		89,747
Number of dwelling houses remaining to be dealt with, and which are in a state so dangerous or injurious to health as to be unfit for human habitation	1,829 court houses 942 front houses	
		2,771

Number of representations made to the Local Authority with a view to obtaining Closing Orders	238
Number of Closing Orders made	230
Number of dwelling-houses, the defects in which were remedied without the making of Closing Orders	Nil.
Number of dwelling-houses in respect of which Closing Orders were made, and which have been rendered fit for human habitation	5

The houses dealt with on the representation of the Medical Officer of Health were the usual type of insanitary houses, mainly situated in confined courts, each house being without through ventilation, yard space, and suitable sanitary conveniences. The sanitary conveniences in these courts consist of the usual type of foul trough water-closet, badly situated, and unsuitable for children, with the result that faecal matter is retained in the houses until it can be disposed of.

In many instances the closet faces the entrance to the court, and persons entering are in full view from the public thoroughfare.

LIVERPOOL SANITARY AMENDMENT ACT, 1864.

Under the provisions of the above Act, the Medical Officer of Health certified that the following premises were unfit for human habitation, and ought to be demolished:—

The dwelling-houses numbered 1, 2, 3, 4 and 5 in Oak Place, Clive Street, in the City of Liverpool.

The dwelling-house numbered 28 in Clive Street aforesaid, continguous to Oak Place in the said street.

The court known as No. 1 court in Brick Street in the City of Liverpool.

The dwelling-house numbered 1 in the said No. 1 court.

The dwelling-house numbered 17 in Brick Street aforesaid, contiguous to No. 1 Court in the said street.

The dwelling-houses numbered 47 and 49 in Clayton Street, in the City of Liverpool.

The court known as No. 7 court in Clayton Street, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 7 court.

The court known as No. 4 court in Back Claremont Street, in the City of Liverpool.

The dwelling-houses numbered 2 and 3 in the said No. 4 court.

The Building Surveyor has kindly furnished the following Return of Houses erected in the City :—

RETURN OF HOUSES ERECTED 1896-1913.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Under £12	7	95	63	4	...	222	85	201	258	78	243	115	...	149	...	132	...	68
£12 to £18 ...	...	...	...	821	486	558	590	363	284	394	547	609	418	283	119	151	41	92
	944	1,138	1,276	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
£18 to £25 ...	...	...	...	769	602	633	962	1,058	1,067	872	1,039	1,022	1 102	1,369	1,279	768	717	537
£25 to £35	204	389	539	607	402	441	323	706	449	638	422	444	195	191	168	109	64	43
£35 and upwards ...	44	34	99	157	133	109	101	125	116	204	202	152	135	157	144	74	56	27
	1,199	1,656	1,977	2,358	1,573	1,963	2,061	2,453	2,174	2,186	2,453	2,342	1,850	2,149	1,710	1,234	878	767

CITY HOSPITALS.

HOSPITAL ACCOMMODATION.

At 31st December, 1913, the number of beds available in the various hospitals was as follows:—

City Hospital North	151	beds.
,, South	91	,,
,, East	152	,,
,, Parkhill	158	,,
,, Fazakerley	300	,,
,, Fazakerley Annexe ...	167	,,
	1,019	,,

The approximate apportionment of beds is as follows, but the arrangement is modified as circumstances necessitate:—

Smallpox	48	beds.
Typhus Fever	6	,,
Typhoid Fever	20	,,
Scarlet Fever	418	,,
Diphtheria	130	,,
Measles	45	,,
Tuberculosis	236	,,
Isolation	116	,,
	1,019	,,

The City Hospital, Fazakerley, was formerly used for infectious disease only, and accommodation was provided for 350 patients, but in September, 1907, the City Council sanctioned the allocation of 24 beds to be devoted to the treatment of Phthisis. This number of beds was gradually extended and now 78 patients are received.

The result of this is that the total number of patients has been curtailed to some extent as more accommodation is required for the treatment of phthisis cases than for ordinary infectious diseases, owing to the necessity of providing day rooms for the convalescent patients. The stay in hospital of such patients is also prolonged. The ward space has been supplemented slightly by the erection of chalets in the grounds surrounding the main building, and these erections have proved to be useful adjuncts in the treatment of phthisis patients.

The beds available for isolation accommodation are utilised for the treatment of puerperal fever, erysipelas, chickenpox, whooping cough, infantile diarrhœa, cross infections and other doubtful cases which it is deemed desirable to remove from time to time.

The average duration of stay in hospital of patients whose treatment was completed during the year 1913 was as follows:—

Scarlet Fever Patients	7 to 8 weeks.
Typhoid	7 ,,
Diphtheria	4 to 4½ ,,
Measles	4 ,,

In many instances detention in hospital is very prolonged owing to the severity of the original illness, and the consequent slow convalescence of the patient.

The value of the hospitals, and the immense amount of useful work performed is shown by the fact that no less than 5,454 patients were treated within their walls during the year.

It would be difficult to point to any example of necessary municipal expenditure in which the direct benefits, alike to the recipients and to the community, are more strongly marked.

Arrangements have been made between the Hospitals Committee and various Local Authorities to receive cases of infectious disease from districts beyond the city boundary, namely, Sefton Rural District, Waterloo and Seaforth, Great Crosby, Little Crosby, and the Children's Convalescent Home, West Kirby.

Arrangements have also been made to deal with any case of cholera, yellow fever, or plague which may arise in any of the neighbouring urban or rural districts. A suitable charge is made in each case.

With regard to the facilities offered by the Hospitals for the Training of Nurses, probationers are received at some, but not all, of the city hospitals, and under the arrangements now made for their training the course of instruction is a very full and complete one.

The following reports have been received from the Medical Superintendents of Fazakerley and Parkhill Hospitals with reference to the cases of phthisis treated in these two hospitals respectively during the year 1913.

CITY HOSPITAL, FAZAKERLEY.

Treatment of Phthisis.

During the year 1913, 128 patients were admitted to the Fazakerley Sanatorium suffering from Tuberculosis of the lungs, alone or combined with Tuberculosis of other organs. The discharges during the year numbered 96. There were 27 deaths, and 72 remained under treatment at the end of the year.

In 3 cases, the pulmonary lesion was accompanied by definite infection of the larynx, in 2 cases by tuberculous disease of glands, and in 2 cases by mesenteric disease. Osseous, Fallopian, and Faucial tuberculosis were each observed once.

Classified in accordance with the system of Turban-Gerhardt, the cases on admission fall into the following groups:—

1.—29.
2.—50.
3.—49.

Condition of Patients on Discharge.

Disease arrested, 38.
Disease quiescent, 46.
Disease unimproved, or worse, 12.

Four cases were prematurely discharged for the following reasons:—

Domestic, 3.
Disciplinary, 1.

Of 53 adult males (aged 17 and over) discharged, the presence of tubercle bacilli was demonstrated in the sputum of 22, at the time of their leaving the Sanatorium. The corresponding figures for females are 21 and 7 respectively.

Of those patients admitted in Stage 1 of their disease, with tubercle bacilli present in their sputum, approximately one half were free from bacilli at the time of their discharge.

In Stages 2 and 3, the sputum gave a negative result after repeated examination, in approximately one-third, when leaving the Institution.

The absence of tubercle bacilli in the sputum, although of obvious importance to the public health, is of less concern to the individual, than the loss or gain of working capacity, which may have resulted from his treatment.

For administrative purposes, the stages of active work and exercise attained by the patients are graduated as follows:—

Stage A.—May do sewing, reading or writing. To walk ¼ mile in the morning and again in the afternoon. No other exercise to be taken.

Stage B.—May make beds and do sewing, sweeping, dusting, and brass cleaning. To walk 2 miles in the morning and again in the afternoon. No other exercise to be taken.

Stage C.—May increase walks daily, carry out previous routine, and do light garden work and basket carrying.

Stage D.—May work with heavy tools in addition to previous routine. Women may do scrubbing.

The following figures show the working capacity attained by patients at the time of their discharge from the Sanatorium during the year.

MALES (over 10 years of age).

A	9
B	10
C	13
D	12

FEMALES (over 10 years of age).

A	4
B	4
C	8
D	4

In the cases of 20 males and 8 females, the stage of disease was sufficiently advanced to preclude the probability of their being able to resume active work.

CLINICAL METHODS.

During the year considerable prominence has been given in Sanatoria on the Continent and in America, to the treatment of pulmonary tuberculosis by the method of induced or artificial pneumothorax. The results claimed for this method have perhaps deserved better attention than they have received at the hands of clinicians in this country.

Twenty-one patients have received treatment by this method at Fazakerley. The number of injections of Nitrogen given has been about 250 in all. On no occasion has any complication of a serious nature resulted from the operation.

Five patients with involvement of the greater part of one lung, and a portion of the other, have been under treatment for from 6 to 9 months. In advanced cases of this kind, permanent arrest of the disease is scarcely possible, but it is noteworthy that in only one of them has there been any marked advance in the disease since the beginning of treatment. The improvement in this type of case has been accompanied by a very decided fall in the temperature range and volume of sputum. In one instance obstinate and recurring hæmoptysis appeared to be brought under control.

The remaining fifteen patients presented types of disease ranging in severity from the above to a moderate involvement of one lobe only. The extent of progress in these cases must always be largely a matter of opinion, but probably those who have followed the course of those under treatment at Fazakerley, will agree that a greater and more sustained improvement has taken place than might have been expected as the result of treatment by other methods, particularly the Tuberculins.

The number of cases treated at Fazakerley by the method of induced pneumothorax is not yet sufficiently large to justify a very positive expression of opinion as to its utility. The results, however, as far as they can be judged, indicate that no case of phthisis of moderate severity should be allowed to progress to a fatal termination without a trial of this measure.

TUBERCULINS.

Fewer patients have been treated with Tuberculins than in previous years. In the majority of instances this method is not employed unless the customary sanatorium measures have failed to bring about an improvement. Two grave laryngeal cases were given Tuberculin as a last resource.

The increased amount of work done by patients in the sanatorium grounds has tended to diminish treatment by specific inoculations. The "rest" period which a dose of Tuberculin entails is sufficiently long to make consecutive work impossible, except in those patients who are sufficiently restored in health to justify their return to their original occupation.

A full course of Tuberculins cannot be completed under many months, and the length of time which a patient is able to devote to Sanatorium treatment is a considerable factor in determining whether or not he should receive treatment by this method. In many cases it is only possible to begin a course of treatment in the Institution, the patient being subsequently transferred to the Tuberculosis Dispensary for specific treatment in its later stages.

Generally speaking, it is the practice at Fazakerley Sanatorium to rely rather upon a process of auto-inoculation, as the result of graduated exercise, than upon the therapeutic use of Tuberculin.

The increased length of stay in the Sanatorium which a course of Tuberculin entails is a factor for which allowance must be made when making a comparison between the final results in Tuberculin-treated patients and non-Tuberculin-treated patients.

The varieties of Tuberculins used have been chiefly B.E., S.B.E., A.F., I.K., and T.Bk. "Intensive" treatment by P.T.O. and P.T. has been employed in a few cases.

The employment of Vaccines empirically, both stock and autogenous, has been generally disappointing. The results obtained have not been commensurate with the difficulties met with in determining the causal organism and the time and labour involved in preparing the Vaccines.

DEMONSTRATIONS TO PATIENTS.

During treatment, patients attend lectures and demonstrations given by the medical staff, dealing with the chief factors in the causation and progress of their disease. Lantern slides are exhibited to display the various methods of infection, the nature of the tubercle bacillus, and its life history, and the hygiene necessary to encourage recovery. It has been found that lectures on these lines are very favourably received by patients. The information obtained is conveyed to relatives and friends, with a result which must make for the good of the community.

The proportion of children brought under treatment during 1913 has been less than in previous years, but the methods of open-air teaching and physical exercise have been continued on the lines laid down in earlier reports.

PARK HILL SANATORIUM.

Treatment of Phthisis.

Since the end of March, 1913, this institution has been devoted to the treatment of cases of pulmonary tuberculosis. For this purpose alterations have been made in the wards which render them very suitable for the treatment of this disease.

The setting aside of pavilions as dining and recreation rooms for the men and women, respectively, proves very acceptable to the patients.

The grounds provide ample scope for treatment by graduated rest and exercise, a complete scheme of which has been instituted. The higher grades of work commenced by the patients at the end of the year include the deep trenching of plots of uncultivated land for use as vegetable gardens, and the levelling of a slope for the provision of a full-sized bowling green—in which forms of work, and in gardening generally, the patients take a keen interest.

Of the 423 cases admitted during the year, 325 were "Insured" under the provisions of the National Insurance Act, 62 were "Dependants," and 36 were "non-Insured and non-Dependant."

The class of case admitted has varied from those in the early stage of the disease to cases of an advanced type.

CLASSIFICATION ON ADMISSION.

The classification adopted is one based on a combination of that recommended in the Interim Report of the Departmental Committee on Tuberculosis, and that of the International Tuberculosis Committee. This method has been adopted as it is found that the extent of the disease in the lung bears no constant ratio to the working capacity of the patient.

Interim Report Classification, based largely on probable restoration of working capacity to be attained by treatment.	International Committee Classification, based on extent of lung involvement.			
	I. Less than volume of half lobe.	II. Up to volume of one lobe.	III. More than volume of one lobe, or any cavities.	Totals.
1. Working capacity unimpaired	—	—	—	—
2. Working capacity slightly impaired	9	7	1	17
3. More marked impairment, but probable permanent restoration to full working capacity	48	41	4	93
4. Permanent arrest may be looked for, but in majority only temporary restoration to *full* working capacity	6	73	66	145
5. Permanent loss of *full* working capacity	1	26	82	109
6. Probable fatal termination within six months.....	—	2	46	48
Total	64	149	199	412

CONDITION ON DISCHARGE.

Disease Arrested	59
Improved and Much Improved	159
Unimproved or Worse	87
Deaths	65
	370

The figure "Improved and Much Improved" includes a very considerable number of patients in whom the disease was quiescent on discharge, but who left the Sanatorium for domestic and other reasons before the completion of treatment. It is confidently to be expected that with an improved knowledge of the insidious nature of the disease, patients will remain under treatment for more prolonged periods. To this end, frequent addresses are given illustrating the lines of treatment and the principles on which it will be necessary for patients to model their future lives, as well as instruction as to the prevention of infection to others.

INFECTIOUS DISEASE.

The following table shows the number and nature of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the year 1913, including those reported under the Notification Act.

Year—1913.	FEVER.			Smallpox.	Scarlatina.	Measles.	Diphtheria and Membranous Croup.	Puerperal Fever.	Erysipelas.	Total.
	Typhus.	Typhoid.	Relapsing.							
January	...	7	...	...	149	817	80	5	64	1,122
February	1	6	...	...	167	573	83	5	74	909
March	1	9	...	2	181	424	61	8	64	750
April	1	10	...	1	184	572	66	2	55	891
May	...	12	...	...	183	668	65	5	63	996
June	...	13	...	...	159	512	66	5	69	824
July	...	8	...	...	155	195	74	7	40	479
August	1	20	...	...	145	87	61	5	52	371
September	...	16	...	...	184	54	95	3	54	406
October	...	18	...	...	184	61	93	2	64	424
November	...	22	...	...	251	114	128	6	72	593
December	...	12	...	...	245	89	132	2	67	547
Total	4	153	...	3	2,187	4,166	1,006	55	738	8,312
Removed to hospital	4	128	...	3	1,851	417	826	41	228	3,498

The number of patients removed to hospital includes those taken to the general hospitals as well as those taken to the city hospitals.

THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

The number of notifications received by the Medical Officer under the above Act, during the past five years, were as follows:—

	1909.	1910.	1911.	1912.	1913.
January ...	595	545	534	535	319
February	533	455	471	439	324
March ...	549	559	556	475	320
April ...	590	457	497	343	322
May ...	588	450	584	441	335
June ...	602	441	482	402	319
July ...	478	443	518	341	305
August ...	434	590	398	382	300
September	507	676	545	430	363
October ...	543	687	603	490	383
November	602	634	663	476	482
December	583	578	544	424	476
	6,604	6,515	6,395	5,178	4,248

The diseases were specified as follows:—

	1909.	1910.	1911.	1912.	1913.
Smallpox	7	13	11	6	4
Scarlet Fever	4,001	4,152	3,710	2,885	2,100
Typhoid Fever	331	272	221	163	165
Typhus Fever	24	14	28	4	6
Continued Fever	14	7	8	2	1
Relapsing Fever	1	—	2	—	1
Fever	2	—	1	1	—
Puerperal Fever	65	43	52	42	43
Diphtheria	1,278	1,135	1,334	1,110	1,085
Membranous Croup	26	38	26	18	23
Erysipelas	846	824	997	897	779
Anthrax	9	11	5	9	11
Cerebro-Spinal Fever	—	5	—	5	8
Acute Poliomyelitis	—	—	—	31	5
*Ophthalmia Neonatorum	—	—	—	5	17
	6,604	6,515	6,395	5,178	4,248

* Notifiable since July, 1912.

NUMBER OF CASES REPORTED AND NUMBER REMOVED TO HOSPITALS, 1889-1913.

	Smallpox.		Scarlet Fever.		Typhoid.		Typhus.		Diphtheria and Membranous Croup.		Measles.	
	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.
1889 ..	9	8	1,832	533	670	302	158	124	122	39	3,175	104
1890 ...	2	2	3,520	938	506	296	103	87	212	55	4,013	152
1891 ..	21	21	1,176	448	588	350	175	156	237	49	2,262	160
1892 ...	177	177	1,554	603	699	345	73	70	227	29	3,376	150
1893 ...	75	73	3,538	1,380	1,396	728	183	168	250	30	2,316	94
1894 ...	229	226	3,963	1,415	1,350	745	325	312	337	47	2,494	122
1895 ...	130	127	2,710	1,039	1,306	662	162	158	340	77	3,462	93
1896 ...	8	8	3,584	1,589	1,063	539	305	298	533	120	2,930	138
1897 ..	6	6	3,001	1,641	991	559	158	156	430	118	4,389	94
1898 ..	17	16	2,424	1,467	863	585	92	84	554	191	2,458	105
1899 ...	10	10	2,416	1,537	988	668	70	64	793	277	5,107	140
1900 ...	156	154	1,968	1,198	731	450	42	41	709	312	2,372	108
1901 ...	37	37	3,310	1,814	864	567	55	54	870	467	6,766	185
1902 ...	560	559	5,914	2,994	1,026	670	155	155	1,102	516	7,141	177
1903 ...	1,720	1,719	4,053	2,145	681	462	272	266	878	412	2,728	114
1904 ...	27	27	2,988	2,214	434	296	97	97	1,061	690	9,453	428
1905 ...	15	14	4,308	3,147	325	235	98	95	1,003	606	3,938	322
1906 ...	19	19	2,959	2,191	491	360	52	49	910	567	6,819	389
1907 ...	19	19	2,741	2,144	482	373	116	116	929	631	5,640	342
1908 ...	7	7	4,295	3,528	447	360	21	20	1,017	721	4,653	227
1909 ...	9	9	4,059	3,289	278	223	17	17	1,133	819	6,356	585
1910 ...	10	10	4,202	3,546	231	176	11	11	1,112	738	4,755	478
1911 ...	19	19	3,641	3,046	181	144	26	26	1,114	866	4,719	304
1912 ...	4	3	2,867	2,367	124	108	6	6	995	791	8,075	752
1913 ...	3	3	2,187	1,851	153	128	4	4	1,006	826	4,166	417

The following tables, prepared by the Medical Staff of each Hospital show the number of patients, the nature of the illness, and the results, at each of the six hospitals during the year 1913.

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

Visiting Physician, Dr. R. I. RICHARDSON.
Resident Physician, Dr. R. GAMLIN.

Diseases.	Remaining Dec. 31st, 1912.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.	134	636	—	770	3	—	648	96	1	23	3·6
Enteric Fever.	15	77	—	92	—	—	75	5	1	12	15·5
Typhus Fever.	—	3	—	3	—	—	3	—	—	—	—
Diphtheria with Scarlet F.	—	3	—	3	1	—	—	—	—	2	66·6
Smallpox	—	—	—	—	—	—	—	—	—	—	—
Measles	—	7	—	7	—	—	7	—	—	—	—
Other Diseases	—	45	—	44	—	1	33	3	2	9	20·4
Isolation and Observation Cases	10	87	—	97	—	—	87	4	1	6	6·8
Totals ...	159	858	—	1016	4	1	853	108	5	52	5·1

SCARLET FEVER.

	Age Periods.							
	Under5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	219	280	109	22	6	—	—	636
No. of Deaths	14	7	2	—	—	—	—	23
Percentage of Deaths	6·3	2·5	1·8	—	—	—	—	3·6

ENTERIC FEVER.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases.....	6	8	19	25	11	6	2	77
No. of Deaths.....	—	1	2	3	3	3	—	12
Percentage of Deaths	—	12·5	10·5	12	27·2	50	—	15·5

TYPHUS FEVER.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	—	—	1	1	—	1	—	3
No. of Deaths.....	—	—	—	—	—	—	—	—
Percentage of Deaths	—	—	—	—	—	—	—	—

DIPHTHERIA with SCARLET FEVER.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases.....	3	—	—	—	—	—	—	3
No. of Deaths.....	2	—	—	—	—	—	—	2
Percentage of Deaths	66·6	—	—	—	—	—	—	66·6

Corrected Diagnosis.	DISEASES NOTIFIED AS:—			
	Scarlet. Fever.	Typhus Fever.	Typhoid Fever.	Deaths.
Pleurisy with effusion	—	—	2	—
Phthisis	1	—	2	1
Liver Abscess	—	—	1	—
Mucous Colitis	—	—	1	1
Bronchitis	—	—	2	—
Broncho-Pneumonia	1	—	2	1
Gastric Catarrh	—	—	12	—
Tubercular Meningitis	—	—	3	3
Chicken Pox	—	—	1	—
Oral Sepsis	—	—	1	—
Pneumonia	1	2	13	3
Specific Cephalgia	—	—	1	—
Duodenal Ulcer	—	—	1	1
Anæmia	—	—	1	—
Enteric	—	3	—	—
Eczema	1	—	—	—
Measles	7	—	—	—
Erythema	2	—	—	—
Septic Rash	3	—	—	—
Coryza...	1	—	—	—
Tonsillitis	1	—	—	—
Dietetic Rash	4	—	—	—
Urticaria	1	—	—	—
Anterior Poliomyelitis	1	—	—	—
Nil	7	—	2	—
	31	5	45	10

CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. N. E. ROBERTS.

Resident Physician, Dr. T. L. G. STEWART.

Diseases.	Remaining Dec. 31st, 1912.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	78	411	—	489	—	—	406	71	1	*12	2·9
Enteric Fever.	—	4	—	4	—	—	1	2	—	1	25
Diphtheria	2	7	—	9	—	—	6	3	—	—	—
Measles	7	242	—	249	—	—	210	12	3	†27	11·1
Other Diseases.....	1	17	—	18	—	—	15	—	1	3	17·6
Isolation & Observation Cases	—	6	—	6	—	—	5	1	—	—	—
Totals	88	687	—	775	—	—	643	89	5	43	6·2

* One case Scarlet Fever admitted 1912, died 1913.
† Two cases Measles ,, ,, ,, ,,

SCARLET FEVER.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	145	181	73	10	2	—	—	411
No. of Deaths	10	2	—	—	—	—	—	12
Percentage of Deaths	6·9	1·1	—	—	—	—	—	2·92

ENTERIC FEVER.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	—	—	1	2	1	—	—	4
No. of Deaths.....	—	—	—	1	—	—	—	1
Percentage of Deaths..	—	—	—	50	—	—	—	25

MEASLES.

	Age Periods.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	152	59	21	9	1	1	—	242
No. of Deaths.....	22	5	—	—	—	—	—	27
Percentage of Deaths..	14·47	8·47	—	—	—	—	—	11·16

DIPHTHERIA.

	Age Periods							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases	4	2	—	1	—	—	—	7
No. of Deaths	—	—	—	—	—	—	—	—
Percentage of Deaths..	—	—	—	—	—	—	—	—

Corrected Diagnosis.	DISEASES NOTIFIED AS :—								
	Scarlet Fever.	Diphtheria.	Enteric.	Measles.	Rubella	Varicella.	Measles and Diphtheria.	Scarlet Fever and Varicella.	Deaths.
Scarlet Fever	—	—	—	7	—	1	—	—	—
Scarlet Fever and Diphtheria	5	—	—	—	—	—	—	—	—
Scarlet Fever and Varicella ...	1	—	—	—	—	—	—	—	—
Scarlet Fever and Measles.....	—	—	—	1	—	—	—	—	—
Scarlet Fever and Pertussis ...	1	—	—	—	—	—	—	—	—
Measles	12	—	—	—	—	—	2	—	—
Measles and Varicella	1	—	—	—	—	—	—	—	—
Measles and Pertussis.....	—	—	—	4	—	—	—	—	1
Measles and Catarrhal Jaundice	—	—	—	—	1	—	—	—	—
Varicella	—	—	—	2	—	—	—	1	—
Acute Pulmonary Tuberculosis	1	—	—	—	—	—	—	—	1
Otitis Media and Meningitis ...	1	—	—	—	—	—	—	—	1
Laryngitis	2	2	—	—	—	—	—	—	—
Isolation	2	—	—	3	1	—	—	—	—
Pneumonia	—	—	1	—	—	—	—	—	—
Urticaria	1	—	—	—	—	—	—	—	—
Broncho-pneumonia & Rickets	—	—	—	1	—	—	—	—	1
Bronchitis	1	—	—	2	—	—	—	—	—
Total	28	2	1	20	2	1	2	1	4

CITY HOSPITAL, PARKHILL.

Medical Superintendent, Dr. H. R. MACINTYRE.

Resident Physician, Dr. W. H. BUTLER.

Diseases.	Remaining Dec. 31st, 1912.	Admitted during the year.	Transferred from other City Hospitals	Total under Treatment during the year.	Transferred to Convalescent Hospital	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Phthisis	66	422	1	489	—	—	305	119	—	65	15·4
Other Diseases	—	—	—	—	—	—	—	—	—	—	—
Isolation and Observation Cases.....	—	—	—	—	—	—	—	—	—	—	—
Totals	66	422	1	489	—	—	†305	119	—	*65	15·4

† Of this number, in 59 the disease was arrested.
159 ,, ,, improved.
87 ,, ,, unimproved or worse.

* Of this number, 9 cases were admitted during 1912.

CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, DR. H. A. CLARKE.
Resident Physician, DR. A. E. HODGSON.

DISEASES.	Remaining Dec. 31st, 1912.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever...	50	409	—	459	—	—	385	68	1	6	1·4
Enteric Fever..	—	1	—	1	—	—	1	—	—	—	—
Diphtheria	52	437	—	489	—	—	378	65	21	46	10·5
Measles	—	6	—	6	—	—	5	—	—	1	16·6
Whooping Cough ...	—	1	—	1	—	—	1	—	—	—	—
Other Diseases.	—	113	—	113	—	—	93	—	4	20	17·6
Isolation and Observation Cases.....	11	16	—	27	—	—	12	15	—	—	—
Totals.....	113	983	—	1096	—	—	875	148	26	73	7·4

SCARLET FEVER.

	AGE PERIODS							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	Total.
No. of Cases.....	104	205	77	15	8	—	—	409
No. of Deaths.....	3	3	—	—	—	—	—	6
Percentage of deaths	2·8	1·4	—	—	—	—	—	1·4

DIPHTHERIA.

	AGE PERIODS.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total
No. of Cases	160	169	86	15	6	1	..	437
No. of Deaths.....	29	13	4	—	—	—	—	46*
Percentage of Deaths	18·1	7·6	4·6	—	—	—	—	10·5

* Of these deaths 21, or 40·7%, took place within 48 hours of admission to the Hospital.

Corrected Diagnosis.	DISEASES NOTIFIED AS :—		
	Diphtheria.	Scarlet Fever.	Deaths.
Tonsillitis	63	—	—
Septic Pharyngitis	3	—	2
Laryngitis	4	—	—
Broncho-Pneumonia	10	—	8
Lobar Pneumonia	6	1	4
Zymotic Enteritis	1	—	1
Otitis Media Meningitis	—	1	1
Tubercular Peritonitis	1	—	1
Pulmonary Tuberculosis	1	1	2
Influenza	—	1	—
Stomatitis	1	—	—
Gastritis	—	1	—
Scabies	—	1	—
Dentition	1	—	—
Serum Rash	—	1	—
Erythema	—	3	—
Dermatitis	—	1	—
Cellulitis of Neck	1	—	—
Adenitis	2	—	—
Congenital Heart Disease	1	—	—
Erysipelas	1	1	—
Mumps	2	—	—
Diphtheria and Measles	1	—	1
Scarlet Fever and Measles	—	1	—
Total	99	13	20

Mortality 17·6 %

CITY HOSPITAL, FAZAKERLEY.

Medical Superintendent, DR. C. RUNDLE.

Resident Physicians { DR. W. DAWSON. DR. S. R. RICHARDSON.

Diseases.	Remaining Dec. 31st., 1912.	Admitted during the year.	Transferred from other City Hospitals	Total under Treatment during the year.	Transferred to Convalescent Hospital	Discharged Cured	Remaining at end of year	Died within 48 hours of Admission	Total Deaths	Total Mortality per cent. of Admissions.
Scarlet Fever	35	93	—	128	25	68	29	2	6	6·45
Enteric Fever	—	5	—	5	—	2	3	—	—	—
Typhus Fever	—	1	—	1	—	1	—	—	—	—
Diphtheria	55	352	—	407	1	330	66	3	10	2·84
Measles	3	36	—	39	1	30	4	2	4	11·11
Whooping Cough	—	45	—	45	5	36	1	—	3	6·66
Phthisis	67	128	—	195	—	*96	72	—	27	21·1
Other Diseases	42	471	4	517	4	432	28	11	53	11·25
Isolation and Observation Cases	—	18	—	18	—	17	1	—	—	—
Totals	202	1149	4	1355	36	1012	204	18	103	8·96

* Disease improved, quiescent or arrested

SCARLET FEVER.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total
No. of Cases	21	41	22	5	3	1	—	93
No. of Deaths	3	2	1	—	—	—	—	6
Percentage of Deaths	14·29	4·88	4·5	—	—	—	—	6·45

ENTERIC FEVER.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total
No. of Cases	—	—	1	1	3	—	—	5
No. of Deaths	—	—	—	—	—	—	—	—

TYPHUS FEVER.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total.
No. of Cases	—	—	1	—	—	—	—	1
No. of Deaths	—	—	—	—	—	—	—	—

DIPHTHERIA.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total
No. of Cases	100	133	86	21	8	2	2	352
No. of Deaths	3	6	1	—	—	—	—	10
Percentage of Deaths	3·0	4·51	1·16	—	—	—	—	2·84

Average duration of stay in hospital of patients whose treatment was completed at Fazakerley Hospital during the year 1913 was as follows :—

Scarlet Fever .....42 days.

Diphtheria .....36 ,,

Measles .....18 ,,

Typhoid ..... 7 weeks.

CORRECTION OF DIAGNOSIS.

Corrected Diagnosis.	DISEASES NOTIFIED AS—														
	Enteric Fever	Scarlet Fever	Diphtheria	Erysipelas	Measles	Varicella	Rubella	Puerperal Fever	Pertussis	Cerebro-Spinal Fever	Membranous Croup	Continued Fever	Tuberculosis	For Observation	Deaths
Rubella	—	3	1	—	7	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	19	—	2	—	—	—	—	—	—	—	—	—	2
Diphtheria	—	—	—	—	1	—	—	—	—	—	3	—	—	—	1
Enteric Fever	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—
Scarlet Fever and Diphtheria	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever and Varicella	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever and Pertussis	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria and Varicella	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria and Pertussis	—	—	2	—	—	—	—	—	—	—	—	—	—	—	1
Erysipelas and Varicella	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Puerperal Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Puerperal Fever and Erysipelas	—	—	—	1	—	—	—	1	—	—	—	—	—	—	1
Typhus Fever	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Tonsillitis	—	15	54	—	—	—	—	—	—	—	—	—	—	—	—
Meningitis	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Vaccinia	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—
Erythema	—	2	—	—	1	—	—	—	—	—	—	—	—	—	—
Urticaria	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—
Impetigo	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Cellulitis	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—
Syphilis	—	1	3	—	1	—	—	—	—	—	—	—	—	—	—
Lobar Pneumonia	2	—	1	—	—	—	—	—	—	1	—	—	—	—	1
Broncho-Pneumonia	—	—	8	—	1	—	—	—	—	—	—	—	—	—	4
Retro-Pharyngeal Abscess	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Pyorrhœa Alveolaris	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Ulcerative Stomatitis	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—
Suppurative Arthritis	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Uraemia	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Chronic Nephritis	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Vincent's Angina	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Constipation	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteritis	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Anæmia	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Hysteria	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Totals	2	29	108	8	13	4	1	1	1	1	3	1	1	3	14

CITY HOSPITAL, FAZAKERLEY ANNEXE.

Medical Superintendent, DR. C. RUNDLE.
Resident Physician, DR S. NINIAN WRIGHT.

Diseases.	Remaining Dec. 31st, 1912.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	72	308	33	413	1	351	53	1	8	2·59
Diphtheria	—	29	—	29	—	13	14	—	2	6·89
Small Pox	—	2	—	2	—	1	—	—	1	50·0
Measles	10	116	1	127	—	109	—	1	18	15·5
Whooping Cough ...	5	16	5	26	2	18	2	—	4	25·0
Other Diseases.....	—	91	5	96	1	74	6	—	15	16·4
Isolation and Observation Cases	—	30	—	30	—	28	2	—	—	—
Totals	87	592	44	723	4	594	77	4	48	8·1

SCARLET FEVER.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards.	Total.
No. of Cases	99	140	54	9	5	1	—	308
No. of Deaths	7	—	1	—	—	—	—	8
Percentage of Deaths	7·07	—	1·8	—	—	—	—	2·59

DIPHTHERIA.

	Age Periods.							
	Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards	Total.
No. of Cases.....	13	14	1	1	—	—	—	29
No. of Deaths.....	1	1	—	—	—	—	—	2
Percentage of Deaths	7·7	7·1	—	—	—	—	—	6·9

A

The following tables I, II, III, IV, and marked also A, B, C, D, are prepared pursuant to an instruction of the Local Government Board.

CITY OF LIVERPOOL.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1913 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 year of age.		At all ages.	
			Number.	Rate.*	Number.	Rate.*	of Non-residents registered in the District.	of Residents not registered in the District.	Number.	Rate per 1000 Nett Births.	Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1908.....	734648	23891	—	32·5	14663	19·9	733	76	3356	140	14006	19·0
1909.....	738960	23591	—	31·9	14761	19·9	779	72	3377	143	14054	19·0
1910.....	743295	23054	—	31·0	13917	18·7	574	113	3216	139	13456	18·1
1911.....	747627	22493	22437	30·0	15292	20·4	685	363	3472	154	14970	20·0
1912.....	752021	22233	22164	29·4	14003	18·6	639	†407	2781	125	13771	18·3
1913.....	756553	22627	22555	29·8	13930	18·4	673	401	2987	132	13658	18·0

* Rates in columns 5, 7 and 13 calculated per 1,000 of estimated population. † 48 of these deaths assigned to Liverpool were without any definite address.

Note.—This Table is arranged to show the gross births and deaths in the district, and the births and deaths properly belonging to it with the corresponding rates. For years before 1911 the corrected number of births is not available.

The deaths included in Column 6 of this table are the whole of those registered during the year as having actually occurred within the district.

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

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

The following special cases arise as to Transferable Deaths :—

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

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

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

Area of District in acres (exclusive of area covered by water). 16,619.

Total population at all ages.....746,421
Number of inhabited houses 133,892
Average number of persons per house .....5·5
(Not including Woolton Added Area).

At Census of 1911.

B

TABLE II.
CITY OF LIVERPOOL.
Cases of Infectious Disease notified during the Year 1913.

Notifiable Disease.	Number of Cases Notified.								Total Cases notified in each Locality. (*e.g.* Parish or Ward) of the District.													Public Institutions (Workhouses and Hospitals).	Emigrants, Seamen, &c., passing through the City.	Total Cases Removed to Hospital.
	At all Ages.	At Ages—Years.							Scotland.	Exchange.	Abercromby.	Everton	Kirkdale	West Derby West.	Toxteth.	Walton.	West Derby East.	Wavertree.	Toxteth East	Garston.	Fazakerley.			
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.																
Small-pox	13	...	...	...	7	6	...	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	10	13
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous croup)	1006	11	294	553	90	52	6	...	26	20	41	142	64	148	141	190	102	58	22	20	2	17	13	826
Erysipelas	738	17	20	64	102	247	234	54	46	85	38	177	38	80	89	55	32	38	4	19	3	28	2	228
Scarlet fever	2187	29	623	1346	136	51	2	...	39	49	95	422	140	240	319	281	184	203	83	57	5	51	19	1851
Typhus fever	4	...	...	1	1	2	...	...	1	...	1	...	1	...	1	...	...	...	...	...	...	...	...	4
Enteric fever	153	...	7	33	48	57	8	...	14	6	5	21	6	16	9	7	5	7	2	12	...	6	37	127
Relapsing fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal fever	55	...	...	...	15	40	...	...	4	...	...	6	7	16	6	6	5	...	1	...	4	...	...	41
Ophthalmia Neonatorum	17	17	...	...	...	...	...	...	...	...	...	3	1	1	7	2	1	1	...	1	...	...	...	2
Cerebro-Spinal Meningitis	8	2	2	...	2	2	...	...	...	...	1	2	...	2	...	...	1	...	1	1	...	...	...	1
Poliomyelitis	6	2	4	...	...	...	...	...	1	...	...	2	...	...	1	1	...	1	...	...	...	...	...	1
Pulmonary Tuberculosis	3462	10	102	614	632	1481	574	49	375	383	281	536	258	406	470	233	203	125	58	78	2	...	54	547
Tuberculosis other than Pulmonary	1303	41	217	693	202	114	32	4	112	99	64	228	93	178	199	88	107	79	22	26	1	...	7	...
Anthrax	9	...	...	...	2	4	3	...	...	...	...	2	1	...	2	...	...	...	...	1	...	...	3	9
Totals	8961	129	1269	3304	1237	2056	859	107	618	642	527	1541	610	1087	1244	868	640	512	193	215	17	102	145	3650

Isolation Hospitals { Name and Situation... } City Hospital North, Everton,
,, ,, South, Toxteth,
,, ,, Park Hill, Toxteth,
,, ,, East, West Derby,
,, ,, Fazakerley, Fazakerley,
,, ,, ,, Annexe, Fazakerley.
Total available beds.....1,019

Number of Diseases that can be concurrently treated..... 13

TABLE III.

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the Year 1913.

(See notes at back.)

C

Causes of Death.	Nett Deaths at the Subjoined Ages of "Residents" whether occurring within or without the District (a).									Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District (b).
	All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1	2	3	4	5	6	7	8	9	10	11
All causes — Certified (c)	13399	2887	1076	755	539	500	1859	3058	2725	5335
All causes — Uncertified	259	100	15	7	2	8	25	38	64	9
1. Enteric Fever	33	—	—	1	6	9	13	4	—	26
2. Small-pox	1	—	—	—	—	—	1	—	—	1
3. Measles	322	72	116	108	26	—	—	—	—	118
4. Scarlet Fever	57	9	7	21	17	3	—	—	—	53
5. Whooping Cough	232	100	66	59	7	—	—	—	—	65
6. Diphtheria and Croup.	76	2	13	29	32	—	—	—	—	62
7. Influenza	53	1	—	2	1	1	7	26	15	5
8. Erysipelas	26	4	1	—	2	3	9	5	2	13
9. Phthisis (Pulmonary Tuberculosis)	1183	8	15	16	66	184	554	310	30	635
10. Tuberculous Meningitis.	144	36	34	42	29	3	—	—	—	65
11. Other Tuberculous Diseases	246	36	32	43	42	29	40	22	2	66
12. Cancer, malignant disease.	717	—	—	1	2	6	122	382	204	323
13. Rheumatic Fever	39	1	—	2	4	8	7	9	8	4
14. Meningitis (*See* note (d))	157	54	29	34	22	4	10	4	—	21
15. Organic Heart Disease	999	3	—	3	26	47	174	390	356	443
16. Bronchitis	1347	226	81	35	7	4	59	371	564	418
17. Pneumonia (all forms)	1334	287	237	165	55	39	174	226	151	427
18. Other diseases of Respiratory organs	165	12	14	15	8	4	19	60	33	31
19. Diarrhœa and Enteritis. (*See* note (e))	941	608	269	39	6	1	1	3	14	187
20. Appendicitis and Typhlitis	31	1	2	—	9	4	6	6	3	42
21. Cirrhosis of Liver	80	—	—	—	—	—	3	53	24	31
21a. Alcoholism	6	—	—	—	—	—	3	2	1	1
22. Nephritis and Bright's Disease	392	7	3	5	12	15	60	201	89	164
23. Puerperal Fever	18	—	—	—	—	7	11	—	—	17
24. Other accidents and diseases of Pregnancy and Parturition	42	—	—	—	—	9	29	4	—	22
25. Congenital Debility and Malformation, including Premature Birth	999	934	54	11	—	—	—	—	—	248
26. Violent Deaths, excluding Suicide	463	72	19	37	51	31	83	112	58	268
27. Suicide	50	—	—	—	—	3	21	20	6	16
28. Other Defined Diseases	3497	510	99	94	111	94	477	883	1229	1571
29. Diseases ill-defined or unknown	8	4	—	- -	—	—	1	3	—	1
	13658	2987	1091	762	541	508	1884	3096	2789	5344
Sub-Entries included in above figures—										
Cerebro-Spinal Meningitis	13	3	2	2	1	2	3	—	—	4
Poliomyelitis	3	2	1	—	—	—	—	—	—	3
Syphilis	65	54	1	2	—	1	6	—	1	23
*Pneumonia	678	69	73	51	27	33	108	177	140	170

* Sub-Entries should here be made for other deaths which it is desirable to distinguish, on account of their administrative importance or special interest (*e.g.*, any deaths from Anthrax, Typhus or Glanders, which have been included under 28, *Other Defined Diseases*; or deaths from pneumonia other than broncho-pneumonia which have been included under 17, *Pneumonia all forms*).

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death, which has been consulted and followed in all cases of doubt.

(*a*) All "Transferable Deaths" of residents, *i.e.* of persons resident in the District who have died outside it, are *included* with the other deaths in Columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the District, are in like manner *excluded* from these columns. For the precise meaning of the term "transferable deaths" *see* footnote to Table I.

The total deaths in Column 2 of Table III. equal the figures for the year in Column 12 of Table I.

(*b*) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or of non-residents, are entered in the last column of Table III.

(*c*) All deaths certified by registered Medical Practitioners and all Inquest cases are classed as "Certified"; all other deaths are regarded as "Uncertified."

(*d*) Exclusive of "Tuberculous Meningitis" (10), but inclusive of Cerebro-Spinal Meningitis.

(*e*) Title 19 has been used for deaths from Diarrhœa and Enteritis at all ages. (In the "Short List" deaths from Diarrhœa, and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28.)

TABLE IV.

CITY OF LIVERPOOL.

INFANT MORTALITY DURING THE YEAR 1913.

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

(See Note (a) at back.)

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes. Certified	449	117	125	99	790	576	587	468	466	2887
Uncertified	55	4	2	2	63	7	14	10	6	100
Small-pox	—	—	—	—	—	—	—	—	—	—
Chicken-pox	—	—	—	—	—	1	1	1	—	3
Measles	—	—	—	—	—	—	4	21	47	72
Scarlet Fever	—	—	—	—	—	—	1	3	5	9
Whooping Cough	—	—	1	1	2	16	29	27	26	100
Diphtheria and Croup	—	—	—	—	—	—	1	—	1	2
Erysipelas	—	—	—	—	—	1	1	2	—	4
Tuberculous Meningitis	—	—	—	1	1	2	9	12	12	36
Abdominal Tuberculosis (*b*)	—	—	1	—	1	1	5	6	9	22
Other Tuberculous Diseases	—	—	—	1	1	—	5	8	8	22
Meningitis (*not Tuberculous*)	1	1	—	1	3	7	18	10	16	54
Convulsions	49	14	14	13	90	51	36	19	15	211
Laryngitis	—	—	—	—	—	—	—	—	—	—
Bronchitis	1	3	8	12	24	51	46	59	46	226
Pneumonia (all forms)	4	3	6	4	17	45	54	87	84	287
Diarrhœa,	—	2	1	7	10	82	142	87	83	404
Enteritis	2	—	6	3	11	39	55	51	48	204
Gastritis	1	—	—	—	1	15	6	5	5	32
Syphilis	—	2	9	6	17	21	13	3	—	54
Rickets	—	—	—	—	—	—	2	3	5	10
Suffocation, overlying	1	6	—	4	11	25	12	4	—	52
Injury at Birth	9	—	—	—	9	—	—	—	—	9
Atelectasis	26	3	1	—	30	4	—	—	—	34
Congenital Malformations (*c*)	27	15	9	4	55	20	5	5	2	87
Premature Birth	303	41	36	21	401	33	8	2	—	444
Atrophy, Debility and Marasmus	55	17	24	13	109	118	104	39	33	403
Other Causes	25	14	11	10	60	51	44	24	27	206
	504	121	127	101	853	583	601	478	472	2987

Nett Births in the year { Legitimate ... 21,799 ; Illegitimate ... 756 }

Nett Deaths in the year of { Legitimate Infants 2,805 ; Illegitimate Infants 182 }

NOTES TO TABLE IV.

(*a*) The total in the last column of Table IV. should equal the total in column 10 of Table I., and in column 3 of Table III.

(*b*) Under Abdominal Tuberculosis are to be included deaths from Tuberculous Peritonitis and Enteritis and from Tabes Mesenterica.

(*c*) The total deaths from Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, should equal the total in Table III. under the heading Congenital Debility and Malformation, including Premature Birth.

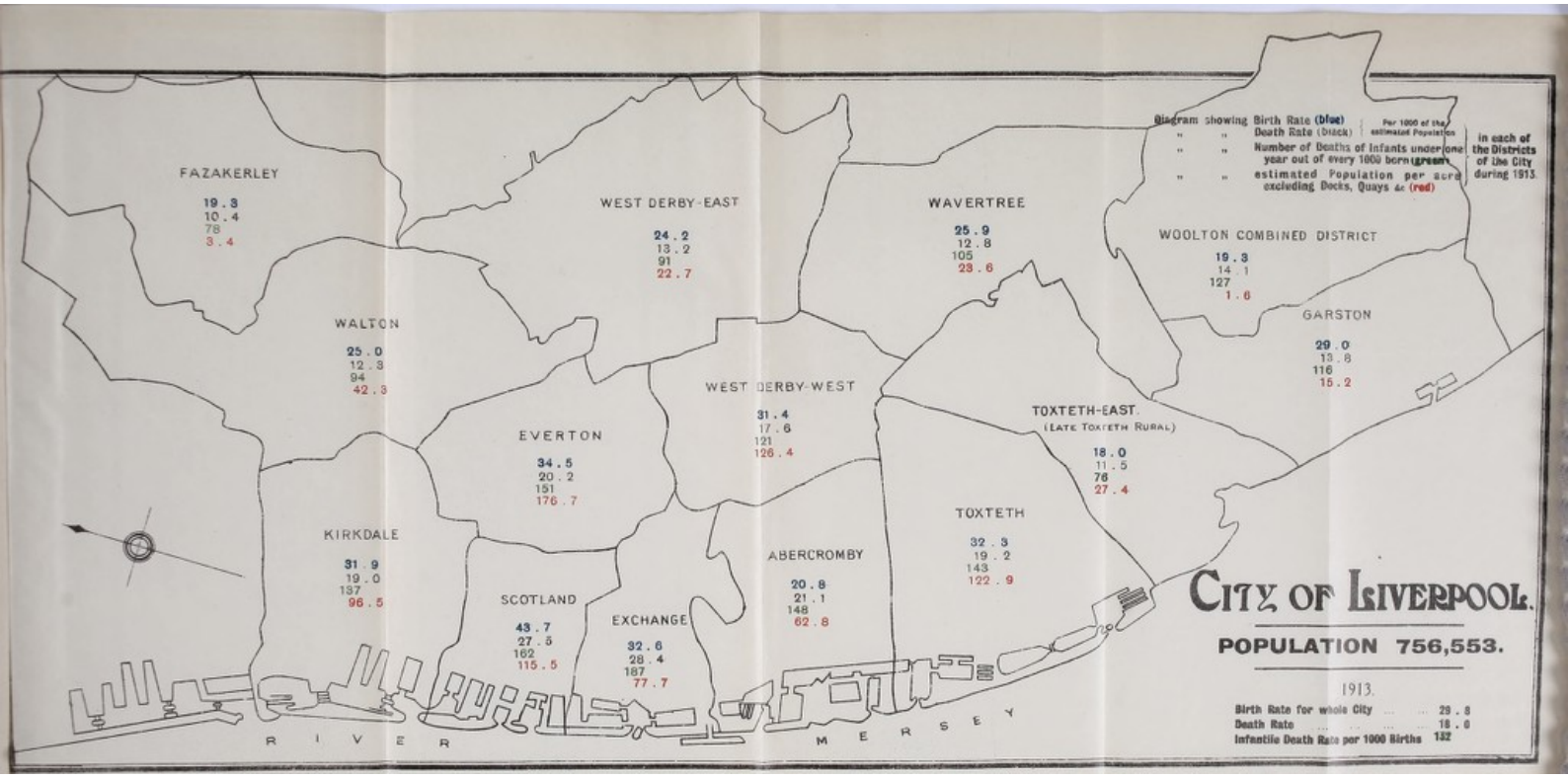
Want of Breast Milk is included under Atrophy and Debility.

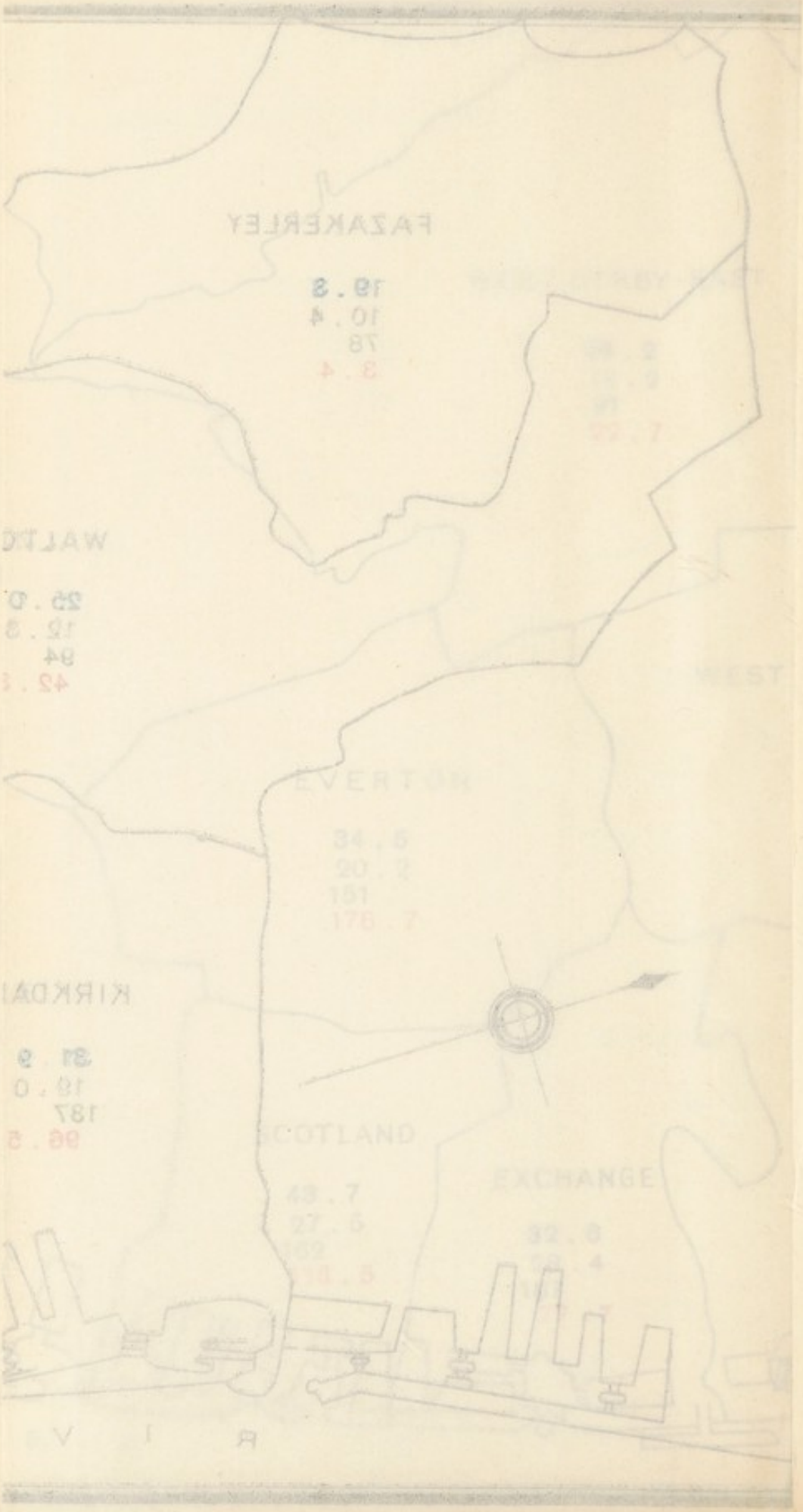
(*d*) For references to the meaning of any other headings, *see* notes attached to Table III.

In recording the facts under the various headings of Tables I., II., III. and IV., attantion has been to the notes on the Tables.

_____ *Medical Officer of Health.*

Date _____ 1914.


Diagram showing Birth Rate (blue)
" " Death Rate (black)
" " Number of Deaths of Infants under one year out of every 1000 born (green)
" " estimated Population per acre excluding Docks, Quays &c (red)
Per 1000 of the estimated Population
in each of the Districts of the City during 1913.
FAZAKERLEY
19.3
10.4
78
3.4
WEST DERBY-EAST
24.2
13.2
91
22.7
WAVERTREE
25.9
12.8
105
23.6
WOOLTON COMBINED DISTRICT
19.3
14.1
127
1.6
GARSTON
29.0
13.8
116
15.2
WALTON
25.0
12.3
94
42.3
WEST DERBY-WEST
31.4
17.6
121
126.4
TOXTETH-EAST.
(LATE TOXTETH RURAL)
18.0
11.5
76
27.4
EVERTON
34.5
20.2
151
176.7
TOXTETH
32.3
19.2
143
122.9
KIRKDALE
31.9
19.0
137
96.5
ABERCROMBY
20.8
21.1
148
62.8
SCOTLAND
43.7
27.5
162
115.5
EXCHANGE
32.6
28.4
167
77.7
RIVER MERSEY
CITY OF LIVERPOOL.
POPULATION 756,553.
1913.
Birth Rate for whole City 29.8
Death Rate 18.0
Infantile Death Rate per 1000 Births 132



E

DEATHS REGISTERED IN THE CITY OF LIVERPOOL,

DURING THE YEAR ENDING SATURDAY, 27TH DECEMBER, 1913.

| CAUSE OF DEATH | SEX. | | AGE—BELOW | | | | | | | | | | | | | | | | | DISTRICTS. | | | | | | | | | | | | | | | | |

F.

DEATHS REGISTERED IN THE INCORPORATED AREAS OF MUCH WOOLTON, LITTLE WOOLTON, ALLERTON AND CHILDWALL,

DURING THE YEAR ENDING 27TH DECEMBER, 1913.

DISEASES.	SEX.		AGE BELOW.																			Much Woolton.	Little Woolton.	Allerton.	Childwall.	Total
	Male.	Female.	1	2	3	4	5	10	15	20	25	30	40	45	50	60	65	70	80	90						
All Causes	50	49	17	3	3	2	...	1	2	2	2	...	6	4	6	15	7	7	13	8	1	66	16	11	6	99
I.—Zymotic and Septic	4	3	3	1	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	7	...	...	...	7
II.—Uncertain or Variable Seat	5	4	...	...	...	...	...	...	...	...	...	...	...	2	1	2	2	2	...	...	...	6	2	1	...	9
III.—Tubercular	6	4	1	...	1	...	...	1	...	1	1	...	...	...	2	2	...	1	...	...	...	7	2	...	1	10
IV.—Constitutional	2	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	3	...	...	...	3
V.—Nervous System	6	6	2	1	...	...	...	...	...	...	...	...	...	1	1	2	...	1	3	1	...	9	1	1	1	12
VI.—Circulatory System	5	7	...	...	...	...	...	...	...	...	1	...	1	...	1	4	1	...	3	1	...	6	4	2	...	12
VII.—Respiratory System	7	15	2	1	1	1	...	...	2	...	...	...	1	...	...	2	...	3	4	4	1	16	4	1	1	22
VIII.—Digestive System	3	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	3	...	...	3	1	...	1	5
IX.—Lymphatic System	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
X.—Urinary System	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1
XI.—Reproductive System	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1
XII.—Bones and Joints	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XIII.—Dietetic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XIV.—Developmental	7	4	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	6	...	5	...	11
XV.—Integumentary System	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XVI.—Violence, &c.	5	1	...	...	...	...	...	...	...	...	...	...	3	...	1	2	...	...	...	...	...	2	2	1	1	6
Ill defined or not specified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
I.—Measles	1	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Diphtheria and Memb. Croup	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Enteritis (under 2 years)	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Influenza	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	2
II.—Cancer of Tongue	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1
,, Prostate	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1
,, Breast	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	1
,, Uterus	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1
,, Bowels	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1
,, Neck	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1
,, Aesophagus	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1
,, Thigh	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1
Cancer	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1
III.—Phthisis	4	2	...	...	...	...	...	...	...	1	...	...	...	...	2	2	...	1	...	...	...	5	1	...	...	6
Hydrocephalus	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Other forms of Tuberculosis	1	2	...	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	1	3
IV.—Gout	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	2
Goitre	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
V.—Inflammation of Brain, &c.	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Apoplexy	4	3	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	3	1	...	5	1	1	...	7
Convulsions	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2
Other Diseases of Brain	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	...	1	2
VI.—Disease of Heart	3	6	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...	3	1	...	5	2	2	...	9
Gangrene	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Disease of Blood Vessels	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1
Embolism	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1
VII.—Bronchitis	4	10	2	1	1	1	...	...	...	...	...	...	1	...	...	1	...	2	2	3	...	12	1	...	1	14
Pneumonia	3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1	1	3	2	...	...	5
Broncho-Pneumonia	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Pleurisy	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Laryngitis	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1
VIII.—Inflammation of Stomach	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	1
Cirrhosis	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	...	...	2	...	...	1	3
Appendicitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	1
IX.—Disease of Kidneys, &c.	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1
X.—Childbirth	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1
XI.—Premature Birth	6	2	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	4	...	8
Atrophy	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Old Age	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	1	...	2
XII.—Drowned	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1
Injuries	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1
Suicide (Poison)	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1
,, (Cut Throat)	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1
Accidentally Shot	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1
Suicide (Drowning)	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1
Causes ill defined or not specified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Males	50	...	12	1	...	2	...	...	...	...	2	...	3	1	3	8	4	3	7	4	...	30	9	6	5	50
Females	...	49	5	2	3	...	...	1	2	2	...	...	3	3	3	7	3	4	6	4	1	36	7	5	1	49