

**[Report 1915] / Medical Officer of Health, Liverpool City.**

**Contributors**

Liverpool (England). City Council.

**Publication/Creation**

1915

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HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING

1915

BY

F. W. HOPE, M.D., D.Sc.,

*Medical Officer of Health.*

*Professor of Public Health, University of Liverpool.*

*Late President of the Liverpool Medical Institution.*

*Late President of the Society of Medical Officers of Health.*




LIVERPOOL :

C. TINLING & Co., LTD., PRINTING CONTRACTORS, 53, VICTORIA STREET.

1916.





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Table of Deaths of Soldiers and Sailors of H.M. Forces.
Table of Total Deaths registered in the City.



## PREFACE.

---

The Annual Report upon the health of the City for the year 1915 has been reduced to the shortest compass.

The wholly unlooked for outbreak of war resulted in a large number of the staff temporarily leaving their ordinary occupation to take up military duty or some branch of work associated with it. Their places have been temporarily filled, and the Committee have been fortunate, so far as the medical staff is concerned, in obtaining the help of a number of women doctors. Numerous additions were also made to the female inspectorial staff, and seven female clerks were temporarily appointed to fill the place of clerks on military service. A considerable amount of additional work fell upon the permanent staff, but all the employees, whether temporary or permanent, have exerted themselves to the utmost, with the result that the health of the City has been maintained on a very satisfactory footing.

With regard to the statistics, a considerable decline in the birth rate is revealed, the figure falling to 27·9, at which level, however, it still remains very considerably above the birth rate for England and Wales taken as a whole; viz., 21·8 per 1,000 of the population.

It is gratifying to note a decline in the infant mortality, which stands at 133 as against 139 for the previous year, and the general death rate is 18·7 as against 19·5 the previous year.

E. W. HOPE,

MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,

MUNICIPAL OFFICES,

LIVERPOOL, *11th May*, 1916.



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# STATISTICS

RELATING TO

BIRTHS, DEATHS, AND CAUSES OF DEATH, &c.,  
ZYMOTIC DISEASES AND THEIR INCIDENCE.

---

# SUMMARY

OF

## VITAL STATISTICS FOR 1915.

---

Area of City ... ..	21,219	Acres. (33 square miles)
Population (estimated to the middle of the year) ... ..	772,595	
Births ... ..	21,586,	Birth-rate 27·9.
Deaths ... ..	14,478,	Death-rate 18·7.
Infantile Mortality ... ..	2,866	Deaths under one year, or 133 per 1,000 Births.
Zymotic Death-rate (7 principal Zymotic Diseases) ... ..	2·0	per 1,000.
All forms of Tuberculosis (including Phthisis)... ..	2·1	per 1,000.
Phthisis Death-rate ... ..	1·6	per 1,000.

## AREA AND POPULATION OF THE CITY.

---

The population of the City at the middle of the year 1915 was estimated to be 772,595, an increase over the previous year of 4,603.

The area of the City is now computed at 21,219 acres, and the density of the population is therefore equal to 36 per acre.

The City extends along the eastern bank of the River Mersey, with a frontage of about eight miles, and its eastern boundary, somewhat irregular in contour, is in several places nearly five miles from the river.

It is divided into twenty registration sub-districts, and for the purpose of recording the vital statistics concerning the population, several of the sub-districts are combined, as will be seen in the following pages, and are thus reduced to fourteen districts, the areas of which are well understood by persons with local knowledge of the various parts of Liverpool as at present constituted. The Woolton district comprises Allerton, Childwall, Much Woolton, and Little Woolton.



## BIRTHS.

---

During the fifty-two weeks of the year, terminating on Saturday, January 1st, 1916, the returns of the local registrars recorded 21,586 births within the City, equal to a rate of 27·9 per 1,000 of the population, the average of the previous five years (1910-1914) being 30·0. The rates are calculated upon the corrected population as ascertained by the Census Returns of 1901 and 1911. Of the total births 11,118 were males and 10,468 were females. The number of illegitimate births was 806, or 3·7 per cent. of the total births, 424 being males and 382 females.

The Registrar General intimated that 67 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, which is 22·8 per 1,000 of population, as well as of England and Wales taken as a whole, where the rate is 21·8 per 1,000.

The variations in the birth-rate, and the distribution of the births in the different wards and districts of the city have been arranged in the following tables:—

## BIRTHS.

DISTRICTS.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		1915.		Per-centage born in hospitals and other institutions.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Births.	Rate per 1000	
Scotland .....	258	249	224	238	233	186	206	183	1777	39·8	4·0
Exchange .....	149	156	133	136	123	132	115	115	1059	29·7	10·6
Abercromby .....	120	139	128	114	125	98	102	96	922	21·8	10·2
Everton .....	522	519	561	492	440	424	413	454	3825	31·7	3·8
Kirkdale .....	274	244	265	276	234	209	230	229	1961	29·2	2·4
West Derby—West .....	369	327	392	346	309	257	303	283	2586	30·3	5·6
Toxteth .....	457	396	422	375	333	351	383	330	3047	30·3	2·6
Walton .....	265	279	380	256	248	232	222	229	2111	24·9	1·8
West Derby—East .....	212	210	225	239	197	215	219	196	1713	24·1	3·6
Wavertree .....	141	149	151	123	149	122	119	136	1090	23·7	2·3
Toxteth—East (late Toxteth Rural) .....	68	68	82	71	77	78	71	56	571	15·8	3·5
Garston .....	99	85	88	94	77	76	82	85	686	25·6	1·9
Fazakerley.....	14	17	16	15	15	9	10	8	104	17·1	1·9
Woolton.....	29	18	19	12	17	4	21	14	13	19·5	3·0
City.....	2977	2856	3086	2787	2577	2393	2496	2414	21586	27·9	4·0

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

It will be noticed that the percentage of births occurring in hospitals and other institutions has diminished considerably, the figure for 1915 being 4·0, as against 4·7 in 1914, and 6·0 in 1912. 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.



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.
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
<sup>1</sup> 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
<sup>2</sup> 1902	707,027	24,283	34·2
1903	710,874	23,910	33·6
1904	714,743	24,278	33·9
<sup>3</sup> 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
<sup>4</sup> 1914	767,992	23,065	30·0
1915	772,595	21,586	27·9

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

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

<sup>1</sup> City area extended, a population of 129,045 included.

<sup>2</sup> Garston included with a population of 17,289.

<sup>3</sup> Fazakerley included with a population of 2,892.

<sup>4</sup> Woolton, Allerton and Childwall included with a population of 6,882.

## DEATHS.

The total death-rate of the city during the year was 18·7 per 1,000, as against 19·5 during the preceding year. The deaths in public institutions, nursing homes, etc., of 569 non-residents, and 107 others who were only temporarily resident in the City, have been eliminated from the total deaths; also the deaths of 89 soldiers and sailors belonging to H.M. Forces.

Quite apart from conditions of sanitation, mortality varies widely at different age-periods; 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 raises the crude death-rate, and 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 5·0 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 75 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.



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 5,445 persons occurred in the undermentioned Institutions for the treatment of the sick:—

	Total Deaths.	Non-Residents of City.
Parish Institution (Brownlow Hill)...	1,087	8
Royal Infirmary ... ..	252	67
Children's Infirmary ... ..	314	29
Maternity Hospital ... ..	38	3
Consumption Hospital ... ..	5	1
Hahnemann Hospital ... ..	12	1
Samaritan Hospital ... ..	3	—
Eye and Ear Infirmary ... ..	4	2
David Lewis Northern Hospital ... ..	142	25
Stanley Hospital ... ..	91	12
Royal Southern Hospital ... ..	228	25
Mill Road Infirmary ... ..	720	80
Hospital for Women ... ..	34	24
City Hospital North ... ..	60	9
Do. South ... ..	29	—
Do. Parkhill ... ..	115	—
Do. East, Mill Lane ... ..	104	—
Do. Fazakerley ... ..	49	1
Walton Institution (Rice Lane) ... ..	993	197
Belmont Road Institution ... ..	189	35
Highfield Infirmary ... ..	57	—
St. Joseph's Home ... ..	44	11
Toxteth Institution (Smithdown Road) ... ..	485	1
Home for Incurables ... ..	11	2
House of Providence ... ..	2	1
Tuebrook Villa Asylum ... ..	4	2
Turner Memorial Home ... ..	—	—
St. Augustine's Home ... ..	35	7
Kirkdale Home ... ..	101	—
Garston Accident Hospital ... ..	7	—
Alder Hey Hospital ... ..	194	21
H.M. Prison, Walton ... ..	7	2
Other Institutions ... ..	29	3
	<hr/> 5,445	<hr/> 569

DEATHS OF SOLDIERS AND SAILORS OF HIS MAJESTY'S FORCES.

The following table shows the number of deaths occurring in the City during the year, and the Institution, or other place, at which the death took place, viz. :—

Brownlow Hill Institution	...	...	...	...	...	6
Royal Infirmary	...	...	...	...	...	4
David Lewis Northern Hospital	...	...	...	...	...	4
Stanley Hospital	...	...	...	...	...	3
Royal Southern Hospital	...	...	...	...	...	3
Mill Road Infirmary	...	...	...	...	...	6
Parkhill Sanatorium	...	...	...	...	...	1
City Hospital, Fazakerley Annexe	...	...	...	...	...	1
1st Western General Hospital, Fazakerley	...	...	...	...	...	41
Highfield Infirmary	...	...	...	...	...	1
Alder Hey Hospital	...	...	...	...	...	4
H.M. Prison, Walton	...	...	...	...	...	1
Bridewell, Rose Hill	...	...	...	...	...	1
Auxiliary Hospital, Westminster Road	...	...	...	...	...	1
Do. do. Myrtle Street	...	...	...	...	...	1
Temporary Military Hospital, Toxteth	...	...	...	...	...	1
Spekeland Road Barracks	...	...	...	...	...	1
Died at home	...	...	...	...	...	6
Drowned	...	...	...	...	...	3

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(For Causes of Death, see Table D<sup>2</sup> in the Appendix.)

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.	1915.		Corrected Average Rate per 1000 during the five years 1910-1914.
		Deaths.	Rate per 1000	
Scotland ... ..	44,577	1,299	29·1	29·8
Exchange ... ..	35,600	1,171	32·8	29·2
Abercromby ... ..	42,250	908	21·4	20·5
Everton ... ..	120,363	2,534	21·5	21·2
Kirkdale ... ..	67,007	1,310	19·5	19·8
West Derby—West ... ..	85,147	1,543	18·1	17·9
Toxteth ... ..	100,442	1,880	18·7	19·6
Walton ... ..	84,483	1,245	14·7	12·5
West Derby—East ... ..	71,018	974	13·7	13·5
Wavertree ... ..	45,899	565	12·3	12·5
Toxteth—East ... .. (late Toxteth Rural)	36,076	437	12·1	11·6
Garston... ..	26,785	394	14·7	13·8
Fazakerley ... ..	6,062	78	12·8	10·6
Woolton ... ..	6,886	80	11·6	—
No Address ... ..	—	60	—	—
City ... ..	772,595	14,478	18·7	18·5



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.
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
<sup>1</sup> 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
<sup>2</sup> 1902	707,027	15,396	21·7
1903	710,874	14,240	20·0
1904	714,743	15,851	22·1
<sup>3</sup> 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
<sup>4</sup> 1914	767,992	15,046	19·5
1915	772,595	14,478	18·7

<sup>1</sup> City area extended.    <sup>2</sup> Garston included.    <sup>3</sup> Fazakerley included.

<sup>4</sup> Woolton, Allerton and Childwall included.

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



## 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 14 classes:—

CLASSES.	QUARTERS.				YEAR 1915.
	March	June.	Sept.	Dec.	
I.—General Diseases .....	1074	1043	743	859	3719
II.—Diseases of the Nervous System, &c. ....	392	324	322	346	1384
III.— „ „ Circulatory „ .....	451	334	318	380	1483
IV.— „ „ Respiratory „ .....	1118	820	418	1074	3430
V.— „ „ Digestive „ .....	236	169	554	367	1326
VI.— „ „ Genito Urinary System.....	131	134	132	122	519
VII.—The Puerperal State .....	19	21	15	13	68
VIII.—Diseases of the Skin, etc., .....	21	19	15	12	67
IX.— „ „ Bones, etc., .....	6	9	4	5	24
X.—Malformations .....	16	17	15	15	63
XI.—Diseases of Early Infancy .....	277	249	215	264	1005
XII.—Old Age .....	224	163	141	208	736
XIII.—Affections from External Causes.....	154	158	113	118	543
XIV.—Ill-defined Causes .....	30	26	18	37	111
All Causes .....	4,149	3,486	3,023	3,820	14,478

## ZYMOTIC DISEASES.

Zymotic diseases were the cause of 1,959 deaths during the year 1915, and accounted for 13·5 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 (1910-14) was 2·6. The death-rate from the seven principal zymotic diseases was 2·0 per 1,000. The deaths during 1915 were as follows:—

	QUARTERS.				YEAR 1915.
	March.	June.	Sept.	Dec.	
Total Zymotics .....	459	425	622	453	1,959
Smallpox .....	...	...	...	...	...
Measles .....	95	122	30	9	256
Scarlet Fever.....	14	19	15	22	70
Diphtheria.....	50	24	28	34	136
Whooping-cough .....	85	99	29	46	259
Diarrhœa and Enteritis .....	89	80	458	251	878
Influenza .....	55	16	10	19	100
Fever {	Typhus .....	...	...	6	6
		...	...	...	...
Fever {	Typhoid .....	3	7	3	8
		...	...	...	...
Other Zymotics.....	68	58	49	58	233

NOTE.—Influenza, Measles, and Whooping-cough appear to have been predisposing causes in the case of many deaths primarily ascribed to Respiratory Disease, inasmuch as one or other of these Zymotics had preceded the fatal illness.



### INFECTIOUS SICKNESS.

The close association of Liverpool with all parts of the world, by reason of the large volume of shipping continually arriving in the Port, renders the City liable to the importation of various forms of infectious disease. The measures which have been adopted, however, have been effectual in preventing any outbreaks of a serious nature obtaining a footing in this country.

No case of small-pox occurred in the City during the year, and the patient referred to in the Fazakerley Hospital report was one remaining in hospital from the previous year.

No case of plague occurred in the City, but the systematic measures adopted in regard to the catching and examination of rats were further extended, and all the usual precautionary measures carried out at the docks, in warehouses, and other likely places were kept in operation throughout the year.

A small and localised outbreak of typhus fever occurred in the latter half of the year. This disease was very prevalent in Liverpool many years ago, but very few cases have come under notice in recent years. A short history of the outbreak will be found on pages 15 and 16.

Typhoid fever again showed a reduction, only 21 deaths from this disease being recorded.

Scarlet fever followed its usual course, and a good many cases were reported at the beginning of the year, and again in September and October.

Only 3,049 cases of measles were reported, as against 6,426 in the previous year. It is well known, however, that these figures do not represent the full total of cases of measles occurring in the City, but refers mostly to those coming to the notice of the school authorities. The deaths from this disease numbered 256, as against 517 in the previous year.

The deaths from Whooping cough were 259, as against 248 in 1914.

Deaths from diphtheria numbered 136, as compared with 110 in the preceding year.

Further details in regard to the districts in which the deaths from infectious disease occurred, the seasons of the year, and the ages of the deceased are given in the following pages.



## TYPHUS FEVER.

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This disease 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.

At the beginning of October, 1915, a threatening outbreak occurred in two different centres of the City. The first case, a woman residing in the south end, was notified on October 25th. She was removed the same day to the infectious diseases hospital, Netherfield Road, and the persons who had been in contact with her were also isolated. Her daughter subsequently developed the disease whilst detained at the hospital.

On investigation, it transpired that there had been two previous cases of sickness in the house, and these were probably cases of typhus.

From this focus the disease spread to other houses in the same and adjoining streets, being carried by the considerable amount of inter-visiting which was found to have occurred.

The other focus of infection was in the Everton district, the first case being reported on October 26th. The outbreak was much smaller, and more localised, as the prompt steps taken were effectual in checking any extension of the outbreak.

It was considered advisable to keep one of the public elementary schools under observation. All the children were medically examined, and those found verminous were temporarily excluded, and kept under observation by the sanitary inspectors.

A daily list of absentee children was obtained, and the houses were visited. The great value of this precaution was shown subsequently, as by this means cases amongst school children and their parents were promptly discovered, and removed for isolation.

House-to-house visitation was also carried on throughout the district, and this made a big demand upon the already depleted staff, and other branches of their work had to be temporarily abandoned.

All doctors practising in the immediate locality were informed of the outbreak, and cordially co-operated with the staff of the Health Department in coping with the disease.

Every effort was made to connect the two distinct outbreaks, and it was ascertained that the first cases of both groups were employed in the handling of bags which had come from Ireland. It was possible, therefore, that the disease may have been introduced from Ireland by means of lice-infected bags.

The last case was reported on 19th December, and the outbreak was then considered at an end.

Thirty-seven cases were reported in all, with six deaths. Twenty-seven of the cases were discovered by the staff during the house-to-house visitation.

Of the six deaths, three were males and three females. Their ages were as follows:—One 25 years, four between 30 and 40 years, and one between 40 and 45 years.

Reports for preceding years sufficiently illustrate the importance of keeping under supervision every person who is known to have been in contact with patients suffering from typhus fever, and none of the stringent measures which have been adopted for many years past are in any way relaxed.

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

1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
28	8	18	10	8	—	5	2	—	—



## 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 .....	...	...	...	...	...	1	1	...	1	1	2
Exchange .....	...	...	1	...	...	1	1	...	2	1	3
Abercromby .....	...	...	...	...	...	...	1	1	1	1	2
Everton .....	1	...	...	1	...	...	...	...	1	1	2
Kirkdale .....	...	...	...	1	...	...	...	...	...	1	1
West Derby (West) .....	1	...	2	...	...	...	...	...	3	...	3
Toxteth .....	...	...	...	...	...	...	2	...	2	...	2
Walton .....	...	...	1	...	...	...	...	...	1	...	1
West Derby (East).....	...	...	...	...	...	...	1	...	1	...	1
Wavertree .....	...	...	...	...	1	...	...	...	1	...	1
Toxteth (East) .....	...	...	1	...	...	...	...	1	1	1	2
(late Toxteth Rural)											
Garston.....	...	1	...	...	...	...	...	...	...	1	1
Fazakerley .....	...	...	...	...	...	...	...	...	...	...	...
Woolton .....	...	...	...	...	...	...	...	...	...	...	...
City .....	2	1	5	2	1	2	6	2	14	7	21

AGES AT DEATH.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 and up- wards.	All Ages.
...	...	...	1	...	...	3	1	6	4	6	...	...	21

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 (1895-1915) :—

Year.	Number of Cases.	Number of Deaths.
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
1914 .....	177 .....	44
1915 .....	136 .....	21

## DEATHS FROM SCARLET FEVER.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .....	2	...	1	1	...	...	1	1	4	2	6
Exchange .....	...	...	1	...	2	...	1	1	4	1	5
Abercromby .....	...	...	2	1	...	...	1	...	3	1	4
Everton .....	3	...	1	1	2	2	1	3	7	6	13
Kirkdale .....	...	1	...	2	...	1	...	...	...	4	4
West Derby (West) .....	1	...	1	1	...	1	3	2	5	4	9
Toxteth .....	...	2	...	2	3	...	3	...	6	4	10
Walton .....	2	...	1	...	...	1	1	2	4	3	7
West Derby (East) .....	3	...	1	...	1	...	...	...	5	...	5
Wavertree .....	...	...	1	...	...	...	1	1	2	1	3
Toxteth (East) .....	...	...	...	1	1	...	...	...	1	1	2
(late Toxteth Rural)											
Garston .....	...	...	1	...	...	...	...	1	1	1	2
Fazakerley .....	...	...	...	...	...	...	...	...	...	...	...
Woolton .....	...	...	...	...	...	...	...	...	...	...	...
City .....	11	3	10	9	9	5	12	11	42	28	70

AGES AT DEATH.												
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
1	8	7	10	16	20	3	3	1	1	...	...	70

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

## MEASLES.

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, 1905-1914, has been as follows:—247, 586, 291, 259, 471, 474, 327, 877, 322, and 517.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .....	4	6	16	13	1	2	1	...	22	21	43
Exchange.....	3	10	5	4	...	1	...	...	8	15	23
Abercromby.....	3	4	2	2	...	...	...	...	5	6	11
Everton .....	10	10	21	14	6	2	2	2	39	28	67
Kirkdale .....	4	3	6	4	1	...	...	...	11	7	18
West Derby (West) .....	6	3	5	2	...	1	...	...	11	6	17
Toxteth .....	3	3	5	8	2	10	...	3	10	24	34
Walton .....	7	...	7	2	1	...	...	...	15	2	17
West Derby (East).....	4	1	2	3	...	1	1	1	7	6	13
Wavertree .....	...	...	...	...	...	...	...	...	...	...	...
Toxteth (East)..... (late Toxteth Rural)	...	...	...	...	...	...	...	...	...	...	...
Garston .....	5	2	...	...	...	2	...	...	5	4	9
Fazakerley .....	...	3	...	1	...	...	...	...	...	4	4
Woolton .....	...	...	...	...	...	...	...	...	...	...	...
City .....	49	45	69	53	11	19	4	6	133	123	256

AGES AT DEATH.												
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
52	107	54	14	10	16	...	...	1	2	...	...	256

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



## WHOOPIING COUGH

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, 1905-1914, has been as follows:—151, 362, 324, 346, 228, 450, 246, 272, 232, and 248.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .....	6	8	5	7	...	3	...	1	11	19	30
Exchange .....	5	5	4	2	1	1	2	2	12	10	22
Abercromby .....	...	...	2	3	...	...	2	...	4	3	7
Everton .....	9	13	10	12	2	5	5	2	26	32	58
Kirkdale.....	7	7	5	7	1	3	2	1	15	18	33
West Derby (West) .....	1	...	3	3	2	...	6	11	12	14	26
Toxteth .....	2	1	2	2	1	4	1	3	6	10	16
Walton .....	6	6	7	16	3	1	...	1	16	24	40
West Derby (East) .....	...	1	2	...	...	1	1	2	3	4	7
Wavertree .....	...	...	...	...	...	...	1	...	1	...	1
Toxteth (East)..... (late Toxteth Rural).	...	...	...	...	...	...	1	2	1	2	3
Garston .....	4	4	1	3	1	...	...	...	6	7	13
Fazakerley.....	...	...	...	3	...	...	...	...	...	3	3
Woolton.....	...	...	...	...	...	...	...	...	...	...	...
City .....	40	45	41	58	11	18	21	25	113	146	259

AGES AT DEATH.												
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
97	91	35	26	5	5	...	...	...	...	...	...	259

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

## DIPHTHERIA.

Diphtheria was most fatal during the first 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 1,208, of which 988 were removed to hospital.

The number of deaths during each of the preceding ten years has been as follows:—138, 137, 95, 124, 112, 100, 125, 111, 76, and 110.

DISTRICTS.	QUARTERS.								YEAR		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .....	2	2	1	...	...	2	...	1	3	5	8
Exchange .....	...	...	...	...	...	...	1	1	1	1	2
Abercromby .....	...	1	1	1	...	...	1	...	2	2	4
Everton .....	4	3	6	2	6	3	3	6	19	14	33
Kirkdale .....	2	...	...	1	3	1	1	1	6	3	9
West Derby (West) .....	6	4	1	4	...	1	1	5	8	14	22
Toxteth .....	1	2	1	...	1	2	4	1	7	5	12
Walton .....	1	4	1	1	...	4	3	...	5	9	14
West Derby (East) .....	4	5	...	...	1	...	1	...	6	5	11
Wavertree .....	2	5	...	3	...	2	...	1	2	11	13
Toxteth (East) .....	...	...	...	...	1	...	3	...	4	...	4
(late Toxteth Rural).											
Garston .....	1	...	...	1	...	...	...	...	1	1	2
Fazakerley .....	1	...	...	...	...	...	...	...	1	...	1
Woolton.....	...	...	...	...	...	1	...	...	...	1	1
City .....	24	26	11	13	12	16	18	16	65	71	136

## AGES AT DEATH

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
5	25	26	13	22	32	9	2	1	...	1	...	...	136

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



## 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	8	6	4	55	36	17	16	84	64	148	
Exchange	...	...	...	5	3	2	1	23	20	16	8	46	32	78	
Abercromby	...	...	...	3	...	1	...	9	10	4	6	17	16	33	
Everton ...	...	...	...	8	2	11	5	57	34	32	20	108	61	169	
Kirkdale ...	...	...	...	4	3	1	3	35	32	14	9	54	47	101	
West Derby (West)	...	...	...	4	7	7	4	15	16	13	9	39	36	75	
Toxteth ...	...	...	...	3	1	2	7	26	14	17	12	48	34	82	
Walton ...	...	...	...	6	...	1	2	14	10	6	3	27	15	42	
West Derby (East)	...	...	...	3	2	...	...	9	2	5	3	17	7	24	
Wavertree	...	...	...	...	1	1	1	3	2	3	2	7	6	13	
Toxteth (East) ... (late Toxteth Rural)	...	...	...	1	...	...	...	1	2	2	...	4	2	6	
Garston .....	...	...	...	...	1	2	2	7	1	7	2	16	6	22	
Fazakerley .....	...	...	...	...	1	...	1	...	1	...	...	...	3	3	
Woolton.....	...	...	...	...	...	...	...	...	...	1	1	1	1	2	
City	...	...	...	...	43	29	34	30	254	180	137	91	468	330	798
AGES AT DEATH.															
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 & up-wards.	All Ages.		
530	225	16	8	1	4	1	...	2	1	1	1	8	798		

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



List of Streets in the City wherein Three or more Deaths from  
Diarrhœa occurred during the year 1915.

STREETS.	No. of Deaths.	STREETS.	No. of Deaths.
Adlington ... ..	3	Leyden ... ..	3
Anthony... ..	3	Limekiln Lane ... ..	5
Arkwright ... ..	5	Mill ... ..	3
Arlington ... ..	11	Menai ... ..	3
Ashfield ... ..	4	Netherfield Road N. ... ..	4
Athol ... ..	3	Opie ... ..	3
Beatrice ... ..	3	Prince William... ..	3
Beaufort ... ..	5	Prince Edwin Lane ... ..	3
Blackstone ... ..	3	Priory Grove ... ..	3
Boundary ... ..	3	Robsart ... ..	5
Brasenose Road ... ..	4	Roscommon ... ..	4
Buckingham ... ..	5	Rose Vale ... ..	5
Burlington ... ..	7	Seacome ... ..	6
Canterbury ... ..	3	Silvester... ..	3
China ... ..	3	Snowdon ... ..	3
Conway ... ..	4	Tindall ... ..	3
Elias ... ..	3	Teulon ... ..	3
Field ... ..	9	Upper Beau ... ..	3
Fonthill Road ... ..	4	Vauxhall Road ... ..	3
Gerard ... ..	5	Victoria Square ... ..	4
Gordon ... ..	4	Westmoreland Place ... ..	4
Harker Place ... ..	3	Wolfe ... ..	6
Hopwood ... ..	4	Wrayburn ... ..	3
Hornby ... ..	4	Wyatt ... ..	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.	F.	M.	F.	Total.
Scotland .....	...	1	...	1	2	2	...	1	1	3	1	12
Exchange .....	2	1	1	1	6	4	1	1	2	5	2	26
Abercromby .....	5	8	...	1	2	2	3	...	3	3	2	29
Everton .....	5	2	3	2	2	4	8	10	8	3	2	49
Kirkdale .....	5	3	5	1	4	4	1	...	2	4	1	30
West Derby (West) ..	3	1	4	2	1	4	3	2	1	1	1	23
Toxteth .....	8	10	2	...	6	6	3	4	3	6	1	49
Walton .....	2	3	2	...	2	2	3	2	1	4	2	23
West Derby (East)...	8	6	3	...	3	1	3	8	2	3	1	38
Wavertree .....	7	6	2	1	...	3	1	3	2	...	1	26
Toxteth (East) ..... (late Toxteth Rural)	3	2	...	...	...	1	3	1	2	...	...	12
Garston .....	5	1	1	...	...	...	...	3	...	2	...	12
Fazakerley .....	1	...	...	...	1	...	...	...	...	...	...	2
Woolton .....	1	...	1	...	...	...	...	...	...	...	...	2
City .....	55	44	24	9	29	33	29	35	27	34	14	333

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

## ANTHRAX.

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Six cases of anthrax were notified to the department during the year. The majority of cases occurred amongst dock labourers, and also in tanneries and places where second-hand bags had been handled, these bags having doubtless been contaminated by animal products. The details concerning these cases will be found in the accompanying table on page 27.

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## POLIOMYELITIS.

Five cases of this disease came under the notice of the Department during the year, and in 4 cases death occurred.

In one case, permanent paralysis of one or more groups of muscles was stated to have occurred as a result of the illness.

## CEREBRO-SPINAL FEVER.

Thirty cases of this disease were recorded during the year, with 22 deaths. Twenty cases were treated in hospital. Four patients were above fifteen years of age. Careful investigation was made into every case, but the source of infection could not be traced.

The contacts were kept under observation, and in some of the cases bacteriologically examined. No extension of the disease took place in the houses where cases were reported.



CASES OF ANTHRAX REPORTED DURING THE YEAR 1915 IN CONNECTION WITH THE HANDLING OF  
ANIMAL AND OTHER PRODUCTS.

Date, 1915.	Sex.	Occupation.	Material.	Origin of Material.	Situation of Pustule.	Bacteriological Confirmation.	Severity and Result.
Feb. 4th	Male ...	Labourer at Railway Siding	Second-hand bags containing sulphate of ammonia	Bags possibly contaminated by dust from hides when coming from Karachi	Left side of neck	Positive.....	Very severe— death. Delay in diagnosis and admission to hospital.
Mar. 4th	Male ...	Dock Labourer ...	Hides and wool ...	China.....	Left side of chin	Positive.....	Very severe— death. Delay in admission to hospital.
July 10th	Male ...	Dock Labourer ...	Hides.....	Rio de Janeiro ...	Left neck .....	None made: a typical pustule	Severe—death.
Sept. 20th	Male ...	Cattleman.....	Not ascertained ...	—	Left forearm ...	Negative .....	Employed with cattle on boats trading with Ireland, all cattle well—a doubtful case.
Dec. 7th	Male ...	Dock Labourer ...	Dry hides .....	West Africa .....	Hand .....	None made: a typical pustule	Recovery.
Dec. 8th	Male ...	Tanner's Labourer	Hides and tanned leather	Not ascertained ...	Behind the ear	Positive.....	Death. Delay in diagnosis and admission to hospital.

### CANCER.

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The following table indicates the number of deaths from Cancer during the year 1915, and the part of the body affected:—

DISEASE.	Males.	Females.	Total.
Cancer of Buccal Cavity .....	54	9	63
„ Stomach and Bowels.....	177	193	370
„ Breast .....	2	63	65
„ Female Generative Organs .....	—	82	82
„ Skin .....	5	5	10
„ Parts not specified .....	92	43	135
Total .....	330	395	725

# 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.
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	1,645	5	36	1
1912	17·7	509	2	23	...
1913	18·0	941	...	33	...
1914	19·5	1,061	...	44	...
1915	18·7	798	6	21	...

\* Calculated on corrected population as per Census Returns of 1891, 1901 and 1911.

<sup>1</sup> City Boundaries extended.

<sup>2</sup> Garston included.

<sup>3</sup> Fazakerley included.

<sup>4</sup> Woolton included.



# METEOROLOGY.

Mr. W. E. 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  $53^{\circ} 24' 5''$  N. Longitude  $3^{\circ} 4' 20''$  W.

Height above the Mean Level of the Sea 202 feet.

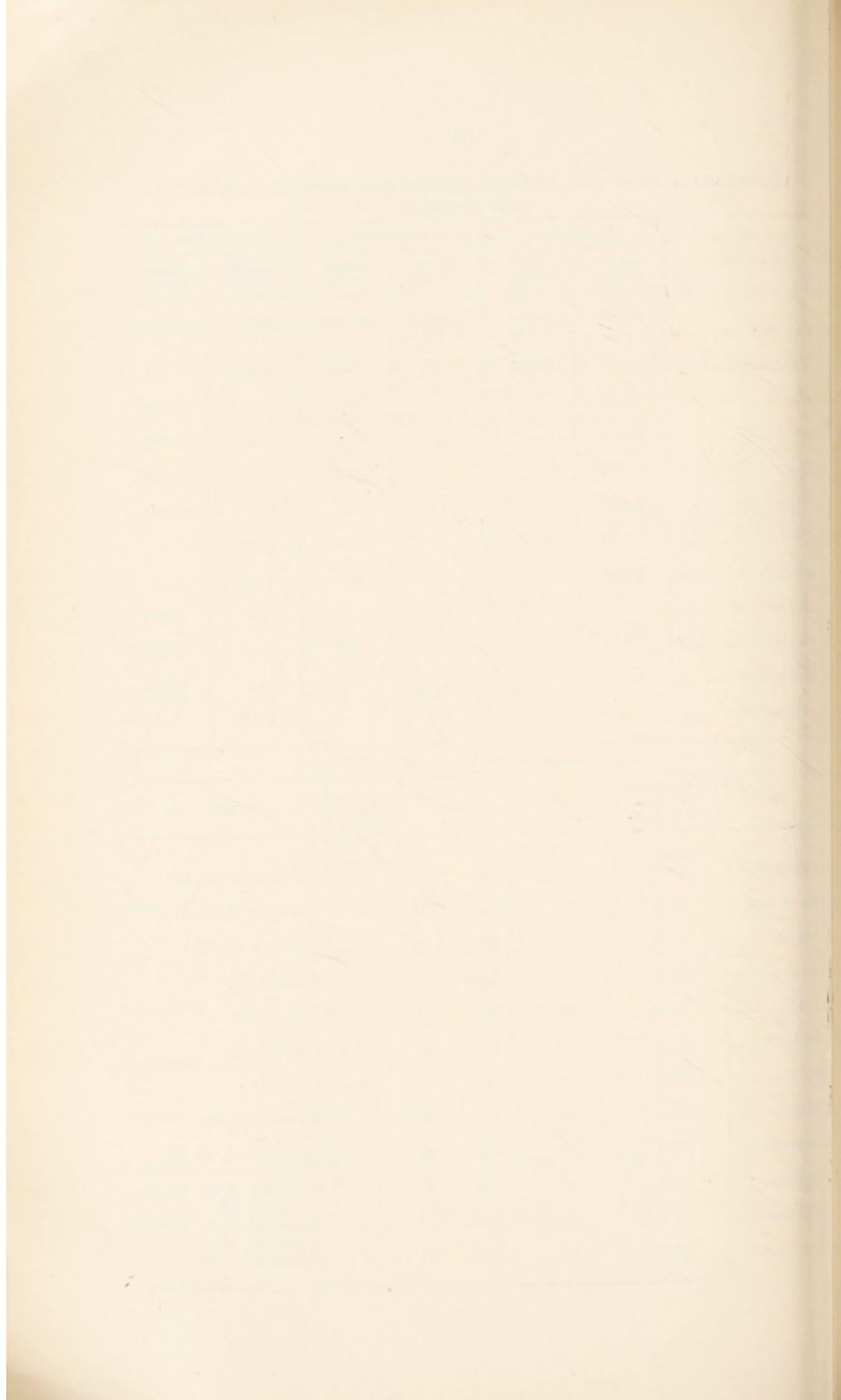
1915.	Barometer. Mean.	Temperature. Mean.	RAINFALL.		Mean Humidity of the air (Complete Saturation equal 100).
			Amount.	No. of days on which $\geq 0.1$ in. or more fell.	
	Inches.	Degrees.	Inches.		
January .....	29.588	40.5	3.100	18	87
February .....	29.534	39.9	2.482	21	85
March .....	29.997	41.7	1.008	13	85
April .....	30.067	46.8	1.342	19	78
May .....	30.073	51.6	1.311	8	72
June .....	30.046	58.7	0.796	9	71
July .....	29.862	58.3	2.733	15	76
August .....	30.006	59.2	4.776	18	82
September .....	30.006	56.9	0.444	7	77
October .....	30.037	48.6	2.244	13	84
November .....	29.966	38.6	2.098	11	85
December .....	29.552	41.9	4.493	25	92

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

1915.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January .....	...	0.364	1.3	...	0.977	...
February .....	...	0.391	...	1.4	0.820	...
March .....	0.119	...	...	0.5	...	0.820
April .....	0.162	...	...	0.5	...	0.300
May .....	0.108	...	...	0.2	...	0.596
June .....	0.061	...	1.3	...	...	1.328
July .....	...	0.087	...	2.6	0.047	...
August .....	0.090	...	...	1.3	1.799	...
September .....	0.037	...	0.7	...	...	2.340
October .....	0.163	...	...	0.9	...	1.195
November .....	0.076	...	...	4.6	...	0.486
December .....	...	0.295	2.0	...	1.837	...

OBSERVATIONS OF VELOCITY OF WIND.

1915.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date.		Minimum Hourly Velocity.	Date.
	Miles.	Miles.			Miles.	
January .....	19.9	51	Jan.	12	1	January 28, 29, 30.
February .....	17.9	50	Feb.	28	2	February 6, 20, 25.
March .....	17.0	58	March	1	1	March 9, 29, 30.
April .....	17.1	57	April	8	1	April 11, 21.
May .....	13.9	36	May	17	0	May 6, 28.
June .....	10.2	30	June	17	0	June 26, 28.
July .....	16.0	45	July	7	0	July 30.
August .....	12.4	41	Aug.	30	1	August 7, 9, 10.
September .....	12.3	30	Sept.	20	1	September 4, 15, 16.
October .....	11.3	37	Oct.	31	1	October 1, 6, 14, 15, 16, 18, 26, 27.
November .....	14.2	56	Nov.	10	1	November 3, 5, 14, 17, 22, 23, 26.
December .....	17.6	67	Dec.	11	0	December 5, 28.





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CHILD WELFARE.

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CHILD WELFARE

### INFANT MORTALITY AND ITS PREVENTION.

The question of Infant Mortality and its Prevention has been fully dealt with in a Report made to the Health Committee by the Medical Officer of Health. Statistics are given showing the variation in the rate of mortality in the different districts of the City, and also showing the rate over the whole City during the past twenty years.

The relation which the deaths of infants under one year of age has borne to every thousand 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.	Deaths under 1 year per 1000 Births.
Scotland .....	1,777	323	181
Exchange .....	1,059	233	220
Abercromby .....	922	133	144
Everton .....	3,825	590	154
Kirkdale .....	1,961	313	160
West Derby (West) .....	2,586	309	120
Toxteth .....	3,047	356	116
Walton .....	2,111	222	105
West Derby (East) .....	1,713	154	90
Wavertree .....	1,090	79	72
Toxteth—East .....	571	48	84
(late Toxteth Rural)			
Garston .....	686	84	122
Fazakerley .....	104	19	182
Woolton.....	134	3	23
City .....	21,586	2,866	133



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.
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
1914 ... ..	3,219	139
1915 ... ..	2,866	133

### THE WORK OF FEMALE SANITARY STAFF, 1915.

The work of the Female Inspectors involves many and varied duties, being especially directed to the care of infants and young children, but also including the supervision of the parents and older people.

These duties include house to house visitation in the poorer parts of the City, visitation of births notified, special visits in connection with epidemic diarrhoea, visits to cases of neglect or physical defects discovered in course of school medical inspection, and to cases of minor ailments reported by school teachers or attendance officers, as well as visits in many instances to cases referred to the department for special attention from voluntary agencies or private individuals. Efforts are devoted towards inculcating in the people habits of cleanliness and sobriety, and in educating them in the elementary rules of hygiene and health, it being realised that the true work of a woman inspector is not to take from the people their responsibility for the care of their homes and children, but to induce them to realise that responsibility, and to see that their duties are carried out satisfactorily.

The usual steps have been taken towards putting the people in touch with the various agencies through which they can obtain help and instruction when needed.

Many ailing or delicate children have been sent to Convalescent Homes, such as the Blundellsands Cottage Homes and the Freshfield Sanatorium, where facilities have once more been afforded for a number of children who have been in need of fresh air and good food to have a short holiday.

#### NOTIFICATION OF BIRTHS ACT, 1907.

No. of Births notified ...	...	...	...	...	18,517
No. of Births visited ...	...	...	...	...	17,675
Percentage visited ...	...	...	...	...	95



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 results of these visits.

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. At present the staff visit 25 to 35 per cent. of the houses 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:—

	1913.	1914.	1915.
Ringworm on the head .....	845	812	780
Ringworm on the body .....	742	842	842
Itch .....	555	512	339
Sore eyes .....	2,496	3,301	2,999
Sore heads, Impetigo, Eczema, &c...	6,723	7,612	7,408
Other skin diseases.....	431	321	344
Verminous cases .....	2,631	4,080	3,757
Neglect cases.....	4,706	6,870	7,431
Total.....	19,129	24,350	23,900



Most of the communicable defects are reported by the school attendance officers or the head teachers; the verminous and neglected 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 has been undertaken 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, 1915.

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 .....	57	268	295	620	257	195	159	151	118	85	99	1064	1684
Diphtheria .....	24	93	114	231	79	66	51	40	35	45	49	365	596
Measles .....	227	743	462	1432	170	56	41	29	20	13	11	340	1772
Whooping Cough ...	200	859	572	1631	204	79	35	24	18	18	11	389	2020
Chicken-pox .....	122	669	640	1431	340	165	98	69	46	25	25	768	2199
Mumps .....	24	228	259	511	145	96	84	59	54	58	57	553	1064
<b>Totals .....</b>	<b>654</b>	<b>2860</b>	<b>2342</b>	<b>5856</b>	<b>1195</b>	<b>657</b>	<b>468</b>	<b>372</b>	<b>291</b>	<b>244</b>	<b>252</b>	<b>3479</b>	<b>9335</b>
<b>Per cent. of those on Roll.....</b>	<b>23.1</b>	<b>20.4</b>	<b>14.6</b>	<b>17.8</b>	<b>7.2</b>	<b>4.1</b>	<b>2.9</b>	<b>2.4</b>	<b>1.9</b>	<b>1.7</b>	<b>1.8</b>	<b>3.3</b>	<b>6.7</b>

Table II.—SCHOOL CASES (Infectious Diseases).

MONTHLY DISTRIBUTION—January-December, 1915.

DISEASE.	January.	February.	March.	April.	May.	June.	*July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever .....	179	136	122	108	89	165	119	114	173	177	159	143	1684
Diphtheria .....	65	54	55	42	40	37	26	38	68	54	55	61	596
Measles .....	167	227	338	195	259	202	20	11	26	28	88	211	1772
Whooping Cough ...	176	94	327	281	244	178	11	92	117	143	165	192	2020
Chicken-pox .....	163	96	255	206	275	363	24	40	131	162	228	256	2199
Mumps .....	73	49	111	65	90	87	6	15	90	86	199	193	1064
<b>Totals.....</b>	<b>823</b>	<b>656</b>	<b>1208</b>	<b>898</b>	<b>997</b>	<b>1032</b>	<b>206</b>	<b>310</b>	<b>605</b>	<b>650</b>	<b>894</b>	<b>1056</b>	<b>9335</b>

\* Holidays—July 2nd–August 9th.

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.
1915				
Feb. 5	Banks Road Council .....	Infants'	Measles, &c.	Until 1st March
„ 23	Longmoor Lane Council ...	„	„	„ 22nd „
„ 25	Little Woolton and Child-wall C.E. School .....	„	„	„ 22nd „
Mar. 30	Broad Green Road Council..	„	Measles .....	„ 26th April
„ 31	Daisy Street Council .....	„	Measles, &c.	„ 26th „
April, 12	Much Woolton R.C. ....	„	Measles .....	„ 3rd May
„ 16	Rice Lane Council .....	„	Measles, &c.	„ 10th „
„ 27	Fonthill Road Council .....	„	„	„ 24th „
„ 27	Westminster Road Council..	„	„	„ 24th „



Date of Notice.	School.	Department.	Nature of Disease.	Period of Closure.
1915				
May 4	St. Athanasius' C.E. ....	Infants'	Measles, &c.	Until 25th May
„ 8	St. Lawrence C.E. ....	„	Measles and Whooping Cough	„ 31st „
„ 19	St. Michael's Council.....	„	Measles.....	„ 7th June
June 9	Anfield Road .....	„	Measles and Whooping Cough	„ 28th „
„ 19	St. Mary's C.E. ....	„	Measles.....	After Summer holidays
Nov. 2	St. John's C.E., Knotty Ash	„	Measles, &c.	Until 22nd Nov.

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:—

	1914.	1915.
No. of Visits to Schools ... ..	2,153	2,518
„ found incorrect ... ..	70	57
„ Water-closets and latrines found dirty or defective ... ..	77	72
„ Notices issued for defects ... ..	104	97

#### 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; 11,521 cards were sent last year, as against 14,691 in the preceding year.



## INFANT WELFARE CENTRES.

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The following statistics relating to the working of the Centres during the year gives some indication of the useful nature of the work.

The high rate of infant mortality, attributable to improper feeding, justifies the continuation of the centres 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.

The infants fed on humanised sterilized milk during the year were 5,029, viz., 1,088 on the books at the beginning of the year, and 3,941 admitted during the year. Since the commencement of the scheme the numbers which have been supplied are as follows:—

Netherfield Road Centre .....	6,296
Earle Road do. ....	4,472
Park Road do. ....	5,283
Cazneau Street do. ....	4,409
Boaler Street do. ....	1,974
Hornby Street do. ....	361
<hr/>	
Total supplied from Centres .....	22,795
„ supplied from Dairies and Agents .....	9,947
<hr/>	
	32,742
<hr/>	

Of the 32,742 infants supplied through the Centres or Agents, and of whom accurate records are kept, there were 1,815 cases in which the infant died, but of these 124 had been fed on the milk for less than one week, or had been irregularly fed on it; 1,419 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 262 were fairly healthy at the time of admission, and had been properly fed since.

Out of the 32,742 coming promiscuously to the Centres or Agents, at varied ages and in conditions of health below the average, the mortality was 55 per 1,000, as against an average for the last five years of 136 per 1,000 for the whole City, 81 for the best districts and 201 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.....	1,088
Number admitted during the year .....	3,941
	<hr/>
Total.....	5,029
	<hr/>
Number of discharges during the year .....	3,616
Number remaining on books at end of year .....	1,413

It will be seen that the above figures show an increase in the number of customers remaining on the books of 325.

The number of attendances of mothers and infants at the Centres during the year for weighing and advice, etc., was 11,874.

The number of visits paid to children in their own homes by the inspectors attached to the Centres in order to see that the children were being properly fed and cared for was 6,615.

#### DRIED MILK.

The infants fed on dried milk during the year were 436, of whom 386 were admitted during the year.

The number remaining on the books at the end of the year was 156.



### MIDWIVES ACT, 1902.

During the year 1915 two hundred and thirty-six midwives gave the required notice, under Section 10, of their intention to practise midwifery. The qualifications of these women are as follows, viz.:—

	1915.
Central Midwives Board Examination ... ..	109
Ladies' Charity and Lying-in Hospital ... ..	63
London Obstetrical Society ... ..	25
Rotunda Hospital, Dublin ... ..	3
Manchester Maternity Hospital ... ..	2
Glasgow Maternity Hospital ... ..	1
Coombe Lying-in Hospital ... ..	1
St. Mary's Hospital, Manchester ... ..	1
In bona-fide practice prior to the 31st July, 1901 ... ..	31
	<hr/> 236 <hr/>

In addition to the above there is a considerable number of women in Liverpool whose names are on the Midwives' Roll but who 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 15,270 births were attended by these midwives during the year; in addition to these there were 1,571 attended by the midwives on the Staff of the Ladies' Charity, this is 78.0 per cent. of the total number of births registered in the City. So far as can be ascertained there were no births attended during the year by uncertified women.

The extent of the practice of individual midwives varies very considerably, one midwife having attended over 500 births, while 72 attended less than 50 births each.

The average is 92 births to each midwife in practice,



## STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING

THE YEARS:—

Notifications Received from	1914.		1915.	
	Births.	Per centage of Births Registered in the City.	Births.	Per centage of Births Registered in the City.
Certified Midwives .....	16,126	69.91	15,185	70.34
Medical Attendants.....	1,257	5.44	1,305	6.04
Poor Law Institutions .....	538	2.33	402	1.86
Ladies' } Maternity Hospital...	460	1.99	456	2.11
Charity } District Homes .....	1,191	5.16	1,115	5.17
Uncertified Women.....	0	—	0	—
Parents .....	49	0.21	54	0.25
	19,621	85.04	18,517	85.78

Total Number of Births registered in the City	}	1914	—	23,065
		1915	—	21,586

STILL BIRTHS.

The number of still births notified by midwives was 473, which is at the rate of 2.81 per cent. of the births attended. The prevalence of still births in the practice of midwives varies very much, the highest rate being 7.8 per cent., the lowest being 0.60 per cent., in the practice of midwives attending over 50 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 the bodies of still-born infants 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.:—

	1915.
Sixth month ... ..	25
Seventh month ... ..	95
Eighth month ... ..	90
Ninth month ... ..	263
Total ... ..	<u>473</u>

### 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 two years:—

	1914.	1915.
MOTHER:—		
Abnormal Presentation:—		
Brow or Face Presentation...	54	35
Occipito-posterior Presentation	18	25
Transverse Presentation ... ..	46	41
Breech Presentation ... ..	41	32
Foot Presentation ... ..	6	6
Cord Presentation ... ..	16	22
Placenta Prævia ... ..	29	20
Deformed Pelvis ... ..	80	67
Ante-partum Hæmorrhage ... ..	58	59
Post-partum Hæmorrhage ... ..	79	56
Retained Placenta or Membranes ... ..	107	86
Ruptured Perinæum ... ..	163	173
Multiple Births ... ..	25	4
Abortion or Premature Birth ... ..	52	35
Pyrexia ... ..	89	104
Eclampsia ... ..	23	29
Obstructed Labour, Uterine Inertia, or requiring		
Instrumental Assistance ... ..	462	430
Various ... ..	114	101
CHILD:—		
Injury at birth ... ..	1	1
Malformation ... ..	13	12
Feebleness and prematurity ... ..	68	123
Other conditions in child ... ..	32	31
Total ... ..	<u>1576</u>	<u>1492</u>



The steady increase over previous years in the number of notifications of need for medical aid would show that midwives are availing themselves of medical assistance to an increasing extent, and are following closely the requirements of the Rules of the Central Midwives' Board as to sending for medical aid.

Under the Midwives Act certain occasions are specified when the midwife must call in medical aid. As the Act made no provision for the payment of a doctor, and as difficulty was experienced in obtaining the services of a doctor, the Health Committee 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. The Maternity Benefit under the Insurance Act involved certain modifications in this procedure, briefly, the modified system is as follows: The midwives themselves founded a fund by contributing 1s. for each birth they were engaged to attend. This was pooled, and the doctor's guinea was provided as to 15s. out of this fund, the balance being made up by the Health Committee. The midwife, it will be perceived, has nothing to gain and nothing to lose from the financial standpoint by sending for the doctor as often as she thinks necessary, and the arrangement encourages her to send. To facilitate payment, the doctor renders his account to the Medical Officer of Health, together with vouchers from the midwife, each case being duly verified. During last year, the investigation of accounts involved 1,316 visits, and these were valuable in calling attention to various incidents which otherwise might have escaped notice. This arrangement has proved of the utmost value in assisting the midwife to secure skilled and prompt attention for the mother or infant wherever necessary.

The amount paid to doctors last year was £882; of this, £607 was provided by the Midwives' Association, and the balance (£275) by the Health Committee, which is the only financial gainer by the scheme. The following amounts were paid by the Health Committee during the previous two years, viz. :—

1913	...	...	...	...	...	£619
1914	...	...	...	...	...	£330



All the practising midwives in Liverpool are fully alive to the importance of ante-natal hygiene. Many of them have attended the same patients in many confinements, and have been able, where necessary, to advise recourse to the doctor or to the hospital. Furthermore, a large number do systematically instruct their patients, some even holding classes of instruction, of a very practical character, in personal hygiene, care of infancy, including clothing, feeding, &c.

Arrangements have been made whereby the midwife may, in cases where she deems ante-natal care or treatment is necessary, send (or accompany) her patient to one of the clinics which have been established. The patient when sent to the Clinic receives from the midwife a form of application for medical treatment, a duplicate of which is sent to the Medical Officer of Health, setting out the complication of pregnancy. After medical examination of the patient the midwife receives a note from the doctor at the clinic explaining the condition of the patient and the treatment necessary.

It has been found that midwives, from time to time, have difficulty in obtaining medical help promptly, and the Medical Officer of Health has arranged that the officer in charge of the nearest police station should telephone, on receiving a note from any midwife, to doctors in the neighbourhood or to the Maternity Hospital, so that medical assistance can be quickly obtained.

### PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 54, of which 27 proved fatal. This gives a death-rate of 1.25 per 1,000 births in the City.

Forty-three cases were removed to hospital, viz.:—3 to Brownlow Hill Infirmary; 12 to Mill Road Infirmary; 12 to Walton Institution, 2 to the Royal Infirmary; 13 to Toxteth Infirmary; and 1 to the Maternity Hospital.

After the usual enquiries were made, 38 cases (of which 18 died) were found to have occurred in the practice of midwives. One midwife had two cases.

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
1914	23,065	56	31	1.34	26
1915	21,586	54	27	1.25	—

The first removals to Fazakerley Hospital took place in 1907.

The keeping of charts recording both the temperature and pulse rates during the puerperal period has proved of immense benefit in helping to direct the attention of the midwives to the possibility of puerperal complications, and enables her to recognise the necessity of calling in medical assistance at the earliest indication of danger. These charts are provided by the Public Health Department free of charge to the midwife.

#### 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."



The midwives of the City are, with relatively few exceptions, fully trained women. They have for many years been encouraged by the Medical Officer of Health to form themselves into an Association, which, year by year, has become numerically stronger and more closely cemented, and the Association embraces nearly all, if not quite all, of the midwives in the City. The great advantage of this is, that the midwives as a body are now more closely linked up with sanitary administration than before, and they themselves, as well as their patients, derive considerable advantage from this. For example, they can, and do arrange for themselves special courses of instruction, at which they receive much help (from lectures and in other ways) from the gynaecologists of the City.

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 valuable aid to the working of the Midwives Act.

#### OPHTHALMIA NEONATORUM.

This is an extremely serious affection which attacks the eyes of newly-born infants.

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 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, and a second was appointed in 1914, when, under the Local Government Board Order, the notification of Ophthalmia Neonatorum became compulsory. Their 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.



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, 661.

(1)	Reported by Midwives	...	...	...	496
(2)	do. Doctors and Eye Hospital	...	...	...	63
(3)	do. Female Inspectors	...	...	...	94
(4)	do. in other ways	...	...	...	8

The above cases consisted of:—

(1)	Mild cases	...	...	...	...	345
(2)	Severe cases	...	...	...	...	149
(3)	Under private treatment	...	...	...	...	9
(4)	Not Ophthalmia Neonatorum	...	...	...	...	158

The following is the age distribution, viz.:—

Under one week	...	...	...	...	274
One week to one month	...	...	...	...	229

During the year 6,110 visits were paid by the Inspectors as follows:—

336 Cases required less than 10 visits.

138 do. do. between 10 and 20 visits.

21 do. do. do. 30 and 40 visits.

8 do. do. required over 40 visits.

13 do. do. more than 1 visit in 24 hours at some period of the 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 Eye Hospital, and the remainder at the Eye and Ear Infirmary, Myrtle Street.

The Authorities of the St. Paul's Eye Hospital reserve 9 beds and 9 cots for the treatment of 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 shown by the following figures:—

Number of cases treated in their homes ...	...	...	321
Do.	do.	sent to hospital as out-patients ...	160
Do.	do.	admitted to hospital ...	21
Do.	do.	requiring supervision only ...	1

It is interesting to note that in 40 cases previous children in the family had been similarly affected.

Number of cases cured ...	...	...	471
Do.	do.	still under treatment at 31/12/15 ...	21
Do.	do.	sight of both eyes badly affected ...	0
Do.	do.	do. one eye slightly impaired ...	1
Do.	do.	blind in one eye ...	1
Do.	do.	not requiring supervision of inspector	9

The decrease in the number of cases admitted to hospital and the increase in the number of out-patients is attributable to the allocation of beds to the requirements of the Military Authorities.

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

#### SUMMARY OF VISITS TO MIDWIVES, OPHTHALMIA CASES, etc.

The following statement gives the total number of visits made by the inspectors during the year:—

Routine visits to Midwives ...	...	3,750
Enquiries as to cases of Puerperal Fever ...	...	49
Special enquiries <i>re</i> Accounts for Emergency Assistance.	1,316	
Visits and re-visits as to cases of Ophthalmia...	...	6,110
		<hr/>
		11,225
		<hr/>

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# TUBERCULOSIS.

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TO BEHOLDERS

## NOTIFICATION, TREATMENT, AND MORTALITY FROM TUBERCULOSIS.

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During the year the work of the department has been carried on as in previous years, though the shortage of staff, owing to the war, has naturally lessened the ability to cope with it as completely as in normal times.

A large number of notifications were received, and the officers of the health department were called upon to carry out the usual 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.

A full account was given, in the Annual Report for the year 1914, of the various Orders and Regulations governing the procedure in relation to tuberculosis, and the following tables show the number of notifications received under the various heads and also the various districts of the City where patients suffering from tuberculosis lived at the date of notification. Differentiation is made between pulmonary and non-pulmonary tuberculosis. The result of the treatment of phthisis patients at Parkhill Sanatorium will be found on page 131.

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 primary notifications of cases during the year 1915, and differentiates between cases of Pulmonary and Non-Pulmonary Tuberculosis:—

Districts.						Phthisis.	Tuberculosis (non-pulmonary)
SCOTLAND	...	...	...	...	...	234	160
EXCHANGE	...	...	...	...	...	268	95
ABERCROMBY	...	...	...	...	...	145	20
EVERTON	...	...	...	...	...	430	151
KIRKDALE	...	...	...	...	...	158	70
WEST DERBY (WEST)	...	...	...	...	...	251	102
TOXTETH	...	...	...	...	...	192	64
WALTON	...	...	...	...	...	164	46
WEST DERBY (EAST)	...	...	...	...	...	119	51
WAVERTREE	...	...	...	...	...	68	20
TOXTETH (EAST)	...	...	...	...	...	29	8
GARSTON	...	...	...	...	...	47	22
FAZAKERLEY	...	...	...	...	...	12	4
WOOLTON	...	...	...	...	...	7	2
EMIGRANTS, SEAMEN, &c., PASSING THROUGH THE CITY						45	10
Total						2169	825

The ages of the above patients were as follows:—

Disease.	Under 1 year.	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and up- wards.	All Ages.
Phthisis .....	4	34	260	408	964	470	29	2169
Tuberculosis ..... (non-pulmonary)	19	147	461	110	64	20	4	825



## THE SANITARY INSPECTION OF THE HOMES OF PATIENTS.

During the year 1915, 3,442 cases have been under the special observation of the Medical or Sanitary Staffs, 1,968 having been brought forward from 1914.

Of this total, 1,852 were males and 1,590 females. During the year, 633 have died; 160 are not being re-visited by request; 682 removed to new addresses not yet ascertained; 320 were at the time of the last re-visit inmates of various hospitals and institutions; and 1,647 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.	15 to 30 years.	31 to 50 years.	Over 50 years.
909 or 26·4 %	1,080 or 31·4 %	1,183 or 34·3 %	270 or 7·9 %

The 3,442 cases dealt with during the year are housed as follows:—

1,701 occupy dwellings of six rooms and upwards.

990 occupy dwellings with less than six rooms.

670 occupy rooms in sub-let houses.

4 occupy insanitary cellars, shortly to be closed.

77 reside in insanitary court houses, many of them now under the consideration of the Housing Committee.

## DEATHS.

The group of Tubercular Diseases includes Phthisis, Tubercular Peritonitis, Tubercular Meningitis, and other forms of Tuberculosis. They occasioned 1,666 deaths in the City of Liverpool during the year 1915.

## DEATHS FROM PHTHISIS.

The number of deaths from Phthisis during the year was 1,299. The number of deaths during each of the preceding ten years, 1905-1914, has been as follows:—1,245, 1,235, 1,183, 1,288, 1,116, 1,072, 1,313, 1,189, 1,183, and 1,132.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.		M.	F.	Total.
	M.	F.	M.	F.	M.	F.	M.	F.			
Scotland ... ..	20	9	14	8	10	10	10	12	54	39	93
Exchange ... ..	23	12	24	14	23	8	25	12	95	46	141
Abercromby ... ..	11	10	20	10	13	5	19	9	63	34	97
Everton ... ..	44	23	42	25	21	16	37	25	144	89	233
Kirkdale ... ..	21	18	10	14	16	11	15	14	62	57	119
West Derby (West) ... ..	25	15	22	20	20	13	17	18	84	66	150
Toxteth ... ..	24	21	31	23	13	9	20	20	88	73	161
Walton ... ..	12	13	16	13	12	7	20	15	60	48	108
West Derby (East) ... ..	16	12	7	9	9	7	9	7	41	35	76
Wavertree ... ..	9	7	7	5	5	3	6	3	27	18	45
Toxteth (East) ... .. (late Toxteth Rural)	5	2	2	3	8	4	5	4	20	13	33
Garston .....	4	1	4	4	3	1	4	3	15	9	24
Fazakerley ... ..	1	...	1	...	...	...	...	3	2	3	5
Woolton ... ..	..	...	...	1	2	2	1	1	3	4	7
No Address ... ..	3	1	1	2	...	...	...	...	4	3	7
City ... ..	218	144	201	151	155	96	188	146	762	537	1,299
AGES AT DEATH.											
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & up-wards.	All Ages.
2	11	13	23	57	92	244	315	305	164	73	1,299

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

## DEATHS FROM OTHER TUBERCULAR DISEASES.

Viz.:—Tubercular Peritonitis, Tubercular Meningitis, and other forms of Tuberculosis.

DISTRICTS.					Tubercular Peritonitis.		Tubercular Meningitis.		Other forms of Tuberculosis.		YEAR.		
					M.	F.	M.	F.	M.	F.	M.	F.	T.
Scotland	...	...	...	...	2	3	6	4	5	3	13	10	23
Exchange	...	...	...	...	2	5	8	2	2	4	12	11	23
Abercromby...	...	...	...	...	...	2	4	3	4	4	8	9	17
Everton	...	...	...	...	15	5	12	10	19	14	46	29	75
Kirkdale	...	...	...	...	1	3	9	9	4	2	14	14	28
West Derby (West)	...	...	...	...	7	10	10	6	6	4	23	20	43
Toxteth	...	...	...	...	8	10	10	8	9	10	27	28	55
Walton	...	...	...	...	5	2	4	7	10	4	19	13	32
West Derby (East)	...	...	...	...	5	2	8	5	2	6	15	13	28
Wavertree	...	...	...	...	...	2	3	4	10	6	13	12	25
Toxteth (East)	...	...	...	...	...	1	3	1	1	3	4	5	9
(late Toxteth Rural)	...	...	...	...	...	...	...	...	...	...	...	...	...
Garston	...	...	...	...	...	3	4	1	...	...	4	4	8
Fazakerley...	...	...	...	...	...	...	...	...	...	...	...	...	—
Woolton	...	...	...	...	...	...	...	...	1	...	1	...	1
City	...	...	...	...	45	48	81	60	73	60	199	168	367
AGES AT DEATH.													
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.		
63	53	71	43	36	32	18	14	17	16	4	367		

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



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SANITARY ADMINISTRATION.

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JOINTLY ADMINISTERED

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## SANITARY ADMINISTRATION.

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The number of occasions upon which the advice and assistance of the Health Department have been sought during the year was 10,801.

The District Sanitary Inspectors visit all premises where a nuisance is complained of, at the earliest possible moment, and last year 13,526 nuisances were discovered as the result of complaints. Preliminary notices were served either on the owners or the occupiers to remedy 9,520 nuisances. The remaining 4,006 nuisances came within the province of other departments, and were referred to those departments to be dealt with.

The nuisances for which notices were served were referred to the Prosecuting Inspectors for re-inspection, and where necessary further proceedings were taken to cause the abatement of the nuisance.

Apart from complaints, the Inspectors in the course of house-to-house inspection, discovered a large number of nuisances. A number of defects were also referred by other departments.

Preliminary notices were served on the owner or occupier in respect to 46,686 nuisances. Of these, 44,585 were re-inspected by the District Inspectors, the remainder, being in connection with ashpits or ashbins, were referred to the ashpit Inspectors.

The number found not abated was 6,335, and statutory notices were served to remedy them. These were again re-inspected by the District Inspectors, and those found not abated were referred to the Prosecuting Inspectors for further action. In addition, all nuisances found in process of being abated, or which the District Inspector was unable to gain access to, to re-inspect, were referred to the Prosecuting Inspectors.

### REFERENCES FROM OTHER DEPARTMENTS.

The references from the other departments, numbering 13,221, mainly comprise insanitary conditions discovered by officers belonging to those departments, but with which it is not within their province to deal.

REFERENCES TO OTHER DEPARTMENTS.

The number of matters referred to other departments was 39,411.

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 pavements; the references to the Building Surveyor concern dangerous walls, floors, roofs, etc.

NOTICES ISSUED.

The number of preliminary notices issued was 28,919, and the number of statutory notices was 7,384.

RE-INSPECTION OF NUISANCES.

The number of nuisances referred to Prosecuting Inspectors for re-inspection was, 13,150, and 44,259 visits were paid to re-inspect these nuisances.

IMPROVED SANITARY ASHBINS SUBSTITUTED FOR ASHPITS.

This important work has been continued as far as possible, and as a result 1,081 insanitary ashpits have been abolished and improved sanitary ashbins substituted.

The number of improved sanitary ashbins supplied in place of old insanitary ashpits was 1,821. In addition, approximately 223 ashbins have been placed in new property, 857 bins have been renewed, and 59 ashbins supplied to premises where neither ashpit or ashbin accommodation existed, making a total of 1,139. There were also 94 ashbins repaired.

There are now 80,000 sanitary ashbins in use in the City, and there are still approximately 8,000 ashpits in the City.

SPECIAL VISITS.

Visits have been made to railway carriages, marine stores, etc., as far as has been possible with a depleted staff.



#### EXAMINATION OF CELLARS AND CELLAR DWELLINGS.

The number of inspections of street cellars was 17,787, and court cellars 792. Eighty-two notices were issued to owners and occupiers to cease letting and occupying illegal cellars.

Under the provisions of the Liverpool Corporation Act, 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.

The number of cellars filled in by the Health Committee free of charge to the owners during the last ten years was 130.

The total number of cellars on the register let as separate dwellings is approximately 138, in which some 400 people are housed.

The number of cellars on the register in 1898 was 3,288, with an approximate population of 12,000.

#### VISITS AND ENQUIRIES AT INFECTED HOUSES.

The number of visits and re-visits to Phthisis cases was 4,591; the number of enquiries *re* suspected Smallpox contacts was 366, and the number of enquiries *re* suspected Typhus fever contacts was 50,447.

There were also 2,387 other enquiries.

The total number of children excluded from attending school from houses where infectious sickness existed was 29,526.

#### COURT AND ALLEY EXAMINATION.

The number of inspections of courts and alleys was 20,758. The number of closets found dirty but cleansed by Officer's instructions was about 50 per cent. of the total number of closets inspected.

In 1890 there were 2,165 courts and alleys in the City, this number has been reduced to 386, and shows a diminution in 25 years of 1,779 courts and alleys.



COMMON HOUSE FLY.

During the year observations of the house fly were made at 50 centres on the lines referred to in previous reports. Systematic attention has also been given to the removal of manure (see page 72).

The Building Surveyor has kindly supplied the following table:—

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING THE YEAR ENDING  
DECEMBER, 1915.

DISTRICTS.							Number erected.	Number taken down
Scotland	...	...	...	...	...	...	1	13
Exchange	...	...	...	...	...	...	1	44
Abercromby	...	...	...	..	...	..	—	14
Everton ...	...	...	...	...	...	...	—	45
Kirkdale	...	...	...	...	...	...	1	12
West Derby (West)	...	...	...	...	...	...	—	12
Toxteth ...	...	...	...	...	...	...	—	16
Walton ...	...	...	..	...	...	...	276	2
West Derby (East)	...	...	...	...	...	...	118	5
Wavertree	...	...	...	...	...	...	25	13
Toxteth (East)...	...	...	...	...	...	...	—	—
Garston...	...	...	...	...	...	...	64	1
Fazakerley	...	...	...	...	...	...	—	—
Woolton	...	...	...	...	...	...	12	—
Totals							498	177

### INSPECTION OF COMMON LODGING HOUSES.

At the end of the year 1914, there were on the register a total (including emigration houses) of 290 lodging-houses, and at the end of 1915 the total number was 275, which furnished accommodation for 10,634 lodgers besides 585 members of the keepers' families.

During the year, 29 houses were given up and removed from the register, and 14 new houses added.

Fourteen houses and 61 deputy-keepers were registered, and also 18 houses re-registered during the year.

The number of day visits paid during the year was 9,274, and the night visits 265. During the preceding year the day visits were 12,584, and the night visits 734.

Thirty-seven 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:—

	<u>1913.</u>		<u>1914.</u>		<u>1915.</u>
Not sweeping floors .....	5	...	22	...	15
Not washing floors .....	5	...	14	...	6
Overcrowding .....	12	...	6	...	15
Receiving lodgers in unregistered houses or rooms .....	5	...	2	...	0
Mixing sexes .....	1	...	1	...	0
Not limewashing .....	0	...	2	...	0
Keeper or Deputy-keeper not on premises at night ...	0	...	0	...	1
Total ...	28	...	47	...	37

### 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 three such licensed houses now being on the register, providing accommodation for 74 seamen. One license was allowed to lapse during the year.

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

### 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.

The number of these houses now on the register is 16,626, viz. :—

Houses on the register at January 1st, 1915.....	16,492
Houses added to register during the year .....	333
Houses taken off the Register .....	85
Houses pulled down mainly for commercial extensions .....	114
Houses on the register December 31st, 1915 .....	16,626

The systematic visitation by day has been fully maintained, the number of visits being 117,498, and the result has been a general improvement in the cleanliness of the rooms, stairs and passages of these houses.

### NIGHT VISITS AND OVER-CROWDING.

The number of convictions for overcrowding was 595, as against 693 in 1914. There has been a steady decline in the offence of overcrowding during the last nine 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 2.74.

The number of visits paid to houses let in lodgings was 21,659, with the result that 790 rooms were found overcrowded. In addition to overcrowding, 214 cases of non-separation of sexes came under the notice of the inspectors, as against 272 last year. These cases appear to be the outcome of ignorance and indifference, and not of immoral intent. Powers have been given to deal with the offence of non-separation of sexes, with the result that during the year 149 informations were laid. In the remaining cases the offenders were cautioned by the Inspectors.



Informations were laid against 1,166 tenants and lodgers (room-keepers) for breaches of the bye-laws, viz.:—

Overcrowding	...	...	...	...	646
Floors not washed	...	...	...	...	202
Floors not swept	...	...	...	...	118
Not cleansing stairs, &c.	...	...	...	...	49
Non-separation of sexes	...	...	...	...	149
Refusing admission to Inspector	...	...	...	...	2
Total					1,166

One case was withdrawn, 96 were discharged with a caution, and 1,069 were convicted and fined.

The following table shows the number of houses let in lodgings on the register, together with the number of visits for the detection of overcrowding, for the past 15 years:—

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
1914	16,492	24,309	693	2.85
1915	16,626	21,659	595	2.74

\* Garston included in the City on 9th November, 1902.

## 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 locks which lead to the docks, is about three miles.

The total number of boats on the register is 451, and of these 413 regularly ply on the canal. It is probable that the other 38 boats have either been broken up, left the district, or have ceased to be used as dwellings, but in the absence of definite information of this the boats remain on the register.

The number of inspections of canal boats during the year was 4,670, and the condition of the boats and their occupants as regards matters dealt with in the Acts and Regulations is indicated in the following information:—

Number of New Boats registered	...	...	...	...	14
„ Boats re-registered on account of change of owners	...	...	...	...	4
„ Do., do., and Name of Boat	...	...	...	...	8
„ Re-registered on account of structural alterations	...	...	...	...	1
„ Copies of Certificates of Registration re-issued...	...	...	...	...	5
„ Boats taken off the Register	...	...	...	...	138
„ References to Education Department <i>re</i> children on Boats not attending School	...	...	...	...	11
„ Boats on which contraventions occurred	...	...	...	...	136
„ Unregistered Boats used as dwellings	...	...	...	...	7
„ Boats with no certificates of registration on board	...	...	...	...	19
„ Boats with registered lettering, &c., not visible	...	...	...	...	22
„ „ defective bulkheads	...	...	...	...	2
„ „ cabins requiring repainting	...	...	...	...	23
„ „ dirty cabins	...	...	...	...	8
„ „ leaky decks	...	...	...	...	35
„ „ defective scuttle covers	...	...	...	...	2
„ „ „ ventilators	...	...	...	...	3
„ „ „ cabin floor	...	...	...	...	1



Number of Boats with defective stoves	...	...	...	4
„ „ „ lockers	...	...	...	2
„ „ „ bedberths	...	...	...	2
„ „ cabins overcrowded	...	...	...	11
„ „ „ indecently occupied	...	...	...	5
„ „ no water cask	...	...	...	9
Number of written notices issued to owners	...	...	...	103
„ verbal notices given to owners	...	...	...	5
„ „ „ masters	...	...	...	28
„ informations laid against owners	...	...	...	1
„ „ „ masters	...	...	...	5
„ convictions	...	...	...	6

CONTRAVENTIONS FOR WHICH INFORMATIONS WERE LAID AND HEARD.

							Penalty.
							s. d.
Registered lettering, &c., not painted on Boat (owner)	...	...	...	...	...	...	10 0
Overcrowding (master)	...	...	...	...	...	...	2 6
„ „ „ „ „ „	...	...	...	...	...	...	5 0
„ „ „ „ „ „	...	...	...	...	...	...	2 0
Indecent occupation of cabin (master)	...	...	...	...	...	...	5 0
Dirty cabin (master)	...	...	...	...	...	...	5 0
Total Fines	...	...	...	...	...	£1	9 6

No cases of infectious sickness were reported during the year as having occurred on any canal boat visiting the district.

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 Boats Acts, but which had been registered by the Board of Trade under the Merchant Shipping Act. Forty-eight 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 the year 915



visits were made by these Inspectors, and they are included in the foregoing total. The number of contraventions for which written notices were served on the owners was 100, in connection with 60 boats.

#### SMOKE NUISANCES.

The number of reports of excessive smoke from manufactories was 186, and from steamers in river and docks 49.

#### OFFENSIVE TRADES.

There were seven applications for permission to carry on Offensive trades received during the year, all of which were granted.

The number of inspections of premises where offensive trades are carried on was 1,960.

#### KNACKER'S YARD, CARRUTHERS STREET.

Carcases of diseased horses and cattle are destroyed here under the supervision of an Inspector of the Public Health Department, in specially tested iron pans with covered lids, which have been erected for the purpose. Unsound meat is also destroyed on these premises.

The number of carcasses destroyed on account of old age or minor complaints was 3,279.

#### INSPECTION OF STABLES AND REMOVAL OF MANURE.

Attention has been given to the inspection of stables and the necessity for the frequent removal of manure emphasised.

The number of visits to stables was 4,646, and the number of disinfections of middensteads was 15,123.

The middensteads are sprayed with lime after being emptied.

#### EXTERMINATION OF RATS.

A staff of rat catchers is systematically employed in the destruction of rats, and all the rats caught are taken to Charters Street Corporation depot and drowned; those not sent for Bacteriological examination are subsequently placed in the Destructor furnace.

The number of rats caught within the City was 11,214, of which 3,176 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.

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.
<b>Factories</b> ... .. (Including Factory Laundries.)	1,293	325	—
<b>Workshops</b> ... .. (Including Workshop Laundries.)	12,102	1,404	5
<b>Workplaces</b> ... .. (Other than outworkers' premises in- cluded in Part 3 of this Report.)	1,143	163	—
<b>Total</b> ... ..	14,538	1,892	5

**2.—Defects Found in Factories, Workshops and Workplaces.**

Particulars.	Number of Defects.			Number of Prosecu- tions.
	Found.	Remedied	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness ... ..	829	829	—	—
Want of ventilation ... ..	13	13	—	—
Overcrowding ... ..	1	1	—	—
Want of drainage of floors ... ..	—	—	—	—
Other nuisances ... ..	696	696	—	4
†Sanitary accommodation {insufficient ... ..	35	35	—	—
	673	673	—	1
	31	31	—	—
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) ... ..	—	—	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ... ..	1	1	—	—
Other offences ... .. (Excluding offences relating to outwork which are included in Part 3 of this Report).	—	—	75	—
Total ... ..	2,279	2,279	75	5

\* 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.

OUTWORKERS' LISTS, SECTION 107.																							
NATURE OF WORK.	Lists received from Employers.							Prosecutions.				Number of Inspections of Outworkers' premises.	OUTWORK IN UNWHOLESALE PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.							
	Twice in the year.			Once in the year.				Numbers of Addresses of Outworkers received from other Councils.					Numbers of Addresses of Outworkers forwarded to other Councils.				Instances.			Prosecutions.			
	a Lists.		a Outworkers.		Lists.		a Outworkers.		Failing to keep or permit inspection of Lists.				Failing to send Lists.				Orders made (S. 110).			Prosecutions (Sections 109, 110).			
	Con-tractors.	Work-men.	Con-tractors.	Work-men.	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)			
Wearing Apparel .....	484	1,718	776	23	73	35	86	90	44	—	—	811	—	—	—	—	—	—	—				
Linen .....	6	8	14	—	—	—	—	2	—	—	—	14	—	—	—	—	—	—	—				
Furniture and Upholstery ...	—	10	4	—	—	—	—	2	—	—	—	4	—	—	—	—	—	—	—				
Feather Sorting.....	2	—	20	1	1	—	1	3	—	—	—	20	—	—	—	—	—	—	—				
Umbrellas, &c. ....	—	8	—	—	—	—	—	—	—	—	—	9	—	—	—	—	—	—	—				
Paper Bags.....	2	2	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Boxmaking .....	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Brass .....	—	2	3	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—				
Electro-Plate .....	—	14	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—				
Processes incidental to above	—	24	4	—	—	—	—	3	—	—	—	4	—	—	—	—	—	—	—				
Total .....	494	1,788	831	24	74	35	87	100	44	—	—	866	—	—	—	—	—	—	—				

\* 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.



## 5.—Other Matters.

## 4.—Registered Workshops.

4.—Registered Workshops.			5.—Other Matters.	
Workshops on the Register (S. 131) at the end of the year.			Class.	Number.
Workshops	...	3,149	Matters notified to H.M. Inspector of Factories:— Failure to affix Abstract of the Factory and Workshop Act (S. 133)	75
Cooking Kitchens of Restaurants	...	398	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)	86
Bakehouses	...	863	Other...	86
Total number on Register			Underground Bakehouses (S. 101)	—
			Certificates granted during the year	1
			In use at the end of year	138

SHOPS ACTS, 1912 AND 1913.

During the year 580 complaints have been received, relating principally to the non-closing of shops on the weekly half holiday.

AMBULANCE AND DISINFECTING STAFF.

There have been 4,426 infectious cases removed by officers of the Ambulance Staff to the hospitals during the year.

The number of rooms stripped or sprayed was 25,509, and the number of rooms disinfected was 7,868. There were also 3,290 Library books disinfected.

The number of articles, consisting of bedding, clothing, etc., disinfected at the Disinfecting Apparatus was 92,812, and the number of articles destroyed was 826, compensation being paid for the latter in conformity with the provisions of the Public Health Act.

DISINFECTION OF BEDDING, CLOTHING &c.

Two Disinfecting Stations have been established in the City for a number of years, each well equipped to deal with large quantities of material. The North End of the City is served by the Charters Street Station and the South End by the Smithdown Road Station. The Depot in New Bird Street is now disused. When necessary the disinfecting apparatus attached to each of the City Hospitals can be utilised.

Statistics relating to the quantities of bedding, clothing, &c., disinfected during last year, also the number of articles destroyed, are as follows:—

DATE. 1915.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	No. of Pieces of Wearing Apparel.	Total Number of Articles.
January ... ..	1,132	36	7,476	1,701	10,345
February ... ..	399	50	4,768	1,625	6,842
March ... ..	440	22	2,503	1,287	4,252
April ... ..	352	17	2,522	1,090	3,981
May ... ..	376	14	2,693	1,304	4,387
June ... ..	405	16	4,716	1,401	6,538
July ... ..	482	53	2,780	1,424	4,739
August ... ..	408	27	2,492	1,678	4,605
September ... ..	1,569	23	17,391	1,423	20,406
October ... ..	533	37	4,409	4,087	9,066
November ... ..	430	82	3,511	2,675	6,698
December ... ..	549	44	7,674	2,686	10,953
Totals ... ..	7,075	421	62,935	22,381	92,812

The number of articles destroyed at the various apparatus during the year amounted to 826, compensation being paid in conformity with the provisions of the Public Health Act. Details are as follows:—

DATE. 1915.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	No. of Pieces of Wearing Apparel.	Total Number of Articles.
January ... ..	17	26	108	—	151
February ... ..	10	12	45	—	67
March ... ..	15	20	64	—	99
April ... ..	6	6	16	—	28
May ... ..	5	4	25	—	34
June ... ..	12	5	29	—	46
July ... ..	2	10	15	—	27
August ... ..	4	—	4	—	8
September ... ..	4	8	30	—	42
October ... ..	11	22	76	—	109
November ... ..	20	30	90	—	140
December ... ..	12	14	49	—	75
Totals ... ..	118	157	551	—	826



PRINCES DOCK AND FORD STREET MORTUARIES.

The total number of bodies deposited at these Mortuaries was 507.

CREMATORIUM.

The Crematorium is situated in Anfield Cemetery, and was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the Burial Authority for the City, the administration was taken over, in October, 1908, by the Crematorium Sub-Committee.

The number of cremations which have taken place since the opening is shown in the following table:—

1896.....	2	1906.....	46
1897.....	10	1907.....	34
1898.....	27	1908.....	32
1899.....	23	1909.....	46
1900.....	40	1910.....	37
1901.....	40	1911.....	50
1902.....	54	1912.....	52
1903.....	35	1913.....	66
1904.....	40	1914.....	49
1905.....	35	1915.....	53
			<hr/> 771 <hr/>

INSPECTION OF SLAUGHTER-HOUSES, &c.

The number of visits to slaughterhouses made by Meat Inspectors was 3,212, to butchers' shops 77,437.

The number of visits to fish and fruit shops made by Fish and Fruit Inspectors, 68,661.

Special visits were also paid to premises of Food Hawkers, Jam and Pickle factories, and Knackers yards.

ANIMALS KILLED IN THE CITY SLAUGHTER-HOUSES AND

DEAD MEAT IMPORTED FOR SALE.

The number of fat cattle from local dairies slaughtered in the City during the year was 2,726. The number of animals killed at the City Slaughterhouses and carcasses imported for sale was as follows:—

		Killed.	Imported.
Beasts	...	20,764	... 33,209
Sheep	...	119,258	} ... 312,829
Lambs	...	83,984	
Calves	...	16,936	... 306
Pigs	...	55,765	... 10,863

There were also 45,741 boxes and bags of various organs and cut up pieces imported for sale.

**CENTRAL SLAUGHTER-HOUSES.**

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, but these efforts result in very little real good, as the nature of the operations must necessarily cause nuisance, when the premises are situated as these are. The subject has been fully dealt with in previous reports.



MEAT AND OFFAL FOUND TO BE UNFIT FOR HUMAN FOOD.

	UNWHOLESOME MEAT.				UNWHOLESOME OFFAL.			
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.
Beef ... ..	84	0	0	21	59	14	1	24
Mutton and Lamb ... ..	8	15	3	20	1	16	3	3
Veal ... ..	5	16	2	27	0	5	0	13
Pork ... ..	25	19	1	4	5	1	2	19
Goats ... ..	1	11	3	1	—	—	—	—
Total ... ..	126	3	3	17	66	18	0	3

Refuse, consisting of Pigs' intestines, etc., 55,687 lbs.

CARCASES OF DISEASED OR INJURED ANIMALS SURRENDERED  
OR SEIZED.

The number of carcasses surrendered to, or seized by, the Medical Officer of Health and Inspectors, was 1,306. Of these 182 were Tuberculous.

FISH, POULTRY, &c., FOUND TO BE UNFIT FOR HUMAN FOOD.

The amount of Fish found to be unfit for human food was  $47\frac{1}{2}$  tons, in addition there were 99 bags of shellfish.

There were 1,476 head of poultry, 318 head of game, and 1,438 rabbits and hares, also 3,327 wild birds.

Amongst other various articles of food unfit for use were, 560 tins of condensed milk, 21,782 tins of salmon, 3,000 oysters, 176,980 eggs, 438 lbs. of venison, 672 lbs. of apple pulp, and 40 lbs. of yeast.

FRUIT, VEGETABLES, &c., FOUND TO BE UNFIT FOR HUMAN FOOD.

The amount of unsound fruit destroyed was 375 tons, and unsound vegetables 72 tons.



STATEMENT SHOWING THE NUMBER OF LIVE CATTLE, &c.,  
 LANDED AND SLAUGHTERED AT THE FOREIGN  
 ANIMALS WHARF (BIRKENHEAD, ALFRED AND  
 WALLASEY LAIRAGES) DURING THE YEARS 1904 TO  
 1915 INCLUSIVE.

Year.	LANDED.				SLAUGHTERED.			
	Oxen.	Calves.	Pigs.	Sheep and Lambs.	Oxen.	Calves.	Pigs.	Sheep and Lambs.
1904	279,188	4	—	275,806	279,495	4	—	272,924
1905	276,725	5	—	160,105	276,273	4	—	163,705
1906	270,853	5	—	94,948	270,245	5	—	95,250
1907	214,061	2	—	97,688	215,821	2	—	94,714
1908	180,283	—	—	76,334	179,872	—	—	79,315
1909	148,233	2	—	8,053	147,812	2	—	8,053
1910	89,613	3	—	304	90,430	—	—	304
1911	78,232	2	—	40,338	79,215	1	—	39,314
1912	19,167	—	—	14,251	19,167	—	—	14,251
	143,114	819	69,016	335,291	140,854	810	67,586	334,880
1913	3,482	—	—	—	3,482	—	—	—
	351,276	930	104,274	449,344	90,857	174	15,498	131,241
1914	—	—	—	1,707	—	—	—	1,707
	333,115	248	65,242	357,528	171,716	121	16,876	158,562
1915	35,620	—	60,791	288,260	100,560	—	2,353	94,237

Ordinary type represents Foreign. Heavy type represents Irish.

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.

During the year 1915 the City was again entirely free from disease.

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 Superintendent or his Assistant 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 past three years:—

Year	Lungs Examined.	Affected.	Not Affected.
1913	2,711	—	2,711
1914	1,900	—	1,900
1915	3,204	—	3,204

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, under the Glanders Order of 1907, Parasitic Mange Order, 1911, and the Epizootic Lymphangitis Order, 1905; also as to their fitness for travel in accordance with the Animals (Transit and General) Order of 1912, and the Protection of Animals Act of 1911.

3,995 animals were examined, of which six were found affected with parasitic mange.



MARKET INSPECTION.

Every Monday throughout the year the Cattle Market at Stanley has been visited, and the following number of animals examined. The figures for 1914 are also given for comparison:—

	1914.	1915.
Cattle ... ..	6,047	6,464
Sheep ... ..	56,321	46,634
Other Animals ... ..	...	...
Total ... ..	62,368	53,098

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, together with the entire stud when at rest, by the Veterinary Superintendent or his Assistant, who also supervise the disinfection of the premises, harness, utensils, feeding troughs, &c. Affected animals are immediately isolated and kept under observation until the disease has disappeared.

Owing to the outbreak of war, this Order, with the exception of regulations relating to prohibition to expose or move affected animals, was suspended by the Board of Agriculture and Fisheries on August 6th, 1914. In consequence, however, of the increased number of outbreaks of the disease in Liverpool, the Board was approached with a view to having the suspension withdrawn, and on March 28th, 1915, the Order again came into operation.

One prosecution was instituted and a conviction obtained.

The total number of outbreaks on premises where the disease was found to exist was 175, and the number of visits paid to these premises was 1,050.



The following table shows the figures for 1915, with previous years for comparison :—

Year.	Number of Animals and Carcases Examined.	Number affected.	Recovered.	Died or Slaughtered.
1911	8,223	251	183	68
1912	11,686	553	421	132
1913	9,376	338	244	94
1914	8,443	284	214	70
1915	9,885	322	241	81

#### THE EXPORTATION OF HORSES ORDER OF 1910.

During the year this Order has been under suspension.

#### THE ANTHRAX ORDER OF 1910.

Thirty-one cases of suspected Anthrax were reported, all of which were submitted to microscopical examination. In no case was Anthrax found to exist.

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 and Fisheries 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, etc.) is carried in the holds and other parts of vessels before such places are used for carrying any cargo to be utilised as cattle food.

#### THE RABIES ORDER OF 1897.

One case of suspected rabies was dealt with under this Order. It was examined by the Veterinary Department and Corporation Bacteriologist, and certified to be free from rabies.

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 is consulted under the Act.

THE FOOT-AND-MOUTH DISEASE ORDER OF 1895.

No outbreak of Foot and Mouth Disease occurred in Liverpool during the year.

LIVERPOOL DOGS HOME, EDGE LANE.

The following statistics for the year 1915 show a considerable increase over the previous year:—

Dogs under care at 31st December, 1914	...	70
Dogs received from Pinfolds, &c. ...	...	3,453
Dogs brought by Owners to be destroyed	...	1,674
		<hr/> 5,197 <hr/>
Number of Dogs sold	...	452
Do. do. claimed	...	290
Do. do. destroyed	...	4,305
Do. do. returned to Owners	...	53
Do. do. remaining at 31st December	...	97
		<hr/> 5,197 <hr/>



There are also three depots in the City carried on by the Royal Society for the Prevention of Cruelty to Animals, where cats are received. Nearly 5,000 animals passed through these depots during the year, some of them being injured or diseased, and the majority were destroyed in the lethal chamber.

This Society also carries on a Horses' Rest on suitable land on the outskirts of the City. Animals are received for rest and recuperation, those suffering from disease receive veterinary treatment, and others are destroyed if necessary.

The whole of this work is carried out in a very satisfactory manner, and sick or diseased animals come at once under skilful treatment, and are isolated from others.

#### PIGGERIES.

There were thirty-one applications made, during the year, for licenses to keep pigs.

In seven cases a transfer of license was requested, the other twenty-four being new applications. These twenty-four applications involved the keeping of 406 pigs. Seven of these applications were refused, and three are under consideration.

There are now within the City Area, as extended, 134 premises where pigs are kept. The approximate number of pigs kept is 2,501. Most of these premises are in added areas, in which pigs may at present be kept without infringement of requirements.

			<u>1914.</u>	<u>1915.</u>
Number of visits to Piggeries ...	...	...	694	849
Number found incorrect ...	...	...	267	274
Number of informations ...	...	...	—	3
Amount of Fines ...	...	...	— £1 0 0	



## 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.

	1915.
Number of applications to keep cows on premises not previously licensed ... ..	7
„ „ granted ... ..	5
„ „ in abeyance ... ..	2
„ cows applied for ... ..	157
„ „ granted ... ..	130
„ applications for transfer to fresh tenants of cowsheds previously licensed ... ..	35
„ „ granted ... ..	35
„ „ to keep more cows than the number for which the license was originally granted ... ..	2
„ „ granted ... ..	2
„ additional cows applied for ... ..	9
„ „ granted ... ..	9
„ Cowsheds on the register 31st December, 1914 ...	429
„ „ „ „ 1915 ...	423
Number of cows licensed to be kept within the city area ...	6,460

COWSHED INSPECTION.

				<u>1914</u>	<u>1915.</u>
Number of Inspections of Cowsheds	...	...	...	4,063	4,187
„ found Incorrect	...	...	...	456†	281†
„ of Informations	...	...	...	—	1
„ „ „ Withdrawn	...	...	...	—	1

Thirty-seven notices were issued to occupiers directing their attention to minor contraventions of the regulations.

The number of cowsheds in the City during the years 1906 to 1915, inclusive, together with the number of cows licensed to be kept, and the number of applications for new cowsheds are shewn in the following table :—

Years.		Cowsheds.		Cows.		Applications.
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
1914	...	429	...	6,734	...	21
						<small>Incorporation of Allerton, Woolton, Little Woolton and Childwall.</small>
1915	...	423	...	6,460	...	7

† Premises undergoing alterations in the newly added districts.

MILKSHOPS.

					<u>1914.</u>	<u>1915.</u>
Number of Applications for registration	...	...			97	*91
„ „ granted	...	...	...		92	88
„ „ withdrawn	...	..	...		2	1
„ „ in abeyance	...	...	...		3	1
„ „ refused	...	...	...		—	1
Number of Milkshops on the register at the end of 1911	..					847
„ „ „ „				1912	...	838
„ „ „ „				1913	...	802
„ „ „ „				1914	...	797
„ „ „ „				1915	...	770

\* Seventy-two of these applications were transfers.

DAIRIES AND MILKSHOPS INSPECTION.

					<u>1914.</u>	<u>1915.</u>
Number of Inspections of Dairies and Milkshops					7,555	7,251
„ found incorrect	...	...	...	...	*162	*110

Thirty caution notices were issued to occupiers of milkshops, and three notices were sent to farmers for minor contraventions of the Regulations.

\* Premises undergoing alterations in the newly added districts.

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.

					<u>1914.</u>	<u>1915.</u>
Number of premises under Inspection	...	...	...	...	1,008	1,010
„ visits made	...	...	...	...	3,758	3,550
„ caution notices issued	...	...	...	...	21	18
„ 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 the Medical Officer of Health directs that the animal be submitted to Veterinary examination, and if it is found to be affected with disease likely to be inimical to the public health, the milk supply from the affected cow is stopped.

Should symptoms of Tuberculosis of the udder, tuberculous emaciation, or a chronic cough with definite signs of tuberculosis be in evidence, the animals are dealt with under the Tuberculosis Orders of 1913 and 1914.

Apart from notifications, the Veterinary Department have submitted a great number of cows in the town to annual inspection.

The following table shows the number of cases notified and visits made by the Veterinary Inspectors to cowsheds within the city boundary during the past four years:—

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.
1912	207	78	129	1755	1738	17	—
1913	505	102	403	4732	4704	18	—
1914	386	92	294	4043	4008	21	—
1915	153	38	115	1781	1766	15	—
Totals	1251	310	941	12311	12216	71	—

#### 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 following table shows the number of visits to farms, &c., outside the city boundary since the year 1902:—

R.	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.
to 5	193	74	267	712	11276	108	26	19

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

	<u>1914.</u>	<u>1915.</u>
Number of Samples purchased on week-days in Town ..	410	384
„ Informations ... ..	41	38
„ Samples taken at Railway Stations on week-days... ..	288	228
„ Informations ... ..	9	6
„ Samples purchased on Sundays in Town ...	208	180
„ Informations ... ..	22	17
„ Samples taken at Railway Stations on Sundays	178	178
„ Informations ... ..	4	—
„ Samples taken at City Hospitals ... ..	85	75
„ Informations ... ..	—	1
„ Samples taken at Corporation Infant Welfare Centres ... ..	43	41
„ Informations ... ..	—	—

MARGARINE ACT.

	<u>1914.</u>	<u>1915.</u>
Number of Visits to Wholesale Dealers in Margarine ...	867	750
„ Visits to Shops ... ..	6916	6962
„ Informations ... ..	—	—

SPECIAL EXAMINATIONS.

The total number of samples submitted during 1915 for special examination was 51.





SUMMARY OF SAMPLES IN WHICH LEGAL PROCEEDINGS WERE INSTITUTED DURING THE YEAR ENDING  
DECEMBER 31ST, 1915, TOGETHER WITH RESULT.

No. of Infor- mations.	Nature of Samples.	Nature of Offence.	RESULT OF LEGAL PROCEEDINGS.				
			No. of Convic- tions.	No. with- drawn on payment of costs.	No. with- drawn and dismiss'd without costs.	Fines.	Costs.
36	Milk .....	Deficient in cream .....	15	19	2	£ s. d. 31 10 0	£ s. d. 24 15 6
2	" .....	Deficient in cream and adulterated with water	1	1	—	2 0 0	1 12 0
23	" .....	Adulterated with water .....	18	2	3	46 1 0	14 17 6
1	Skimmed milk .....	Adulterated with borates .....	1	—	—	3 0 0	0 10 6
2	Butter .....	Adulterated with fats other than butter ...	2	—	—	6 0 0	1 1 0
64			37	22	5	88 11 0	42 16 6

## FERTILISERS AND FEEDING STUFFS ACT, 1906.

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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 total number of samples procured during the year was 26.

## POISONS AND PHARMACY ACT, 1908.

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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 25 licenses were renewed under this Act.

## PUBLIC HEALTH (MILK & CREAM) REGULATIONS, 1912.

Report for the year ending 31st December, 1915:—

### 1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

Number of samples examined for the presence of a preservative:—

Milk, 1,086; Cream 19.



Number in which a preservative was reported to be present:—

(a) Milk .....	1
(b) Cream .....	2

Nature of preservative—Boracic Acid.

#### ACTION TAKEN.

(a) Information laid under the Sale of Food and Drugs Act, 1875 (Section 6). Result: Vendor fined 60s. and 10s. 6d. costs.

(b) Vendors cautioned.

#### 2. CREAM SOLD AS PRESERVED CREAM.

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct:

Number of samples taken ... ..	11
Correct statements made ... ..	10

(b) Determinations made of milk fat in cream sold as Preserved Cream:—

Above 35 per cent. ... ..	10
---------------------------	----

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of Preserved Cream in Article V (1), and the proviso in Article V (2) of the Regulations were not observed:—

1 and 2.—The requirements of the Regulations were observed at the places visited.

#### 3. THICKENING SOLUTIONS.

None found.

## REPORT OF CITY BACTERIOLOGIST, 1915.

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During the year 1915, 13,746 specimens were submitted for bacteriological examination as compared with 13,000 for 1914. In addition to these numerous investigations were conducted for the Naval and Military Authorities.

These may be grouped under the following heads:—

1. Foodstuffs (milk, butter, meat, fruits, preserves, etc.).
2. Water.
3. Rats for possible infection with the bacillus of plague.
4. Material from infectious diseases in man (diphtheria, typhoid fever, tuberculosis, etc.).
5. Material from infectious diseases in animals (tuberculosis, anthrax, rabies, etc.).
6. Miscellaneous.

## RESULTS OF ANALYSES OF BUTTER, CONDENSED MILK AND SHELL FISH.

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### Butter.

Twenty-six samples of butter were examined, the *Bacillus coli* not being found in any case.

### Condensed Milk.

A very large number of bacteria was present in the samples of condensed milk. Fifty-six samples were examined, and the average number of bacteria per gram was very large: in some cases it was not possible to estimate the number.

### Shell Fish.

One hundred and forty-six 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, and therefore the significance of the contamination cannot be estimated. There was no evidence of infection with *B. typhosus*.

### Milk.

The total number of samples submitted for examination was 776. All samples were examined microscopically with the object of determining the amount of dirt, of cellular debris, and whether bacteria were present in excess, and the type of these bacteria. Special attention has been directed to the presence of acid-fast bacteria and their relation to tuberculosis.

*B. tuberculosis* was proved by inoculation to be present in:—

Railway Milks	...	...	...	16	samples or	5%
Town Milks	...	...	...	32	„	or 11%
Hospital Milks	...	...	...	13	„	or 10%
Milks (Infant Welfare Centres)				7	„	or 8%

It should be pointed out that this does not represent the percentage of tuberculosis among the cows in dairies supplying the City with milk, for two or more tuberculous samples may be from one cow.

### Water.

The quality of the water as supplied to Liverpool, as is shown by the monthly and daily examinations, demonstrates that its bacterial purity has been well maintained during 1915.



# BACTERIOLOGICAL EXAMINATION OF MILK

TABLE SHOWING TOTAL NUMBERS OF SAMPLES OBTAINED FROM DIFFERENT SOURCES SINCE THE YEAR 1901.

Year.	TOWN MILK.										COUNTRY MILK.								Total number of samples taken during the year.
	SAMPLES.					TUBERCULAR.					SAMPLES.				TUBERCULAR.				
	Mixed milk taken at the dairy.	Milk taken direct from cows.	Milk taken direct from suspicious cows.	Control samples of milk.	Total.	Mixed milk.	Direct from cows.	Direct from suspicious cows.	Control samples of milk.	Total.	Mixed milk from country cows.	Direct from suspicious cows at farms.	Control samples from cows at farms.	Total.	Mixed milk from country cows.	Direct from suspicious cows at farms.	Control samples from cows at farms.	Total.	
1901.....	39	215	—	—	254	—	2	—	—	2	297	15	—	312	18	2	—	20	566
1902.....	33	180	—	—	213	—	1	—	—	1	352	30	—	382	26	6	—	32	595
1903.....	28	202	1	—	231	—	2	—	—	2	344	7	—	351	18	1	—	19	582
1904.....	38	160	3	—	201	2	1	1	—	4	354	16	—	370	33	4	—	37	571
1905.....	16	188	8	—	212	—	1	—	—	1	338	10	—	348	13	1	—	14	560
1906.....	66	143	—	—	209	—	3	—	—	3	307	14	—	321	21	1	—	22	530
1907.....	104	86	4	—	194	1	3	—	—	4	252	5	—	257	12	2	—	14	451
1908.....	115	132	9	—	256	4	1	—	—	5	267	5	—	272	9	1	—	10	528
1909.....	112	135	12	—	259	—	—	4	—	4	333	8	—	341	6	4	—	10	600
1910.....	115	167	7	—	289	3	1	—	—	4	318	5	—	323	13	2	—	15	612
1911.....	122	190	3	—	315	1	2	—	—	3	336	10	—	346	15	3	—	18	661
1912.....	171	54	65	30	320	9	—	10	—	19	342	62	11	415	20	6	—	26	735
1913.....	173	65	68	3	309	18	—	12	1	31	412	14	17	443	28	2	4	34	752
1914.....	206	10	48	13	277	11	—	17	2	30	452	47	55	554	42	6	2	50	831
1915.....	249	12	21	19	301	14	—	12	6	32	419	16	40	475	30	3	3	36	776
Totals ..	1,587	1,939	249	65	3,840	63	17	56	9	145	5,123	264	123	5,510	304	44	9	357	9,350

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1899  
1900

1871			
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5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

## Summary of Daily and Monthly Examinations of Water.

Daily Samples	...	...	...	...	...	352
Monthly:—						
Prescot	...	...	...	...	...	19
Wells	...	...	...	...	...	16
					—	35
Special Samples:—						
Bath	...	...	...	...	...	75
Oswestry	...	...	...	...	...	30
					—	105
Total						492

## Summary of Rats Examined during 1915.

Month.	Port.	Town.	Total.	Remarks.
<b>PLAGUE.</b>				
January .....	677	329	1,006	* One cat was also sent during this month.
February .....	608	258	866	
March .....	825	277	1,102	
April .....	464	250	714	
May .....	813	308	1,121	
June .....	570	286	856	
July .....	729	257	986	
August .....	527	220	747	
September .....	340	211	551	
*October .....	898	353	1,251	
November .....	476	209	685	None of the above animals were found to be affected with plague.
December .....	444	218	662	
Total—1915 .....	7,371	3,176	10,547	
Total—1914 .....	6,069	3,430	9,499	



**Material from Infectious Diseases in Man (Diphtheria,  
Typhoid Fever, Tuberculosis, etc.)**

*a.* SUSPECTED DIPHTHERIA CASES.

Sent by	No Growth.	Suspicious.	Negative.	Positive.	Total.
Practitioners .....	7	7	240	54	308
City Hospitals .....	4	—	139	53	196
	11	7	379	107	504

*b.* BLOOD FROM SUSPECTED TYPHOID CASES.

Sent by	REACTIONS.			Total.
	Indefinite.	Positive.	Negative.	
Practitioners .....	28	32	69	129
City Hospitals .....	2	11	2	15
	30	43	71	144

*c.* SPUTA FROM SUSPECTED TUBERCULOSIS CASES.

Sent by	Positive.	Negative.	Total.
Practitioners .....	63	165	228

d. MISCELLANEOUS SPECIMENS SUBMITTED BY PRACTITIONERS  
FOR EXAMINATION.

Nature of Specimen.						Number.
Urine	...	...	...	...	...	32
Vaccines	...	...	...	...	...	5
Vomit	...	...	...	...	...	4
Pus	...	...	...	...	...	5
Discharge	...	...	...	...	...	1
Fluid	...	...	...	...	...	4
Bingworm	...	...	...	...	...	2
Sections	...	...	...	...	...	20
Wassermann Reaction	...	...	...	...	...	4
Disinfectants	...	...	...	...	...	2
Faeces	...	...	...	...	...	12
Swabs ? B. Pestis and ? B. anthracis	...	...	...	...	...	2
Human Milk	...	...	...	...	...	1
Slides	...	...	...	...	...	1
Films	...	...	...	...	...	7
Special Blood Specimens	...	...	...	...	...	2
Cerebro-spinal Fluid	...	...	...	...	...	5
Sundry	...	...	...	...	...	3
Conjunctivitis	...	...	...	...	...	6

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Table shewing Total Number of Specimens relating to Infectious  
Diseases in Man received in 1914 and in 1915.

Year.		Practitioners	Hospitals.	Total
1914	Diphtheria .....	319	12	331
1915	„ .....	308	196	504
1914	Typhoid .....	92	143	235
1915	„ .....	129	15	144
1914	Tuberculosis .....	270	—	270
1915	„ .....	228	—	228
1914	Miscellaneous specimens .....	53	—	53
1915	„ .....	188	—	188

**Material from Infectious Diseases in Animals (Tuberculosis,  
Anthrax, Rabies, etc.)**

Description of Sample.	Number.	RESULT.	
		Positive.	Negative.
TUBERCULOSIS—			
Udders and Glands .....	54	20	34
ANTHRAX—			
Dust.....	1	—	1
Dry Hide .....	26	6	20
Hide Salt .....	22	1	21
Sacking .....	5	—	5
Total .....	54	7	47
RABIES—			
Dog's Head.....	1	—	1
MISCELLANEOUS—		RESULT.	
Beef .....	Two pieces of beef hung in the general laboratory for 7 days, and in the case of chilled beef, the fat was rancid and putrefaction set in at the bone. The piece of freshly killed beef was in good condition, free from bad colour and only the outside became dry.		
Sandwich Beef .....	B. coli present and many other organisms.		
Mutton.....	Sarcomatous.		
Cow's Liver .....	In an adenomatous condition but without definite evidence of malignancy.		
Pork Gland.....	Numerous abscesses—no evidence of tuberculosis or actinomycosis.		



**TOTAL.**

Anthrax	...	...	...	...	54
Tuberculosis	...	...	...	...	54
Dog's Head	...	...	...	...	1
Miscellaneous	...	...	...	...	5

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**MISCELLANEOUS—****Port Sanitary Authority.**

Samples.	Number.
Corned Beef	7
Tinned Beef	3
Egg Yolk	2
Egg Pulp	2
Eggs (Liquid)	22
Grapes in Syrup (Tinned)	2
Frozen Liver	2
Condensed Milk	22
Mussels	1
	<hr/> 63

**Health Department.**

Air Experiments	5
	<hr/> 5
Practitioners	118
	<hr/> 118
Total	<hr/> 186

## Summary of all Examinations during the year 1915.

## JANUARY TO DECEMBER.

Foodstuffs	...	...	...	...	1,523
Waters—					
Water Committee	...	...	...	492	
Health Committee	...	...	...	7	
				—	499
Actinomycosis	...	...	...	...	1
Anthrax	...	...	...	...	54
Diphtheria—					
Hospitals	...	...	...	196	
Practitioners	...	...	...	308	
				—	504
Typhoid—					
Hospitals	...	...	...	15	
Practitioners	...	...	...	129	
				—	144
Tuberculosis—					
Practitioners	...	...	...	228	
Animal specimens	...	...	...	54	
				—	282
Plague—					
Rats—Port	...	...	...	7,371	
*Town	...	...	...	3,176	
				—	10,547
* Including special investigation of a cat.					
Rabies	...	...	...	...	1
Miscellaneous—					
Practitioners	...	...	...	118	
Health Committee	...	...	...	10	
Port Sanitary	...	...	...	63	
				—	191
Total	...	...	...	...	13,746

In addition to the above, 709 investigations have been conducted for the Military and Naval Authorities.

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**INSANITARY PROPERTY.**

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THEORY OF THE

## INSANITARY PROPERTY AND HOUSING OF THE WORKING CLASSES.

During the year Closing Orders were made in respect to the following 59 insanitary dwellings; the majority being derelict and unoccupied at the time action was taken:—

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1915.		
March 19th	Ashton Place— Nos. 1 and 2 in 1 Court, and No. 5 (front) ... ..	3
"	Foley Street— No. 1 in 1 Court ... ..	1
"	Smith Street— Nos. 1, 2, 3 and 4 in 2 Court ... ..	4
"	Date Street— Nos. 4, 5, 6, 7, 8 and 9 in 2 Court ... ..	6
"	Collingwood Street— Nos. 1, 2, 3, 4, 5, 6, 7, 8 and 9 in 1 Court; Nos. 29 and 31 (fronts) ... ..	11
"	Springfield Street (Old Swan)— Nos. 9, 11, 13, 15, 17, 41, 43, 45 and 47 (fronts) ...	9
"	Cunliffe Street— Nos. 6, 8, 10, 12, 14 (fronts) ... ..	5
June 25th	Roscommon Street— Nos. 1, 2, 3, 4, 5, 6, 7 and 8 in 6 Court; Nos. 1, 2, 3, 4, 5, 6, 7, 8 and 9 in 8 Court; Nos. 80, 82, 84 (fronts) ... ..	20
	Total ... ..	59

Demolition Orders were made by the Housing Committee, on the report of the Medical Officer of Health, in respect to the undermentioned insanitary dwelling-houses, which had previously been closed as unfit for human habitation:—

Date of Meeting of Housing Committee.	Premises.	Number of Houses.
1915.		
March 19th	Primrose Hill—	
	No. 1 in 9 Court ... ..	1
	Nos. 17, 19, 21 and 25 (fronts) ... ..	4
	Nos. 1, 3, 5 in 11 Court ... ..	3
	No. 4 in 11 Court ... ..	1
June 25th	Waterloo Street (Wavertree)—	
	Nos. 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37 ...	13
"	Pembroke Place—	
	Nos. 3, 4, 5, 6, 7, 8 in 1 Court ... ..	6
	Nos. 3, 5, 7 in 3 Court ... ..	3
"	Denison Street—	
	Nos. 5 and 6 in 6 Court ... ..	2
"	Batchelor Street—	
	Nos. 1, 2, 3, 4, 5, 6, 7 in 1 Court ... ..	7
"	Juvenal Place—	
	Nos. 1, 2 in 3 Court ... ..	2
	No. 5 (front) ... ..	1
July 23rd	Mason Street (Woolton)—	
	Nos. 6, 7, 8, 9, 10, 11, 12 in 3 Court; Nos. 1, 2, 3, 4, 5 in 5 Court ... ..	12
	Total ... ..	55

### Unhealthy Areas.

PRINCE EDWIN STREET, RATHBONE STREET, MASON STREET, SALTNEY STREET,  
 BLENHEIM STREET, PENRHYN STREET.

The description of the above unhealthy areas is given in previous Annual Reports.



The Housing Committee approved of certain designs for the proposed new tenements, but in view of the demand of the Local Government Board for economy, no further development has taken place.

GORE STREET, SPARLING STREET, AND JORDAN STREET AREAS.

The new tenements on these areas will shortly be ready for occupation; a large number of applications have already been received.

The total number of tenements erected on these areas is as follows:—

Gore Street	...	...	...	24 Tenements.
Sparling Street...	...	...	...	16 Self-contained Cottages.
Jordan Street	...	...	...	31 Tenements.
				—
Total	...	...	...	<u>71</u>

BAPTIST STREET AND SALTNEY STREET AREAS.

With the exception of the closing of a few insanitary houses on these areas, the position is the same as stated in the Annual Report for 1914.

AREAS INCORPORATED IN 1913.

Seven insanitary houses in respect to which closing orders were made prior to the incorporation have been demolished during the year.

SUMMARY OF HOUSES DEMOLISHED DURING THE YEARS  
1865 TO 1915 BY COMMITTEES OF THE CITY COUNCIL.

Houses included in Presentments under the Liverpool Sanitary Amendment Act, 1864, during the period 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 1915...	1,947
	----
Total ... ..	<u>9,913</u>
Approximate number demolished by business extensions, or for other reasons ... ..	11,000

## CELLAR DWELLINGS.

In December, 1912, there were 1,614 cellars let and occupied as separate dwellings. These occupied cellars have been kept under observation, and the attention of owners and occupiers has also been directed to the provisions of the Liverpool Corporation Act, 1908, which prohibits the occupation, after 1912, of a cellar as a separate dwelling if the floor is more than two feet below the level of the adjoining ground.

The owners have recognised the necessity for closing these insanitary dwellings, and in December, 1915, the number of occupied cellars had been reduced to 138.

## SUTTON TRUST.

Proposals and amended plans are now under the consideration of the Trustees.

## RE-HOUSING.

The number of dwellings provided by the Corporation up to the present is 2,792 and 32 shops.

Details will be found in the Annual Report for the year 1914.

The Census of the population of all the dwellings was taken in the middle of the year, and was found to be 11,393.

At the time the Census was taken 19 dwellings were unoccupied.

The improvement in the health and habits of the occupiers continues, and although the infantile mortality of the dwellings is high, there is nevertheless a continued improvement in the condition of the children who reside in these dwellings.

## 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.



During the year the Director of Housing specially referred 10 Corporation tenements to the Medical Officer's Department for night visitation, as against 32 referred during the year 1914.

Night visits were paid to these tenements, with the result that 4 tenements were found to be sub-let, of which number 2 were also found overcrowded.

During the year 6 cases of improper or irregular occupation were found in 4 Corporation tenements out of 10 visited, compared with 25 cases in 19 tenements out of 32 the preceding year.

### CORPORATION TENEMENTS.

#### VITAL STATISTICS.

Population, 1913	...	...	...	...	10,223
Population, 1914	...	...	...	...	10,545
Population, 1915	...	...	...	...	11,393

	1913.		1914.		1915.	
	Total Number.	Rate per 1,000	Total Number.	Rate per 1,000	Total Number.	Rate per 1,000
Births.....	590	57·7	601	56·9	524	45·9
Deaths .....	234	27·7	304	28·8	307	26·9
Infantile Mortality (deaths under one year)	86	145·7 per 1,000 births	106	176·3 per 1,000 births.	95	181·2 per 1,000 births
Phthisis .....	21	2·0	13	1·23	20	1·7

#### VITAL STATISTICS, FOR UNRESTRICTED DWELLINGS.

Population, 1913	...	...	...	...	1,799
Population, 1914	...	...	...	...	1,829
Population, 1915	...	...	...	...	1,882



	1913.		1914.		1915.	
	Total Number	Rate per 1,000.	Total Number	Rate per 1,000.	Total Number	Rate per 1,000.
Births .....	124	68.9	111	60.6	92	48.8
Deaths .....	40	22.2	34	18.5	40	21.2
Infantile Mortality (deaths under one year)	12	96.7 per 1,000 births	14	126.1 per 1,000 births	13	141.3 per 1,000 births
Phthisis .....	2	1.1	Nil	Nil	3	1.5

The Birth-rate per 1,000 in the Corporation tenements for 1915 was 45.9, as compared with 27.9 for the entire city.

The infantile mortality for the past six years is as follows:—

1910	...	87	deaths under one year, or 228 per 1,000 Births.
1911	...	93	„ „ „ 212 „ „
1912	...	85	„ „ „ 178.5 „ „
1913	...	86	„ „ „ 145.7 „ „
1914	...	106	„ „ „ 176.3 „ „
1915	...	95	„ „ „ 181.2 „ „

### UNOCCUPIED HOUSES.

The Head Constable's return of unoccupied houses within the City, dated 11th January, 1916, intimated that there were 404 unoccupied houses to let at a rental from 2s. to 6s. per week.

Of the total, 110 were sanitary and 294 were insanitary; of the 294, 178 were closed as the result of the operations of the Housing Committee.

## HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

The following Return is made 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 ... ..	91,863 front houses 4,027 court houses
	<hr/> 95,890

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 . . . . .	1,653 court houses 932 front houses
	<hr/> 2,585

Number of representations made to the Local Authority with a view to obtaining Closing Orders ... ..	59
Number of Closing Orders made ... ..	59
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 ... ..	Nil.

The houses dealt with on the representation of the Medical Officer of Health were the usual type of insanitary houses described in previous Reports.

## REMOVAL OF INSANITARY PROPERTY.

Statement showing the number of Houses dealt with during the year 1915 and indicating the action taken.

**Table 1.**

			Courts.	Court houses.		Approx. No. of front houses.
Approximate number of insanitary houses existing on 1st January, 1915, including added areas ... ..			314	1693		952
Proceedings authorised by the City Council during the year 1915, in regard to houses not previously referred to ...	Courts.	Court houses.			Front houses.	
" A " By Closing Orders ...	6	29			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 ...	2	11			—	
Total No. dealt with during 1915 ... ..	8	40			20	
Leaving for future consideration ... ..			306	1653		932

Of the above 40 Court houses and 20 Front houses dealt with in the year 1915 27 have been demolished and 33 closed.

In addition to the above, demolition orders were made in respect to ten insanitary court houses not included in return of courts.



**Table 2.**

Statement showing the number of houses dealt with during the year 1914, and indicating the action taken;—

**FRONT HOUSES.**

Total No. of Front Houses dealt with during the year 1914.	No. of Houses.	Demo-lished.	Ren-dered Sanitary	Closed.	Occupied.
"A" By Closing Orders .....	57	40	10	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.....	—	—	—	—	—
"D" Dealt with by owners for private improvements .....	4	4	—	—	—
Total .....	61	44	10	7	—

**COURT HOUSES.**

How dealt with.	Total No. of Houses dealt with.	Demo-lished.	Ren-dered Sanitary	Closed.	Occupied.
"A" By Closing Orders .....	149	95	8	43	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 .....	—	—	—	—	—
"D" Dealt with by owners for private improvements .....	26	26	—	—	—
Total No. dealt with during 1914...	175	121	8	43	3

Table 111.

## SUMMARY.

Showing the total number of houses dealt with during the years 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914 and 1915.

## FRONT HOUSES.

Year.	Total No. of Houses dealt with.	Demo-lished.	Ren-dered Sanitary.	In Schemes but still Occupied.	Closed.	Occu-pied.
1906 .....	193	120	60	—	13	—
1907 .....	113	49	64	—	—	—
1908 .....	46	17	29	—	—	—
1909 .....	28	11	17	—	—	—
1910 .....	33	33	—	—	—	—
1911 .....	31	7	24	—	—	—
1912 .....	87	14	—	38	35	—
1913 .....	20	15	5	—	—	—
1914 .....	61	44	10	—	7	—
1915 .....	20	7	—	—	13	—
Total .....	632	317	209	38	68	—

## COURT HOUSES.

Year.	Total No. of Houses dealt with.	Demo-lished.	Ren-dered Sanitary.	In Schemes but still Occupied.	Closed.	Occu-pied.
1906 .....	966	757	101	—	108	—
1907 .....	287	199	88	—	—	—
1908 .....	274	174	100	—	—	—
1909 .....	352	290	61	—	1	—
1910 .....	303	225	69	—	9	—
1911 .....	162	139	23	—	—	—
1912 .....	595	216	4	137	238	—
1913 .....	148	131	17	—	—	—
1914 .....	175	121	8	—	43	3
1915 .....	40	20	—	—	20	—
Total .....	3,302	2,272	471	137	419	3

The nett result shows that during the past ten years, 2,589 insanitary dwellings have been demolished, 487 have been closed and await demolition or reconstruction, and 680 have been reconstructed and rendered sanitary, making a total for the ten years of 3,756 (excluding those still occupied) dealt with as follows:—

1906 ... ..	1159
1907 ... ..	400
1908 ... ..	320
1909 ... ..	380
1910 ... ..	336
1911 ... ..	193
1912 ... ..	507
1913 ... ..	168
1914 ... ..	233
1915 ... ..	60
Total ... ..	<u>3756</u>



**Comparative Statement with regard to the Collection of Rents, etc., 1906—1915 (inclusive).**

COLLECTION OF RENTS.														NUMBER OF TENANTS WHO HAVE LEFT THE DWELLINGS.	
YEAR.	NO. OF DWELLINGS.	GROSS RENTAL.	CASH COLLECTED.		EMPTYES.		BAD DEBTS.		ARREARS FORWARD.		Total No. of Tenants who left during year.	No. of Tenants who left under Notice.	Per-centage of Tenants who have left.		
			Amount.	Per-centage on Rents Accrued.	Amount.	Per-centage on gross Rental.	Amount.	Per-centage on gross Rental.	Amount.	Per-centage on gross Rental.					
		£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d.						
1906	2,046	20,154 3 8	16,339 18 2	96.02	1,373 8 3	6.81	477 16 3	2.37	1,198 7 1	5.9	577	225	28.20		
1907	2,170	21,301 4 4	18,031 19 0	95.75	1,224 12 0	5.74	608 1 9	2.85	1,384 10 4	6.5	696	251	32.07		
1908	2,184	21,295 14 8	18,793 11 3	93.21	1,332 11 8	6.25	732 3 9	3.43	2,020 13 0	9.4	710	252	32.51		
1909	2,233	21,711 19 0	18,789 18 9	95.50	1,464 14 0	6.74	874 11 4	4.02	2,031 10 4	9.3	797	342	35.69		
1910	2,347	22,952 12 0	20,200 14 11	96.75	1,894 9 0	8.25	967 15 6	4.21	1,757 2 3	7.7	711	228	30.29		
1911	2,455	23,411 17 0	21,370 7 3	98.20	1,822 12 1	7.78	601 18 3	2.57	1,546 15 4	6.6	646	213	26.31		
1912	2,679	25,437 16 3	23,001 10 9	98.96	2,238 3 4	8.78	512 2 3	2.01	1,274 18 5	5.0	630	205	23.51		
1913	2,747	27,435 6 4	25,226 12 10	98.30	1,839 2 8	6.70	472 3 1	1.72	1,238 12 2	4.5	576	172	20.96		
1914	2,824	27,969 18 9	26,355 19 8	97.54	1,032 13 3	3.69	401 10 9	1.43	1,500 6 2	5.3	535	158	18.94		
1915	2,823	29,069 8 10	28,877 4 3	100.44	388 18 11	1.33	277 7 0	0.95	1,093 18 6	3.7	321	86	11.37		

CITY TREASURER AND CONTROLLER'S OFFICE,  
9th February, 1916.

RICHARD BARROW,  
CITY TREASURER AND CONTROLLER.



**Statement showing cost of Presentments under Sanitary Amendment Act, 1864  
Act, 1875, and the Housing of the Working Classes Acts, 1890**

Presentments and Dwellings.	Cost of Land (after deducting Receipts from Sales of Surplus Lands).	Cost of Buildings.	Total Cost of Land and Buildings 31st December, 1915.	Percent of Net Receipts on Total (Col. 5)
	(1)	(2)	(3)	(4)
	£ s. d.	£ s. d.	£ s. d.	
<b>1.—PRESENTMENTS</b> under Sanitary Amendment Act, 1864 .....	306,803 9 5	—	306,803 9 5	—
<b>2.—UNRESTRICTED DWELLINGS—</b>				
Victoria Square .....	52,391 18 7	57,952 6 11	110,344 5 6	1.5
Juvenal Dwellings .....	14,854 18 4	13,121 7 11	27,976 6 3	1.6
Arley Street Dwellings.....	3,405 19 0	7,610 19 5	11,016 18 5	2.9
	70,652 15 11	78,684 14 3	149,337 10 2	1.6
<b>3.—RESTRICTED DWELLINGS—</b>				
Adlington Street .....	22,091 14 8	41,973 9 7	64,065 4 3	2.4
Bevington Street .....	51,922 19 0	54,629 10 2	106,552 9 2	1.0
Burlington Street .....	17,642 18 1	22,822 0 0	40,464 18 1	1.7
Clive Street .....	5,895 8 1	18,549 3 8	24,444 11 9	1.6
Combermere Street .....	3,724 0 0	9,186 0 0	12,910 0 0	1.5
Dryden Street .....	8,949 14 8	26,602 8 9	35,552 3 5	1.6
Eldon Street .....	1,015 0 0	3,080 18 8	4,095 18 8	0.8
Gildart's Gardens .....	16,251 10 0	30,607 2 3	46,858 12 3	1.5
Grafton Street .....	6,641 5 4	12,555 14 5	19,196 19 9	1.0
Hornby Street .....	58,214 16 5	82,736 13 9	140,951 10 2	1.2
Kempston Street .....	(a) —	17,430 6 0	17,430 6 0	1.9
Kew Street.....	5,074 13 6	19,955 7 10	25,030 1 4	2.1
Mill Street .....	2,766 0 0	10,512 19 3	13,278 19 3	1.6
Northumberland Street .....	14,129 11 1	13,423 11 0	27,553 2 1	0.8
St. Anne Street .....	15,174 11 4	22,064 3 5	37,238 14 9	1.2
Saltney Street .....	5,761 16 8	8,836 0 0	14,597 16 8	1.9
Stanhope Cottages .....	4,261 2 6	10,073 13 6	14,334 16 0	1.6
Upper Mann Street .....	9,938 6 1	18,747 5 7	28,685 11 8	1.6
	249,455 7 5	423,786 7 10	673,241 15 3	1.4
<b>4.—WORKS IN PROGRESS</b> .....	58,761 12 4	19,051 10 9	77,813 3 1	
Totals .....	£685,673 5 1	521,522 12 10	1,207,195 17 11	

**Cost of Dwellings under the Artizans' and Labourers' Dwellings Improvement Act, 1890.**  
*(As per Resolution of the Housing Committee, 23rd January, 1914).*

Amount paid for Street Lighting, and Public 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.	
—	306,803 9 5	—	306,803 9 5	—	—
54 8 7	84,839 16 11	1.95	21,487 10 0	63,352 6 11	2.61
17 18 4	20,418 7 11	2.30	5,774 4 0	14,644 3 11	3.20
—	11,016 18 5	2.92	2,077 11 0	8,939 7 5	3.53
32 6 11	116,275 3 3	2.10	29,339 5 0	86,935 18 3	2.81
23 15 4	62,038 8 11	2.52	13,847 3 4	48,191 5 7	3.24
53 9 0	91,384 0 2	1.27	28,510 10 0	62,873 10 2	1.84
10 10 7	38,674 7 6	1.80	11,694 7 6	26,980 0 0	2.59
1 8 1	23,532 3 8	1.67	2,607 0 0	20,925 3 8	1.87
—	12,910 0 0	1.50	2,366 16 0	10,543 4 0	1.84
13 8	34,625 9 9	1.67	4,457 5 0	30,168 4 9	1.91
12 0	3,972 6 8	0.84	643 12 0	3,328 14 8	1.01
13 0	45,236 19 3	1.63	9,228 1 0	36,008 18 3	2.05
0 0 0	18,944 19 9	1.11	4,464 9 4	14,480 10 5	1.45
12 0	133,251 18 2	1.36	36,146 8 5	97,105 9 9	1.87
—	17,430 6 0	1.98	—	17,430 6 0	1.98
—	25,030 1 4	2.11	2,736 9 6	22,293 11 10	2.37
0 0 0	13,218 19 3	1.63	1,353 0 0	11,865 19 3	1.82
5 1	26,237 17 0	0.94	10,392 14 0	15,845 3 0	1.57
18 10	33,784 15 11	1.39	9,326 12 6	24,458 3 5	1.92
—	14,597 16 8	1.92	4,290 12 8	10,307 4 0	2.71
—	14,334 16 0	1.45	2,556 13 6	11,778 2 6	1.76
16 1	27,155 15 7	1.74	5,396 10 0	21,759 5 7	2.17
13 8	636,361 1 7	2.07	150,018 4 9	486,342 16 10	2.70
—	77,813 3 1	—	77,813 3 1	—	—
0 7	1,137,252 17 4	—	563,974 2 3	573,278 15 1	—

(a) Annual Ground Rent paid for Site.







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CITY HOSPITALS.

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CITY HOSPITALS

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## HOSPITAL ACCOMMODATION.

The normal accommodation provided at the City Hospitals amounted to 1,019 beds, not including the Port Sanitary Hospital at New Ferry, Cheshire, which is reserved for sea-borne cases of infectious disease arriving in the Port.

The beds are located as follow:—

City Hospital North	...	...	...	151 beds.
„ South	...	...	...	91 „
„ East	...	...	...	152 „
„ Parkhill	...	...	...	158 „
„ Fazakerley	...	...	...	300 „
„ Fazakerley Annexe	...	...	...	167 „
				<u>1,019</u> „

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 „
					<u>1,019</u> „

On the outbreak of war in August, 1914, however, the Military Authorities asked for the use of the Fazakerley Hospital, and preparations were at once made to clear and disinfect this Hospital. Negotiations were opened with the West Derby Board of Guardians with respect to Deysbrook Hospital, and arrangements were made for the Corporation to take over the entire establishment, furniture, and



equipment, as from 22nd October, 1914. Accommodation was thus provided for 120 convalescent cases, and the situation, which had been causing some anxiety, was at once relieved.

Further assistance was also obtained through the Committee of the David Lewis Northern Hospital placing 30 beds at the disposal of the Hospitals Committee for the treatment of cases of typhoid fever, anthrax, etc., which could safely be admitted into the wards of a general hospital.

The City Hospital, Parkhill, formerly used for cases of infectious disease, has undergone considerable alteration, and is now equipped as a Sanatorium for the treatment of cases of phthisis. The open situation and extensive grounds render it well fitted for this purpose.

The accommodation at the other Hospitals was extended where possible, and last year the available number of beds was as follows:—

City Hospital North	...	...	...	203	beds.
„ South	...	...	...	115	„
„ East	...	...	...	152	„
„ Fazakerley Annexe	...	...	...	208	„
„ Parkhill	...	...	...	200	„
Deysbrook Hospital	...	...	...	120	„
David Lewis Northern Hospital	...	...	...	30	„
				<hr/>	
				1,028	„
				<hr/>	

The value of the hospitals, and the immense amount of useful work performed is shown by the fact that no less than 5,649 patients were treated within their walls during the year.

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.

Arrangement 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.

# 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 1915.

YEAR—1915.	FEVER.		Smallpox.	Scarlet Fever.	Measles.	Diphtheria and Membranous Croup.	Puerperal Fever.	Erysipelas.	TOTAL.
	Typhus.	Typhoid.							
January .....	...	11	...	319	366	140	4	94	934
February .....	...	4	...	221	346	106	8	65	750
March .....	...	9	...	216	497	104	7	72	905
April .....	...	6	...	207	405	83	1	51	753
May .....	...	5	...	164	453	76	6	32	736
June .....	...	8	...	289	369	87	6	65	824
July .....	...	10	...	221	70	71	3	44	419
August .....	...	5	...	234	38	88	3	50	418
September .....	...	15	...	276	48	124	4	59	526
October.....	3	15	...	302	45	101	5	68	539
November .....	29	28	...	270	115	112	3	61	618
December.....	5	9	...	265	297	116	4	88	784
TOTAL .....	37	125	...	2,984	3,049	1,208	54	749	8,206
Removed to hospital	37	99	...	2,485	175	988	43	213	4,040

The number of patients removed to hospital includes those admitted to the general hospitals as well as those admitted to the city hospitals.



# THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

The numbers of notifications received by the Medical Officer under the above Act, during the past five years, were as follows:—

	1911.	1912.	1913.	1914.	1915.
January ...	534	535	319	571	601
February ...	471	439	324	497	449
March ...	556	475	320	515	460
April ...	497	343	322	554	406
May ...	584	441	335	495	366
June ...	482	402	319	559	503
July ...	518	341	305	464	452
August ...	398	382	300	469	432
September ...	545	430	363	525	513
October ...	603	490	383	764	560
November ...	663	476	482	647	537
December ...	544	424	476	563	547
	<u>6,395</u>	<u>5,178</u>	<u>4,248</u>	<u>6,623</u>	<u>5,826</u>

The diseases were specified as follows:—

	1911.	1912.	1913.	1914.	1915.
Smallpox ...	11	6	4	2	...
Scarlet Fever ...	3,710	2,885	2,100	3,567	2,939
Typhoid Fever ...	221	163	165	176	149
Typhus Fever ...	28	4	6	4	14
Continued Fever	8	2	1	2	1
Relapsing Fever .	2	—	1	—	—
Fever ...	1	1	—	—	3
Puerperal Fever..	52	42	43	60	61
Diphtheria ...	1,334	1,110	1,085	1,377	1,247
Membranous Croup.	26	18	23	33	19
Erysipelas ...	997	897	779	944	797
Anthrax ...	5	9	11	8	6
Cerebro-Spinal Fever	—	5	8	24	36
Acute Poliomyelitis	—	31	5	34	3
*Ophthalmia					
Neonatorum	—	5	17	392	551
	<u>6,395</u>	<u>5,178</u>	<u>4,248</u>	<u>6,623</u>	<u>5,826</u>

\* Notifiable since July, 1912, and from April, 1914, by Midwives as well as Medical Practitioners.



## NUMBER OF CASES REPORTED AND NUMBER REMOVED TO HOSPITALS, 1900-1915.

	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.
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
1914 ...	1	1	3,712	3,035	177	141	—	—	1,258	1,008	6,426	390
1915 ...	—	—	2,984	2,485	125	99	37	37	1,208	988	3,049	175

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 1915:—

### CITY HOSPITAL NORTH, NETHERFIELD ROAD.

*Visiting Physician, Dr. R. I. RICHARDSON.*

*Resident Physician, Dr. T. H. DONOVAN.*

DISEASES.	Remaining Dec. 31st, 1914.	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.	125	1196	—	1321	450	6	692	142	7	31	2·6
Typhus Fever.	—	37	—	37	—	—	28	5	—	4	10·8
Diphtheria ...	—	132	—	132	—	6	116	—	6	10	7·5
Smallpox .....	—	—	—	—	—	—	—	—	—	—	—
Measles.....	—	15	—	15	—	8	6	—	—	1	6·6
Whooping Cough.....	—	2	—	2	—	—	2	—	—	—	—
Other Diseases	—	—	—	—	—	—	—	—	—	—	—
Isolation and Observation Cases .....	17	92	—	109	—	—	100	7	—	2	2·1
Totals ...	142	1474	—	1616	450	20	944	154	13	48	3·2

# CITY HOSPITAL SOUTH, GRAFTON STREET.

*Visiting Physician, Dr. H. A. CLARKE.*

*Resident Physician, Dr. P. COTTER.*

DISEASES.	Remaining Dec. 31st, 1914.	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.....	82	501	—	583	104	—	379	88	—	12	2·3
Enteric Fever.....	—	1	—	1	—	—	1	—	—	—	—
Typhus Fever .....	—	1	—	1	—	—	1	—	—	—	—
Measles .....	20	103	2	125	—	—	101	10	5	14	13·5
* Whooping Cough.	—	1	—	1	—	—	—	—	1	*1	100·
Other Diseases.....	—	15	—	15	—	—	14	—	—	1	6·6
Isolation & Obser- vation Cases .....	—	15	—	15	—	—	12	1	1	2	13·3
Totals .....	102	637	2	741	104	—	508	99	7	30	4·7

\* Died within 2 hours of admission.



CITY HOSPITAL, FAZAKERLEY ANNEXE.

*Medical Superintendent, DR. C. RUNDLE.*

*Resident Physician, DR. W. M. GRAY.*

Diseases.	Remaining Dec. 31st, 1914.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment dur- ing 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.....	103	695	—	798	191	—	500	96	4	11	1·6
Enteric Fever .....	—	1	—	1	—	—	1	—	—	—	—
Diphtheria .....	35	156	—	191	—	—	152	25	7	14	9·0
Small Pox .....	1	—	—	1	—	—	*1	—	—	—	—
Measles .....	2	79	—	81	—	—	73	5	1	3	4·0
Whooping Cough ...	1	15	—	16	—	—	12	2	—	2	13·3
Other Diseases.....	29	197	—	226	—	—	200	19	—	7	3·5
Isolation and Observation Cases .....	2	138	—	140	—	—	125	9	1	6	4·3
Totals .....	173	1281	—	1454	191	—	1064	156	13	43	3·3

\* Transferred convalescent to Sparrow Hall.

CITY HOSPITAL, DEYSBROOK, WEST DERBY.

*Visiting Physician, DR. W. J. ROBERTSON DUNN.*

Diseases.	Remaining Dec. 31st, 1914.	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 ...	94	—	989	1083	—	8	993	79	...	3	0·3

## CITY HOSPITAL, PARKHILL.

Medical Superintendent, Dr. W. CRANE.

Resident Physician, Dr. M. CARRASCO.

DISEASES.	Remaining Dec. 31st, 1914.	Admitted during the year.	Transferred from other City Hospitals	Total under Treat- ment 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 .....	190	428	—	618	—	2	317	184	1	*115	26·8

\* Of this number, 43 were admitted in 1914.

## CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. A. E. HODGSON.

DISEASES.	Remaining Dec. 31st, 1914.	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...	25	256	—	281	78	—	175	20	1	8	3·1
Enteric Fever..	—	—	—	—	—	—	—	—	—	—	—
Diphtheria .....	96	661	7	764	—	—	588	96	32	80	12·1
Measles .....	—	4	—	4	—	—	2	—	—	2	50·
Whooping Cough ...	—	—	—	—	—	—	—	—	—	—	—
Other Diseases.	—	145	—	145	—	—	120	13	6	12	8·3
Isolation and Observation Cases.....	16	10	—	26	—	—	26	—	—	—	—
Totals.....	137	1076	7	1220	78	—	911	129	39	102	9·5

1. The first part of the paper is devoted to a general  
 introduction of the subject and to a statement of the  
 objects of the present investigation.

2. In the second part we shall consider the  
 general principles of the theory of the  
 functions of the second order.

3. The third part is devoted to the  
 study of the properties of the functions of the  
 second order.

4. In the fourth part we shall consider the  
 applications of the theory of the functions of the  
 second order.

5. The fifth part is devoted to the  
 study of the properties of the functions of the  
 second order.

1.0	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10
1.1	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20



# 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 1915 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.			
		Uncor-rected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 year of age.		At all ages.	
			Number.	Rate.					Number.	Rate per 1000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
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
1914.....	767992	23143	23065	30·0	15320	19·9	718	444	3219	139	15046	19·5
1915.....	772595	21653	21586	27·9	14585	18·9	676	569	2866	133	14478	18·7

NOTES.—This Table is arranged to show the gross births and deaths registered in the district during the calendar year, and the births and deaths properly belonging to it with the corresponding rates. The rates should be calculated per 1,000 of the estimated gross population as stated in Column 2, without the use of the standardising factor for the district given in the Annual Report of the Registrar-General. In a district in which large Public Institutions for the sick or infirm seriously affect the Statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

\* In Column 6 are to be included the whole of the deaths registered during the calendar year as having actually occurred within the district, but excluding the deaths of Soldiers and Sailors that have occurred in hospitals and institutions in the district. Information as to the number and causes of such deaths should, however, be given in the text of the report.

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  
(land and inland  
water) } 21,219.

Total population at all ages.....753,353 } At Census  
Total families or separate occupiers ...153,307 } of  
1911.

A

1871

1872

1873

1874

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1893

1894

TABLE II.  
CITY OF LIVERPOOL.  
Cases of Infectious Disease notified during the Year 1915.

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.	Wallon.	West Derby East.	Wavertree.	Toxteth East.	Garston.	Fazakerley.	Woodton.					
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.																			
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Diphtheria (including Membranous croup) ...	1208	16	307	668	126	80	10	1	25	40	55	262	65	151	140	149	104	126	45	19	6	2	19	...	988		
Erysipelas ...	749	15	20	78	86	253	239	58	57	47	44	144	80	80	91	74	41	22	27	25	2	2	13	...	213		
Scarlet fever ...	2984	30	781	1860	220	90	2	1	140	65	76	538	221	317	352	495	312	176	141	53	12	7	79	...	2485		
Typhus fever ...	37	...	2	11	3	19	2	...	...	...	24	6	...	...	7	...	...	...	...	...	...	...	...	...	37		
Enteric fever ...	125	...	4	21	50	40	9	1	4	8	29	19	4	10	10	8	11	2	10	4	1	...	5	...	99		
Relapsing fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Continued fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Puerperal fever ...	54	...	...	...	15	39	...	...	1	2	3	10	4	6	12	6	2	5	2	1	...	...	...	...	43		
Cerebro-Spinal Meningitis ...	31	11	7	9	1	2	1	...	4	1	3	4	4	2	2	3	2	1	3	1	1	...	...	...	22		
Poliomyelitis ...	5	1	1	2	...	...	...	1	...	...	...	2	...	...	1	...	1	...	...	1	...	...	...	...	3		
Ophthalmia Neonatorum ...	503	503	...	...	...	...	...	...	33	37	7	73	53	87	53	62	29	55	7	2	3	...	2	...	21		
Pulmonary Tuberculosis ...	2169	4	34	260	408	964	470	29	234	268	145	480	158	251	192	164	119	68	29	47	12	7	29	16	881		
Tuberculosis other than Pulmonary ...	825	19	147	461	110	64	20	4	160	95	20	151	70	102	64	46	51	20	8	22	4	2	10	...	167		
Anthrax ...	4	...	...	...	...	2	2	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	1	3		
Totals ...	8694	599	1303	3370	1019	1553	755	95	658	564	407	1640	659	1006	924	1007	672	475	272	175	41	20	157	17	4962		

City Hospital North, Everton District.  
 " " South, Toxteth " } All within the City.  
 " " East, West Derby " }  
 " " Fazakerley Annexe, Fazakerley District.  
 " " Park Hill Sanatorium, Toxteth District.

Deyabrook Hospital, West Derby Rural, ... Outside the City.

All the above Institutions are provided by the Corporation of Liverpool.



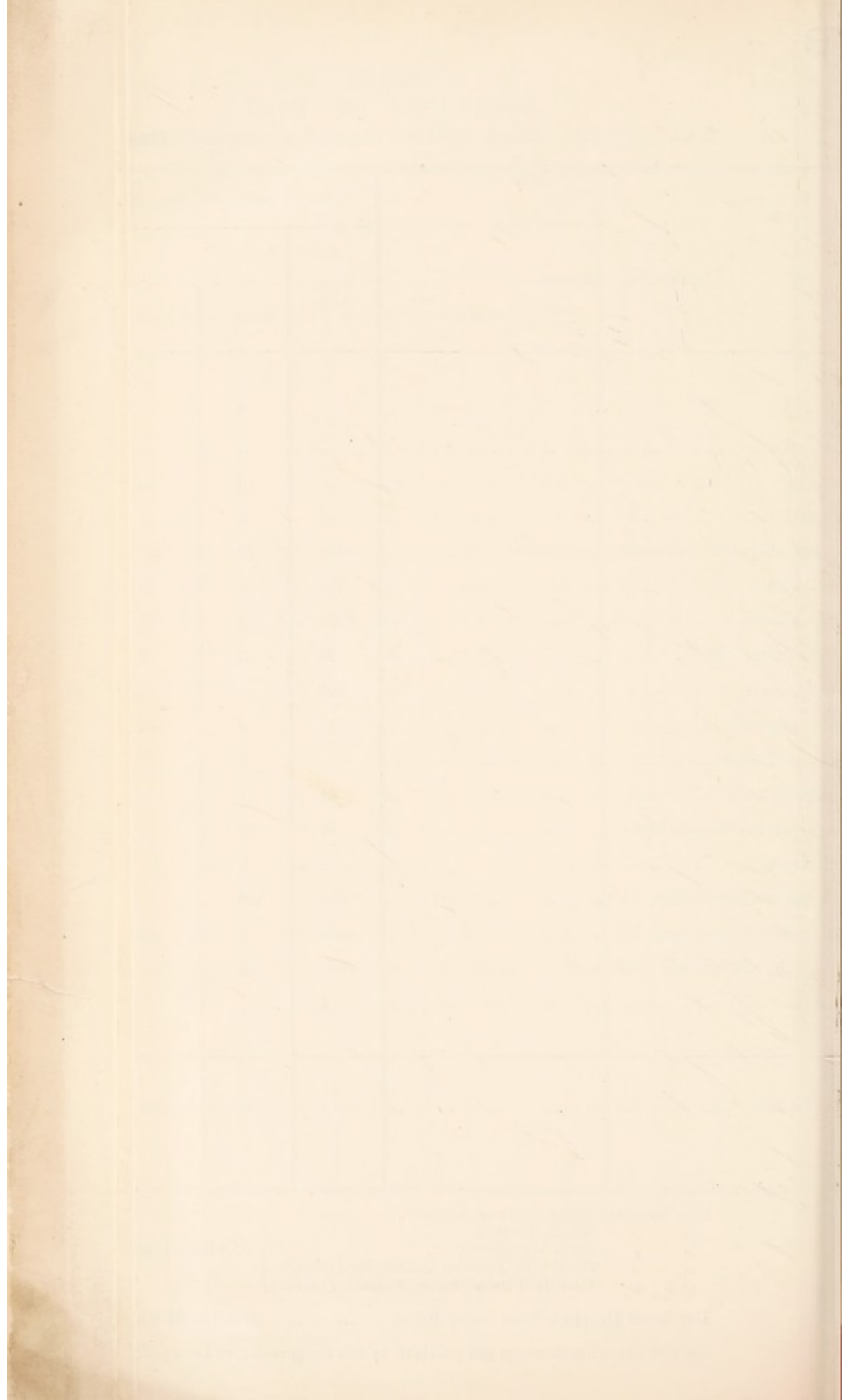


TABLE III.  
CITY OF LIVERPOOL.  
Causes of, and ages at, Death during the Year 1915.  
(See notes at back.)

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) .....	14109	2721	1131	776	610	579	1950	3296	3046	5438
{ Uncertified .....	369	145	17	14	8	3	26	63	93	7
1. Enteric Fever .....	21	—	—	1	3	4	10	3	—	15
2. Small-pox .....	—	—	—	—	—	—	—	—	—	—
3. Measles .....	256	52	107	78	16	—	3	—	—	48
4. Scarlet Fever .....	70	1	8	33	23	4	1	—	—	64
5. Whooping Cough .....	259	97	91	66	5	—	—	—	—	35
6. Diphtheria and Croup. ....	140	6	26	62	42	2	1	1	—	124
7. Influenza .....	100	6	—	1	3	5	18	30	37	10
8. Erysipelas .....	33	6	1	—	1	1	6	12	6	22
9. Phthisis (Pulmonary Tuberculosis) ...	1299	2	11	13	80	217	599	348	29	646
10. Tuberculous Meningitis. ....	141	33	28	32	33	12	—	2	1	76
11. Other Tuberculous Diseases .....	226	30	25	39	46	27	35	23	1	107
12. Cancer, malignant disease. ....	725	—	—	—	2	11	89	380	243	338
13. Rheumatic Fever .....	64	—	—	2	16	8	12	20	6	22
14. Meningitis (See note (d)) .....	195	68	32	31	39	7	8	9	1	40
15. Organic Heart Disease.....	907	—	1	2	28	43	144	362	327	318
16. Bronchitis .....	1599	242	108	37	15	9	99	465	624	460
17. Pneumonia (all forms) .....	1647	343	280	178	97	55	224	321	149	480
18. Other diseases of Respiratory organs	184	13	16	18	7	4	36	64	26	94
19. Diarrhoea and Enteritis. (See note (e))	878	530	225	55	11	2	14	16	25	157
20. Appendicitis and Typhlitis .....	40	—	—	1	11	4	18	6	—	43
21. Cirrhosis of Liver .....	58	—	—	—	—	—	9	42	7	20
21a. Alcoholism .....	36	—	—	—	—	—	16	18	2	20
22. Nephritis and Bright's Disease .....	401	3	8	5	7	19	73	206	80	197
23. Puerperal Fever .....	27	—	—	—	—	6	21	—	—	29
24. Other accidents and diseases of Pregnancy and Parturition .....	41	—	—	—	—	4	37	—	—	26
25. Congenital Debility and Malformation, including Premature Birth .....	1001	908	68	22	3	—	—	—	—	244
26. Violent Deaths, excluding Suicide ...	478	61	15	54	51	29	92	129	47	249
27. Suicide .....	43	—	—	—	—	5	16	19	3	6
28. Other Defined Diseases .....	3538	461	98	60	77	104	385	838	1515	1549
29. Diseases ill-defined or unknown .....	71	4	—	—	2	—	10	45	10	6
Totals .....	14478	2866	1148	790	618	582	1976	3359	3139	5445
Sub-Entries included in above figures—										
Cerebro-Spinal Meningitis .....	23	7	4	4	4	2	2	—	—	13
Poliomyelitis .....	4	1	—	—	1	—	1	—	1	3
*Typhus Fever .....	6	—	—	—	—	—	6	—	—	6
*Anthrax .....	2	—	—	—	—	—	2	—	—	2
*Pneumonia .....	807	66	65	43	66	44	192	235	96	261

\* 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.

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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 Diarrhoea and Enteritis at all ages. (In the "Short List" deaths from Diarrhoea, 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 1915.

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	...	...	...	...	...	...	435	111	119	97	762	543	530	427	459	2721
	Uncertified	...	...	...	...	...	...	67	5	4	4	80	20	21	17	7	145
Small-pox								—	—	—	—	—	—	—	—	—	—
Chicken-pox								—	—	—	—	—	—	1	—	1	2
Measles								—	—	—	—	—	2	4	16	30	52
Scarlet Fever								—	—	—	—	—	—	—	1	—	1
Whooping Cough								—	—	2	3	5	14	22	21	35	97
Diphtheria and Croup								—	—	—	—	—	1	1	1	3	6
Erysipelas								—	—	3	—	3	1	1	1	—	6
Tuberculous Meningitis								1	—	—	—	1	2	5	9	16	33
Abdominal Tuberculosis (b)								—	—	2	—	2	5	4	5	1	17
Other Tuberculous Diseases								—	—	—	—	—	3	3	2	5	13
Meningitis (not Tuberculous)								—	—	1	—	1	6	15	18	21	61
Convulsions								46	19	18	14	97	54	37	36	20	244
Laryngitis								—	—	—	—	—	2	1	2	—	5
Bronchitis								3	4	8	9	24	51	60	55	52	242
Pneumonia (all forms)								—	1	3	5	9	39	81	98	116	343
Diarrhoea,								—	1	3	4	8	74	123	72	85	362
Enteritis								—	5	6	5	16	25	60	37	30	168
Gastritis								1	—	1	1	3	19	13	9	2	46
Syphilis								1	4	8	—	13	19	10	—	1	43
Rickets								—	—	—	—	—	1	1	1	—	3
Suffocation, overlying								3	—	3	4	10	26	10	4	—	50
Injury at Birth								15	—	—	—	15	—	—	—	—	15
Atelectasis								29	1	4	2	36	4	—	—	—	40
Congenital Malformations (c)								22	10	4	4	40	10	5	2	2	59
Premature Birth								289	39	31	25	384	50	9	2	3	448
Atrophy, Debility and Marasmus...								67	27	21	15	130	135	71	35	30	401
Other Causes								25	5	5	10	45	20	14	17	13	109
								502	116	123	101	842	563	551	444	466	2866

Nett Births in the year { Legitimate ... 20,780  
Illegitimate ... 806

Nett Deaths in the year of { Legitimate Infants 2,678  
Illegitimate Infants 188

#### 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.

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In recording the facts under the various headings of Tables I, II., III. and IV., attention has been drawn to the notes on the Tables.

## CITY OF LIVERPOOL.

Deaths of Soldiers and Sailors of H.M. Forces in the City of Liverpool during the year 1915 and recorded as per Memorandum of the Registrar General dated 1st November, 1915.

Cause of Death.	Number of Deaths.
Typhoid Fever ... ..	2
Measles ... ..	2
Scarlet Fever ... ..	1
Influenza ... ..	1
Anthrax ... ..	1
Tetanus ... ..	1
Tuberculosis, Pulmonary ... ..	5
" Other Organs ... ..	1
Cancer, Buccal Cavity ... ..	1
" Stomach, &c. ... ..	3
" Intestines ... ..	1
" Other Forms ... ..	1
Rheumatic Fever ... ..	1
Anæmia ... ..	1
Alcoholism ... ..	1
Cerebral Hæmorrhage ... ..	1
Mastoid Disease ... ..	3
Endocarditis ... ..	1
Disease of Blood Vessels ... ..	1
Bronchitis ... ..	1
Broncho-pneumonia ... ..	1
Pneumonia ... ..	12
Ulcer of Stomach ... ..	3
Appendicitis ... ..	2
Peritonitis ... ..	2
Acute Nephritis ... ..	2
Bright's Disease ... ..	1
Disease of Prostate ... ..	1
Suicide by Throat Cutting ... ..	2
" Hanging ... ..	1
" Shooting ... ..	1
Accidentally Drowned ... ..	3
Injuries ... ..	5
Shrapnel, Gunshot, and Shell Wounds ... ..	23
Total ... ..	89





DEATHS REGISTERED IN THE CITY OF LIVERPOOL,  
DURING THE YEAR ENDING SATURDAY, 1ST JANUARY, 1916.

[illegible]

