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HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING

1916

BY

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Late President of the Liverpool Medical Institution.


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LIVERPOOL

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APPENDIX.

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

Table of Deaths of Soldiers and Sailors of H.M. Forces.

Table of Total Deaths registered in the City.

PREFACE.

It has been thought desirable to follow the procedure of the two preceding years and to reduce the Annual Report upon the health of the City to the smallest compass.

The circumstances referred to in the Report for 1915 continued throughout the year in regard to the conditions consequent upon the taking up of military duties by so many members of the different sections of the staff. The positions left vacant by an increasing number of the permanent staff joining the forces were filled as far as possible by the appointment of temporary officers, many of them females. Although a considerable amount of additional work fell upon the permanent staff, every effort has been made to cope with the various problems affecting the sanitary service arising in a large community, and it is gratifying to record that the health of the City has been well maintained.

The birthrate still continues to decline, having fallen in 1916 to 26.6, compared with 33 per 1,000 ten years ago. This rate is, however, considerably above that for England and Wales as a whole, viz., 21.6 per 1,000.

The most satisfactory feature of the statistics is revealed in the fact that the infant mortality rate has fallen to 117 (the lowest ever recorded), as against 133 in 1915 and 171 ten years ago.

The general death rate declined to 17.9, as against 18.7 in the previous year. This is the same rate as in 1910 and, with the exception of the rate for 1912, viz., 17.7, is the lowest on record.

E. W. HOPE,

MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,

MUNICIPAL OFFICES,

LIVERPOOL, *17th May, 1917.*

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SUMMARY

OF

VITAL STATISTICS FOR 1916.

Area of City	21,219	Acres.
		(33 square miles)
Population (estimated to the middle of the year)	777,247	
Births	20,679,	Birth-rate 26·6.
Deaths	13,943,	Death-rate 17·9.
Infantile Mortality	2,421	Deaths under one year.
Infant Mortality Rate	117	per 1,000 Births.
Zymotic Death-rate (7 principal Zymotic Diseases)	1·7	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 1916 was estimated to be 777,247, an increase over the previous year of 4,652.

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, December 30th, 1916, the returns of the local registrars recorded 20,679 births within the City, equal to a rate of 26·6 per 1,000 of the population, the average of the previous five years (1911-1915) being 29·4. The rates are calculated upon the corrected population as ascertained by the Census Returns of 1901 and 1911. Of the total births 10,540 were males and 10,139 were females. The number of illegitimate births was 903, or 4·4 per cent. of the total births, 472 being males and 431 females.

The Registrar General intimated that 77 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 23·0 per 1,000 of population, as well as of England and Wales taken as a whole, where the rate is 21·6 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.		1916.		Per-centage born in hospitals and other institutions.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Births.	Rate per 1000	
Scotland	210	207	192	204	187	190	189	196	1575	35.3	4.6
Exchange	133	131	112	112	122	133	99	113	955	26.8	11.2
Abercromby	113	110	100	90	136	144	105	128	926	21.9	7.8
Everton	469	474	484	473	487	443	460	398	3688	30.7	2.9
Kirkdale	291	266	253	250	262	251	215	216	2004	29.9	2.6
West Derby—West	331	298	326	310	342	299	307	287	2500	29.4	5.4
Toxteth	364	370	386	352	352	345	399	306	2874	28.6	3.9
Walton	260	267	256	235	276	263	228	213	1998	23.3	1.8
West Derby—East	189	198	249	181	201	195	190	180	1583	22.0	2.2
Wavertree	135	158	159	133	141	108	126	128	1088	23.1	2.4
Toxteth—East	67	83	75	86	84	82	80	75	632	17.4	2.2
(late Toxteth Rural)											
Garston	68	81	84	94	82	79	70	88	646	23.3	1.5
Fazakerley	7	16	12	17	7	10	17	15	101	16.1	1.0
Woolton	14	8	16	21	12	14	9	15	109	15.7	1.8
City	2651	2667	2704	2558	2691	2556	2494	2358	20679	26.6	3.8

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 1916 being 3.8, that 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.
1892	519,590	17,758	34·2
1893	520,882	18,328	35·2
1894	522,178	17,893	34·3
¹ 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
² 1902	707,027	24,283	34·2
1903	710,874	23,910	33·6
1904	714,743	24,278	33·9
³ 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
⁴ 1914	767,992	23,065	30·0
1915	772,595	21,586	27·9
1916	777,247	20,679	26·6

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.

¹ City area extended, a population of 129,045 included.

² Garston included with a population of 17,289.

³ Fazakerley included with a population of 2,892.

⁴ Woolton, Allerton and Childwall included with a population of 6,882.

DEATHS.

The total death-rate of the city during the year was 17·9 per 1,000, as against 18·7 during the preceding year. Full details in regard to the various causes of death are set out in the tables to be found in the Appendix.

The deaths in Public Institutions numbered 5,420, and included 658 persons not resident in the city area. The various Institutions are shown in the following Table:—

	Total Deaths.	Non-Residents of City.
Parish Institution (Brownlow Hill) ...	984	10
Royal Infirmary	292	89
Children's Infirmary	296	34
Maternity Hospital	48	9
Consumption Hospital	16	2
Samaritan Hospital	5	—
Eye and Ear Infirmary	8	3
David Lewis Northern Hospital	196	43
Stanley Hospital	80	17
Royal Southern Hospital	241	31
Mill Road Infirmary	292	53
Hospital for Women	30	11
City Hospital North	53	2
Do. South	25	—
Do. Parkhill	76	3
Do. East, Mill Lane	106	—
Do. Fazakerley	47	6
<hr/>		<hr/>
Carried forward	2,795	313

Brought forward	...	2,795	313
Walton Institution (Rice Lane)	... ..	1,383	243
Belmont Road Institution	... ..	218	27
Highfield Infirmary	... ..	9	9
St. Joseph's Home	... ..	55	14
Toxteth Institution (Smithdown Road)	...	482	4
Home for Incurables	... ..	6	3
House of Providence	... ..	5	1
Tuebrook Villa Asylum	... ..	6	2
Turner Memorial Home	... ..	9	5
St. Augustine's Home	... ..	22	5
Kirkdale Home	... ..	212	3
Garston Hospital	... ..	16	—
Alder Hey Hospital	... ..	164	24
H.M. Prison, Walton	... ..	8	—
Other Institutions	... ..	30	5
		<hr/>	<hr/>
		5,420	658
		<hr/>	<hr/>

The deaths recorded in the Report relate to the civilian population. The deaths of Soldiers and Sailors in H.M. Forces have been excluded from the ordinary tables, but are specially set out in Table D2 in the Appendix, in accordance with the instructions of the Registrar General.

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.
1892	519,590	12,671	24·4
1893	520,882	13,919	26·7
1894	522,178	12,073	23·1
¹ 1895	652,523	16,215	24·8
1896	658,050	14,060	21·4
1897	663,633	15,117	22·8
1898	669,243	14,853	22·2
1899	674,912	16,276	24·1
1900	680,628	15,785	23·1
1901	686,332	14,879	21·6
² 1902	707,027	15,396	21·7
1903	710,874	14,240	20·0
1904	714,743	15,851	22·1
³ 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
⁴ 1914	767,992	15,046	19·5
1915	772,595	14,478	18·7
1916	777,247	13,943	17·9

¹ City area extended. ² Garston included. ³ Fazakerley included.

⁴ 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.

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.	1916.		Corrected Average Rate per 1000 during the five years 1911-1915.
		Deaths.	Rate per 1000	
Scotland	44,560	1,150	25·8	29·6
Exchange... ..	35,587	1,000	28·1	29·9
Abercromby	42,235	983	23·3	21·1
Everton	120,258	2,440	20·3	21·6
Kirkdale	66,971	1,251	18·7	19·9
West Derby—West	85,113	1,579	18·6	18·1
Toxteth	100,352	1,976	19·7	19·7
Walton	85,646	1,115	13·0	13·0
West Derby—East	72,053	974	13·5	13·5
Wavertree	47,164	571	12·1	12·5
Toxteth—East (late Toxteth Rural)	36,342	414	11·4	11·8
Garston... ..	27,768	324	11·7	14·2
Fazakerley	6,271	53	8·5	11·4
Woolton	6,927	77	11·1	—
No Address	—	36	—	—
City	777,247	13,943	17·9	18·7

THE FOLLOWING TABLE SHOWS THE ANNUAL RATE OF MORTALITY PER 1,000 AT EACH OF TWELVE AGE-PERIODS DURING THE YEAR 1916 IN LIVERPOOL, AS WELL AS THE TOTAL NUMBER OF DEATHS. THE DIFFERENCES WHICH THE FIGURES SHOW ARE VERY STRIKING:—

1916.	* Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 and up- wards.	Total at all Ages.
Rate of Mortality per 1,000 living at ages indicated.	117.0	55.3	13.9	4.8	3.3	4.7	7.5	14.6	29.6	56.2	121.6	219.8	17.9
Total Number of Deaths at each Age-Period.	2421	990	791	415	489	607	925	1275	1680	1956	1855	539	13943
Approximate Population	19618	17899	56971	86742	146643	129883	123127	87035	56797	34828	15252	2452	777247

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

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 1916.
	March	June.	Sept.	Dec.	
I.—General Diseases	1075	1115	781	845	3816
II.—Diseases of the Nervous System, &c.	412	201	254	373	1240
III.— „ „ Circulatory „	441	356	286	347	1430
IV.— „ „ Respiratory „	1221	753	457	979	3410
V.— „ „ Digestive „	159	153	503	308	1123
VI.— „ „ Genito Urinary System.....	129	88	101	123	441
VII.—The Puerperal State	16	14	24	16	70
VIII.—Diseases of the Skin, etc.,	31	20	17	19	87
IX.— „ „ Bones, etc.,	5	5	4	—	14
X.—Malformations	29	21	11	24	85
XI.—Diseases of Early Infancy	202	180	221	222	825
XII.—Old Age	273	158	139	239	809
XIII.—Affections from External Causes.....	166	99	100	143	508
XIV.—Ill-defined Causes	21	24	14	26	85
All Causes	4,180	3,187	2,912	3,664	13,943

ZYMOTIC DISEASES.

Zymotic diseases were the cause of 1,699 deaths during the year 1916, and accounted for 14·3 per cent. of the total mortality within the City during this period. The total death-rate from zymotic diseases per 1,000 was 2·2. The average rate for the preceding five years (1911-15) was 2·9. The death-rate from the seven principal zymotic diseases was 1·7 per 1,000. The deaths during 1916 were as follows:—

	QUARTERS.				YEAR 1916.
	March.	June.	Sept.	Dec.	
Total Zymotics	401	390	547	361	1,699
Smallpox .....	...	...	...	...	...
Measles	54	115	56	39	264
Scarlet Fever.....	12	21	16	14	63
* Diphtheria	42	45	20	36	143
Whooping-cough	101	86	37	11	235
† Diarrhœa.....	41	31	376	179	627
Influenza	95	35	8	33	171
Fever {	Typhus	1	...	1	2
	Enteric	4	3	2	11
Other Zymotics.....	51	54	32	46	183

* Including 6 deaths certified as due to croup.

† Including 193 deaths of infants under 2 years of age certified as due to Enteritis.

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 peculiarly liable to the importation of various forms of infectious disease. The measures which have been adopted have been successful in preventing any outbreaks of a serious nature obtaining a footing in the City.

A localised outbreak of plague occurred in Liverpool during the latter part of September. The infection was believed to be imported. The cases were six in number, and were limited to three households. The first family affected lived in B—— Street. The Coroner held an inquest on a female member of this family, who developed an illness resembling ptomaine poisoning on the 5th September, and died on the 8th September, and in the light of what occurred in this house subsequently there is little doubt that she died from plague.

On September 17th, her brother (aged nine years) took ill with pains in the abdomen and vomiting. Medical attendance, which was called in on the 18th, failed to recognise the true nature of the disease, pneumonia being diagnosed. He died on the 19th September. Another doctor, called in on the following day to see the boy's father (aged 53 years) and his brother (aged 12 years), who had now developed similar symptoms, had the cases removed to hospital, where Dr. Hanna, Assistant Medical Officer of Health (who was asked to see the cases by the Medical Officer of Health) diagnosed them as plague. The father and son, along with the mother, were subsequently removed for isolation. The father died in hospital, but the son recovered. The mother developed a mild attack of plague whilst under observation in hospital. Post mortem examination showed indications that the cases were due to plague, and subsequent bacteriological examination by the City Bacteriologist and by the Local Government Board confirmed the suspicion.

On September 25th, a labourer (aged 56 years), who lived in E—— Street and worked in a grain warehouse at the Docks, became unwell.

A doctor called in on the following day, suspecting plague, reported the case to the Medical Officer of Health by telephone, the house was visited, and the suspicion confirmed. The man and his wife were removed for isolation. The patient died on September 28th, but his wife did not develop the disease. This case was subsequently confirmed bacteriologically by the City Bacteriologist and the Local Government Board.

The final case of plague occurred in the person of a rag sorter working at a rag-sorting business in the City. The patient lived in T—Street, and became ill with pains in the head and a swelling under the arm-pit on October 2nd. She died early on October 4th without having received any medical attention. The matter was reported to the City Coroner, who referred the case to the Health Department. A post-mortem showed that death was due to plague; this was confirmed by bacteriological evidence. Five contacts with this case—one of whom was a bed-fellow of the patient during her illness, two co-workers and three from the infected house—were removed to the Isolation Hospital, where they remained until all possibility of the disease arising was excluded. None of these contacts developed plague.

In all these cases the immediate contacts having been removed for isolation, enquiries were made and house to house inspection carried out in the immediate neighbourhood to obtain information as to sickness or the presence of sick or dead rats. The City Engineer cleansed all the ashbins, rat traps were placed in the sewers and in houses, yards, etc., in the immediate locality. No plague-infected rats were found in any of the districts of residence.

The houses were thoroughly disinfected, the personal clothing and furniture were removed, burnt or disinfected. The floors and other places where plague infection might be found were thoroughly sprayed.

In the case of the third death from plague the rag store was fumigated and the houses of all the contacts disinfected. The loose rags in which the deceased woman worked were removed and burnt at the Destructor. Twenty members of the staff who had been in close contact with the disease were inoculated with Haffkin's plague prophylactic.

The firm which employed the patient living in B—— Street, who was a carter, were engaged in carting goods to and from the docks, and goods were frequently left overnight at the premises where this man resided. The association of carters and goods may have had some connection with the outbreak of the disease.

The patient living in E—— Street worked at a grain warehouse at the docks, where several dead rats had recently been found; a few of these were found to be infected with plague.

Measures were taken by the Local Authority to remove all refuse. General cleansing of the warehouse was also undertaken, and all rat runs permanently closed. Trapping and searching were continued over the whole area for a considerable time.

Special instructions have been made widely known by circulars in regard to rats and plague, and the measures necessary in case dead or sick rats should be discovered, or in case plague in man should arise. These have been widely distributed to ship masters, dock masters, warehouse keepers, rat catchers, and others.

A recent local Act prohibits live rats from being brought from any ship in the docks into the City.

From the experience at other seaports, the importation of foreign rags and their handling and sorting in rag stores lends opportunities for the spread of plague, and the fact that one of the sufferers from plague worked in a rag store, caused complete enquiries to be made into the origin of all rags coming to this store; no foreign rags of any kind however had been received, the rags sorted at this store being all of local origin and obtained from householders. Returns obtained from the Customs Authorities regarding the arrivals of foreign rags gave no clue to the origin of this case of plague. It was deemed advisable, however, to thoroughly disinfect and cleanse both the rag store concerned and also to purchase a quantity of loose rags, which were taken to the Destructor and burnt.

The outbreak confirms our experience of previous years that these localised outbreaks are all due to simple and specific importations of

plague, which, once detected and promptly dealt with, can give little cause for anxiety. A prompt examination of all doubtful or suspected cases and a continuous and energetic campaign of rat catching and rat destruction both in the City, ships and docks, is, however, extremely important.

No case of smallpox occurred in the City during the year.

Two patients were notified to be suffering from typhus fever. The first, an inmate of Toxteth Institution, Smithdown Road, was removed to the infectious diseases hospital in March, and died soon after admission. As there was a doubt as to the nature of the disease a post mortem examination revealed that the illness was not one of an infectious character. The second case was notified from Brownlow Hill Institution on November 1st. This patient was admitted there on 29th October, and died next day. The nature of the disease in this case was also probably of a doubtful character. This disease was very prevalent in the City many years ago, but very few cases have come under notice in recent years.

Enteric fever again showed a considerable reduction, only 11 deaths from this disease being registered, by far the smallest number ever yet recorded. The average number during the preceding ten years being 50.

Scarlet fever followed much its usual course, and a good number of cases—many of a very mild character—were reported during the month of April, and again in September, and the two following months. The total number of deaths was 63, as against 70 in the previous year, and an average of 141 during the preceding ten years. Eighty-three per cent. of the cases were removed to hospital, and the case mortality was 2.9 per cent. Sixty-two per cent. of the fatal cases were of children under five years of age.

On the 1st January of this year the Public Health (Measles and German Measles) Regulations, 1915, came into operation, and consequently cases of these diseases became notifiable to the Medical Officer of Health. This has led to a large increase in the number having to be dealt with; no fewer than 14,732 being reported during the year,

over 9,000 of these occurring in the Spring and early Summer months—March to June. The number of cases removed to hospital was 1,096, a very much larger number than had ever received hospital treatment in any previous year. The deaths numbered 264, as against an average of 438 in the preceding ten years. The order of the Local Government Board dealing with the notification of measles, authorises local authorities to provide medical, including nursing, assistance for the poorer inhabitants in their districts, and in accordance therewith the Health Committee appointed four nurses to deal with such cases as were contemplated by the Order. In consequence of the visits of these nurses many cases have been removed for hospital treatment that otherwise would have been left at home without adequate care and attention.

The deaths from whooping cough were 235, as against an average of 296 in the preceding ten years.

Deaths from diphtheria numbered 143, as compared with an average of 112 in the preceding ten years.

Nine cases of poliomyelitis came under the notice of the Department during the year, and in 4 cases death occurred. Five of the patients were removed to hospital.

Thirty-seven cases of cerebro-spinal fever were recorded during the year, with 23 deaths. Thirty-two cases were treated in hospital. Seven 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.

Fifteen cases of anthrax were notified to the Department during the year, and in three cases death occurred. A large proportion of the cases were amongst warehousemen and porters. Cases were also reported amongst those handling or in some way associated with imported hides, others were hair curlers, ship painters, or labourers.

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

Years.	Small Pox.	Typhus.	Enteric.	Scarlet Fever.	Measles.	Whooping Cough.	Diarrhœa.
1866 to 1875	237·4	652·8	† —	789·4	425·7	496·8	995·3
1876 to 1885	90·8	238·0	126·4	421·2	517·8	472·3	658·4
1886 to 1895	8·8	37·1	153·0	257·5	399·5	322·4	600·6
*1896 to 1905	19·5	25·1	134·4	201·3	329·0	330·4	1,061·9
1906 to 1915	0·04	5·7	50·3	141·6	438·0	296·7	848·0
Year 1916.....	—	2	11	63	264	235	627

* Including extended City area.

† Records not available.

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

YEARS.	SMALLPOX.		TYPHUS.		ENTERIC.		SCARLET FEVER.		MEASLES.		WHOOPING COUGH.		DIARRHŒA.	
	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.
1866 to 1875	141.7	95.7	*—	*—	* —	—	187.7	601.7	14.4	411.3	9.9	486.9	105.7	889.6
1876 to 1885	62.5	28.3	+190.0	+5.1	+110.3	+12.1	137.0	284.2	35.4	482.4	18.6	453.7	61.9	596.5
1886 to 1895	6.2	2.6	36.2	.9	142.0	11.0	87.6	169.9	28.3	371.2	15.1	307.3	60.2	540.4
**1896 to 1905	14.5	5.0	24.2	.9	128.4	6.0	61.7	139.6	17.1	311.9	11.9	318.5	53.6	1,008.3
1906 to 1915	.04	—	5.5	.2	49.0	1.3	50.9	90.7	23.9	414.1	9.2	287.5	30.8	817.2
1916	—	—	2	—	11	—	24	39	17	247	9	226	20	607

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

† During the six years, 1880-1885.

** Including extended City area.

The following table shows the number of deaths, the annual average death-rate per 100,000 of the population from the undermentioned forms of disease during the last six decades, 1856 to 1915, and during 1916:—

SE.	Average Population	1856 to 1865.	1866 to 1875.	1876 to 1885.	1886 to 1895.	1896† to 1905.	1906 to 1915	1916.
		443,938.	493,405.	538,651.	536,974.	691,351.	747,015.	777,247.
r	Total Deaths ...	5,994	7,894	4,212	2,575	2,013	1,416	63
	Rate per 100,000 per annum.	135.0	159.9	78.1	47.9	29.1	19.0	8.1
r	Total Deaths ...	7,482	6,528	2,380	371	251	57	2
	Rate per 100,000 per annum.	168.5	132.2	44.1	6.9	3.6	0.8	0.25
r	Total Deaths ...	*	*	1,264	1,530	1,344	503	11
	Rate per 100,000 per annum.	—	—	21.5	28.4	19.3	6.7	1.4
	Total Deaths ...	3,215	4,257	5,178	3,995	3,290	4,380	264
	Rate per 100,000 per annum.	72.4	86.2	96.1	74.3	47.5	58.6	34.0
ig h	Total Deaths ...	4,779	4,968	4,723	3,224	3,304	2,967	235
	Rate per 100,000 per annum.	107.6	100.6	87.6	60.0	47.7	39.7	30.2
	Total Deaths ...	1,673	2,374	908	88	195	3	0
	Rate per 100,000 per annum.	37.6	48.1	16.8	1.6	2.8	0.04	0
	Total Deaths ...	15,572	16,476	13,754	11,436	12,632	12,010	1,254
	Rate per 100,000 per annum.	350.7	333.9	255.3	212.9	182.7	160.7	161.3

† City Boundaries extended in 1895.

* Records not available.

CANCER.

The following table indicates the number of deaths from Cancer during the year 1916, and the part of the body affected:—

DISEASE.	Males.	Females.	Total.
Cancer of Buccal Cavity	61	8	69
„ Stomach and Bowels.....	117	139	256
„ Intestines	84	99	183
„ Breast	1	63	64
„ Female Generative Organs	—	103	103
„ Parts not specified	77	39	116
Total	340	451	791

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.

1918.	Barometer. Mean.	Temperature. Mean.	RAINFALL.		Mean Humidity of the air (Complete Saturation equal 100).
			Amount.	No. of days on which .01 in. or more fell.	
	Inches.	Degrees.	Inches.		
January	30.063	46.6	1.352	18	78
February	29.744	39.4	3.060	22	85
March	29.715	38.6	1.668	14	82
April	29.876	46.9	1.441	13	80
May	29.910	52.9	2.768	18	78
June	29.911	53.5	1.942	14	76
July	30.027	59.2	1.174	11	81
August	29.914	61.4	1.900	12	79
September	30.040	56.4	2.353	12	80
October	29.741	51.6	3.381	24	81
November	29.680	45.2	2.169	19	85
December	29.614	37.5	1.658	18	89

DIFFERENCE FROM THE AVERAGE QUANTITIES OBSERVED DURING THE
LAST 50 YEARS.

1916.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January	0.116	...	7.4	...	...	0.775
February .....	...	0.170	...	1.9	1.353	...
March .....	...	0.162	...	3.6	...	0.141
April .....	...	0.032	...	0.4	...	0.191
May .....	...	0.056	1.1	...	0.856	...
June .....	...	0.074	...	3.9	...	0.152
July	0.078	...	...	1.6	...	1.483
August .....	...	0.004	0.9	...	...	1.092
September	0.069	...	0.2	...	...	0.376
October.....	...	0.133	2.0	...	...	0.033
November .....	...	0.208	2.0	...	...	0.397
December.....	...	0.223	...	2.3	...	1.014

OBSERVATIONS OF VELOCITY OF WIND.

1916.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date.	Minimum Hourly Velocity.	Date.
	Miles.	Miles		Miles.	
January	24.2	68	Jan. 1	0	January 27, 31.
February....	20.7	69	Feb. 16	0	February 19.
March.....	17.4	48	March 27	1	March 16, 17, 19.
April	18.0	58	April 18	1	April 3, 19, 21, 27.
May	12.5	38	May 15	0	May 10.
June	17.1	42	June 5	0	June 18.
July	13.3	36	July 11	1	July 18, 21, 23, 26, 27, 31.
August	12.3	28	Aug. 20	1	August 6, 9, 10, 17, 22, 29.
September..	16.1	50	Sept. 18	1	September 6, 7, 8, 20, 23.
October.....	21.8	54	Oct. 7	3	October 13, 18.
November...	18.9	50	Nov. 24	1	November 12, 13, 14, 20.
December...	13.8	49	Dec. 23	0	December 17.

CHILD WELFARE.

INFANT MORTALITY AND ITS PREVENTION.

The question of Infant Mortality and the preventive measures adopted for further protecting child life has been fully dealt with in Special Reports 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 1916 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	1,575	230	146
Exchange	955	173	181
Abercromby	926	127	137
Everton	3,688	449	122
Kirkdale	2,004	244	123
West Derby (West)	2,500	294	117
Toxteth	2,874	366	127
Walton	1,998	174	87
West Derby (East)	1,583	147	93
Wavertree	1,088	95	87
Toxteth—East	632	46	73
(late Toxteth Rural)			
Garston	646	64	99
Fazakerley	101	5	49
Woolton.....	109	7	64
City	20,679	2,421	117

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.
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
1916	...	...	...	2,421	117

THE WORK OF FEMALE SANITARY STAFF.

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.

Number of Births notified during the year ...	...	17,687
Number of Births visited ,, ,, ...	...	16,106
Percentage visited ,, ,, ...	...	91

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 30 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:—

	1914.	1915.	1916.
Ringworm on the head	812	780	663
Ringworm on the body	842	842	703
Itch	512	339	667
Sore eyes	3,301	2,999	1,968
Sore heads, Impetigo, Eczema, &c...	7,612	7,408	6,609
Other skin diseases.....	321	344	288
Verminous cases	4,080	3,757	3,646
Neglect cases.....	6,870	7,431	11,271
Total.....	24,350	23,900	25,815

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, 1916.

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	16	181	213	410	188	151	123	104	86	57	76	785	1195
Diphtheria	3	88	91	182	73	55	54	30	30	27	29	298	480
Measles	237	2401	2148	4786	1014	580	367	259	224	190	266	2900	7686
Whooping Cough ...	78	641	463	1182	185	57	36	30	12	8	14	342	1524
Chicken-pox	38	474	364	876	205	106	74	32	28	26	25	496	1372
Mumps	18	304	407	729	306	163	120	100	71	68	56	884	1613
Totals	390	4089	3686	8165	1971	1112	774	555	451	376	466	5705	13870
Per cent. of those on Roll.....	25.5	30.7	23.1	27.7	12.3	6.7	4.8	3.5	3.0	2.6	3.6	5.3	10.2

Table II.—SCHOOL CASES (Infectious Diseases).

MONTHLY DISTRIBUTION—January-December, 1916.

DISEASE.	January.	February.	March.	April.	May.	June.	*July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	112	98	116	126	125	69	59	80	102	117	124	67	1195
Diphtheria	57	51	42	50	34	30	22	32	45	43	39	35	480
Measles	425	551	925	1479	1495	1208	433	66	111	148	453	397	7686
Whooping Cough ...	419	225	239	237	192	87	12	41	26	15	20	11	1524
Chicken-pox	182	90	147	113	111	143	30	19	101	138	138	160	1372
Mumps	101	185	231	217	174	164	19	15	40	99	183	185	1613
Totals.....	1296	1200	1700	2222	2131	1696	575	253	425	560	957	855	13870

* Holidays—July 6th–August 15th.

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

Date of Notice.	School.	Department.	Nature of Disease.	Period of Closure.
1916				
Jan. 15	St. Paul's R.C., West Derby	Infants'	Measles	Until 5th Feb.
Feb. 28	Aigburth C.E.	„	Mumps	„ 20th Mar.
Mar. 9	Parkhill Road, C.E... ..	„	Mumps and Measles	„ 3rd April
April, 7	St. Margaret's C.E., Lombard Street	„	Measles and Whooping Cough	Until after Easter Holidays
„ 12	St. Athanasius' National ...	„	Measles, &c.	Until 8th May
May 12	Arnot Street Council	„	„	„ 27th May
June 8	Duncombe Road Council ...	„	„	„ 1st July
Dec. 12	Dovedale Road Council	„	„	Until after Christmas Holidays.
„ 15	Barlow Lane Council.....	„	„	Do. do.

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:—

	<u>1915.</u>	<u>1916.</u>
No. of Visits to Schools	2,518	2,221
,, found incorrect	57	55
,, Water-closets and latrines found dirty or defective	72	64
,, Notices issued for defects	97	38

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; 10,816 cards were sent last year, as against 11,529 in the preceding year.

INFANT WELFARE CENTRES.

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 6,498, viz., 1,413 on the books at the beginning of the year, and 5,085 admitted during the year. Since the commencement of the scheme the numbers which have been supplied are as follows:—

Netherfield Road Centre	7,178
Earle Road do.	5,160
Park Road do. (extended at the beginning of year)	6,572
Cazneau Street do.	4,943
Boaler Street do.	2,615
Hornby Street do. (closed since 1911)	361
Rathbone Road do. (recently opened)	121
<hr/>	
Total supplied from Centres	26,950
„ supplied from Dairies and Agents	10,877
<hr/>	
	37,827
<hr/>	

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

Number remaining on the books from previous year...	1,413
Number admitted during the year	5,085
	<hr/>
Total.....	6,498
	<hr/>
Number of discharges during the year	3,941
Number remaining on books at end of year	2,557

It will be seen that the above figures show an increase in the number of customers remaining on the books of 1,144.

The number of attendances of mothers and infants at the Centres during the year for weighing and advice, etc., was 27,726.

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 7,694.

DRIED MILK.

The infants fed on dried milk during the year were 681, of whom 530 were admitted during the year.

The number remaining on the books at the end of the year was 323.

MIDWIVES ACT, 1902.

During the year 1916 two hundred and twenty-six midwives gave the required notice, under Section 10, of their intention to practise midwifery. The qualifications of these women are as follows, viz.:—

	<u>1916.</u>
Central Midwives Board Examination	111
Ladies' Charity and Lying-in Hospital	54
London Obstetrical Society	23
Rotunda Hospital, Dublin	3
National Maternity Hospital, Dublin	1
Manchester Maternity Hospital	2
Glasgow Maternity Hospital	1
Coombe Lying-in Hospital	1
Limerick Lying-in Hospital	1
St. Mary's Hospital, Manchester	1
In bona-fide practice prior to the 31st July, 1901	28
	<hr/> 226 <hr/>

Of the above midwives 198 received their training in the following Institutions, &c., viz.:—

Liverpool Maternity Hospital	149
Walton Institution, Rice Lane, Liverpool	3
Maternity Hospital, Birkenhead	2
Rotunda Hospital, Dublin	3
Sir Patrick Dun Hospital, Dublin	2
National Maternity Hospital, Dublin... ..	1
St. Mary's Hospital, Manchester	2
Maternity Hospital, Manchester	2
Do. do. Clapham, London	3
Carried forward	<hr/> 167 <hr/>

Brought forward	...	...	...	167
Mothers' Hospital, Clapham, London...	...	...	...	1
Maternity Hospital, York Road, London	...	...	...	3
Do. do. Plaistow, London	...	...	...	2
Bromley Hall, Bromley, London	...	...	...	1
Maternity Hospital, Sheffield	...	...	...	1
Do. do. Birmingham	...	...	...	2
Do. do. Glasgow	...	...	...	1
Queen Victoria Home, Cheltenham	...	...	...	1
Queen Victoria Home, Cardiff	...	...	...	1
Greenwich Hospital, Blackheath	...	...	...	1
Maternity Hospital, Limerick	...	...	...	1
Union Infirmary, Stockport	...	...	...	1
Under private tuition	...	...	...	15
				<hr/> 198 <hr/>

the remainder (28) were in bona-fide practice prior to the passing of the Midwives Act.

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 14,376 births were attended by these midwives during the year; in addition to these there were 1,474 attended by the midwives on the Staff of the Ladies' Charity, this is 76.6 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 400 births, while 84 attended less than 50 births each.

The average is 73 births to each midwife in practice.

STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING

THE YEARS:—

	1915.		1916.	
Notifications Received from	Births.	Per centage of Births Registered in the City.	Births.	Per centage of Births Registered in the City.
Certified Midwives	15,185	70·34	14,301	69·16
Medical Attendants.....	1,305	6·04	1,480	7·15
Poor Law Institutions	402	1·86	417	2·02
Ladies' } Maternity Hospital...	456	2·11	478	2·31
Charity } District Homes	1,115	5·17	980	4·74
Uncertified Women.....	0	—	0	—
Parents	54	0·25	31	0·15
	18,517	85·78	17,687	85·53

Total Number of Births registered in the City	}	1915	—	21,586
		1916	—	20,679

STILL BIRTHS.

The number of still births notified by midwives was 504, which is at the rate of 3·12 per cent. of the births attended. 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.:—

	1916.
Sixth month	18
Seventh month	109
Eighth month	96
Ninth month	281
Total	<u>504</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:—

	1915.	1916.
MOTHER:—		
Abnormal Presentation:—		
Brow or Face Presentation	35	18
Occipito-posterior Presentation	25	43
Transverse Presentation	41	45
Breech Presentation	32	33
Foot Presentation	6	7
Cord Presentation	22	12
Placenta Prævia	20	13
Deformed Pelvis	67	69
Ante-partum Hæmorrhage	59	73
Post-partum Hæmorrhage	56	47
Retained Placenta or Membranes	86	99
Ruptured Perinæum	173	212
Multiple Births	4	5
Carried forward	<u>626</u>	<u>676</u>

Brought forward	...	...	626	676
Abortion or Premature Birth	...	...	35	23
Pyrexia	...	...	104	97
Eclampsia	...	...	29	21
Obstructed Labour, Uterine Inertia, or requiring Instrumental Assistance	...	...	430	420
Various	...	...	101	142
CHILD:—				
Injury at Birth	...	...	1	—
Malformation	...	...	12	25
Feebleness and Prematurity...	...	...	123	150
Other conditions in child	...	...	31	64
			1,492	1,618

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.

The rules of the Central Midwives' Board provide, amongst other conditions, that the midwife must call in medical aid in certain grave or doubtful conditions of mother or child.

The provision of the National Insurance Maternity Benefit enabled this step to be more easily undertaken, whilst by a resolution of 1st September, 1904, the Health Committee provided for the payment of the doctor's fee in every case where emergency assistance had been rendered, and the medical practitioner had failed to obtain payment of his fee from the patient or from the Poor-Law Authorities.

More recently, viz., in 1913, the local Midwives' Association, at their own request provided a fund, out of which a proportion of the doctor's fee was paid, the Health Committee paying the balance. The arrangement was of value in enabling the midwife to obtain skilled assistance independent from the Health Committee's Grant; it also enabled the mother (often very poor) to obtain the full benefit from the Maternity Grant. A trial of the system, however, showed that it was not as satisfactory as the original one.

The amount paid to doctors last year was £942; of this, £657 was provided by the Midwives' Association, and the balance (£285) 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. :—

1914	...	...	...	...	...	...	£330
1915	...	...	...	...	...	...	£275

The Local Government Board, in the recently issued Order (September, 1916) in connection with Infant and Maternal Welfare, have provided for a Grant of one-half the fee paid to the doctor when called in by midwives to attend necessitous women.

The original system of direct payment of the doctor's fee by the Local Authority in necessitous cases has now been reverted to.

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.

LYING-IN HOMES.

The registration of lying-in homes is very necessary so that supervision may be carried out to ensure that these homes are properly conducted.

At the present time there are thirty-five lying-in homes in Liverpool, and of these twenty-seven are superintended by qualified Midwives, the remaining eight being homes kept by Nurses who are not Midwives, and who call in medical aid.

On the receipt of a notification of a birth in one of these homes the Inspector of Midwives visits the house for the purpose of ascertaining the home address of the patient, and what provision is being made for the infant to receive suitable care.

Number of Lying-in Homes	...	...	...	35
Number of Homes Superintended by Midwives	...			27
Number of Births during 1916:—				
Legitimate Children	...	...	...	105
Illegitimate Children	...	...	...	108
				213

(Of the above number 4 were still-born.)

PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 52, of which 22 proved fatal. This gives a death-rate of 1·06 per 1,000 births in the City.

Thirty-eight cases were removed to hospital, viz.:—5 to Brownlow Hill Infirmary; 2 to Mill Road Infirmary; 22 to Walton Institution, 8 to Toxteth Infirmary, and 1 to the City Hospital, Fazakerley Annexe.

After the usual enquiries were made, 32 cases (of which 13 died) were found to have occurred in the practice of midwives. One midwife had three 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	—
1916	20,679	52	22	1·06	1

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.

INFLAMMATION OF THE EYES OF THE NEWLY-BORN.

Inflammatory affections of the eyes of the new born are not uncommon, and may be due to various causes. A large proportion are due to infection at birth with the organism of gonorrhoea. This is an extremely serious affection, and runs such an acute course that permanent damage to the eye frequently occurs, indeed the sufferer may be rendered blind for life unless proper treatment be immediately applied.

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 practically all 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.

Arrangements have been made with the City Bacteriologist to examine the discharge in every notified case of inflamed eyes in the newly-born. This enables a prompt verification of the disease to be determined. From February to December, 1916, 131 specimens have been submitted for examination; 76, or 58 per cent., gave positive results.

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, 602.

(1)	Reported by Midwives	...	...	...	465
(2)	do. Doctors and Eye Hospital	...			63
(3)	do. Female Inspectors	...	...		67
(4)	do. in other ways	...	...		7

The above cases consisted of:—

(1)	Mild cases	...	...	...	...	351
(2)	Severe cases	...	...	...	...	152
(3)	Under private treatment	...	...	...		12
(4)	Not Ophthalmia Neonatorum	...	...			87

The following is the age distribution, viz. :—

Under one week	230
One week to one month	285

During the year 6,870 visits were paid by the Inspectors as follows :—

319	Cases	required	less than 10 visits.
127	do.	do.	between 10 and 20 visits.
56	do.	do.	between 30 and 40 visits.
6	do.	do.	required over 40 visits.
3	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	360
Do. do. sent to hospital as out-patients	142
Do. do. admitted to hospital	11
Do. do. requiring supervision only	2

It is interesting to note that in 34 cases previous children in the family had been similarly affected.

Number of cases cured	482
Do. do. still under treatment at 31/12/16	28
Do. do. sight of both eyes badly affected	—
Do. do. sight of one eye slightly impaired	2
Do. do. blind in one eye	1
Do. do. not requiring supervision of inspector	2

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 three 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	...	...	...	...	4,605
Enquiries as to cases of Puerperal Fever	...	...	...	...	65
Special enquiries <i>re</i> Accounts for Emergency Assistance					1,314
Visits and re-visits as to cases of Ophthalmia	...				6,870
					<hr/> 12,854 <hr/>

TUBERCULOSIS.

Further progress was made in 1916 by the Public Health Department in dealing with Tuberculosis, and a large amount of valuable work has been carried out in spite of the difficult conditions prevailing. Owing to the War and the consequent depletion of the Medical Staff it has been found necessary to concentrate the greater part of the work of the Department at the Central Tuberculosis Institute. The North and South Tuberculosis Institutes are utilised only for the purpose of affording dispensary treatment, attendance being made at these dispensaries on two afternoons each per week. At these Institutes new applicants, as well as those afforded "after-care," are examined and treated.

Appended are statements giving particulars of the patients and cases examined and treated during the year. The total patients examined by the Tuberculosis Officers during 1916 were 2,124, an increase of 373

persons over 1915. These numbers include all forms of Tuberculosis, and comprise not only insured persons and their dependants, but non-insured members of the community for whom treatment was desired. Of the 2,124 persons examined a definite diagnosis of Tuberculosis was established in 1,825 cases, or 85·9 per cent., for whom some form of treatment was arranged. In 299 cases, or 14·1 per cent., no evidence of Tuberculosis could be found, and the practitioner in charge of each case was so informed. (See Table No. 1.)

A reference to the first statement will shew that the treatment first afforded to applicants was as under :—

Domiciliary	...	..	...	...	...	1,191
Dispensary	...	...	...	...	...	205
Institutional	...	...	...	...	...	429
						<hr/>
Total	...	...	...	...	...	1,825
						<hr/>

Many of the above persons received treatment more than once, and the total *cases* treated, as distinguished from *persons*, is shewn in columns 8 to 11 of the same statement, viz. :—

Domiciliary	...	...	...	...	...	1,585
Dispensary	...	...	...	...	...	342
Institutional	...	...	...	...	...	1,482
						<hr/>
Total	...	...	...	...	...	3,409
						<hr/>

It will be observed from the figures on the statements that though it was possible to afford institutional treatment in the first instance to 429 cases only, the total cases receiving institutional treatment during the year numbered 1482

Table No. 3 shews the result of treatment. From this it will be seen that 1,081 cases were discharged, and the average duration of treatment in such cases was 18 weeks. Of the above, 815 cases, or 75·3 per cent., were discharged, improved; 141 cases, or 13 per cent., were discharged, not improved, and 125 cases, or 11·6 per cent., died; whilst 401 cases remained under treatment on December 31st, 1916 (see Table No. 2).

TABLE NO. 1.

STATEMENT SHEWING PERSONS EXAMINED AND CASES UNDER TREATMENT DURING THE YEAR 1916.

	PERSONS EXAMINED			Treatment first recommended to Persons shewn in Col. 3				Total Cases under treatment during course of year			
	Total Persons Examined (1)	Found to be Non-T.B. (2)	Recom- mended for treatment (3)	Dom. (4)	Disp. (5)	Instn. (6)	Total. (7)	Dom. (8)	Disp. (9)	Instn. (10)	Total. (11)
INSURED PERSONS—											
Men	544	59	485	416	7	62	485	611	10	462	1,083
Women	200	22	178	163	6	9	178	237	26	152	415
Total	744	81	663	579	13	71	663	848	36	614	1,498
DEPENDANTS, ADULTS											
Men	13	1	12	11	1	—	12	28	4	21	53
Women	260	27	233	204	12	17	233	217	11	96	324
CHILDREN—											
Boys	259	49	210	123	12	75	210	161	19	231	411
Girls	275	42	233	136	17	80	233	182	22	246	450
Total	807	119	688	474	42	172	688	588	56	594	1,238
NON-INSURED	573	99	474	138	150	186	474	149	250	274	673
TOTALS	2,124	299	1,825	1,191	205	429	1,825	1,585	342	1,482	3,409

TABLE No. 2.
 INSTITUTIONAL TREATMENT (ADMISSIONS AND DISCHARGES).

	INSURED PERSONS		DEPENDANTS.				NON-INSURED	TOTALS
			Adults.		Children.			
	M.	F.	M.	F.	M.	F.		
Under treatment at beginning of year ...	113	31	6	32	77	67	88	414
Admitted during 1916	349	121	15	64	154	179	186	1068
TOTAL	462	152	21	96	231	246	274	1482
Discharged and deaths during 1916	369	106	13	76	141	170	206	1081
Under treatment at end of year	93	46	8	20	90	76	68	401

TABLE No. 3.

RESULTS OF TREATMENT IN CASES DISCHARGED FROM INSTITUTIONS
TOGETHER WITH DEATHS THEREIN.

	Improved (1)	Not Improved. (2)	Died. (3)	Totals. (4)
INSURED PERSONS—				
Men	270	51	48	369
Women	85	12	9	106
Total	355	63	57	475
DEPENDANTS, ADULTS—				
Men	8	3	2	13
Women	61	10	5	76
„ CHILDREN—				
Boys	120	11	10	141
Girls	122	31	17	170
Total	311	55	34	400
NON-INSURED	149	23	34	206
TOTALS ...	815	141	125	1081
	75.3 %	13 %	11.6 %	

At the request of the Insurance Commissioners and the Local Government Board, special arrangements were made to give sanatorium treatment to soldiers and sailors belonging to the Liverpool area. The arrangements proposed were that where institutional treatment was considered desirable, the case should be admitted direct from Military Hospital to a local Institution. The number of discharged soldiers dealt with during 1916 was 177, an increase of 125 over those dealt with in 1915. The number of cases actually receiving Institutional treatment at the end of the year was about 40. A large number of names of patients continue to be received, and great difficulty is experienced in finding accommodation for them.

All persons leaving Sanatoria are examined by the Tuberculosis Officer as a matter of "after-care," and placed under dispensary or domiciliary treatment in order that there may be no break in the continuity of the necessary treatment.

The Tuberculosis Nurses have done valuable work in visiting patients in their own homes; 2,121 visits have been made, and in addition to these, the services of the Nurses attached to the Queen Victoria District Nursing Association have been utilised for the purpose of dressing and nursing cases receiving treatment at home.

It was found in many cases that the persons applying for treatment were too ill to attend for examination at a Tuberculosis Institute, and in all these cases the Tuberculosis Officer has visited the home for the purpose of examination. It is satisfactory to note, however, that cases are being brought to the attention of the Tuberculosis Officer at a fairly early stage, the percentage of Stage I. cases, together with those in which no definite evidence of Tuberculosis could be found, representing some 60 per cent of the whole.

In suitable cases Extra Nourishment in the form of milk, eggs, and meat extracts, are given to insured persons and their dependants where such necessities are considered ancillary to treatment. Owing to the lack of Hospital accommodation and the long periods applicants have to wait for admission, the cost of this item is considerable, but will be reduced when further accommodation is provided.

The Tuberculosis Department has, as formerly, dealt with all cases of children of school age suffering, or suspected to be suffering, from

Tuberculosis, which are referred by the School Medical Department. The cases examined during last year numbered 118, and suitable treatment was arranged.

The classification of the cases is as under:—

Pulmonary Tuberculosis	53
Non-Pulmonary	22
Non-Tubercular	43
	—
Total	118

The Invalid Children's Association continues to act, as in former years, as a clearing house for cases of Liverpool children requiring treatment.

During the course of the year it was discovered that the Army Authorities were recruiting men who had been, or were, suffering from Tuberculosis, and to overcome this difficulty the Army Authorities arranged that Medical Boards should refer to the Tuberculosis Officer for examination any case in which the existence of Phthisis was suspected. A large number of cases were examined during the year, and the number is increasing. The result of examination shewed that the provisional diagnosis of the Medical Boards was confirmed in 62 per cent. of the cases.

A list of all notified male patients of military age is forwarded each week to the War Office.

It is a matter of profound regret that permission was not given for the completion of the Fazakerley Sanatorium. This Institution, very nearly finished at the commencement of the War, might have been, within a few months, equipped and ready for occupation.

Unhappily, however, the military authorities could not see their way, either to accept the suggestion of the Corporation to finish the building and make some use of it, or to allow the Corporation themselves to finish it, although they were most anxious to do so.

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 treatment of phthisis patients at Parkhill Sanatorium will be found on page 63. 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, were carried out by the Officers of the Health Department.

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 1916, and differentiates between cases of Pulmonary and Non-Pulmonary Tuberculosis:—

Districts.	Phthisis.	Tuberculosis (non-pulmonary)
SCOTLAND	267	73
EXCHANGE	240	46
ABERCROMBY	220	29
EVERTON	459	135
KIRKDALE	191	72
WEST DERBY (WEST)	331	80
TOXTETH	226	57
WALTON	178	29
WEST DERBY (EAST)	218	61
WAVERTREE	80	14
TOXTETH (EAST)	36	10
GARSTON	48	9
FAZAKERLEY	10	2
WOOLTON	2	2
EMIGRANTS, SEAMEN, &c., PASSING THROUGH THE CITY	20	22
Total	2526	641

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	5	51	374	482	1160	409	45	2526
Tuberculosis (non-pulmonary)	23	125	296	90	81	21	5	641

THE SANITARY INSPECTION OF THE HOMES OF PATIENTS.

During the year 1916, 3,876 cases have been under the special observation of the Medical or Sanitary Staffs, 1,967 having been brought forward from 1915.

Of this total, 2,010 were males and 1,866 females. During the year, 602 have died; 179 are not being re-visited by request; 427 removed to new addresses not yet ascertained; 231 were at the time of the last re-visit inmates of various hospitals and institutions; and 2,437 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.
990 or 25·5 %	1,266 or 32·7 %	1,310 or 33·8 %	310 or 8 %

The 3,876 cases dealt with during the year were housed as follows:—

2,119 occupy dwellings of six rooms and upwards.

995 occupy dwellings with less than six rooms.

690 occupy rooms in sub-let houses.

2 occupy insanitary cellars, shortly to be closed.

70 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. During the year they occasioned 1,636 deaths in the City of Liverpool, 1,254 being due to Phthisis and 382 to the other forms of Tuberculosis.

CITY HOSPITALS AND THE WAR.

At the outbreak of War in August, 1914, the Fazakerley Hospital was placed at the disposal of the Military Authorities. The administration departments of this Institution were so constructed that in a very short time and at small expense the accommodation for the patients could be practically doubled. In view of the obvious fact that further hospital accommodation would be needed, the Military authorities were advised at the time to avail themselves of this facility either by permitting the Corporation to erect temporary pavilions or alternatively erecting such pavilions themselves. Neither of these courses was acceptable to the authorities, and unhappily neither was ever acted upon.

At that time also the Fazakerley Sanatorium and the Hospital at Sparrow Hall—both Institutions greatly needed,—were approaching completion; the structural character of the building at Sparrow Hall made it comparatively easy for the work to be continued, and the various Government departments concerned, viz.:—Local Government Board, War Office, H.M. Treasury, and the Ministry of Munitions agreed to facilities being given for its completion, and to still further assist the Military Authorities, the Sparrow Hall Hospital was handed over to them; the interests of the civil population, for whom the place was required, were set aside for the time being, the Military Authorities, however, undertaking to vacate that Hospital at one week's notice if called upon to do so; this they stated they could easily do.

The Sanatorium, which was even more urgently needed, did not fare so happily; in the first place the building was not as far advanced. Difficulties in regard to materials as well as labour were placed in the way, and although the building was within a few months of completion, unhappily all work upon it ceased, notwithstanding that there was a list of some 400 people awaiting admission, comprising not only soldiers who had contracted tuberculosis whilst on service, but their wives and dependants among the civilian population.

It was pointed out to the Military Authorities that if these two buildings were completed, one of them could be handed over to meet the needs of the Military Authorities; the other would then be available

for the urgent and pressing needs of the civilian population, whose health interests were seriously prejudiced by the want of hospital accommodation.

Meanwhile, matters drifted on; quite apart from the needs of the civil population it became increasingly apparent that more hospital accommodation might be required for Military purposes, and the offer of the Corporation to either themselves provide additional hospital accommodation for military purposes or alternatively to assist the Military Authorities in doing so upon sites already available at Fazakerley were rejected. The engineer officer with whom a final decision appeared to rest, stated that "they did not discuss matters with Corporations, but if the offer of a Corporation were not such as to commend itself, it was immediately turned down." This is an unfortunate attitude.

After much correspondence, many interviews and protracted delays, the Military Authorities consented to remove the difficulties in the way of the completion of the Sanatorium, provided that it was to be exclusively used for Military purposes. This course, in the absence of any better arrangement, was assented to, it being distinctly understood that tuberculous soldiers invalided from the Army on account of tuberculosis should receive the same consideration as soldiers invalided for other medical reasons, such as dysentery, injury, etc. These proposals, however, failed to materialise, and ultimately as the result of an interview between representatives of the Ministry of Munitions and representatives of the Hospitals Committee leave was given to the latter body to proceed with the Sanatorium with a view to its use for its original purpose.

Soon after the outbreak of war 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 the 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 West Derby Guardians also granted the Hospitals Committee the use of 40 beds in the Walton Institution, Rice Lane, for the treatment of cases of measles.

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	„
Walton Institution	...	...	...	40	„
				<hr/>	
				1,068	„
				<hr/>	

The value of the hospitals, and the immense amount of useful work performed is shown by the fact that no less than 4,984 patients were admitted for treatment during the year. This number includes the patients admitted to the David Lewis Northern Hospital and the Walton Institution.

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 1916.

YEAR—1916.	FEVER.		Plague.	Scarlet Fever.	Measles.	Diphtheria and Membranous Group	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Polio-myelitis.	Ophthalmia Neonatorum.	Anthrax.	TOTAL.
	Typhus.	Enteric.											
January .....	...	8	...	193	848	97	5	54	4	...	39	...	1248
February .....	...	7	...	169	890	116	5	42	2	...	53	2	1286
March .....	...	9	...	177	1585	96	6	36	4	1	40	4	1958
April .....	...	6	...	261	2513	123	3	62	4	1	49	2	3024
May .....	...	5	...	170	3049	85	4	60	9	3	40	1	3426
June .....	...	5	...	118	2071	63	2	55	3	1	52	2	2372
July .....	...	8	...	155	1149	78	4	54	2	...	50	...	1500
August .....	...	8	...	147	451	91	3	35	1	...	45	...	781
September .....	...	8	5	200	339	96	14	49	2	1	46	...	760
October.....	...	3	1	196	330	91	1	46	4	...	33	2	707
November	1	2	...	197	703	84	1	46	...	...	37	1	1072
December.....	...	7	..	165	804	86	4	40	2	2	31	1	1142
TOTAL	1	76	6	2148	14732	1106	52	579	37	9	515	15	19276
Removed to hospital	1	55	4	1783	1096	933	40	147	32	5	11	15	4122

The number of patients removed to hospital includes those admitted to the general hospitals as well as those admitted to the city infectious diseases 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:—

	1912.	1913.	1914.	1915.	1916.
January ...	535	319	571	601	1,030
February ...	439	324	497	449	1,016
March ...	475	320	515	460	1,648
April ...	343	322	554	406	2,366
May ...	441	335	495	366	2,523
June ...	402	319	559	503	1,511
July ...	341	305	464	452	1,171
August ...	382	300	469	432	688
September ...	430	363	525	513	538
October ...	490	383	764	560	616
November ...	476	482	647	537	755
December ...	424	476	563	547	711
	<u>5,178</u>	<u>4,248</u>	<u>6,623</u>	<u>5,826</u>	<u>14,573</u>

The diseases were specified as follows:—

	1912.	1913.	1914.	1915.	1916.
Smallpox ...	6	4	2	—	2
Scarlet Fever ...	2,885	2,100	3,567	2,939	2,067
Enteric Fever ...	163	165	176	149	86
Typhus Fever ..	4	6	4	14	4
Continued Fever	2	1	2	1	6
Relapsing Fever .	—	1	—	—	—
Fever ...	1	—	—	3	—
Puerperal Fever..	42	43	60	61	68
Diphtheria ...	1,110	1,085	1,377	1,247	1,114
Membranous Croup.	18	23	33	19	14
Erysipelas ...	897	779	944	797	607
Cholera ...	—	—	—	—	1
Anthrax ...	9	11	8	6	18
Yellow Fever ...	—	—	—	—	1
Cerebro-Spinal Fever	5	8	24	36	45
Acute Poliomyelitis	31	5	34	3	8
*Measles and German Measles ...	—	—	—	—	10,017
†Ophthalmia Neonatorum ...	5	17	392	551	515
	<u>5,178</u>	<u>4,248</u>	<u>6,623</u>	<u>5,826</u>	<u>14,573</u>

* Measles notifiable from 1st January, 1916. This accounts for the large increase in the total number of notifications.

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

NUMBER OF CASES REPORTED AND NUMBER REMOVED TO HOSPITALS, 1900-1916.

	SMALLPOX.		SCARLET FEVER.		ENTERIC.		TYPHUS.		DIPHTHERIA AND MEMBRANOUS GROUP.		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
1916 ...	—	—	2,148	1,783	76	55	1	1	1,106	933	14,732	1,096

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 1916:—

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

Visiting Physician, Dr. R. I. RICHARDSON.

Resident Physician, Dr. T. H. DONOVAN.

DISEASES.	Remaining Dec. 31st, 1915.	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.	142	956	—	1098	320	—	659	92	2	27	2·8
Typhus Fever.	1	—	—	1	—	—	1	—	—	—	—
Diphtheria ...	—	180	—	180	—	—	154	10	10	16	8·8
Measles.....	—	14	—	14	—	—	13	—	1	1	7·1
Whooping Cough.....	—	1	—	1	—	—	1	—	—	—	—
Other Diseases	—	65	—	65	—	—	64	—	—	1	1·5
Isolation and Observation Cases	11	49	—	60	—	—	52	5	1	3	6·1
Totals ...	154	1265	—	1419	320	—	944	107	14	48	3·8

CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. M. G. COWPER.

DISEASES.	Remaining Dec. 31st, 1915.	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.....	88	390	—	478	161	—	258	51	—	8	2.05
Measles	10	241	—	251	—	*12	211	12	—	16	6.64
Whooping Cough...	—	7	—	7	—	—	7	—	—	—	—
Other Diseases.....	—	12	—	12	—	—	11	—	—	1	8.33
Isolation & Obser- vation Cases	1	17	—	18	—	—	14	2	†1	2	11.7
Totals	99	667	—	766	161	12	501	65	1	27	4.04

* 12 Military cases transferred to Fazakerley Annexe.

† Died within 4 hours of admission.

CITY HOSPITAL, FAZAKERLEY ANNEXE.

Visiting Physician, Dr. JOHN HAY.

Resident Physician, Dr. W. M. GRAY.

Diseases.	Remaining Dec. 31st, 1915.	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.....	96	412	—	508	116	—	335	46	2	11	2·67
Enteric Fever	—	1	—	1	—	—	—	1	—	—	—
Diphtheria	25	146	—	171	—	4	107	44	7	16	10·95
Measles	5	324	—	329	—	—	294	25	1	10	3·08
Whooping Cough ...	2	13	—	15	—	—	13	1	—	1	7·69
Phthisis	—	2	—	2	—	2	—	—	—	—	—
Other Diseases.....	19	194	—	213	1	1	200	5	2	6	3·09
Isolation and Observation Cases	9	12	—	21	—	—	20	1	—	—	—
Totals	156	1104	—	1260	117	7	969	123	12	44	3·98

CITY HOSPITAL, DEYSBROOK, WEST DERBY.

Visiting Physician, Dr. W. J. ROBERTSON DUNN.

Diseases.	Remaining Dec. 31st, 1915.	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 ...	79	—	685	764	—	2	703	57	—	2	0·3

CITY HOSPITAL, PARKHILL.

Medical Superintendent, Dr. W. CRANE.

DISEASES.	Remaining Dec. 31st, 1915.	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	184	418	—	602	—	—	343	184	1	*75	17.9

* Of this number, 35 were admitted in 1915.

CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. P. COTTER.

DISEASES.	Remaining Dec. 31st, 1915.	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...	20	151	—	171	26	—	114	26	2	5	3.3
Enteric Fever..	—	1	—	1	—	—	—	—	—	1	100.0
Diphtheria	96	775	6	877	—	—	709	82	37	86	11.1
Measles	—	3	—	3	—	—	2	—	1	1	33.0
Other Diseases.	13	36	—	49	—	—	28	8	4	13	36.1
Isolation and Observation Cases.....	—	5	—	5	—	—	5	—	—	—	—
Totals.....	129	971	6	1106	26	—	858	116	44	106	10.9

SANITARY ADMINISTRATION.

The number of occasions upon which the advice and assistance of the Health Department have been sought during the year was 10,861.

The District Sanitary Inspectors visit all premises where a nuisance is complained of, at the earliest possible moment, and last year 13,900 nuisances were discovered as the result of complaints. Preliminary notices were served either on the owners or the occupiers to remedy 10,599 nuisances. The remaining 3,301 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 28,191 nuisances. Of these 27,573 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 5,197, and statutory notices were served to remedy the defects. 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 12,700, 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 23,537.

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 20,748, and the number of statutory notices was 6,019.

RE-INSPECTION OF NUISANCES.

The number of nuisances referred to Prosecuting Inspectors for re-inspection was, 19,254, and 41,227 visits were paid to re-inspect these nuisances.

EXAMINATION OF CELLARS AND CELLAR DWELLINGS.

The number of inspections of street cellars was 10,032, and court cellars 576. Two hundred and forty-five 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.

VISITS AND ENQUIRIES AT INFECTED HOUSES.

The number of visits and re-visits to Phthisis cases was 3,936; the number of enquiries *re* suspected Smallpox contacts was 712, and the number of enquiries *re* suspected Typhus fever contacts was 3,984.

There were also 7,444 other enquiries.

The total number of children excluded from attending school from houses where infectious sickness existed was 33,497.

SMOKE NUISANCES.

The number of reports of excessive smoke from manufactories was 127, and from steamers in the river and docks 46.

OFFENSIVE TRADES.

There were four 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 1,892.

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 2,269.

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 3,431, and the number of disinfections of middensteads was 9,632.

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 13,662, of which 2,057 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.

AMBULANCE AND DISINFECTING STAFF.

There have been 4,417 infectious cases removed by officers of the Ambulance Staff to the hospitals during the year.

The number of rooms stripped and sprayed was 13,683, and the number of rooms disinfected was 21,340. There were also 2,589 Library books disinfected.

The number of articles, consisting of bedding, clothing, etc., disinfected at the Disinfecting Apparatus was 152,063, and the number of articles destroyed was 692, 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. When necessary the disinfecting apparatus attached to each of the City Hospitals can be utilised.

PRINCES DOCK AND FORD STREET MORTUARIES.

The total number of bodies deposited at these Mortuaries was 524.

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	1907.....	34
1897.....	10	1908.....	32
1898.....	27	1909.....	46
1899.....	23	1910.....	37
1900.....	40	1911.....	50
1901.....	40	1912.....	52
1902.....	54	1913.....	66
1903.....	35	1914.....	49
1904.....	40	1915.....	53
1905.....	35	1916.....	58
1906.....	46		<hr/>
			829
			<hr/>

COMMON LODGING HOUSES.

Number of houses on the Register, December 31st, 1915	...	275
Number of houses given up and removed from the Register	...	50
Number of houses added to the Register	...	25
Number of houses on the Register, December 31st, 1916	...	250

These houses provide accommodation for 9,364 lodgers, and 546 members of keepers' families.

There are 22 houses providing accommodation for 734 women lodgers, and 39 members of keepers' families; for details see Reports for the years 1909 and 1914.

Thirty-four houses were re-registered, and 82 deputy-keepers registered during the year.

	1914.	1915.	1916.
Number of day visits	... 12,584	... 9,274	... 8,962
Number of night visits	... 734	... 265	... 304

Eight informations were laid against keepers for offences against the Bye-laws.

HOUSES LET IN LODGINGS.

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

Number of houses on the register, December 31st, 1915 ...	16,626
Number of houses taken off the register during the year ...	296
Number of houses added to the register during the year ...	497
Number of houses on the register, December 31st, 1916 ...	16,827

DAY VISITS.

Number of day visits	106,581
Number of rooms measured	2,697
Number of floors found dirty	781
Number of stairs and passages dirty	169

Informations were laid for breaches of the bye-laws as follows:—

Not washing floors	187
Not sweeping floors	155
Not cleansing stairs, passages, etc.	50

In cases where informations were not laid, verbal cautions were given by the Inspectors.

NIGHT VISITS.

Number of night visits	22,199
Number of cases of overcrowding found	1,547

With reference to these cases, re-visits were made, and instructions given as to how overcrowding could be abated, and further visits were made to see if these arrangements were being carried out.

DETAILS OF OVERCROWDING.

Number of cases of overcrowding by families occupying 1 room	310
Number of cases of overcrowding by families occupying 2 rooms	664
Number of cases of overcrowding by families occupying 3 or more rooms	573
Number of informations laid for overcrowding	662
Number of convictions for overcrowding	636
Number discharged	23
Number withdrawn	3

Percentage of convictions to visits, 2·86.

NON-SEPARATION OF SEXES.

Number of cases found	...	...	...	...	...	275
Number of informations laid	...	...	...	...	...	163
Number of convictions	...	...	...	...	...	158
Number discharged	...	...	...	...	...	5

In cases where informations were not laid verbal cautions were given by the Inspectors.

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 16 years:—

Year.	No. of Sublet Houses.	No. of night visits for detection of overcrowding.	No. of convictions for overcrowding.	Percentage 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
1916	16,827	22,199	636	2.86

* 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 number of boats on the register is 456, and of these 405 regularly ply on the canal. It is probable that the other 51 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 4,710 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	...	...	...	10
„ Boats re-registered on account of change of owners	...	...	...	3
„ Do., do., and Name of Boat	...	...	...	5
„ Re-registered on account of structural alterations				2
„ Copies of Certificates of Registration issued	...			2
„ Boats taken off the Register	...	...	...	5
„ References to Education Department <i>re</i> children on Boats not attending School	...	...		6
„ Boats on which contraventions occurred	...			91*
„ Unregistered Boats used as dwellings	...	...		7
„ Boats with no certificates of registration on board	...	...	...	20
„ Boats with lettering, marking, &c., not legible				12
„ „ defective bulkheads	...	...	...	3
„ „ cabins requiring repainting	...			10
„ „ dirty cabins	...	...	...	7
„ „ leaky decks	...	...	...	25
„ „ defective scuttle covers	...	...		1
„ „ „ ventilation	...	...		5

* Of this number 38 were registered by other Authorities.

Number of Boats with defective cabin floors	...	...	4
„ „ „ stoves	...	...	1
„ „ „ lockers	...	...	1
„ „ cabins overcrowded	...	...	1
„ „ „ indecently occupied	...	...	5
„ „ no water casks...	...	...	10
Number of written notices issued to owners	...	...	71
„ „ „ masters	...	...	1
„ verbal notices given to owners	...	...	1
„ „ „ masters	...	...	18
„ informations laid against masters	...	...	2
„ convictions	...	...	2

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.

Administration of the Factory and Workshop Act, 1901, in
connection with
FACTORIES, WORKSHOPS, WORKPLACES & HOMEWORK.

The following Tables are prepared by request of the Secretary of State :—

1.—Inspection of Factories, Workshops and Workplaces.

Including Inspections made by Sanitary Inspectors.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	855	186	1
Workshops (Including Workshop Laundries.)	10,834	908	1
Workplaces (Other than outworkers' premises in- cluded in Part 3 of this Report.)	757	86	1
Total	11,946	1,180	3

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	516	516	—	1	
Want of ventilation	5	5	—	—	
Overcrowding	1	1	—	—	
Want of drainage of floors	—	—	—	—	
Other nuisances	408	408	—	2	
Sanitary accommodation { insufficient	29	29	—	—	
	unsuitable or defective	379	379	—	—
	not separate for sexes..	8	8	—	—
<i>Offences under the Factory and Workshop Act :—</i>					
Illegal occupation of underground bakehouses (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).	—	—	23	—	
Total	1,347	1,347	23	3	

* 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.																			OUTWORK IN UNWHOLE SOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.					
NATURE OF WORK.	Lists received from Employers.										Prosecutions.			Number of Inspections of Outworkers' premises.	(13)	(14)	(15)	(16)	Instances.	(18)	(19)						
	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.			Notices served on Occupiers as keeping or sending Lists.										Failing to keep or permit inspection of Lists.		Failing to send Lists.			
	a Lists.		a Outworkers.		Lists.	a Outworkers.		Con. tractors.		Work- men.	Con. tractors.		Work- men.									Con. tractors.		Work- men.	Con. tractors.		Work- men.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)																

* Several Employers give out work of more than one of the classes specified in column 1. The lists are included among those in column 2 against the principal class only, but the outworkers are assigned in columns 3 and 4 into their respective classes.

The figures in columns 2, 3 and 4 are the total number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists. They are, therefore, double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name is often repeated.

4.—Registered Workshops.

Workshops on the Register (S. 131) at the end of the year.	Number.
Workshops	2,996
Cooking Kitchens of Restaurants	381
Bakehouses	848
Total number on Register	4,225

5.—Other Matters.

Class.	Number.
Matters notified to H.M. Inspector of Factories:— Failure to affix Abstract of the Factory and Workshop Act (S. 133)	23
Action taken in matters referred by (Notified by H.M. Inspector as remediable Reports of action under the Public Health Acts, but not taken) sent to not under the Factory and Workshop Act (S. 5)	60
Other	60
Underground Bakehouses (S. 101) : — Certificates granted during the year	—
In use at the end of year	3
	132

SHOPS ACTS, 1912 AND 1913.

During the year 282 complaints have been received, relating principally to the non-closing of shops on the weekly half holiday.

INSPECTION OF SLAUGHTER-HOUSES, &c.

The number of visits to slaughterhouses made by Meat Inspectors was 5,295, to butchers' shops 77,159.

The number of visits to fish and fruit shops made by Fish and Fruit Inspectors, 80,699.

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 3,917. The number of animals killed at the City Slaughterhouses and carcasses imported for sale was as follows:—

1916.

	CATTLE, &c., KILLED.					DEAD MEAT IMPORTED				
	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.
ABATTOIR	21,227	76,433	162,411	14,199	26,139	18,802	10,320	15,179	96	5,427
GILL STREET MARKET	—	—	—	—	—	11,519	54,597	156,430	45	8,851
PRIVATE SLAUGHTERHOUSES ...	1,117	4,110	3,403	110	22,376	—	—	—	—	81
TOTAL	22,344	80,543	165,814	14,309	48,515	30,321	64,917	171,609	141	14,359

1915.

	(1)	(3)			(2)	(4)				
ABATTOIR	19,510	115,366	80,522	16,906	30,443	14,609	12,564	(4) 8,917	1	7,485
GILL STREET MARKET	—	—	—	—	—	18,600	300,265	110,060	305	3,072
PRIVATE SLAUGHTERHOUSES ...	1,254	3,892	3,462	30	25,322	—	—	—	—	306
TOTAL	20,764	119,258	83,984	16,936	55,765	33,209	312,829	118,977	306	10,863

1 and 2 = Sheep and Lambs were not separated during the first six months of 1915.

3 and 4 = These figures are from July to December, 1915.

There were also 57,778 boxes and bags of various organs and cut up pieces imported for sale.
The number in 1915 was 45,741.

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	64	10	2	13	65	12	1	2
Mutton and Lamb	7	12	3	19	1	5	1	9
Veal	3	13	0	9	0	2	0	4
Pork	43	10	1	14	5	19	0	27
Goats	3	12	2	6	—	—	—	—
Total	122	19	2	5	72	18	3	14

Refuse, consisting of Pigs' intestines, etc., 25,589 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 1,417. Of these 163 were Tuberculous.

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

The amount of Fish found to be unfit for human food was $66\frac{3}{4}$ tons, in addition there were 66 bags of shellfish.

There were 2,002 head of poultry, 106 head of game, 13,029 rabbits and hares, also 26 wild birds.

Amongst other various articles of food unfit for use were 556 tins of condensed milk, 350 tins of fish, 6,200 oysters, 20,252 eggs, 166 lbs. of venison, 4,032 lbs. of yeast, 3,380 lbs. of desiccated cocoanut, 300 lbs. of cakes, 1,120 lbs. of bread, and 20 lbs. of cheese.

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

The amount of unsound fruit destroyed was $3\frac{1}{3}$ tons, and unsound vegetables 92 tons.

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.

	1916.
Number of applications to keep cows on premises not previously licensed	8
„ „ granted	6
„ „ in abeyance	2
„ cows applied for	114
„ „ granted	97
„ applications for transfer to fresh tenants of cowsheds previously licensed	29
„ „ granted	28
„ „ in abeyance	1
„ „ to keep more cows than the number for which the license was originally granted	2
„ „ granted	2
„ additional cows applied for	3
„ „ granted	3
„ Cowsheds on the register 31st December, 1915 ..	423
„ „ „ „ 1916 ...	383
Number of cows licensed to be kept within the city area	6,043

COWSHED INSPECTION.

	1915	1916.
Number of Inspections of Cowsheds	4,187	4,404
„ found Incorrect	281*	288*
„ of Informations	1	1
„ „ „ Withdrawn	1	1

* Premises undergoing alterations in the newly added districts.

Fifty-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 1907 to 1916, 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.
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
1915	...	423	...	6,460	...	7
1916	..	383	...	6,043	...	8

Incorporation of
Allerton, Woolton,
Little Woolton
and Childwall.

MILKSHOPS.

					<u>1915.</u>	<u>1916.</u>
Number of Applications for registration	...	...	...	...	*91	84
" " granted	...	...	...	...	88	83
" " withdrawn	...	..	...	...	1	—
" " in abeyance	...	...	...	...	1	1
" " refused	...	...	...	...	1	—
Number of Milkshops on the register at the end of 1912	...	...	...	...	...	838
" " " "				1913	...	802
" " " "				1914	...	797
" " " "				1915	...	770
" " " "				1916	...	794

* Seventy of these applications were transfers.

DAIRIES AND MILKSHOPS INSPECTION.

	<u>1915.</u>	<u>1916.</u>
Number of Inspections of Dairies and Milkshops	7,251	7,360
„ found incorrect	*110	*89

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

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>1915.</u>	<u>1916.</u>
Number of premises under Inspection	1,010	1,019
„ visits made	3,550	3,754
„ caution notices issued	18	10
„ Informations	—	—

PIGGERIES.

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

In six cases a transfer of license was requested, the other fifteen being new applications. These fifteen applications involved the keeping of 159 pigs. Three of these applications were refused, and one is under consideration.

* Premises undergoing alterations in the newly added districts.

There are now within the City Area, as extended, 136 premises where pigs are kept. The approximate number of pigs kept is 2,460. Most of these premises are in added areas, in which pigs may at present be kept without infringement of requirements.

			<u>1915.</u>	<u>1916.</u>
Number of visits to Piggeries ...	...	...	849	891
Number found incorrect ...	...	...	274	183
Number of informations ...	...	...	3	1
<hr/>				
Amount of Fines ...	...	...	£1	£1
<hr/>				

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.

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 five years:—

YEAR.	No. of Visits to Town Cowsheds.	No. of Cases notified by Owners.	Other Visits.	No. of Cows examined.	No. of Cows Suspicious of Tuberculosis of the Udder.	No. of Convictions for Offences under the Act.
1912	207	78	129	1755	17	—
1913	505	102	403	4732	18	—
1914	386	92	294	4043	21	—
1915	153	38	115	1781	15	—
1916	216	22	194	3232	11	—
Totals	1467	332	1135	15543	82	—

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), visit the farm or dairy and examine the stock therein.

The following Table shows the number of visits to farms outside the City boundary during the past five years:—

YEAR.	No. of Farms Visited.	No. of Re-Visits to Farms.	Total No. of Visits to Farms.	No. of Cowsheds Examined.	No. of Cows Examined.	No. of Cows Suspicious of Tuberculosis of the Udder.	No. of Convictions for Offences under the Act.	No. of Orders Prohibiting the Sale of Contaminated Milk within the City.
1912	12	7	19	54	1121	4	2	2
1913	11	6	17	62	784	4	—	—
1914	21	8	29	70	1302	6	—	—
1915	21	16	37	75	1265	3	—	—
1916	22	14	36	68	1394	5	—	—
1917	87	51	138	329	5866	22	2	2

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

	<u>1915.</u>	<u>1916.</u>
Number of Samples purchased on week-days in Town ..	384	473
„ Informations	38	40
„ Samples taken at Railway Stations on week-days... ..	228	229
„ Informations	6	5
„ Samples purchased on Sundays in Town ...	180	156
„ Informations	17	21
„ Samples taken at Railway Stations on Sundays	178	153
„ Informations	—	4
„ Samples taken at City Hospitals	75	113
„ Informations	1	2
„ Samples taken at Corporation Infant Welfare Centres	41	44
„ Informations	—	—

MARGARINE ACT.

	<u>1915.</u>	<u>1916.</u>
Number of Visits to Wholesale Dealers in Margarine ...	750	867
„ Visits to Shops	6962	7202
„ Informations	—	—

SPECIAL EXAMINATIONS.

The total number of samples submitted during 1916 for special examination was 43.

FERTILISERS AND FEEDING STUFFS ACT, 1906.

The number of samples submitted during the year was 36.

SUMMARY OF SAMPLES SUBMITTED FOR ANALYSIS FROM JANUARY 1st, TO DECEMBER 31st, 1916.

INFORMAL SAMPLES.				FORMAL SAMPLES.					
Number taken.	Number genuine.	Adulterated.		Number taken.	Number genuine.	Adulterated.		Number cautioned.	Informations.
		Schedule A.	Schedule B.			Schedule A.	Schedule B.		
783	730	35	18	2,382	2,142	149	91	37	75

SUMMARY OF SAMPLES IN WHICH LEGAL PROCEEDINGS WERE INSTITUTED DURING THE YEAR ENDING
DECEMBER 31st, 1916, 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. £ s. d.	Costs. £ s. d.
29	Milk	Deficient in cream	18	2	9	38 10 0	12 6 0
4	"	Deficient in cream and adulterated with water	2	1	1	8 0 0	2 1 0
37	"	Adulterated with water	26	8	3	90 0 0	19 15 6
1	"	Adulterated with borates	1	—	—	3 0 0	0 10 6
1	"	Issuing false warranty	1	—	—	2 0 0	3 4 6
3	Butter	Consisting of margarine	3	—	—	9 0 0	1 16 6
75			51	11	13	150 10 0	39 14 0

POISONS AND PHARMACY ACT, 1908.

The Poisons and Pharmacy Act, 1908, came into operation on the 1st April, 1909.

Two new licenses were issued during the year, and 24 renewed.

PUBLIC HEALTH (MILK & CREAM) REGULATIONS, 1912.

Report for the year ending 31st December, 1916:—

1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

Number of samples examined for the presence of a preservative:—
Milk, 1168; Cream, 16.

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

(a) Milk	1
(b) Cream	7

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	8
Correct statements made	8

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

Above 35 per cent.	6
---------------------------	---

(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, 1916.

The following tables shew in a summarised form the various specimens which were submitted for bacteriological examination in 1916:—

Foodstuffs (milk, butter, meat, fruit, &c.)	...	...	1,257
Waters—			
Liverpool	...	...	393
Port Sanitary	...	...	2
Outside Bodies	...	...	204
		—	599
Anthrax	...	...	202
Diphtheria—			
Practitioners	...	...	315
Hospitals	...	...	1,028
		—	1,343
Typhoid	...	...	136
Dysentery, Para-typhoid, etc.	...	...	908
Tuberculosis—			
Practitioners	...	...	1,252
Animal Specimens	...	...	21
		—	1,273
Plague—			
Rats—Port	...	...	8,376
Town	...	...	2,057
		—	10,433
Mice	...	...	125
One Special Rat	...	...	1
		—	
Carried Forward	...	...	16,277

Brought Forward	...	...	16,277
*Venereal Diseases (October to December only)—			
Blood, slides, etc.	...	...	233
Special investigations	...	...	90
		—	323
Miscellaneous—Practitioners—			
Blood films	...	...	37
Fluid	...	...	12
Cream	...	...	3
Milks	...	...	43
Pus from wounds	...	...	5
Pus	...	...	9
Tumours	...	...	116
Urines	...	...	38
Parasites	...	...	2
Vaccines	...	...	55
Unclassified	...	...	29
		—	349
Total.....			16,949

In addition to the above several hundreds of cases of suspected sickness of various kinds have been examined for the military authorities.

*Venereal Diseases. The figures—323—represent only those samples examined from October to December, 1916, as this work was not seriously undertaken until October.

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 1916 the City was again free from the 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 those 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.
1914	1,900	—	1,900
1915	3,204	—	3,204
1916	2,130	—	2,130

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 to travel in accordance with the Animals (Transit and General) Order of 1912, and the Protection of Animals Act of 1911.

3,622 animals were examined, of which two 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 1915 are also given for comparison:—

	1915.	1916.
Cattle	6,464	4,463
Sheep	46,634	29,193
Other Animals ... ..	...	...
Total	53,098	33,656

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, etc. 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 the City, the Board was approached with a view to having this suspension withdrawn, and on March 28th, 1915, the Order again came into operation.

Ten prosecutions were instituted and eight convictions obtained.

The total number of outbreaks on premises where the disease was found to exist was 146, and the number of visits made to these premises was 2,196.

The following table shows the figures for 1916 with the previous four years for comparison :—

Year.	Number of Animals and Carcases Examined.	Number affected.	Recovered.	Died or Slaughtered.
1912	11,686	553	421	132
1913	9,376	338	244	94
1914	8,443	284	214	70
1915	9,885	322	241	81
1916	8,016	303	230	73

THE ANTHRAX ORDER OF 1910.

Forty-one cases of suspected anthrax were reported, all of which were submitted to microscopical examination. In seven cases the disease was found to exist and the carcasses destroyed. 140 animals which had been in contact were also examined.

THE RABIES ORDER OF 1897.

Three cases of suspected rabies were dealt with under this order. They were examined by the officers of the Veterinary Department and by the Corporation Bacteriologist, and certified to be free from rabies.

LIVERPOOL DOGS HOME, EDGE LANE.

The number dealt with during 1916 show a large increase over the previous year.

Number of dogs destroyed	...	...	...	...	5,424
Do. do. restored to owners	...	...	...	...	275
Do. do. sold	...	...	...	...	561
Do. do. boarded for owners	...	...	...	...	335
					<hr/>
					6,595
					<hr/>

Two new features marked the year's work. One was the granting of assisted dog licenses in selected cases; 62 were so provided, almost all

to the dependants of soldiers and sailors, the recipients repaying the seven and sixpence in small instalments. The other is a plan to minimise the cruel practice of turning adrift unwanted dogs. On receipt of a post card at the Home—such post cards being provided by the Home and issued free by the Corporation with their license reminders—a dog is called for at the owner's house and promptly destroyed for the small charge of one shilling.

In the foregoing figures 2,136 were owned animals, of which 616 were called for at the owners' houses. The Home is the first institution in the country to undertake this enterprise, and it is hoped that it will result in a real reduction of the number of stray dogs to be seen in the streets.

There are also depots in the City carried on by the Royal Society for the Prevention of Cruelty to Animals, where cats are received. No fewer than 8,520 animals passed through these depots during the year, nearly one-fourth 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 Society's animal ambulances were requisitioned for the removal of 392 horses, many being army horses in course of transit through the port.

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.

INSANITARY PROPERTY.

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.
1916. Feb. 16th	Roscommon Street— Nos. 1, 2, 3, 4, 5, 6, 7, 8 in No. 6 Court	8
	Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 in No. 8 Court... ..	9
	Nos. 80, 82, 84 (fronts)	3
"	Date Street— Nos. 4, 5, 6, 7, 8, 9 in No. 2 Court	6
"	Ashton Place— Nos. 1 and 2 in No. 1 Court	2
	No. 5 (front)... ..	1
"	Foley Street— No. 1 in No. 1 Court	1
"	Smith Street— Nos. 1, 2, 3 and 4 in No. 2 Court	4
"	Springfield Street (Old Swan)— Nos. 9, 11, 13, 15 and 17... ..	5
	Total	39

CORPORATION TENEMENTS.

VITAL STATISTICS.

Population, 1914	...	...	...	...	10,545
Population, 1915	...	...	...	...	11,393
Population, 1916	...	...	...	...	11,334

	1914.		1915.		1916.	
	Total Number.	Rate per 1,000	Total Number.	Rate per 1,000	Total Number.	Rate per 1,000
Births.....	601	56.9	524	45.9	462	40.7
Deaths	304	28.8	307	26.9	327	28.8
Infantile Mortality (deaths under one year), per 1,000 births	106	176.3	95	181.2	75	162.3
Phthisis	13	1.2	20	1.7	22	1.9

VITAL STATISTICS, FOR UNRESTRICTED DWELLINGS.

Population, 1914	...	...	...	...	1,829
Population, 1915	...	...	...	...	1,882
Population, 1916	...	...	...	...	1,873

	1914.		1915.		1916.	
	Total Number	Rate per 1,000.	Total Number	Rate per 1,000.	Total Number	Rate per 1,000.
Births	111	60.6	92	48.8	84	44.8
Deaths	34	18.5	40	21.2	50	26.6
Infantile Mortality (deaths under one year), per 1,000 births	14	126.1	13	141.2	15	178.5
Phthisis	Nil	Nil	3	1.5	1	0.5

The Birth-rate per 1,000 in the Corporation tenements for 1916 was 40·7, as compared with 26·6 for the entire city.

The infantile mortality for the past seven 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	„ „
1916	...	75	„ „ „	162·3	„ „

UNOCCUPIED HOUSES.

The total number of empty houses in Liverpool, according to returns supplied by the Head Constable for 1916, was 1,017; at 5s. and under per week there were 84, and from 5s. and under 8s. per week there were 209, making a total of 293, of which 96 were insanitary.

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	70,051 front houses
of Section 17 of the Housing, Town Planning,	3,597 court houses
etc., Act, 1909	
	<hr/> 73,648

Number of dwelling houses remaining to be dealt	
with, and which are in a state so dangerous	1,653 court houses
or injurious to health as to be unfit for human	932 front houses
habitation	
	<hr/> 2,585

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

Table showing the total number of houses dealt with during the years
1906 to 1916.

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	18	—	38	31	—
1913	20	15	5	—	—	—
1914	61	44	10	—	7	—
1915	20	7	4	—	9	—
1916	—	—	—	—	—	—
Total	632	321	213	38	60	—

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	231	5	127	232	—
1913	148	131	17	—	—	—
1914	175	121	11	—	43	—
1915	40	32	—	—	8	—
1916	—	—	—	—	—	—
Total	3,302	2,299	475	127	401	—

The nett result shows that during the past eleven years, 2,620 insanitary dwellings have been demolished, 461 have been closed and await demolition or reconstruction, and 688 have been reconstructed and rendered sanitary, making a total for the eleven years of 3,769 (excluding those still occupied) dealt with as follows:—

1906	...	...	...	...	...	1159
1907	...	...	...	...	...	400
1908	...	...	...	...	...	320
1909	...	...	...	...	...	380
1910	...	...	...	...	...	336
1911	...	...	...	...	...	193
1912	...	...	...	...	...	517
1913	...	...	...	...	...	168
1914	...	...	...	...	...	236
1915	...	...	...	...	...	60
1916	...	...	...	...	...	—
Total ...						<u>3769</u>

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 1916 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS. ‡		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		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
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
1916.....	777247	20756	20679	26.6	14119	18.1	834	658	2421	117	13943	17.9

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. (See Table D² in Appendix.)

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.

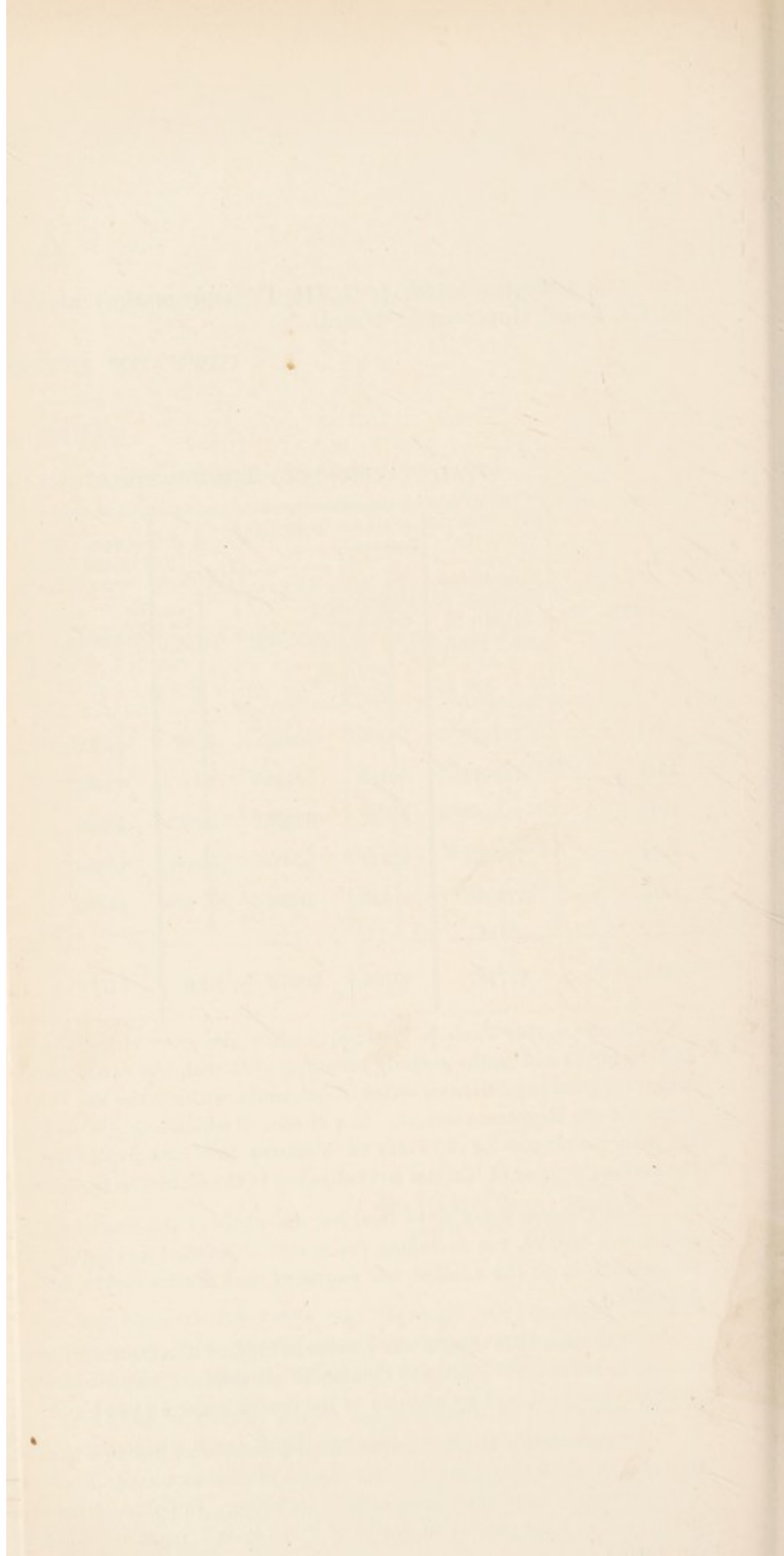


TABLE II.
CITY OF LIVERPOOL.

Cases of Infectious Disease notified during the Year 1916.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.							
	At all Ages.	At Ages—Years.						
		Under 1	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.
Small-pox ... ..	...	...	...	...	...	...	...	...
Scarlatina ... ..	...	...	...	...	...	...	...	...
Erysipelas	6	...	...	2	1	1	2	...
Dysentery (including Membranous Stools)	1106	17	322	541	122	94	10	...
Typhoid fever	579	5	18	56	83	196	166	55
Enteric fever	2148	14	588	1318	161	64	2	1
Typhus fever	1	...	...	...	...	...	1	...
Septic fever	76	...	1	13	19	35	8	...
Meningitis ... ..	...	...	...	...	...	...	...	...
Relapsing fever ... ..	...	...	...	...	...	...	...	...
Continued fever ... ..	...	...	...	...	...	...	...	...
General fever	52	...	...	...	8	44	...	...
Cerebro-Spinal Meningitis	37	17	7	6	2	5	...	...
Myelitis	9	...	7	2	...	...	...	...
Ophthalmia Neonatorum	515	515	...	...	...	...	...	...
Pulmonary Tuberculosis	2473	5	51	372	469	1133	398	45
Tuberculosis other than Pulmonary	641	23	125	296	90	81	21	5
Scarlatina	15	...	...	1	2	4	6	2
Measles and German Measles	14732	735	4232	9035	467	248	15	...
Totals	22390	1331	5351	11642	1424	1905	629	108

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

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

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

The Corporation also have at their disposal 30 beds in the David Lewis Northern Hospital, and 40 beds in Walton Institution.

TABLE I
CITY OF LIVERPOOL
General Information and Statistics

Population		Area		Buildings		Industry		Commerce		Education		Religion		Amusement	
1851	454,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1861	500,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1871	550,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1881	600,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1891	650,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1901	700,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1911	750,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1921	800,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1931	850,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1941	900,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1951	950,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1961	1,000,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1971	1,050,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1981	1,100,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1991	1,150,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
2001	1,200,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
2011	1,250,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
2021	1,300,000	1,100	1,100	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000

Source: City of Liverpool, Department of Statistics, 2021.
Note: All figures are estimates and subject to change.

TABLE III.
CITY OF LIVERPOOL.
Causes of, and ages at, Death during the Year 1916.
(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 up-wards.	
1	2	3	4	5	6	7	8	9	10	11
All causes { Certified (c)	13516	2257	962	778	651	523	1818	3253	3274	5416
{ Uncertified	427	164	28	13	4	5	12	74	127	6
1. Enteric Fever	11	—	—	—	—	4	6	1	—	13
2. Small-pox	—	—	—	—	—	—	—	—	—	—
3. Measles	264	70	103	74	16	1	—	—	—	78
4. Scarlet Fever	63	3	5	31	18	4	1	1	—	52
5. Whooping Cough	235	88	79	59	9	—	—	—	—	36
6. Diphtheria and Croup.	143	9	29	52	50	3	—	—	—	124
7. Influenza	171	3	2	1	4	4	25	63	69	39
8. Erysipelas	15	2	1	—	1	—	1	4	6	6
9. Phthisis (Pulmonary Tuberculosis) ...	1254	4	12	17	73	202	577	335	34	633
10. Tuberculous Meningitis.	160	30	31	44	38	7	4	5	1	61
11. Other Tuberculous Diseases	222	20	24	30	57	28	31	24	8	108
12. Cancer, malignant disease.	791	—	—	1	5	2	86	429	268	316
13. Rheumatic Fever	60	—	—	2	10	12	13	10	13	29
14. Meningitis (See note (d))	121	41	17	34	20	2	5	2	—	42
15. Organic Heart Disease.....	945	2	1	3	35	39	139	373	353	299
16. Bronchitis	1550	179	75	38	11	11	96	496	644	426
17. Pneumonia (all forms)	1669	253	271	207	101	62	219	367	189	573
18. Other diseases of Respiratory organs	190	10	11	12	16	5	38	63	35	74
19. Diarrhoea and Enteritis. (See note (e))	718	420	165	50	17	4	12	32	18	184
20. Appendicitis and Typhlitis	32	—	—	1	8	6	7	8	2	30
21. Cirrhosis of Liver	53	—	—	—	—	1	13	32	7	27
21a. Alcoholism	17	—	—	—	—	—	9	6	2	5
22. Nephritis and Bright's Disease	337	7	5	5	19	14	58	147	82	128
23. Puerperal Fever	22	—	—	—	—	2	20	—	—	15
24. Other accidents and diseases of Pregnancy and Parturition	48	—	—	—	—	7	40	1	—	29
25. Congenital Debility and Malformation, including Premature Birth	864	800	49	14	1	—	—	—	—	225
26. Violent Deaths, excluding Suicide ...	467	47	27	54	67	22	79	110	61	252
27. Suicide	41	—	—	—	—	2	21	17	1	9
28. Other Defined Diseases	3395	428	83	62	79	81	319	758	1585	1585
29. Diseases ill-defined or unknown	85	5	—	—	—	3	11	43	23	22
Totals	13943	2421	990	791	655	528	1830	3327	3401	5420
Sub-Entries included in above figures—										
Cerebro-Spinal Meningitis	23	14	1	4	2	1	1	—	—	19
Polio-myelitis	4	—	1	2	1	—	—	—	—	2
*Typhus Fever	2	—	—	—	—	1	1	—	—	2
*Anthrax	3	—	—	—	—	1	1	1	—	3
°Pneumonia	918	60	60	64	63	52	190	299	130	337

* Sub-Entries should here be made for other deaths which it is desirable to distinguish, on account of their administrative importance or special interest (e.g., any deaths from Anthrax, Typhus or Glanders, which have been included under 28, *Other Defined Diseases*; or deaths from pneumonia other than broncho pneumonia which have been included under 17, *Pneumonia all forms*).



NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death, which has been consulted and followed in all cases of doubt.

- (a) All "Transferable Deaths" of residents, *i.e.* of persons resident in the District who have died outside it, are *included* with the other deaths in Columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the District, are in like manner *excluded* from these columns. For the precise meaning of the term "transferable deaths" *see* footnote to Table I.

The total deaths in Column 2 of Table III. equal the figures for the year in Column 12 of Table I.

- (b) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or of non-residents, are entered in the last column of Table III.
- (c) All deaths certified by registered Medical Practitioners and all Inquest cases are classed as "Certified"; all other deaths are regarded as "Uncertified."
- (d) Exclusive of "Tuberculous Meningitis" (10), but inclusive of Cerebro-Spinal Meningitis.
- (e) Title 19 has been used for deaths from 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 1916.

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	...	...	...	...	...	418	110	74	68	670	434	411	357	385	2257
	Uncertified	...	...	...	...	...	74	4	8	3	89	41	14	9	11	164
Small-pox							—	—	—	—	—	—	—	—	—	—
Chicken-pox							—	—	—	—	—	—	1	—	—	1
Measles							—	—	—	—	—	2	5	21	42	70
Scarlet Fever							—	—	—	—	—	—	1	1	1	3
Whooping Cough							—	—	2	1	3	8	16	32	29	88
Diphtheria and Croup							—	1	—	—	1	1	—	—	7	9
Erysipelas							—	—	—	—	—	—	1	1	—	2
Tuberculous Meningitis							—	—	1	—	1	1	10	11	7	30
Abdominal Tuberculosis (b)							—	—	—	—	—	5	5	2	2	14
Other Tuberculous Diseases							—	—	—	—	—	1	1	1	7	10
Meningitis (not Tuberculous)							—	—	1	1	2	2	11	5	7	27
Convulsions							45	14	11	11	81	57	43	30	26	237
Laryngitis							—	—	1	—	1	—	2	2	1	6
Bronchitis							—	2	2	11	15	49	30	43	42	179
Pneumonia (all forms)							1	3	2	6	12	37	57	69	78	253
Diarrhoea,							—	2	6	1	9	39	91	75	64	278
Enteritis							1	4	3	3	11	37	35	24	35	142
Gastritis							1	2	—	1	4	19	7	2	4	36
Syphilis							3	2	4	—	9	21	4	2	—	36
Rickets							—	—	—	—	—	—	4	3	8	15
Suffocation, overlying							3	3	1	2	9	17	5	3	—	34
Injury at Birth							12	—	—	—	12	—	—	—	—	12
Atelectasis							13	3	—	1	17	2	—	—	—	19
Congenital Malformations (c)							34	6	3	4	47	23	7	1	1	79
Premature Birth							292	40	24	16	372	39	9	1	—	421
Atrophy, Debility and Marasmus...							62	16	13	11	102	90	60	28	20	300
Other Causes							25	16	8	2	51	25	20	9	15	120
							492	114	82	71	759	475	425	366	396	2421

Nett Births in the year { Legitimate ... 19,776
Illegitimate ... 903

Nett Deaths in the year of { Legitimate Infants 2,218
Illegitimate Infants 203

NOTES TO TABLE IV.

- (a) The total in the last column of Table IV. should equal the total in column 10 of Table I., and in column 3 of Table III.
- (b) Under Abdominal Tuberculosis are to be included deaths from Tuberculous Peritonitis and Enteritis and from *Tabes Mesenterica*.
- (c) The total deaths from Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, should equal the total in Table III. under the heading Congenital Debility and Malformation, including Premature Birth.

Want of Breast Milk is included under Atrophy and Debility.

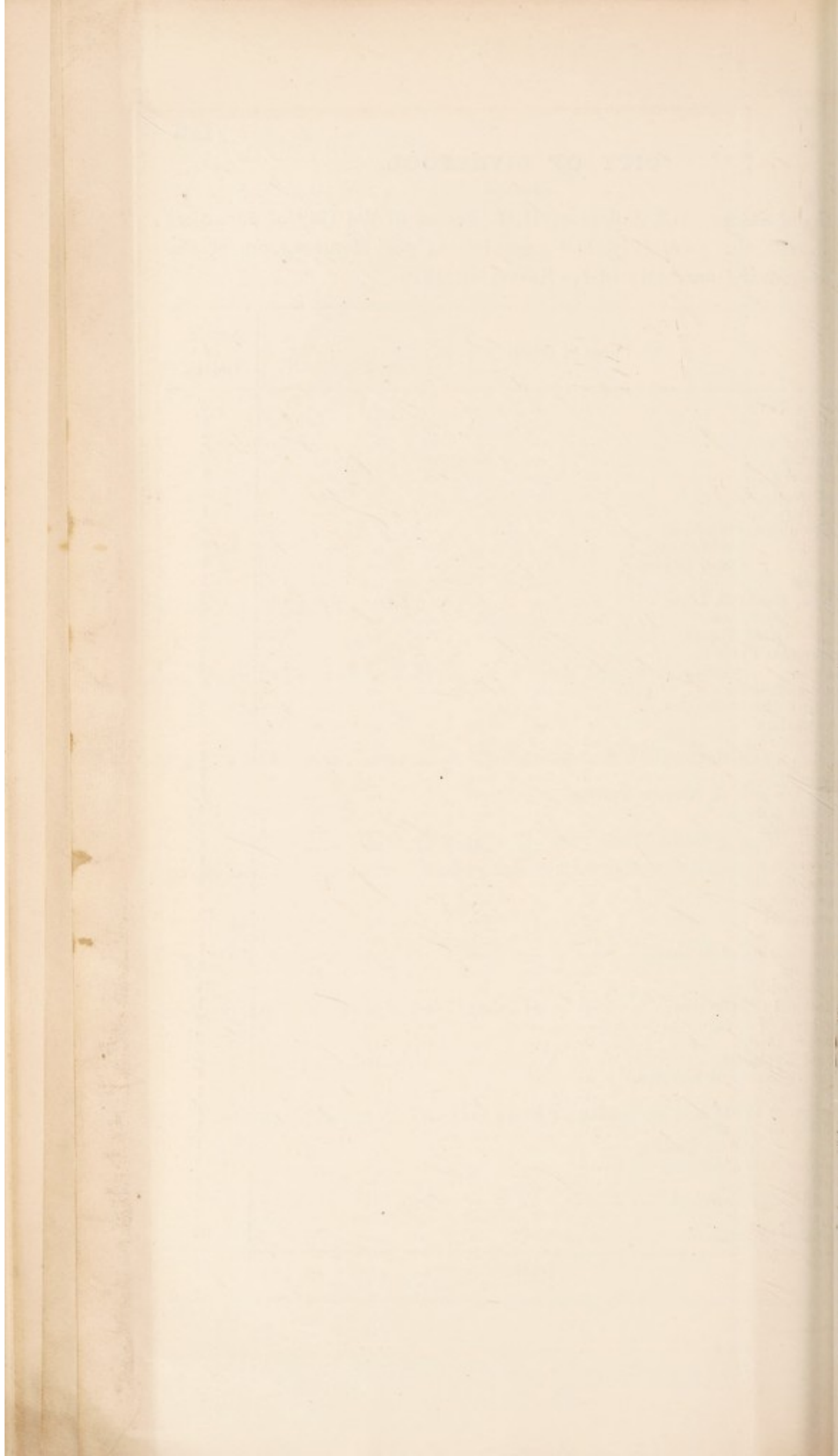
- (d) For references to the meaning of any other headings, *see* notes attached to Table III.

In recording the facts under the various headings of Tables I., II., III. and IV., 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 1916 and recorded as per Memorandum of the Registrar General dated 1st November, 1915.

Cause of Death.	Number of Deaths.
Enteric Fever	2
Malaria	1
Measles	2
Influenza	2
Dysentery	1
Septicæmia, &c.	2
Beri Beri	1
Tuberculosis, Pulmonary	9
" Peritoneum	1
" Other Organs	1
Syphilis	1
Cancer, Stomach, Liver	3
" Intestines	1
" Other Forms	2
Rheumatic Fever	2
Diabetes	1
Lymphadenoma	1
Purpura Hæmorrhagica	1
Encephalitis	1
Meningitis	2
Cerebro-Spinal Meningitis	1
Paralysis	1
Other Diseases of Nervous System	1
Mastoid Disease	3
Pericarditis	2
Valvular Disease	3
Thrombosis	1
Hæmorrhoids	1
Hæmorrhage	2
Pneumonia	13
Pleurisy	1
Inflammation of Stomach	1
Enteritis	2
Appendicitis	4
Intestinal Obstruction	1
Cirrhosis of Liver	2
Disease Liver	2
Acute Nephritis	2
Other Diseases of Kidneys	1
Gangrene	1
Disease of Bones	1
Suicide by Hanging	1
" Throat Cutting	1
Chlorine Gas Poisoning	1
Coal	1
Accidentally Drowned	1
Injuries	5
Gunshot Wounds	68
Total	161



DEATHS REGISTERED IN THE CITY OF LIVERPOOL.
DURING THE YEAR ENDING SATURDAY, 30TH DECEMBER, 1916.

[illegible]

