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HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1925

WITH OBSERVATIONS UP TO JUNE 30TH, 1926,

BY

A. A. MUSSEN, B.A., M.D., D.P.H.,

Medical Officer of Health.

LIVERPOOL.

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APPENDIX.

Ministry of Health Tables of Population, Births Deaths Infantile Mortality and Infectious Sickness. Tables I, II, III and IV.

Table of Total Deaths registered in the City.

Plan of Liverpool, showing Birth, Death and Infant Mortality Rates and Population of Districts.

PREFACE.

The health of the city during 1925 as shown by the statistics given in the report has been satisfactory.

The birth rate was 23·3 per 1,000 of the population, as compared with 24·6 for last year and an average of 26·6 for the previous five years. The birth rate for England and Wales for 1925 was 18·3, and for the 105 large towns was 18·8 per 1,000 of the population.

The death rate was 14·1 per 1,000, compared with 13·6 for 1924 and an average of 14·4 for the preceding five years. This is a slight increase on last year, and is due to the severe weather experienced in November and December, which hastened the deaths of a large number of elderly people suffering from bronchitis and other respiratory complaints. This is referred to in page 56, and is graphically shown in the chart facing that page.

The infant mortality rate was 99 per 1,000 births, which represents a decrease upon that of last year, namely, 103, and is also lower than the average for the past five years, which was 103·6.

An opportunity has been taken this year of giving some statistical information contained in the reports of former Medical Officers, and consequently figures relating to death rates and to various diseases have been included, in some cases since 1866, and in others from a somewhat later date when they are available. During these periods, there has been a substantial reduction in nearly all the well recognised forms of disease—with the notable exception of cancer, and on page 9 and the following pages an analysis of the decline in these mortality rates is discussed.

No case of smallpox occurred in the city during the year. This is remarkable when the numbers for the country generally are considered. The numbers of cases of smallpox notified in England and Wales were as follows :—

1923	2,485
1924	3,792
1925	5,365

The danger of the introduction of this disease into the city is always a serious one, and in view of these figures it is doubly so at the present time. Under these circumstances, it cannot be too strongly urged on all classes of citizens that the only preventive against this disease is vaccination and re-vaccination.

The testing of children as to their immunity or otherwise to diphtheria was carried out at several institutions in the city by means of the Schick test, and those found to be susceptible to the disease were immunised by inoculation with toxoid anti-toxin. Reference is made to this on page 26.

Encephalitis Lethargica has shown a small decrease in the number of cases notified, but there has been an increase in the deaths. Several of the latter occurred amongst cases that had been notified in previous years and had become chronic. Careful enquiries are made into the circumstances of every notified case with the view of obtaining any information which may throw light on this obscure disease.

The deaths from alcoholism show a further satisfactory decline, only six deaths having been certified as due to this cause during the year, as compared with 125 in 1914. These figures afford a most eloquent testimony to the improved social conditions of the city.

Tuberculosis still takes its toll of deaths, the rate for the year being 1·5 per 1,000 of the population. In this connection it is hoped that when the present housing programme which is being carried out has had time to produce its effect upon the death rate from this disease, there will be a substantial reduction.

The Carnegie Infant Welfare Centre and the Corporation Maternity Home have both proved of great value in dealing with mothers and children, and the Seamen's Dispensary has been increasingly made use of by patients suffering from venereal diseases.

An important advance towards improving housing conditions in the centre of the city was made by scheduling the Pitt Street Area as an insanitary area. A representation was made by the Medical Officer, and during the year an Inquiry was held by an Inspector of the Ministry of Health. A confirming order was later made by the

Minister. The buildings are now being demolished and plans have been approved for the erection of 57 tenements on the site. This will be a most useful beginning in opening up a district in which the re-housing of the residents is urgently required.

Special attention is directed to the sections dealing with Maternity and Child Welfare on page 84, the supervision of food supplies on page 207, and the general sanitary administration, including rat destruction, on page 171.

A. A. MUSSEN,
Medical Officer of Health.

Public Health Department,
Municipal Buildings,
Liverpool, 31*st July*, 1926.

STATISTICS

RELATING TO

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

ZYMOTIC DISEASES AND THEIR INCIDENCE.

SUMMARY

OF

VITAL STATISTICS FOR 1925.

Area of City	**21,219**	**Acres.** (33 square miles)
Population (estimated to the middle of the year)	**842,968**	
Births	**19,592,**	**Birth-rate 23·3.**
Deaths	**11,902,**	**Death-rate 14·1.**
Infantile Mortality	**1,935**	**Deaths under one year.**
Infant Mortality Rate	**99**	**per 1,000 Births.**
Zymotic Death-rate (7 principal Zymotic Diseases)	**1·15**	**per 1,000.**
All forms of Tuberculosis (including Phthisis)	**1·6**	**per 1,000.**
Phthisis Death-rate	**1·3**	**per 1,000.**

BIRTHS.

The number of births recorded during the year 1925 within the City was 19,592, equal to a rate of 23·3 per 1,000 of the population, the average of the previous five years (1920-1924) being 26·6. Of the total births, 9,923 were males and 9,669 were females. The number of illegitimate births was 741, or 3·7 per cent. of the total births, 370 being males and 371 female.

The Registrar General intimated that 323 births (162 males and 161 females) should be added to and 310 births (150 males and 160 females) deducted from the total number of births registered in the City. These corrections for transferable births having been made the net figures are as given above.

The birth-rate in the City of Liverpool is considerably above the average of the great towns, which is 18·8 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate is 18·3 per 1,000, for the year 1925.

The table on pages 5 and 6 shows the birth rate of the City for the last 60 years (1866 to 1925).

REGISTRATION DISTRICTS.

By an Order of the Registrar General, dated 14th December, 1923, the following alterations in the Registration Districts of the City were made as from 1st January, 1924, viz. :—

The Exchange Sub-District is extended by the inclusion of Scotland Sub-District.

West Derby West Sub-District to be known as The Edge Hill Sub-District.

Wavertree Sub-District is extended by the inclusion of the Districts of Aigburth, Childwall, Allerton and Garston.

The Toxteth Park South West Sub-District is extended by the addition of the Toxteth Park North West Sub-District—the new District to be known as Toxteth Park West Sub-District.

Much Woolton and Little Woolton are brought into the Liverpool Registration District, and are to be known as the Woolton Sub-District.

These changes necessitate several minor alterations in the records of vital statistics shown in this and future reports.

BIRTHS AND DEATHS IN DISTRICTS.

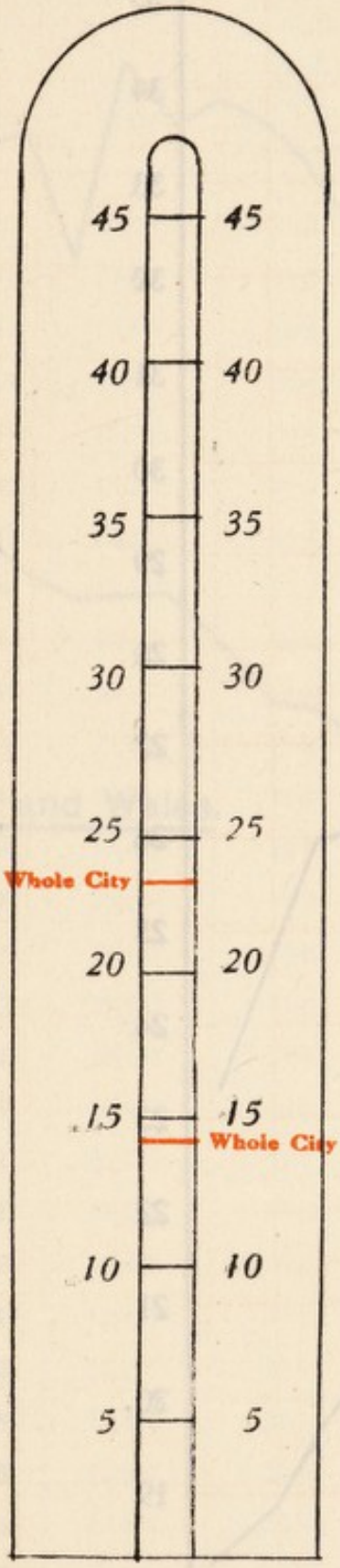
The following table shows the population, number of births and deaths, and the rates per 1,000 in each district of the City for the year 1925 :—

Districts.	Estimated Population 1925.	Births.		Deaths.	
		Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
EXCHANGE	82,126	2, 709	33·0	1,715	20·9
ABERCROMBY	47,731	1,157	24·2	795	16·6
EVERTON	129,194	3,444	26·7	1,949	15·1
KIRKDALE	73,257	1,799	24·5	1,060	14·5
EDGE HILL	91,069	2,031	22·3	1,241	13·6
TOXTETH	110,438	2,769	25·1	1,612	14·6
WALTON	87,111	1,504	17·3	1,015	11·7
WEST DERBY	86,713	1,817	20·9	965	11·1
WAVERTREE	88,845	1,700	19·1	1,003	11·3
TOXTETH (EAST)... ...	33,737	481	14·2	418	12·4
FAZAKERLEY	6,621	102	15·4	55	8·3
WOOLTON	6,126	79	12·9	74	12·1
	842,968	19,592	23·3	11,902	14·1

In order to facilitate comparison with former years the changes in the Registration Districts set out on page 3 should be noted.

CITY OF LIVERPOOL.

omparative view of the Birth and Death Rates per 1,000 in the different districts of the City during the year 1923.



Birth Rates
per 1,000 of population

Exchange	33.0
Everton	26.7
Toxteth	25.1
Kirkdale	24.5
Abercromby	24.2
Edge Hill	22.3
West Derby	20.9
Wavertree	19.1
Walton	17.3
Fazakerley	15.4
Toxteth	14.2
Woolton	12.9

Death Rates
per 1,000 of population

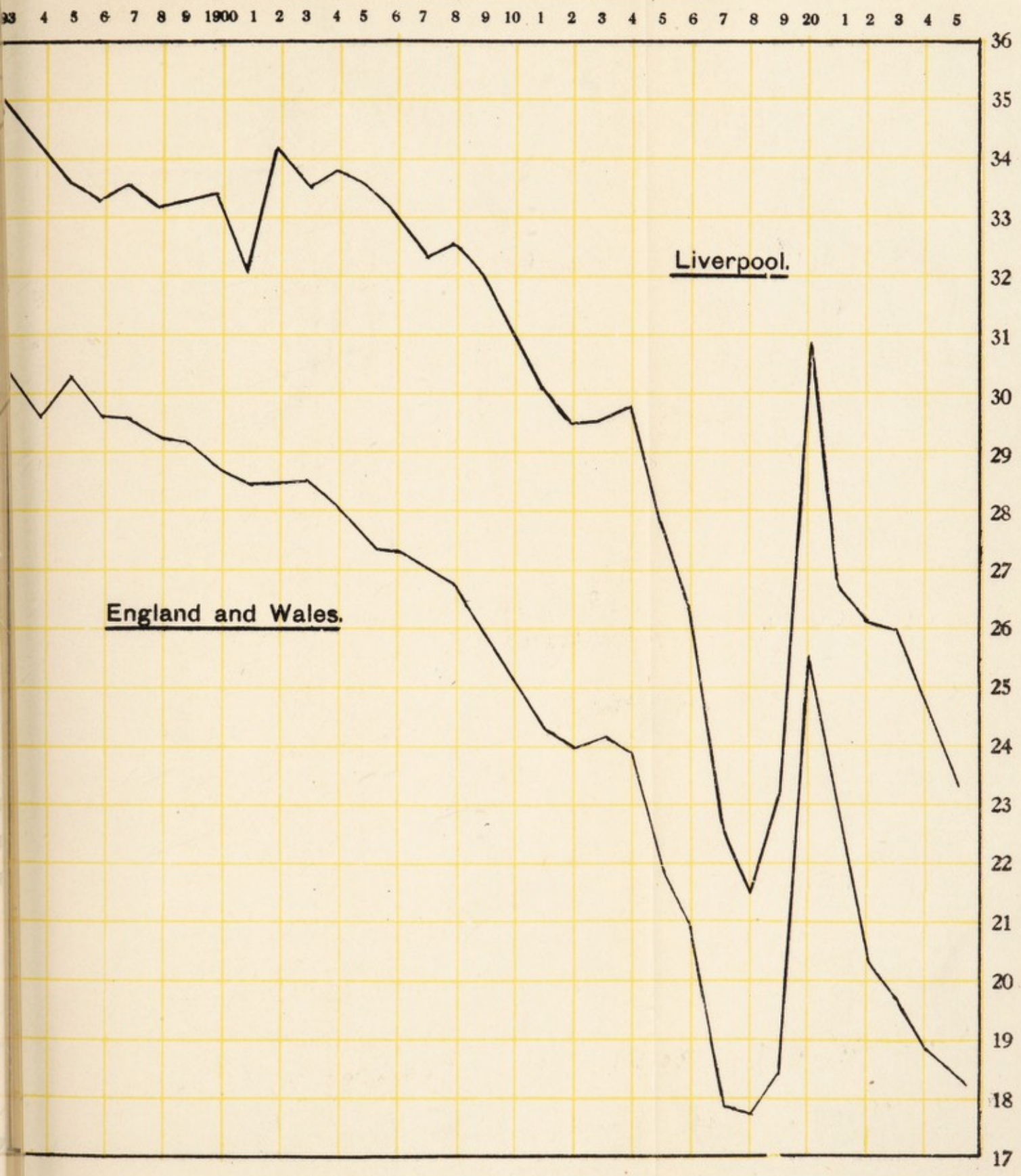
Exchange	20.9
Abercromby	16.6
Everton	15.1
Toxteth	14.6
Kirkdale	14.5
Edge Hill	13.6
Toxteth	12.4
Woolton	12.4
Walton	11.7
Wavertree	11.3
West Derby	11.1
Fazakerley	8.3

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

parative view of the Birth and Death Rates per 1,000 in the different districts of the City during the year 1923:

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

Birth Rate, 1893-1925.



Birth Rate, 1893-19

The following table shows the population, births and deaths, with birth and death rates during the last 60 years (1866 to 1926) :—

Year.	Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
1866	469,226	19,099	40·7	20,198	43·0
1867	474,204	19,563	41·2	14,353	30·2
1868	479,235	19,341	40·4	14,583	30·2
1869	484,319	18,668	38·5	14,744	30·4
1870	489,457	19,146	39·1	16,099	32·9
1871	*493,346	18,305	37·1	17,366	35·2
1872	499,897	19,343	38·1	13,540	27·1
1873	505,200	18,716	37·0	13,042	25·8
1874	510,640	19,861	38·9	16,336	31·9
1875	516,063	19,869	38·5	14,173	27·4
1876	521,544	20,426	39·0	14,347	27·7
1877	527,083	20,333	38·8	13,904	26·2
1878	532,681	20,612	38·7	15,584	38·2
1879	538,338	20,844	38·7	14,502	27·1
1880	544,056	20,783	38·2	14,811	27·2
1881	*551,617	20,762	37·6	14,733	26·7
1882	548,065	20,498	37·4	14,818	27·0
1883	544,547	19,907	36·6	15,074	27·7
1884	541,031	20,071	37·1	14,382	26·6
1885	537,548	19,464	36·2	13,764	25·6
1886	534,088	19,559	36·6	13,919	26·1
1887	530,649	18,414	34·7	14,006	26·4
1888	527,233	17,777	33·7	12,159	23·1
1889	523,838	17,676	33·7	13,047	24·9
1890	520,466	17,592	33·8	14,293	27·5
1891	518,302	17,832	34·4	13,911	26·8
1892	519,590	17,758	34·2	12,671	24·4
1893	520,882	18,328	35·2	13,919	26·7

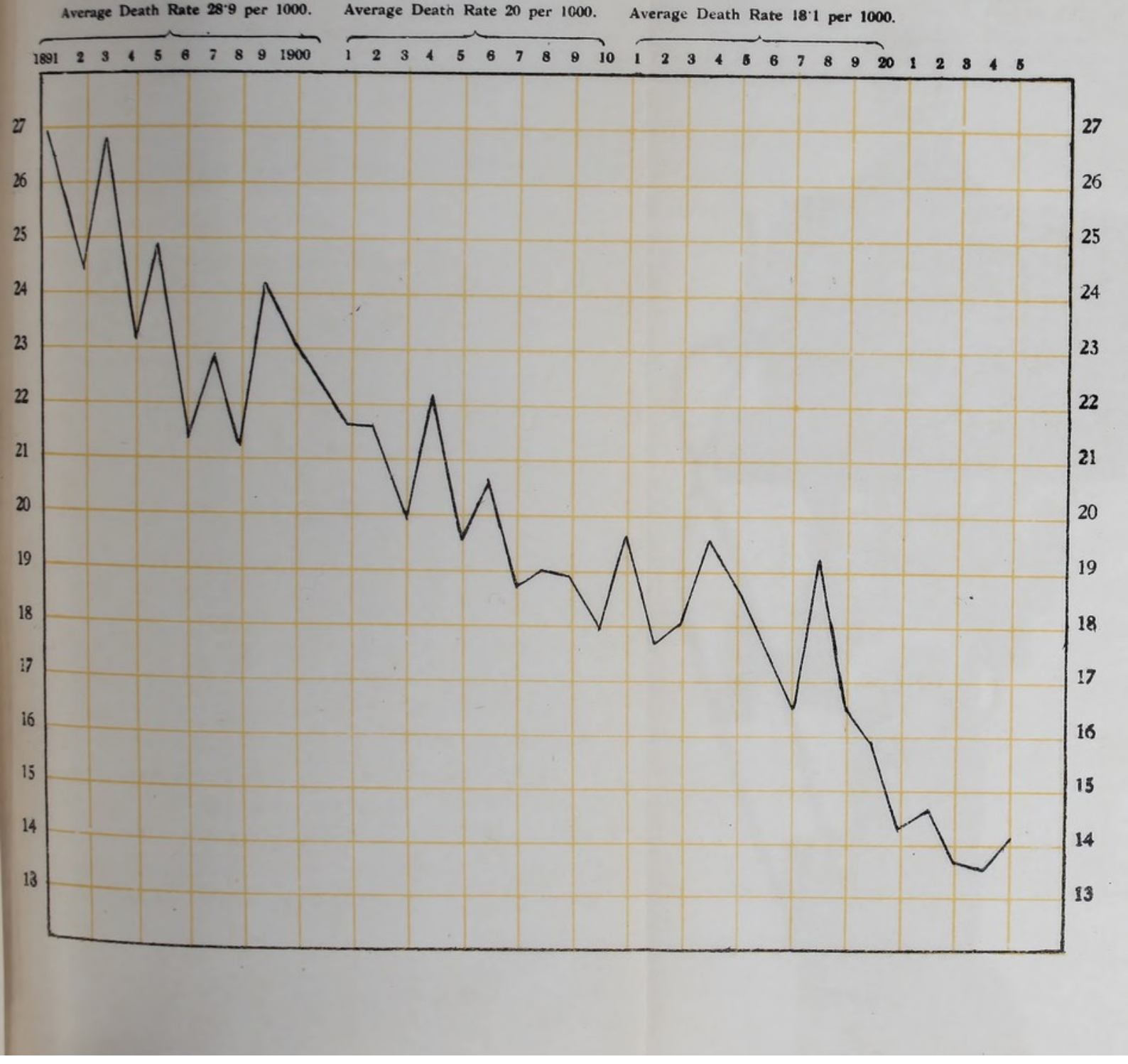
Population, Birth and Death Rates—*continued.*

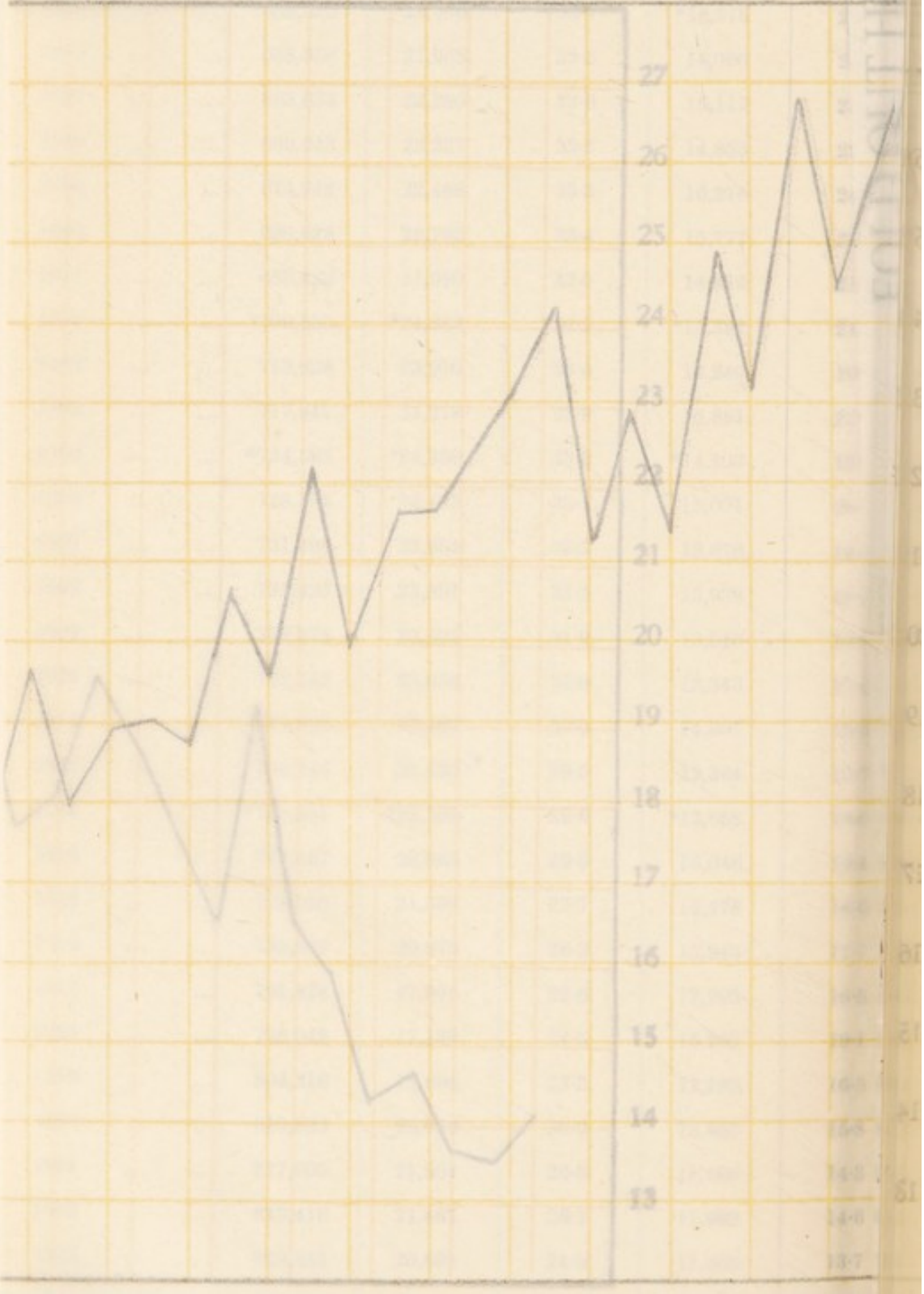
Year.	Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
1894	522,178	17,893	34·3	12,073	23·1
1895	*652,523	*22,006	33·7	*16,215	24·8
1896	658,050	21,943	33·3	14,060	21·4
1897	663,633	22,280	33·6	15,117	22·8
1898	669,243	22,227	33·2	14,853	22·2
1899	674,912	22,488	33·3	16,276	24·1
1900	680,628	22,762	33·4	15,777	23·1
1901	686,422	21,980	32·0	14,879	21·6
1902	*709,635	*24,283	34·2	*15,392	21·6
1903	713,628	23,910	33·5	14,240	19·9
1904	717,647	24,278	33·8	15,851	22·1
1905	*724,583	*24,350	33·6	*14,103	19·5
1906	728,155	24,123	33·1	15,001	20·6
1907	731,798	23,654	32·3	13,676	18·7
1908	735,423	23,891	32·5	13,930	18·9
1909	739,073	23,591	31·9	13,945	18·8
1910	742,742	23,054	31·0	13,343	17·9
1911	747,998	22,493	30·0	14,607	19·5
1912	754,143	22,233	29·5	13,364	17·7
1913	*760,341	*22,555	29·6	*13,658	18·0
1914	773,467	23,065	29·8	15,046	19·4
1915	779,535	21,586	27·7	14,478	18·6
1916	785,657	20,679	26·3	13,943	17·7
1917	791,828	17,906	22·6	13,093	16·5
1918	798,048	17,133	21·5	15,267	19·1
1919	804,316	18,694	23·2	13,283	16·5
1920	810,632	25,039	30·9	12,852	15·8
1921	817,000	21,904	26·8	11,666	14·3
1922	823,416	21,467	26·1	11,992	14·6
1923	829,881	20,695	24·9	11,405	13·7
1924	836,396	20,559	24·6	11,390	13·6
1925	842,968	19,592	23·3	11,902	14·1

* City Area extended.

CITY OF LIVERPOOL.

DEATH RATE 1891-1925.





DEATHS.

The total deaths registered in the City during the year numbered 12,391. Of these deaths 898 were those of non-residents, chiefly occurring in public institutions, nursing homes, &c., and these were excluded from the returns. On the other hand the deaths of 409 Liverpool residents which occurred in other districts and in the County Asylums, &c., were included in the returns for the year.

This gives a corrected number of deaths of 11,902, being 6,208 males and 5,694 females, for the year, equal to a death rate of 14·1 per 1,000 of the population. This is slightly higher than the previous year, when it was 13·6, the lowest death rate ever recorded for the City.

The table on pages 5 and 6 shows the death rate of the City during the past sixty years, and it will be seen that in the five years (1906-1910) the average death rate was 19·0 per 1,000, whilst during the last five years, viz., 1921-1925, the average rate was 14·0 per 1,000.

A comparison of the table on page 12, with previous reports, will show that this improvement is not confined to the infant mortality nor to the mortality at any particular age, but is a general improvement affecting the whole of the population. It is plain that any variation in the *proportions* living at the respective age-periods would affect the death rate, and this with absolutely no change whatever in the condition of municipal sanitation. These proportions, however, vary very slowly and very slightly year by year in each district, so that yearly comparisons of the mortality rate of the same district may be fairly made, but one district should not be put into comparison with another unless the age and sex conditions of each are known, and the necessary corrections made.

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 1925.
	March	June	Sept.	Dec.	
All Causes	3,424	2,996	2,268	3,214	11,902
I. General Diseases	1,174	1,023	661	834	3,692
II. Dis. of Nervous System	266	251	204	266	987
III. do. Circulatory do.	426	348	259	403	1,436
IV. do. Respiratory do.	849	667	349	904	2,769
V. do. Digestive do.	156	151	323	222	852
VI. do. Genito Urinary do. ...	143	131	103	121	498
VII. The Puerperal State	9	17	11	20	57
VIII. Dis. of Skin, etc.	24	25	18	25	92
IX. do. Bones, etc.	2	4	9	4	19
X. Malformations	28	20	14	30	92
XI. Dis. of Early Infancy	126	150	123	139	538
XII. Old Age	136	110	87	131	464
XIII. External Causes	77	85	95	110	367
XIV. Ill defined Causes	8	14	12	5	39

Analysis of Decline in Mortality.

The accompanying tables (pages 10 and 11) show the deaths that have occurred in the City of Liverpool during the past 55 years. These have been separated into five principal classes of disease that are likely to be affected by the activities of the Health and other Municipal Departments, namely, "Infective" diseases, Tubercular diseases, Respiratory diseases (including Influenza), and Digestive diseases (including Diarrhœa and Enteritis). These classes include the greater part of the diseases of infective origin. The deaths from Cancer are placed in a separate column.

Despite the very great increase in population since 1871, the present population having nearly doubled since then, the actual numbers of deaths per annum have fallen from an average of 14,700 in the decennium 1871-1880 to 11,902 in the year 1925. The general death rate has fallen from 28·5 to 14·1 per thousand, a fall of over 50 per cent.

The greatest proportional decline has been experienced in the group of infectious diseases, which includes all the infectious diseases with the exception of Influenza; the decline has been steady and uniform, and the deaths now registered in this group exhibit a decline of no less than 80 per cent. during the 55 years.

A similar steady decline has been shown by the tubercular diseases, which have fallen to 42·2 per cent. of the earlier figure.

In the group of Respiratory diseases, although a decline has occurred, it has not been continuous, rises occurring in 1881-90 and in 1911-20, due in both cases to the prevalence of influenza. Although an actual decline in respiratory deaths has occurred, this decline is not commensurate with that recorded in deaths from all causes; there has been a decline to 61 per cent. of the rate recorded in 1871-80 during the period under review, namely, between 1891-1900 and 1925.

Digestive diseases, of which the Diarrhœa and other Digestive diseases of infants form by far the most important section, showed at first a slight decline from 1871 to 1890; in 1891-1900 there was a rise to 107 per cent. of the rate experienced in 1871-80. From that time on there has been a most marked anl rapid decline to 32 per cent. of the 1871-80 rate of mortality. This decline coincides in time with the great efforts that have been put forward in this City for the prevention of infantile mortality.

In marked contrast with the decline in these preventable diseases is the rise in Cancer mortality (see pages 76 to 78). As little is known of its causation it is not to any great extent amenable to preventive measures.

If the general rate of mortality experienced in 1871-80 had prevailed during the year 1925, there would have been 24,025 deaths instead of 11,902, the number actually recorded, a saving of 12,123 lives being thereby effected.

CITY OF LIVERPOOL.

DEATHS FROM CERTAIN GROUPS OF DISEASES IN EACH DECADE FROM 1871 to 1920 and DURING 1921 to 1925.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a),(b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1923	2,451	3,977	8,054	2,556	17,738	2,659	35,063
1924	642	1,272	3,074	703	5,691	941	11,390
1925	859	1,283	2,947	852	5,941	998	11,902

DEATHS EXPRESSED AS A PERCENTAGE OF TOTAL DEATHS FROM ALL CAUSES (Proportionate Mortality).

1871-1880	19·2	13·5	20·2	10·0	62·3	1·4	100·0
1881-1890	14·1	12·7	23·2	9·4	59·4	2·0	100·0
1891-1900	9·3	10·8	24·6	12·7	57·4	2·9	100·0
1901-1910	8·6	10·6	21·8	12·0	53·0	4·3	100·0
1911-1920	7·9	10·9	27·3	8·9	55·0	5·5	100·0
1921-1923	7·0	11·3	25·8	7·3	50·5	7·6	100·0
1924	5·6	11·2	27·0	6·2	50·0	8·3	100·0

DEATH RATES PER 1000 POPULATION.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	5·2	3·6	5·7	2·8	17·4	0·4	28·5
1881-1890	3·6	3·2	5·9	2·4	15·6	0·5	26·1
1891-1900	2·2	2·7	5·9	3·0	13·8	0·7	23·9
1901-1910	1·9	2·2	4·5	2·5	11·1	0·9	20·0
1911-1920	1·35	1·90	4·73	1·59	9·8	1·0	18·1
1921-1923	0·99	1·61	3·65	1·03	7·2	1·07	14·2
1924	0·76	1·54	3·68	0·84	6·7	1·12	13·6
1925	1·02	1·52	3·49	1·01	7·0	1·18	14·1

DEATH-RATES EXPRESSED AS A PERCENTAGE OF THE RATES EXPERIENCED IN 1871-1880 (Index Numbers).

1871-1880	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1881-1890	69·0	88·0	104·0	85·7	89·1	125·0	91·0
1891-1900	42·0	75·0	104·0	107·2	79·3	175·0	84·0
1901-1910	36·0	61·0	79·0	89·3	64·3	225·0	70·0
1911-1920	26·0	50·0	83·0	56·7	56·0	250·0	67·0
1921-1923	19·2	44·8	64·0	32·8	41·4	267.5	49·5
1924	14·6	42·4	64·5	30·0	38·4	280·0	47·7
1925	19·6	42·2	61·3	32·2	40·3	295·0	49·5

THE FOLLOWING TABLE SHOWS THE ANNUAL RATE OF MORTALITY PER 1,000 AS WELL AS THE TOTAL NUMBER OF DEATHS AT EACH OF TWELVE AGE-PERIODS DURING THE YEAR 1925 IN LIVERPOOL.

1925.	* 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.	99·0	41·3	12·7	2·6	2·6	3·8	4·7	9·6	20·9	43·9	104·7	224·6	14·1
Total Number of Deaths at each Age-Period.	1935	897	559	229	440	527	577	1032	1501	1782	1713	710	11902
Approximate Population	20658	21705	43948	88022	169114	137282	122574	107769	71770	40601	16363	3161	842968

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

DEATHS IN PUBLIC INSTITUTIONS.

In Liverpool the proportion of deaths which takes place in Public Institutions is large, and this tends to show the proportion of people who in times of sickness have recourse to public and charitable institutions in the City, and no doubt also suggests that the institutions have a wide reputation and attract sufferers not only from within the City, but from a distance, as shown by the number of non-resident deaths.

The deaths during the year numbered 6,017, and included 805 persons who were non-residents in the City area. The number of deaths in the various institutions are shown in the following table :—

	Total Deaths.	Deaths of non-residents.
Parish Institution (Brownlow Hill)	847	14
Mill Road Infirmary	858	42
Walton Institution (Rice Lane)	909	252
Toxteth Institution (Smithdown Road) ...	728	14
Alder Hey Hospital	329	46
Belmont Road Institution	230	31
Kirkdale Homes	196	42
Cottage Homes, Wavertree	1	—
Leyfield Poor Law Schools	3	—
Royal Infirmary	316	98
David Lewis Northern Hospital	219	63
Royal Southern Hospital	177	21
Stanley Hospital	120	32
Royal Liverpool Children's Hospital	196	26
Maternity Hospital	43	6
Hospital for Women	22	8
Samaritan Hospital	7	—
Consumption Hospital	26	16
Hahnemann Hospital	13	1
Eye and Ear Infirmary	13	5
Garston Hospital	17	—
City Hospital North	25	—
Do. South	43	—
Carried forward ...	5,338	717

	Total Deaths.	Deaths of non-residents.
Brought forward ...	5,338	717
City Hospital East, Mill Lane	107	2
Do. Fazakerley	152	7
Do do. Annexe	36	—
Do. Sparrow Hall	14	—
Sanatorium Fazakerley	72	—
Do. Highfield	127	1
St. Joseph's Home	48	20
Home for Incurables	10	4
House of Providence	8	4
Tuebrook Villa Asylum	4	1
Turner Memorial Home	18	9
St. Augustine's Home	21	3
H.M. Prison, Walton	4	3
Other Institutions	58	34
	6,017	805

Of the above deaths 4,101 took place in poor-law institutions, 1,169 in voluntary hospitals, 576 in City hospitals, and 171 in other institutions.

The following is a summary of the deaths in institutions during the five years 1920 to 1924 :—

Year.	Poor Law Institutions.	Voluntary Hospitals.	City Hospitals.	Other Institutions.	Total Deaths.	Deaths of non-residents
1920 ...	3,660	1,211	491	138	5,500	650
1921 ...	3,546	1,222	501	133	5,402	695
1922 ...	3,779	1,131	519	159	5,588	744
1923 ...	3,571	1,152	599	155	5,477	649
1924 ...	3,683	1,112	473	176	5,444	701
	18,239	5,828	2,583	761	27,411	3,439

INFECTIOUS SICKNESS.

Liverpool is closely associated with all parts of the world by reason of the large volume of shipping continually arriving in the port, and in consequence the City is 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.

The following table shows the number of cases of Infectious Disease notified during 1925, the case-rate per 1,000 of the population, the number of deaths registered from these diseases, the death rates per 100,000 of the population, and the percentage proportion of deaths to cases.

	Smallpox.	Enteric Fever.	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis	Encephalitis Lethargica.	Malaria	Whooping Cough.
se	—	35	3,561	11,202	1,504	56	525	24	4	108	52	2,274
se e per 1,000 ...	—	0·04	4·22	13·32	1·78	2·9†	0 62	0·03	0·005	0·13	0·06	2·70
eat	—	5	93	406	106	21	24	15	1	44	3	227
ati te per 100,000	—	0·6	11·0	48·3	12·6	107*	2·9	1·8	0·12	5·2	0·4	27·0
ree ge of Deaths to s	—	14·3	2·6	3·6	7·0	37·5	4.5	62·5	25·0	40·5	5·7	10·0

* Death rate per 100,000 Births. † Case rate per 1,000 Births.

PLAGUE.

No cases of Plague occurred in the City during the year. Of the 9,118 rats examined bacteriologically for the City and Port during the year not one was found infected with plague.

SMALLPOX.

No cases of Smallpox occurred in the City during the year, but a passenger from Ryton-on-Tyne embarking on the s.s. "Montrose" for Canada was discovered to be suffering from smallpox and was removed to hospital.

The following figures show the gradual increase of the disease in England and Wales during the last 4 years. These figures show a gradual and remarkable spread of an exceedingly mild type of smallpox, only a few deaths occurring amongst the thousands of cases reported :—

Year.	Cases.	Deaths
1922	973	27
1923	2,485	7
1924	3,792	13
1925	5,365	9

(*Extracted from the Registrar General's Quarterly Returns.*)

This striking increase in the disease may be attributed to the neglect of vaccination in the invaded districts. There is every possibility that sooner or later the disease will make its appearance within the City, and it may be appropriate to urge that the only safeguard against infection is vaccination and re-vaccination.

In Liverpool, the child population is relatively well-vaccinated, as the most recent figure available, namely, for 1924 shows that 74·93 per cent. of the children born in Liverpool have been successfully vaccinated. This is satisfactory when compared with the rest of the country (which is about 48 per cent. for the same year), and reflects credit on the Public Vaccinators and others concerned in the administration of the Vaccination Acts. It would, however, be more satisfactory if Liverpool's 25 per cent. unvaccinated could be further reduced.

On account of its world-wide trade, Liverpool must always be one of the channels through which smallpox may be imported. Furthermore, its constantly moving population—inwards and outwards—renders it particularly liable to infection.

TYPHUS FEVER.

No case occurred in Liverpool during 1925, and no indigenous cases have occurred during the course of the past seven years.

ANTHRAX.

Five cases of anthrax occurred during the year in persons residing in the City. The dissemination of information regarding this disease and its dangers has been emphasised from year to year, and it is undoubtedly true that cases occurring are fewer in recent years. The disinfection of dangerous wools and hairs at the Government wool disinfecting station has assisted materially in this reduction.

Two of the patients were engaged in handling wool in warehouse; two worked amongst wool and hides, discharging from vessels in the docks, and one was engaged as a "lime jobber" in a tannery.

FUR DERMATITIS.

Cases of dermatitis caused by the wearing of dyed furs have been known for some time, but recently the number of persons so affected has increased. Women and girls between 15 and 50 years of age are usually the sufferers.

The following is a summary of the probable cause and the effects produced :—

(1) The furs are rabbit skins dyed to resemble beaver. They are cheap imitations, and are used mainly in trimming collars, cuffs of coats, etc. The colour varies from shades of grey to black and brown, and exclusively prepared and dyed in foreign countries, notably Belgium, France, Germany and U.S.A.

(2) The dyes used belong to the aniline class, viz. :—

Ursol, or Paraphenyline-diamine, or Metaphenyline-diamine.

In the dyeing process it is necessary to use an oxidising agent, and if this oxidation is complete, the dyed article is rendered innocuous.

In many of the furs this oxidising process has not been completely carried out, or has been arrested at a stage when actively irritating bodies such as Quinone-di-imide are produced. It is these bodies which produce the skin irritation and eruption.

(3) Careless or defective technique in the use of the dyes is in all probability the cause of fur dermatitis.

(4) There is usually a definite latent interval between the wearing of the fur and the first stages of irritation. Symptoms may, however, appear within a few hours.

(5) The effect is local discomfort and irritation, a blotchy reddening on portions of the neck and lower face which have been in contact with the fur.

(6) Sometimes the irritation is very severe and may become eczematous.

ENTERIC FEVER.

The decline in the prevalence of this disease which has been continuous for the past 30 years has now almost led to its extinction. The death-rate has fallen since 1894 from 46 to 0·6 per 100,000; of the five deaths which occurred in the year, two were those of seamen infected abroad, and one that of a man, whose case was notified in 1924, who had eaten oysters of American origin; only three of the five deaths were of persons infected in Liverpool, or a mortality of 0·4 per 100,000.

Forty-eight cases of Enteric Fever (including 2 cases of Paratyphoid A.—both imported—and 3 cases of Paratyphoid B.) were reported during 1925 in the City and Port of Liverpool. Of these, 14 cases were imported from overseas, leaving 34 cases of indigenous origin, as against 48 in the preceding year. In the case of one of these indigenous cases the development of illness followed the consumption of shellfish (cockles). Three persons were infected whilst away on holidays or otherwise.

One nurse, who had been nursing a case which eventually proved to be Enteric Fever, was infected in this way. On one occasion four cases occurred in one family living in the centre of the City. All the remaining cases were isolated and sporadic in nature.

The results of inquiry into the probable causation of the reported cases is shown in the following table, the figures for the years 1920 to 1925 being shown for the purpose of comparison :—

CITY AND PORT OF LIVERPOOL. ENTERIC FEVER, 1920-25.

	CASES.						PERCENTAGE.					
	1920.	1921.	1922.	1923.	1924.	1925.	1920.	1921.	1922.	1923.	1924.	1925.
d by sea ...	21	16	12	5	12	14	36·3	37·2	30·0	25·0	20·0	29·2
d by land ...	3	1	1	—	8	3	5·2	2·3	2·5	—	13·3	6·2
h	4	3	3	2	3	1	6·9	7·0	7·5	10·0	5·0	2·1
nfection ...	2	4	10	1	7	9	3·5	9·3	25·0	5·0	11·7	18·7
nfection from d cases ...	6	1	2	2	2	1	10·4	2·3	5·0	10·0	3·3	2·1
carrier ...	1	—	—	—	—	—	1·5	—	—	—	—	—
y not Typhoid	—	2	3	1	1	—	—	4·7	7·5	5·0	1·7	—
which source ascertained ...	37	27	31	11	33	28	63·8	62·8	77·5	55·0	55·0	58·4
area	4	11	5	3	7	10	6·9	25·6	12·5	15·0	11·7	20·8
ea	17	5	4	6	20	10	29·3	11·7	10·0	30·0	33·3	20·8
which sources ot ascertained	21	16	9	9	27	20	36·2	37·3	22·5	45·0	45·0	41·6
r City and Port	58	43	40	20	60	48						
a due to B. osus	53	41	37	17	36	43	91·4	95·1	91·9	85·0	60·0	89·5
yphosus B ...	5	2	3	3	24	3	8·6	4·9	8·1	15·0	40·0	6·2
yphosus A ...	—	—	—	—	—	2	—	—	—	—	—	4·2

DIPHTHERIA.

During 1925, 1,504 cases of Diphtheria were reported, giving an attack rate of 1·8 per 1,000 of the population. Of these cases 106 proved fatal, making a fatality rate of 7·0 per 100 cases, and a mortality rate of 12·6 per 100,000 population. Although the case-rate shows increase above the rates of the past four years, the fatality rate is lower than any year with the exception of 1924, and consequently the death rate shows only a slight increase.

Table 1.

DIPHTHERIA IN THE CITY OF LIVERPOOL, 1916-1925

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.
Cases	1,114	1,022	1,302	1,959	1,654	1,182	953	993	1,105
Deaths	143	143	228	212	188	97	91	87	71
Case rate per 1,000 population ...	1·4	1·3	1·6	2·5	2·1	1·4	1·2	1·2	1·3
Death rate per 100,000 population	18·2	18·1	28·6	26·3	23·2	12·0	11·5	10·5	8·5
Fatality rate per 100 cases	12·2	13·9	17·5	10·8	11·4	8·2	9·5	8·8	6·4

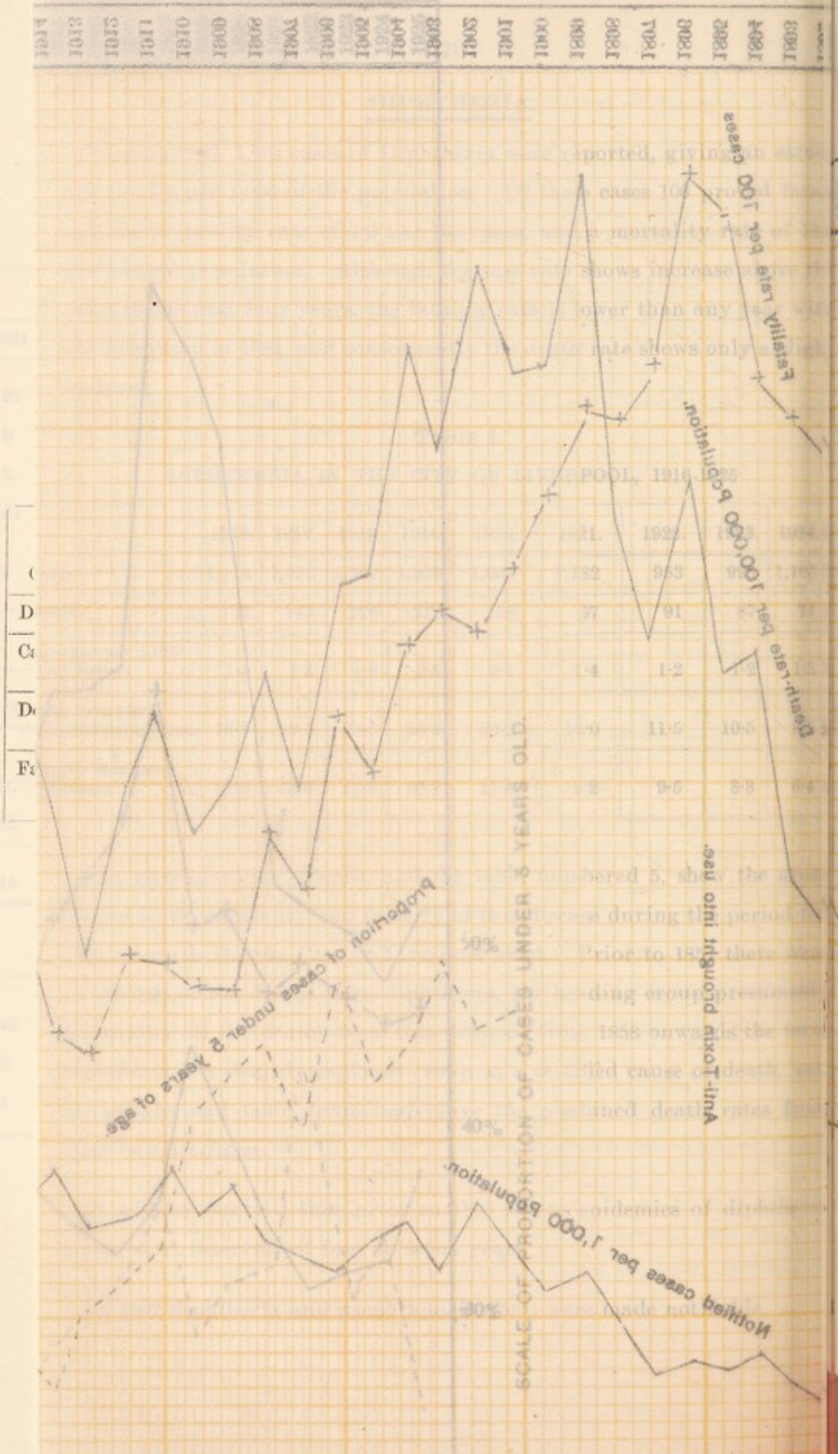
The accompanying graphs, and the table numbered 5, show the great decline in the mortality and fatality of this disease during the period for which records for the City of Liverpool exist. Prior to 1857 there were no records of the deaths from diphtheria, the heading croup presumably containing all the deaths from this disease; from 1858 onwards the term diphtheria has steadily replaced croup as a certified cause of death, and the graphs and table accordingly give the combined death rates from these two headings.

It will be observed that prior to 1890 severe epidemics of diphtheria occurred at intervals of four to seven years.

In 1892 diphtheria and membranous croup were made notifiable.

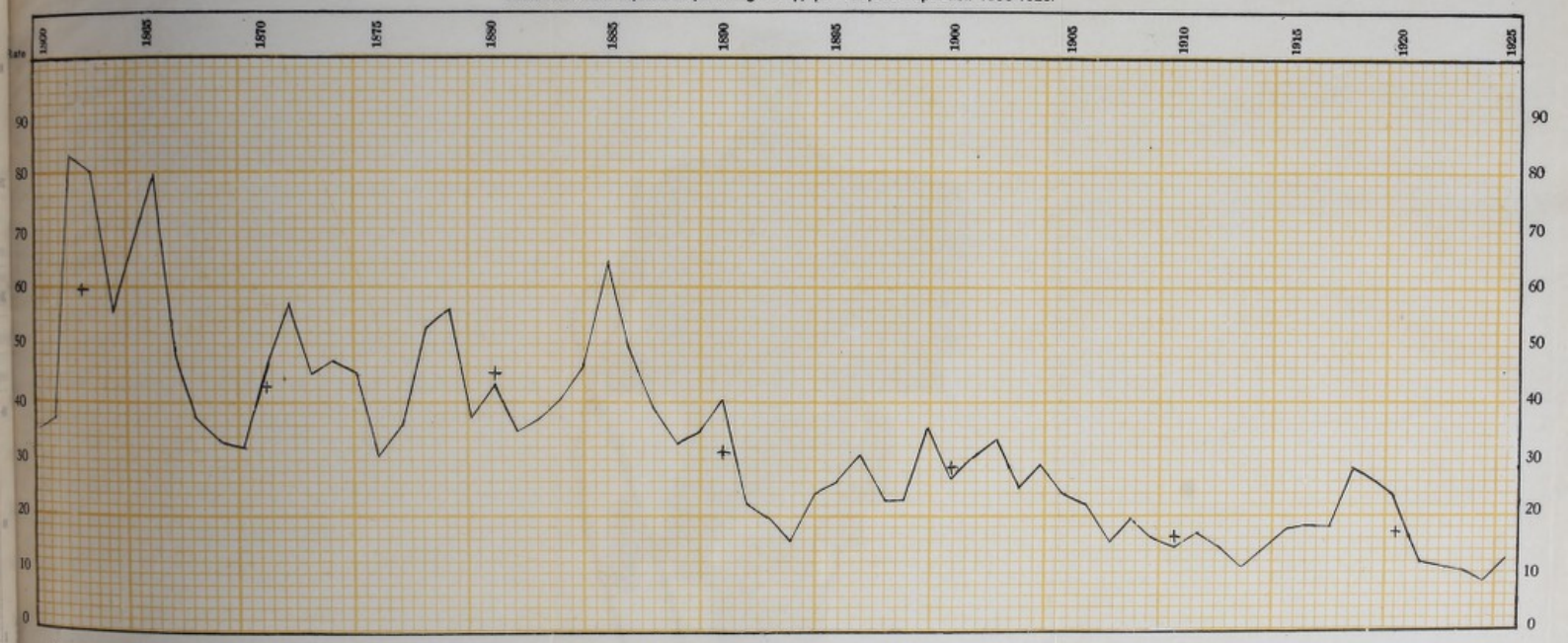
Diphtheria (& Membranous Croup) in City of Liverpool during 1892—1925.

Death rate per 100,000 Population, Notified cases per 1,000 Population, Fatality rate per 100 cases notified and proportion of cases under 5 years of age to total cases.


Fatality rate per 100 cases.
Death-rate per 100,000 population.
Anti-Toxin brought into use.
Proportion of cases under 5 years of age.
Notified cases per 1,000 population.
SCALE OF PROPORTION OF CASES UNDER 5 YEARS OLD.

CITY OF LIVERPOOL.

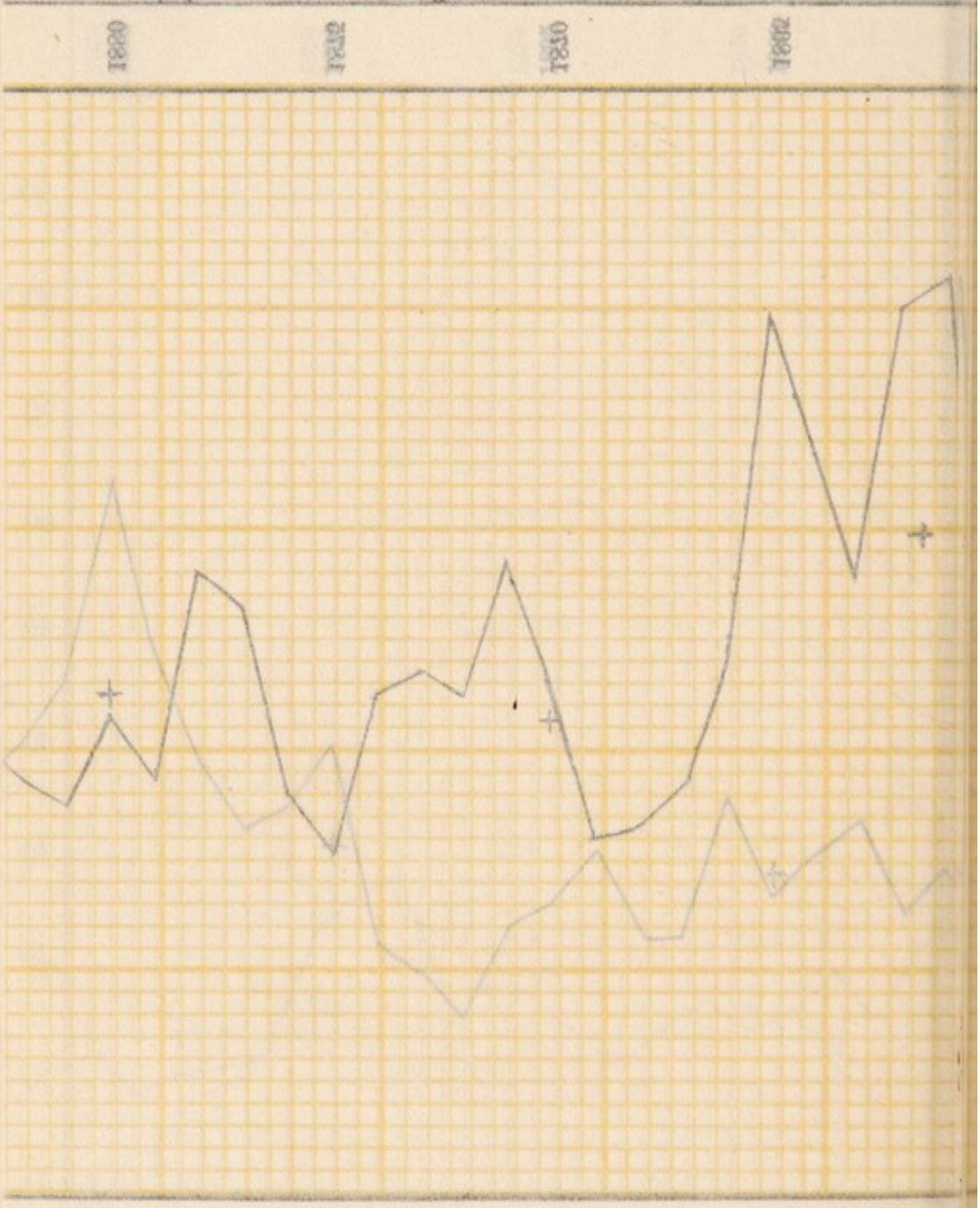
Death-Rate from Diphtheria (including Croup) per 100,000 Population 1858-1925.



The crosses indicate the average mortality of the decade centred round the cross; a line joining the crosses.

CITY OF LIVERPOOL.

Deaths from Diphtheria (including Croup) per 100,000 Population 1858-1928



The crosses indicate the average mortality of the decade centred round the cro

In 1895 treatment by anti-toxin was introduced during a rising wave of prevalence of diphtheria, and the fatality rate fell steadily from 1896 onwards till 1913, as the value of this method of treatment became more recognised.

During the years of the war the prevalence, incidence upon young children, and fatality—and therefore the mortality also—rose, reaching a maximum in 1918-1919; but since 1921 both prevalence and fatality have decreased. The length of time elapsing between one epidemic and the next has been increased and the height of the epidemic wave greatly diminished.

Since 1920 observations have been made to determine with greater exactitude facts of the distribution of these diseases in the different parts of the City; for this purpose the City was divided into three zones:—(I.) Central, comprising Exchange and Abercromby; (II.) middle, comprising Everton, Kirkdale, Edge Hill, Toxteth and Walton, and (III.) outer, comprising the suburban areas of West Derby East, Wavertree, Sefton Park, Fazakerley and Woolton. Examination of Table II. shows the following points:—

(1) The outbreak of diphtheria, which culminated in 1919, spread, and also lingered, later in the suburban outer area than in the central districts; both the case rates and the death-rates have steadily fallen since then throughout the whole City, until 1925, when a definite increase both in incidence and mortality affected the whole City.

(2) The death rate has, on the whole, been highest in the central districts during the past five years, 1921-25. The case-rate has been persistently higher in the outer than in the central districts.

(3) The fatality rates (that is deaths per 100 cases) have shown a well-marked tendency to decline during the past six years, though a slight rise occurred in 1925.

Table 2.

CITY OF LIVERPOOL.—DIPHTHERIA.

Districts	Case Rates per 1,000 population.					Death Rates per 100,000 population.					Fatality Rates.				
	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925
Central (1–2)	1·0	0·9	1·16	1·24	1·67	**14·1**	11·0	**11·6**	**10·0**	**14·6**	**14·1**	**11·5**	10·6	**8·0**	**8·7**
Middle (3–7)	1·2	1·1	0·99	1·21	1·68	11·3	11·1	10·7	7·2	13·0	8·4	10·4	**12·9**	6·0	7·7
Outer (8–12)	**1·8**	**1·3**	**1·29**	**1·63**	**2·06**	11·8	**11·3**	9·9	9·2	10·3	6·5	8·6	7·6	6·4	5·0
Whole City	1·5	1·1	1·11	1·32	1·78	11·9	11·6	10·4	10·5	12·5	8·2	9·9	9·5	6·4	7·0

Districts	Percentage Proportion of Secondary to Primary Cases.					Percentage Proportion of Children 0–2 years old to Total cases.					Percentage Proportion of Children 0–5 years old to Total cases.				
	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925
Central (1–2)	3·2	6·2	5·3	5·8	**11·5**	**25**	**9·2**	**15·1**	**9·2**	**11·5**	**53**	**32**	**43·0**	32·7	25·4
Middle (3–7)	**6·5**	5·8	4·0	**7·9**	7·0	12	5·5	9·9	**9·3**	8·8	37	19	36·3	**34·7**	**27·0**
Outer (8–12)	5·7	**7·4**	**10·5**	4·8	**11·6**	5	5·0	4·4	5·6	5·4	18	25	23·0	33·7	18·7
Whole City	5·9	6·0	7·5	7·5	10·5	10·7	5·7	9·3	8·1	8·2	32	32	30·2	34·1	24·4

Table No. 3.

DIPHTHERIA, YEAR 1925.

District.	Estimated Population, 1925.	Cases.	Deaths.	Attack Rate per 1,000.	Death Rate per 100,000.	Case Fatality Rate %.	Percentage Proportion of Secondary to Primary Cases. *	Percentage Proportion of Children 0-2 years to Total Cases.	Percentage Proportion of Children 0-5 years to Total Cases.
1. Exchange	82,126	125	15	1·5	18·2	12	2·8	14	27
2. Abercromby	47,731	92	4	1·9	8·4	4	23·2	9	20
3. Everton	129,194	186	14	1·4	9·5	8	7·0	9	26
4. Kirkdale	73,257	86	9	1·1	12·3	10	2·8	7	21
5. Edge Hill	91,069	167	16	1·8	17·6	10	5·9	8	29
6. Toxteth	110,438	259	20	2·3	18·1	8	7·1	11	31
7. Walton.....	87,111	130	5	1·5	5·7	4	10·3	6	22
8. West Derby East	86,713	202	8	2·3	9·2	4	11·9	8	21
9. Wavertree	88,845	204	12	2·3	13·5	6	10·5	3	15
10. Toxteth E. (Sefton P.)	33,737	24	2	0·7	5·3	8	16·3	4	32
11. Fazakerley	6,621	21	1	3·2	15·1	5	11·1	8	8
12. Woolton	6,126	8	...	1·3	...	...	...	8	32
Central Districts (1 to 2) ...	129,857	217	19	1·67	14.6	8·7	11·5	11·5	25·4
Middle Districts (3 to 7) ...	491,069	828	64	1·68	13·0	7·7	7·0	8·8	27·0
Outer Districts (8 to 12) ...	222,042	459	23	2·06	10·3	5·0	11·6	5·4	18·7
Whole City	842,968	1,504	106	1·78	12·5	7·0	10·5	8·2	24·4

* Cases are those with onset in 1925.

(4) The fatality rates are persistently higher in the central than in the middle, with the exception of the year 1923, and in the middle than in the outer districts.

(5) This higher rate of fatality coincides with the age distribution of the cases in the three zones. The proportion of children under two years and under five years (the ages when the disease is especially fatal) is also, on the whole, higher in the central than in the middle, and in the middle than in the outer zone. This is sufficient to account for the variations in fatality.

(6) The proportion of secondary to primary cases—that is the proportion of second and further cases in a house to first cases—shows on the average little variation, the average percentage figures being 6·3, 6·7 and 6·4 in central, middle and outer districts respectively.

(7) The proportion of secondary to primary cases steadily increased since 1921, the proportions rising from 5·9 to 10·5 per cent.; this probably indicates the growth of a non-immune population since the severe outbreak of 1914-1920. The infection of diphtheria has once more spread from the more crowded parts of the City towards the periphery; it probably affects the central districts more severely because of the greater proportion of young children affected in those districts. This proportion depends in part upon the higher birth rate in that zone, but probably also depends to some extent upon housing conditions there. The central districts were affected by an increase in 1923 both in incidence and mortality, though the rest of the City then showed a decline in both; since then the increase has affected the rest of the City.

Comparison of these results with similar investigation with regard to scarlet fever shows that there is a close correspondence in the behaviour of the two diseases. Both diseases showed a considerable increase in mortality in the years 1917-19, affecting, principally, the central and middle zones; details of the deaths were shown in the annual report for 1920; both diseases have since then prevailed, especially in the outer districts. In both diseases the fatality per 100 cases is greatest in the central zone, and this is closely related with the higher proportion of young children of specially susceptible ages (under five years) affected in that zone; this influence is especially marked in the case of diphtheria. The tendency to an apparent greater prevalence in the outer zone during an inter-epidemic period in both diseases may to some extent be accounted for by a possibly better registration of cases in the outer zone, especially in the case of diphtheria.

Table No. 4.

DEATHS FROM DIPHTHERIA.

DISTRICTS.	Quarters. March.		June.		Sept.		Dec.		Year 1925		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	1	1	2	2	1	1	2	5	6	9	15
Abercromby	...	...	...	...	1	1	...	2	1	3	4
Everton	4	1	1	...	...	2	4	2	9	5	14
Kirkdale	...	2	2	1	...	1	1	2	3	6	9
Edge Hill	3	4	...	1	1	1	3	3	7	9	16
Toxteth	5	3	1	4	...	1	2	4	8	12	20
Walton	...	2	...	...	1	1	...	1	1	4	5
West Derby	1	...	1	1	1	...	1	3	4	4	8
Wavertree	3	2	1	3	...	1	2	...	6	6	12
Toxteth (East)	2	...	...	...	...	...	...	...	2	...	2
Fazakerley	...	...	...	...	...	...	1	...	1	...	1
Woolton	...	...	...	...	...	...	...	...	...	...	...
City	19	15	8	12	5	9	16	22	48	58	106

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50	60—	All Ages.
5	31	12	15	10	26	6	...	...	...	1	...	...	106

Ages of Notified Cases.

34	88	119	129	118	423	226	132	154	45	25	7	4	1504
60·6%						39·4%							

Percentage Fatality at each age.

14·1	35·3	10·1	11.6	8·5	6·2	2 7	...	...	...	4·0	..	...	7·05

N.B.—Deaths in public institutions are transferred to the districts from whence the patients came. To make comparison with former years the changes in the registration districts set out on page 3 should be noted.

PREVENTIVE MEASURES.—The most effectual method of preventing diphtheria in the past has been the removal of such cases to hospital; the great reduction in the fatality from the disease, which has fallen from 32·6 per cent. of the notified cases in 1891 to 7·0 per cent. in 1925, is due to the administration of anti-toxin promptly and in adequate amount; 91·4 per cent. of the notified cases were removed to hospital for treatment during 1925.

Recently, by the Schick test, it has become possible to distinguish between those who are and those who are not liable to attack; those susceptible can be immunised in a high proportion of cases by three subcutaneous injections of toxoid-antitoxin, and this has been carried out in a number of institutions during the year. In the case of children under 5 or 6 years of age the proportion of susceptibles is so high that the preliminary Schick test can be dispensed with and the three immunising injections given.

Four residential institutions were affected with diphtheria during the year. The first was an orphanage in which a case occurred in March; the children, 17 in number, were tested by the Schick test and two, who were found to be susceptible, were immunised with toxoid-antitoxin; the throats of all the children were swabbed but no carrier of diphtheria was found. No further case occurred. The second institution was a residential nursery; eight cases, three among the staff and five among the children, occurred between April 21st and June 15th; a number of throat swabs were taken but no carriers were found. On June 22nd the staff, 14 in number, were tested by the Schick test, and one, who was found to be susceptible, was immunised; 23 of the children, of ages ranging from a few weeks up to 4 years, were immunised. No further cases occurred until August 25th, when another nurse fell ill; enquiry shewed that this nurse had been away on holiday during June, and had thus failed to be either tested or immunised; no further case occurred. A case occurred in a Day Nursery, and nine swabs were taken, but no carrier was found.

Two other residential institutions for children were affected with diphtheria during the winter of 1925-26. The cases occurred as follow:—

	Institution.	
	A	B
October	4	—
November	—	5
December	—	2
January	5	3
February	9	1
March	—	1
April	—	1
	18	13

At institution "A" a number of swabs were taken, principally from children who had suffered from sore throat, and one who had had a sore throat at an earlier period was found to be a carrier; on February 10th the children, 244 in number, and of ages 8 to 15 years, were Schick tested. Sixty of them were found to be susceptible and were immunised with three injections of toxoid-antitoxin; no further cases have occurred up to date.

At institution "B" testing and immunisation was carried out during April and May, 1926, but it is too early to state with what effect.

There have, therefore, up till the end of April, been 567 persons tested with the Schick test, and 156 persons immunised against diphtheria; no serious ill-effects were experienced in any of those tested, a transient soreness of the arms being the sole symptom, and this in not more than half a dozen cases.

In November and December nine cases of diphtheria occurred in a Council School; 26 swabs were taken in one class, but no carrier was found. The school was shortly afterwards closed for the Christmas holidays, and no further cases occurred on reopening.

DIPHTHERIA AND CROUP.

Deaths and death rates per 100,000 of the population from 1866 to 1925.

TABLE 5.

Year	Deaths	Rates per 100,000	Average for 10 years	Year	Deaths	Rates per 100,000	Average for 10 years
1866 ...	236	48·7		1896 ...	202	30·7	
1867 ...	186	37·7		1897 ...	149	22·4	
1868 ...	170	33·9		1898 ...	161	23·0	
1869 ...	164	32·2		1899 ...	242	35·9	
1870 ...	239	46·1		1900 ...	183	26·8	
1871 ...	282	57·1		1901 ...	209	30·4	
1872 ...	225	45·0		1902 ...	241	34·0	
1873 ...	240	47·5		1903 ...	177	24·9	
1874 ...	230	45·5		1904 ...	214	29·3	
1875 ...	157	30·4		1905 ...	174	24·0	
			42·4				28·2
1876 ...	190	36·5		1906 ...	161	22·1	
1877 ...	283	53·7		1907 ...	117	15·9	
1878 ...	299	56·1		1908 ...	146	19·9	
1879 ...	201	37·3		1909 ...	122	16·1	
1880 ...	238	43·8		1910 ...	112	15·0	
1881 ...	193	35·0		1911 ...	131	17·5	
1882 ...	206	37·6		1912 ...	113	15·0	
1883 ...	225	40·9		1913 ...	84	11·2	
1884 ...	252	46·9		1914 ...	113	14·6	
1885 ...	346	64·4		1915 ...	140	18·0	
			45·7				16·5
1886 ...	267	50·0		1916 ...	143	18·2	
1887 ...	209	39·4		1917 ...	143	18·1	
1888 ...	174	33·2		1918 ...	228	28·6	
1889 ...	186	35·5		1919 ...	212	26·3	
1890 ...	211	40·5		1920 ...	188	23·2	
1891 ...	119	23·0		1921 ...	97	12·0	
1892 ...	107	20·1		1922 ...	91	11·5	
1893 ...	85	16·3		1923 ...	87	10·5	
1894 ...	127	24·3		1924 ...	71	8·5	
1895 ...	170	26·1		1925 ...	106	12·6	
			30·8				16·9

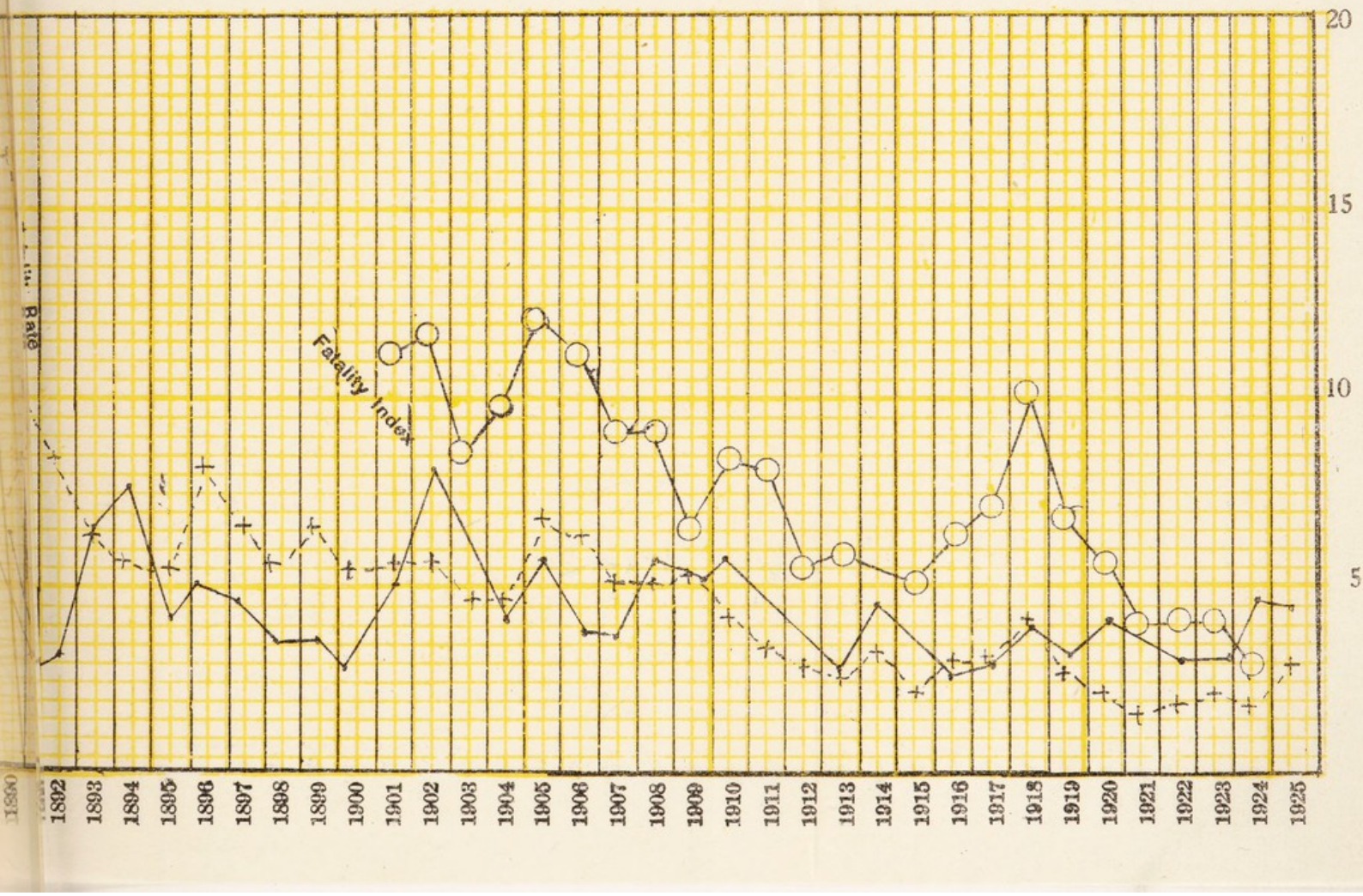
SCARLET FEVER.

Scarlet Fever has shown a steady decline in mortality during the past 50 years. Whilst the number of cases has shown a distinct reduction, the fatality (or proportion of deaths to cases) has shown a very marked reduction being in 1925 only 2·6 per cent., as against 19·2 in the year 1889. This decline in the severity of scarlet fever is well shown in the attached diagram. During years of increased prevalence there is often an increase in the fatality, and this occurred during 1925.

CITY OF LIVERPOOL.

Scarlet Fever 1890-1924. Case Rate per 1000 Population,

Fatality Rate per 100 Cases & Fatality Index (corrected for age at attack of cases)

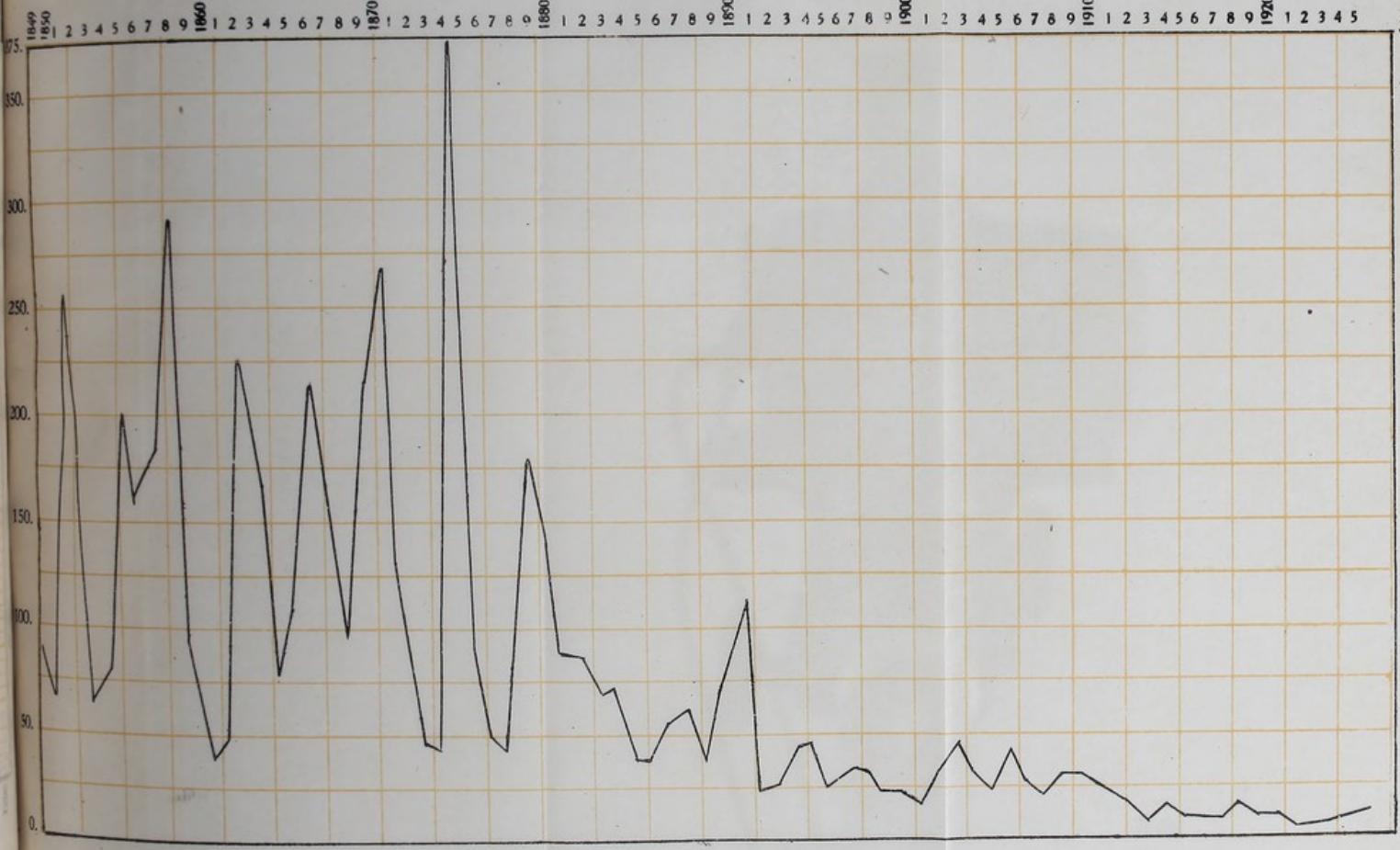


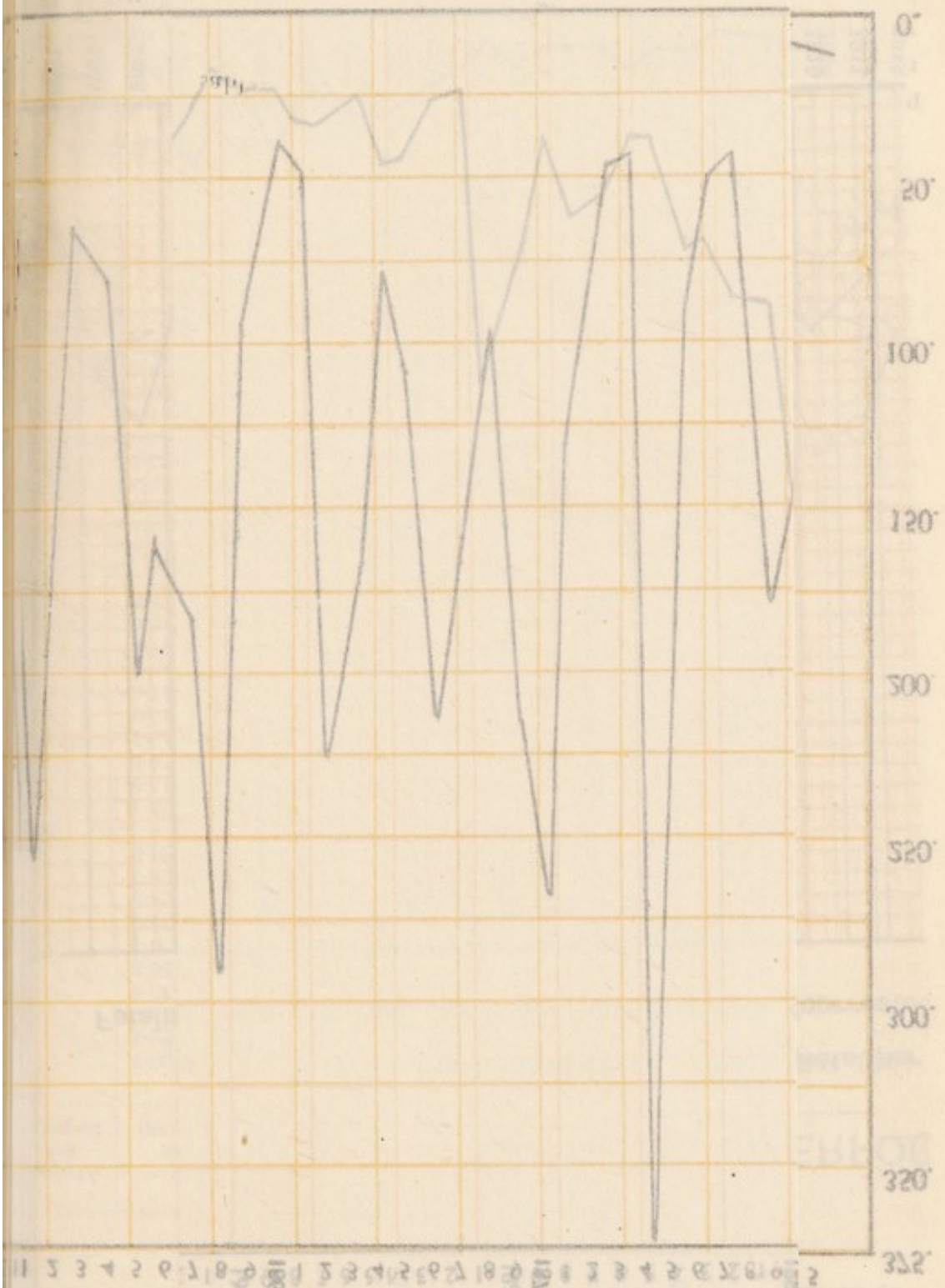
CITY OF LIVERPOOL

Scarlet Fever 1890-1924.

Fatality Rate per 100 Cases & Fatality Index (Corrected)

CITY OF LIVERPOOL. Scarlet Fever Death Rate per 100,000, 1849-1925.




0
20
100
120
300
320
340

The following table shows the incidence and mortality from scarlet fever during the past 11 years.

Table I.

SCARLET FEVER IN THE CITY OF LIVERPOOL, 1915-1925.

	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
ases	2,984	2,148	2,277	3,020	2,735	3,230	3,062	2,419	2,307	3,790	3,561
eaths	68	59	69	125	74	70	45	39	43	63	93
se-rate per 1,000 inhabitants ...	3·9	2·7	2·9	3·8	3·1	4·1	3·7	2·9	2·8	4·5	4·2
ath-rate per 100,000 nhabitants ...	8·8	7·6	8·8	16·0	9·3	8·9	5·5	4·7	5·2	7·4	11·0
ality rate er 100 ases	2·3	2·8	3·0	4·1	2·6	2·2	1·5	1·6	1·8	1·7	2·3

During 1925, 3,561 cases and 93 deaths were recorded, giving an attack rate of 4·2 per 1,000, and a mortality rate of 11 per 100,000 of the population. It will be seen that there was a considerable increase in 1924 in the prevalence of Scarlet Fever, more cases being reported than in any of the preceding ten years, and the number of notified cases was maintained during 1925.

This increased prevalence began in 1923 in the central areas, and was general throughout the City during 1924, and was associated with an increased fatality per 100 cases in the central districts of the City (see Table 2); this increase in fatality was general throughout the City during 1925, but was again most marked in the central area, where the fatality increased by 81 per cent., as against an increase of 44 per cent. in the whole City, and only 14 per cent. in the outer areas, comparison being made between 1925 and the average of the preceding five years (1920-24). Increased incidence and fatality were associated with an increased proportion of secondary cases, that is, the occurrence of more than one case in a house, and by an increase also in the proportion of return cases.

In the second table the case rates, mortality rates, fatality rates per 100 cases, the proportion of secondary cases to primary cases—that is of second and further cases to first cases in a house—and the proportion of children under two years and under five years respectively to the total cases at all ages, are shown for the three aggregated zones and for the whole City during the past six years. It will be seen from this table :—

(*a*) That the incidence of scarlet fever in Liverpool was steadily diminishing throughout the City, and in each of the aggregated zones, up till the end of 1923, when the increased incidence which affected 1924 and 1925 began to appear. The outer zone of the City has shown the highest incidence of cases during the greater part of the period under review, Walton and Fazakerley being especially affected with a mild type of the disease.

(*b*) Variations in the death rates follow closely the variations in the case incidence.

(*c*) The fatality of the disease is almost uniformly higher in the central than in the middle zone, and in the middle than the outer zone; in 1925 scarlet fever was twice as fatal in the central zone of the City as in the outer zone. Reference to Table 4 will show that the fatality rate is much higher in children under than over five years of age. The proportion of younger to older children is uniformly higher in the central than the middle and in the middle than the outer zone, corresponding closely with the difference in the fatality rates. Any influence which defers the age of attack will have a well-marked effect in diminishing the number of deaths from this disease.

(*d*) In 1920 the proportion of secondary to primary cases was highest in the central zone, during 1921 to 1923 this proportion has been highest in the outer zone, but in 1924 and 1925 it was again the central zone which showed the highest proportion.

In the third table these cases and deaths are distributed into the several wards, which have also been aggregated into three zones, a central, a middle and an outer, comprising districts 1 to 2, 3 to 7, and 8 to 12, respectively.

Table 4 shows the deaths distributed according to age, sex and the quarter of the year. The last section shows the ages of notified cases and the fatality rate at the several age periods; from this it will be observed that while during the first and second years of life 14·5 and 16·5 per cent. of cases, respectively, proved fatal, the fatality steadily declined with increasing age; only three deaths occurred in persons over 10, and none at over 15 years of age. The following comparison shows that scarlet fever was more fatal at nearly every age in 1925 than in 1924, the figures giving the fatality per 100 cases at each age :—

	Under 1 year.	1–	2–	3–	4–	5–	10–	Over 15–	All ages.
1924	9·7	6·6	3·9	2·8	1·8	1·1	0·4	1·1	1·7
1925	14·5	16·5	8·2	4·3	2·5	1·1	0·5	0·0	2·6

Table 2.

CITY OF LIVERPOOL.—SCARLET FEVER.

Districts	Case Rates per 1,000 population.					Death Rates per 100,000 population.					Fatality Rates per 100 cases.				
	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925
Central (1–2)	1·8	1·5	1·65	3·2	3·53	3·1	3·1	3·1	**8·4**	**14·6**	1·6	**2·1**	1·9	**2·6**	**4·1**
Middle (3–7)	3·8	**3·1**	2·75	4·7	**4·35**	**6·2**	**6·0**	5·5	8·2	11·6	1·6	1·9	**2·0**	1·8	2·6
Outer (8–12)	**3·9**	2·9	**3·28**	**5·3**	4·31	5·7	3·4	**6·0**	5·3	7·6	1·6	1·7	1·7	1·0	1·8
Whole City	3·5	2·9	2·82	**4·5**	4·23	5·5	4·7	5·2	7·5	**11·0**	1·5	1·8	1·9	1·7	**2·6**

Districts	Percentage Proportion of Secondary to Primary Cases.					Percentage Proportion of Children 0–2 years old to Total Cases.					Percentage Proportion of Children 0–5 years old to Total Cases.				
	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925
Central (1–2)	7·2	**11·5**	9·9	**15·7**	**16·9**	**10·3**	**9·2**	**5·4**	**9·7**	**8·3**	**32·4**	**31·5**	**49·5**	**43·9**	**29·4**
Middle (3–7)	15·4	11·6	10·8	14·4	**16·9**	5·5	5·5	5·0	5·0	5·7	22·9	28·2	28·9	29·4	27·0
Outer (8–12)	**19·0**	**25·2**	**13·5**	14·5	14·9	2·5	5·0	2·0	2·6	4·7	22·8	23·9	14·7	25·5	22·2
Whole City	17·9	15·0	13·3	16·4	18·0	5·1	5·7	4·1	4·9	5·8	23·9	27·1	26·2	29·8	26·1

Table No. 3.

SCARLET FEVER, 1925.

District.	Estimated Population, 1925.	Cases.	Deaths.	Attack Rate per 1,000.	Death Rate per 100,000.	Case Fatality Rate %.	Percentage.		
							Proportion of Secondary to Primary Cases.	Proportion of Children 0-2 years to Total Cases.	Proportion of Children 0-5 years to Total Cases.
1. Exchange	82,126	277	11	3·3	13·4	4·0	15·7	9	30
2. Abercromby	47,731	181	8	3·8	16·7	4·4	18·7	7	28
3. Everton	129,194	486	15	3·7	11·6	3·1	13·4	5	27
4. Kirkdale	73,257	249	5	3·4	6·8	2·0	10·0	7	29
5. Edge Hill	91,069	429	15	4·7	16·5	3·5	15·4	7	25
6. Toxteth	110,438	499	14	4·5	12·7	2·8	17·9	8	30
7. Walton	87,111	483	8	5·5	9·2	1·7	14·6	3	24
8. West Derby East	86,713	349	4	4·0	4·6	1·1	10·3	5	29
9. Wavertree	88,845	430	11	4·9	12·3	2·6	18·8	4	20
10. Toxteth E. (Sefton Park)	33,737	80	1	2·3	3·0	1·2	13·8	1	10
11. Fazakerley	6,621	51	1	7·7	15·1	2·0	19·0	8	24
12. Woolton	6,126	47	...	7·7	...	...	3·9	6	17
Central Districts (1 to 2)	129,857	458	19	3·53	14·6	4·1	16·9	8·3	29·4
Middle Districts (3 to 7)	491,069	2,146	57	4·35	11·6	2·6	16·9	5·7	27·0
Outer Districts (8 to 12)	222,042	957	17	4·31	7·6	1·8	14·9	4·7	22·2
Whole City	842,968	3,561	93	4·22	11·0	2·6	18·0	5·8	26·1

Table No. 4.
DEATHS FROM SCARLET FEVER.

DISTRICTS.	Quarters. March. M.	F.	June. M.	F.	Sept. M.	F.	Dec. M.	F.	Year. 1925. M.	F.	Total.
Exchange	1	3	...	1	2	3	1	...	4	7	11
Abercromby	4	...	1	1	1	...	...	1	6	2	8
Everton	5	3	2	1	...	...	2	2	9	6	15
Kirkdale	1	...	...	3	...	...	1	...	2	3	5
Edge Hill	2	1	3	5	3	...	1	...	9	6	15
Toxteth	1	2	2	2	5	...	...	2	8	6	14
Walton	1	2	...	1	...	2	...	2	1	7	8
West Derby	2	...	...	...	...	1	1	...	3	1	4
Wavertree	...	2	3	1	1	1	3	...	7	4	11
Toxteth East	...	...	...	...	...	1	...	...	...	1	1
Fazakerley	...	...	...	...	...	...	1	...	1	...	1
Woolton	...	...	...	...	...	...	...	...	...	...	...
City	17	13	11	15	12	8	10	7	50	43	93

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 and upwards.	All Ages.
9	21	18	16	10	16	3	...	...	...	...	...	...	93

Ages of Notified Cases.

62	127	220	332	392	1474	596	166	126	45	18	2	1	3561
		32·0%			41·1%	16·6%			10·3%				

Percentage Fatality at each age.

14·5	16·5	8·2	4·3	2·5	1·1	0·5	...	...	...	...	...	...	2·6

N.B.—Deaths in Public Institutions are transferred to the Districts from whence the patients came. To make comparison with former years the changes in the Registration Districts set out on page 3 should be noted.

A prolonged prevalence of scarlet fever affected a school in the Toxteth area. During the first quarter of the year seven cases occurred in children attending this school. The cases in each week of the 2nd, 3rd and 4th quarters are set out below :—

Weeks.	1	2	3	4	5	6	7	8	9	10	11	12	13	Total.
2nd Quarter ...	2	2	...	...	...	...	2	2	4	1	3	5	4	25
3rd Quarter ...	1	...	...	...	...	...	1	5	2	1	8	4	6	28
4th Quarter ...	10	5	4	5	5	...	...	...	...	1	1	2	1	34

It will be seen that the number of cases fell to nothing during or after the Easter and summer holidays (weeks 2 and 3 of 2nd quarter, and weeks 2 to 7 of the 3rd quarter), but that they increased again after re-opening. A number of visits were paid to this school, and it became clear that the outbreak was being kept up by mild cases of " tonsillitis " or sore throat, the children in a number of cases not receiving any medical attention. In September and October a number of these children were excluded or visited at their homes, and in several instances swabs taken from the throats revealed the haemolytic streptococcus, which is now generally regarded as the causative organism of scarlet fever. The outbreak, which mainly affected the infants' department, now subsided. Altogether 114 cases of scarlet fever occurred in this school during the year.

Return Cases.—Cases occurring within the outside margin of one month of the discharge of a case from hospital to the same house were regarded as " return cases." Of the 3,242 cases discharged from hospital after suffering from Scarlet Fever, 106, or 3·3 per cent., were associated with recurrent infection in this way. In only nine houses did more than one " return case " arise, namely, 2 cases in 7 instances, 3 in 1 instance, and 4 in 1 instance. The proportion of " return cases " to cases discharged from hospital, which was 1·8 in 1920, 2·7 in 1921, 3·3 in 1922, 2·6 in 1923, and 3·4 in 1924, was 3·3 in 1925.

Table 5.

SCARLET FEVER, RETURN CASES.

	1925.		Average of past 6 years.	
	No. of cases associated with return cases.	Expressed as a percentage of cases discharged from hospital.	No. of cases associated with return cases.	Expressed as a percentage of cases discharged from hospital.
January	14	3·5	7·7	2·6
February	7	2·2	7·0	2·7
March	12	6·5	5·0	2·7
April	11	4·3	5·5	2·6
May	12	5·0	8·0	3·7
June	7	2·8	4·8	2·5
July	13	4·4	5·8	2·6
August	3	1·4	4·2	2·1
September	4	2·2	3·3	1·5
October	9	3·8	3·5	1·6
November	7	2·0	6·6	2·2
December	7	2·0	10·1	1·9
WHOLE YEAR ...	106	3·3	72·6	2·5

PREVENTION OF SCARLET FEVER AND DIPHTHERIA.

The following Resolution was passed by the Port Sanitary and Hospitals Committee :—

> "That in view of the success attained in the prevention of scarlet fever and diphtheria by the use of protective inoculation, the Medical Officer of Health be instructed to report fully to the next Meeting of this Committee, with the object of having the value of active immunisation against these diseases made known in the City."

In accordance with this the Medical Officer of Health reported as follows :—

During the past ten years, in Liverpool, 28,611 cases of scarlet fever had occurred, and of this number 694 (2½ per cent.) proved fatal. During the same period 13,067 cases of diphtheria were reported, and 1,366 (10½ per cent.) proved fatal. Diphtheria, though only half as prevalent as scarlet fever, caused twice as many deaths.

These two diseases are responsible, therefore, for a heavy toll of deaths every year. Scarlet fever, moreover, produces serious after-effects in the form of rheumatism, heart and kidney disease, running ears, &c.

The majority of these deaths occur under 5 years of age—in figures, 60 per cent. of the deaths from scarlet fever, and 65 per cent. of the deaths from diphtheria, occur within the first five years of life—and it is found that the more serious complications from scarlet fever are also most prevalent under 5 years of age. The severe form of diphtheria, affecting the larynx and often requiring surgical operation for the relief of the threatened suffocation, is practically confined to children in the first few years of life.

The greatest number of deaths occur in the second year of life in diphtheria, and in the third year of life in scarlet fever.

Any preventive measure, therefore, which would assist in controlling these diseases should receive every encouragement.

SCARLET FEVER AND DIPHTHERIA.

1916–1925.

	Scarlet fever	Diphtheria
Total cases	28,611	13,067
Total deaths	694	1,366
Fatality rate	2·42%	10·45%
Cases, under 5 years	7,430	4,195
Per cent of total	25·6%	32·1%
Deaths, under 5 years...	416	884
Per cent of total	60·0%	64·9%
Fatality rate	5·6%	21·1

DEATHS UNDER FIVE YEARS OF AGE AT EACH YEAR OF LIFE

	0–1	–2	–3	–4	–5	Total
Scarlet fever ...	28	88	106	102	92	416
Diphtheria... ...	97	265	201	173	148	884
	Proportion per cent of total at all ages.					
Scarlet fever ...	4·0	12·6	15·2	14·7	13·4	60·0
Diphtheria... ...	7·1	19·4	14·7	12 6	10·8	64·7

As the result of investigations which have been carried out during recent years, tests have been discovered for ascertaining whether a person is susceptible to attack by diphtheria or scarlet fever. These tests are known as the "Schick" and "Dick" tests, respectively, and consist in the injection into the skin of a minute amount of the toxin produced by the germs causing these diseases. A small area of redness at the site of injection indicates susceptibility to the disease in question.

It has been found, as a result of these tests, that the great majority of children under 5 years of age are susceptible both to scarlet fever and diphtheria.

A method is now available by which children who are susceptible can be rendered immune by three successive injections at weekly intervals. In the case of diphtheria the diphtheria toxin is modified by chemical treatment, to render it free from injurious effects; such modified toxin being called Toxoid. No serious effects whatever follow the use of the scarlet fever toxin, which is, therefore, ordinarily used in its unmodified form.

The investigations relating to diphtheria were carried out at an earlier date than those relating to scarlet fever, and consequently more experience has been gained of the value of this method in preventing that disease.

Experience in New York shewed that among 90,000 children tested (the susceptible amongst whom were inoculated) the incidence of diphtheria was considerably reduced.

In a number of Institutions in England, where children were received, immunisation was carried out under the aegis of officers of the Ministry of Health. Prior to this step being taken many cases of diphtheria had occurred, but after immunisation the number of cases was greatly reduced.

During the twelve months ending March, 1926, 300 children in Institutions in which cases of diphtheria had been occurring were tested, and those found to be susceptible were immunised. Twenty cases had been reported prior to immunisation, but only one has been reported since, and this was in the person of a nurse who was away on holidays when the test was carried out, and thus missed both the test and the immunisation.

With regard to scarlet fever, Dr. Rundle has tested and immunised the probationer nurses in the New City Hospital, Fazakerley, with the result that no cases have occurred amongst them (see page 153).

It would appear, from recent investigations, that the two preventive inoculations can be given simultaneously, thus immunising a child against both scarlet fever and diphtheria, but such a combined prophylactic is not yet available commercially.

The matter was brought before the members of the Liverpool Medical Institution, by Dr. Rundle, at a meeting on March 18th, and was received with very much interest by the members of the medical profession.

It is clear that in view of the number of deaths and the severe cases of illness which occur mainly amongst young children under 5 years of age, and before the children attend school, that the parents will have to be advised as to the prevention of these diseases by their own medical practitioner. In view of the high percentage of children in the early years of life the "Schick and "Dick" tests for susceptibility are not considered necessary, and these children can be immunised at once without any preliminary test.

The Medical Officer therefore recommended that supplies of diphtheria and scarlet fever prophylactics should be provided for medical practitioners, and that assistance be given in testing the older children as to susceptibility to scarlet fever or diphtheria, at the request of the medical practitioner.

MEASLES.

The number of deaths from Measles has shown a tendency to decline of recent years. During 1925, however, there were 406 deaths, as against 285 deaths which was the average of the past ten years. The mortality rate was 48·3 per 100,000.

Measles became a notifiable disease in 1915 by Order of the Local Government Board (now the Ministry of Health); the disease is no longer generally notifiable, but in Liverpool is notifiable on a voluntary basis. During the year, 11,202 cases came under the notice of the Medical Officer of Health, the sources of information being as follows:—

Notified by medical practitioners, 8,680.

Information from schools, etc., 2,522.

The proportion of deaths to cases, or fatality rate, is almost identical with the average of the past nine years, namely 3·6 per cent. The mortality in measles depends mainly upon the age at which infection occurs; as shown in Table 3, the great majority of the deaths occur in children under four years of age. Any increase in the proportion of cases among children under this age will be attended by a corresponding rise in fatality.

The experience of the past eleven years is shown in the following table:

Table 1.

	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Ca	3,049	14,732	9,230	9,268	3,983	11,448	9,143	3,570	11,089	5,709	11,202
De s	256	264	436	407	103	387	328	171	356	148	406
Ca ate per 1,000 abitants	...	19·0	11·8	11·8	5·1	14·6	11·2	4·3	13·4	6·9	13·3
De rate per 000 bitants	33	34	56	52	13	49	40	21	43	17·7	48·3
Fa y rate (per- age of deaths 100 cases) ...	...	1·1	4·7	4·3	2·6	3·4	3·6	4·8	3·2	2·6	3·6

The experience of many years has shown that measles tends to occur in waves which follow each other at intervals of about 92 weeks. In the annual report for 1924 a diagram was given showing week by week the numbers of cases reported during the last ten years. Diagrams published in the annual reports for 1911 and 1921 gave the deaths during the preceding decades. The periodic recurrences are very regular over considerable periods, but when the epidemic is due to reach its height in one of the three autumn months, August, September or October, it fails to do so, two maxima occurring instead, one before and the other after the expected date.

The second table shows the deaths from measles in the several districts of the city during the past six years. Exchange, Everton and Toxteth —the more central districts of the city—were principally affected, 247 out of the total of 406 deaths occurring in those districts.

Apart from the school closure, referred to elsewhere, other measures to limit the ravages of the disease include efforts to secure the isolation of the patients; in view of the heavy mortality among children under three years of age (see Table 3), parents are strongly urged to keep those of tender age apart from those already affected. Children coming from a house in which a case of measles has occurred are excluded from school for 16 days; children over 7 years of age who have already had measles are exempted.

The Order of the Ministry of Health authorises local authorities to provide medical assistance including nursing for the poorer inhabitants of their district, and the Health Committee appointed four permanent nurses in 1916 to deal with such cases as were contemplated by the order. This number has been increased during periods of outbreak. In consequence of the visits of these nurses, many children have benefited from the assistance and advice given, and in some instances children have been removed for hospital treatment who would otherwise have been left at home without adequate care and attention. The visits, etc., made by these nurses in the course of 1925 were as follows:—

New cases visited during year 1925	9,641
Cases nursed ,, ,, ...	1,861
Re-visits to cases ,, ,, ...	16,332

As 98 per cent. of deaths from measles are due to complications, mainly pneumonia, there can be little doubt that the work of these nurses has resulted in much saving of life.

Table 2.

Deaths from measles for the years 1920 to 1925 after distribution of the institutional deaths according to the place of residence :—

District.	1920.	1921.	1922.	1923.	1924.	1925.
Exchange ...	**77**	48	23	**76**	20	**112**
Abercromby ...	14	**15**	12	**35**	8	**33**
Everton	77	**99**	38	**68**	30	**81**
Kirkdale... ...	**43**	31	14	26	13	**36**
Edge Hill ...	**37**	25	22	**29**	12	**28**
Toxteth	51	**58**	40	**60**	32	**54**
Walton	**19**	15	6	**19**	10	**17**
West Derby ...	**21**	18	9	13	10	**14**
Wavertree ...	**40**	15	4	**30**	7	**29**
Sefton Park ...	**4**	1	2	...	**3**	1
Fazakerley ...	**2**	...	1	...	3	...
Woolton... ...	2	**3**	...	...	...	1
Total ...	387	328	171	356	148	406

Table 3.

DEATHS FROM MEASLES.

DISTRICTS	Quarters.								Year 1925.		
	March		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	38	35	18	20	...	1	...	...	56	56	112
Abercromby	12	6	9	4	...	2	...	...	21	12	33
Everton	29	22	15	10	...	3	1	1	45	36	81
Kirkdale	10	12	4	6	2	1	1	...	17	19	36
Edge Hill	3	2	7	12	2	1	...	1	12	16	28
Toxteth	12	10	18	6	4	2	2	...	36	18	54
Walton	3	1	5	5	1	...	1	1	10	7	17
West Derby	2	2	5	4	...	...	1	...	8	6	14
Wavertree	4	2	11	8	2	2	...	...	17	12	29
Toxteth East	...	...	1	...	...	...	...	...	1	...	1
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
Woolton	...	1	...	...	...	...	...	...	...	1	1
City	113	93	93	75	11	12	6	3	223	183	406

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
115	187	52	30	11	10	...	...	...	...	1	...	...	406

Ages of Notified Cases.

719	1283	1194	1222	1187	2800	161	114	8680

Percentage Fatality at Each Age.

16·0	14·6	4·4	2·4	0·9	0·4	...	0·9	4·68

N.B.—Deaths in public institutions are transferred to the districts from whence the patients came. To make comparison with former years the changes in the registration districts set out on page 3 should be noted.

Table 4.

MEASLES DURING THE YEAR 1925.

Statement showing the total numbers of cases brought under the notice of the medical officer, from schools, and by notifications from medical practitioners :—

Age.	Cases occurring in children of school Age from both sources	Cases notified by Medical Practitioners.	Number of Deaths.	Fatality Rate per 1,000 cases.
0—1	...	719	115	160·0
1—2	...	1283	187	145·8
2—3	...	1194	52	43·5
3—4	...	1222	30	24·5
4—5	368	1187	11	9·3
5—6	2110	1808		
6—7	792	646		
7—8	211	187	10	3·6
8—9	133	105		
9—10	70	54		
10—11	67	55		
11—12	47	32		
12—13	33	32	0	0·0
13—14	20	23		
14—15	19	19		
15—16	8	114	1	9·0
16 upwards	...			
	3,878	8,680	406	46·7

WHOOPING COUGH.

The number of cases coming to the notice of the medical officer during 1925 was 2,274, and the number of deaths 227, corresponding to a death-rate of 27·0 per 100,000 inhabitants, which is distinctly below the average of the past ten years. The average death-rates from whooping cough during the past 76 years is as follows :—

1850-59	103·6
1860-69	107·3
1870-79	86·8
1880-89	72·9
1890-99	56·3
1900-09	45·0
1910-19	32·6
1920-23	23·6
1924	27·0
1925	27·0

This shows a very considerable decline in mortality. Whether the decline is due to lessened prevalence, to alterations in the age-incidence, or to lowered virulence cannot be ascertained from the figures. The following table shows for the past ten years the numbers of cases coming to the notice of the medical officer, the numbers of deaths, the death-rate per 100,000 inhabitants, and the fatality per 100 cases :—

Years.	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Cases	1524	3056	4244	788	2804	3019	2025	2261	2321	2274
Deaths	235	132	364	53	228	210	182	156	169	227
Death Rate per 100,000 of the population ...	30	17	46	7	29	26	22	19	20	27
Fatality Rate (Percentage of deaths to cases)	15.3	4.3	8.6	6.7	8.1	8.1	9.0	7.9	7.3	9·9

As the disease is not compulsorily notifiable, caution is necessary in drawing conclusions from the figures. The probability is that information as to cases in the later years has been more complete than formerly, but it would appear, on the whole, that the reduction in the death-rate from this disease has coincided with a decline in the proportion of deaths to cases that has occurred during the past eight years. As whooping cough is extremely fatal in the first two or three years of life it is of the utmost importance that children of tender years should be protected from possible sources of infection.

CEREBRO-SPINAL FEVER.

Twenty-four cases of cerebro-spinal fever occurred during 1925, of which 15 (or 62 per cent.) proved fatal, making a death-rate of 1·8 per 100,000 of the population. The cases during the years 1915 to 1924 were 30, 37, 34, 17, 26, 27, 26, 18, 8 and 13, respectively.

Diagnosis was confirmed by the finding of the casual organism (the meningococcus) in the cerebro-spinal fluid after lumbar puncture in fourteen cases. In two other cases the result of examination of the cerebro-spinal fluid, and in a third a post-mortem examination pointed to a meningococcal infection, although the organism was not found.

Two fatal cases occurred in young men in January and February; the second case presented the appearance of purpura hæmorrhagica of an intense and severe type and with but slight signs of meningitis; he was nevertheless removed to Fazakerley hospital, as he was suspected to be suffering from an acute infection and lumbar puncture performed there revealed the presence of very large numbers of meningococci in the cerebro-spinal fluid. It was then ascertained that he was a close friend of the first case and had attended his funeral; a third case occurred in the vicinity of these two cases, but no direct connection could be traced.

In two cases admitted as cerebro-spinal meningitis the organisms found were not those of cerebro-spinal fever, but of tubercular meningitis, and in a third pneumococcal meningitis; in two other cases the disease was found to be pneumonia, in a further two cases encephalitis lethargica, and in another case toxic measles.

ENCEPHALITIS LETHARGICA.

This disease was made notifiable in 1919, one death from this cause was reported in 1918. During 1924 189 cases were reported in the City of Liverpool, being mainly distributed in the area reaching from Sefton Park through Edge Hill and Everton to Kirkdale.

During 1925 Encephalitis lethargica was still prevalent in Liverpool. After excluding 19 duplicate notifications, 140 notifications of cases of Encephalitis lethargica were received; 32 of these were found, mostly after admission to hospital, to be suffering from other diseases, namely:—

Tuberculous meningitis	12 cases.
Influenzal pneumonia	2 ,,
Bronchitis and Broncho-pneumonia ...	2 ,,
Other diseases, namely, Cerebro-spinal Fever 1, Whooping Cough 1, Cerebral Syphilis 1, Puerperal mania 1, Cerebral haemorrhage 1, Senile Paralysis agitans 1, Dementia precox 1, Uraemia 1, others 8	16 ,,

There are left, therefore, 108 cases which remained in the records as cases of Encephalitis lethargica. There were 44 deaths certified as from Encephalitis lethargica; of these 8 were deaths of persons either notified in earlier years and whose malady had become chronic, or were transferred deaths from outside areas; the net total of deaths attributable to Encephalitis lethargica contracted in 1925, was therefore 36, as against 189 cases and 22 deaths recorded during 1924. The fatality rate per 100 cases correspondingly rose from 10.6 in 1924 to 33.4 in 1925, i.e., almost identical with that observed in 1923. During the period 1918-1925 there have been notified 458 cases, of which 112, or 24.5 per cent., proved fatal. The incidence and mortality during this period are shown in the following table:—

Table 1.

CITY OF LIVERPOOL.
ENCEPHALITIS LETHARGICA, 1918-1925.

	1918-19	1920	1921	1922	1923	1924	1925
Cases	3	17	27	5	111	189	108
Rate per 1,000 population ...	...	0·02	0·03	0·01	0·13	0·22	0·13
Deaths...	1	2	6	3	36	22	44*
Rate per 100,000 population	...	0·20	0·73	0·36	4·30	2·40	5·22
Fatality per 100 cases ...	...	12	2·25	40	3·24	10·6	40·5*

* This number and rate includes the deaths of 8 persons who were either notified in earlier years or were transferred from outside districts. If these deaths are excluded the fatality rate becomes 33·4 per cent.

Variations in the Clinical Type of Disease.

The symptoms of Encephalitis lethargica are very variable; in the earliest cases reported from Vienna, lethargy and prolonged sleepiness often associated with paralysis of the muscles of the eyes were the most pronounced symptoms. Later, cases presenting marked delirium and restlessness (psychomotor cases), or resembling St. Vitus' dance (Choreiform type), or with involuntary movements (myoclonic type) became more frequent this type being commonly found in Liverpool during 1922 and 1923. But in 1925 the lethargic case was again the predominating type. There has been an increasing recognition of milder or abortive cases.

The division of cases according to predominant symptoms was:—

	1923.		1924.		1925.	
Lethargic and paralytic cases	62	56%	121	68%	54	74%
Choreiform cases	24	22%	20	11%	4	5%
Myoclonic cases	12	11%	10	6%	4	5%
Psycho-motor or meningitic cases	10	9%	10	6%	8	10%
Abortive cases	3	3%	17	9%	5	6%
Ataxic cases	—	—	1	0%	—	—
	111	100%	179	100%	75	100%
Other diseases or unclassified, including chronic cases ...			10		33	
			189		108	

Incidence of Disease.

Prior to 1923 the disease appeared in groups of cases associated in time and locality, although no direct association of cases could be ascertained. During 1923 the cases were scattered, but in 1924 the area in Liverpool principally affected formed a broad band stretching from Sefton Park and Wavertree through Edge Hill (West Derby West) and Everton and Kirkdale. During 1925 the cases were again scattered through the city, Abercromby and Walton being the only two districts which exhibited any increased prevalence.

Table 2.

District	1923 Cases	1923 Rate per 100,000	1924 Cases	1924 Rate per 100,000	1925 Cases	1925 Rate per 1000
Sefton Park ...	3	8·6	15	42·2	6	17·8
Everton	22	17·2	47	36·2	15	11·6
Wavertree ...	9	19·7	15	32·5	7	14·9
Fazakerley... ...	—	—	2	31·7	1	15·1
Toxteth	17	15·2	25	23·3	14	12·6
Edge Hill	14	14·9	21	22·0	15	16·5
Woolton	1	10·4	2	20·7	—	—
Garston	2	6·6	6	20·0	5	16·1
Scotland	4	8·7	9	19·1	6	13·3
Kirkdale	4	5·6	10	15·2	8	10·9
Exchange	5	14·0	5	13·8	3	8·3
Abercromby ...	5	10·8	5	10·6	7	14·9
Walton	10	11·7	9	10·4	13	14·9
West Derby East...	13	16·4	8	9·9	6	6·9
Other diseases ...	—	—	5	—	—	—
Imported cases, etc.	2	—	3	—	2	—
Whole City ...	111	13·4	189	22·1	108	12·8

Table 3.

CITY OF LIVERPOOL.

CASES BY MONTH OF ONSET AND YEAR OF REPORT.

	1922 Reported in 1922	1923	1925	Total	1923 Reported in 1923	1924	1925	Total	1924 Reported in 1924	1925	Total	1925	Total
ry	—	—	—	—	47	—	—	47	4	1	5	12	64
ary	1	—	—	1	24	—	1	25	6	—	6	8	40
...	1	—	—	1	7	—	1	8	28	1	29	10	48
...	—	—	—	—	5	—	—	5	34	3	37	7	49
...	—	—	—	—	5	—	—	5	28	1	29	8	42
...	—	—	—	—	4	—	1	5	18	1	19	4	28
...	—	2	—	2	—	—	—	—	9	—	9	4	15
	1	—	—	1	1	—	—	1	11	—	11	4	17
ber	—	—	—	—	—	—	—	—	8	2	10	—	10
r	1	—	—	1	3	1	—	4	9	2	11	4	20
ber	1	—	—	1	3	3	—	6	8	1	9	—	16
ber	—	6	1	7	4	3	1	8	7	8	15	1	31
Total	5	8	1	14	103	7	4	114	170	20	190	62	380
Reported in 1925 ...				2				3			3	1	9
Total				16				117			193	63	389

The greatest number of cases occurred between 10 and 20 years of age. No difference in age incidence was observed between the hypermotile and lethargic cases, except at the first decade of life, when the lethargic cases were in excess.

Table 4.

AGES OF CASES AND DEATHS, 1925.

Age.	0-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	Total
Ca	5	12	16	16	17	11	12	12	4	2	1	108
Deaths* ...	3	1	3	3	1	8	5	7	3	2	—	36*
Fatality per cent. ...	60	8	19	19	6	73	33	58	75	100	0	33·4

* Seven deaths occurring in 1925 among persons notified in 1923 or 1924 and one death occurring outside Liverpool have been excluded from this table.

It is clear from the above table that half the cases occurred under 30 years of age, and that over 60 years of age the liability to contract the disease is small. On the other hand, the fatality increases rapidly with advancing age. The smaller fatality in childhood and adolescence is unfortunately offset by the liability to develope sequelae under 20 years of age (see page 52).

59 of the cases were males and 49 were females.

METHOD OF SPREAD.

Doubt has been expressed in some quarters as to the infectious character of the disease. Enquiry points clearly to the disease being communicable.

Of the 108 cases reported in 1925, 4 came sick from Wallasey, Formby, Chester and Earlestown respectively. Of the Liverpool cases 27 were chronic cases at the time of notification. There remained 77 acute indigenous cases into which close inquiry was instituted as to possible sources of infection. In the following instances possible or probable sources of infection were found:—

(I.) Association with Acute Cases.

(*a*) Cases in One Family.

Group (1)—Five presumed cases in one family. Not seen till 7 weeks after the acute onset, all 5 cases occurring in one week. No medical attendance at that time. The mother and one son gave characteristic histories of illness—regarded as influenza by the mother—lasting 2 and 4 weeks respectively; both presented residual symptoms. Three other children gave atypical histories.

Group (2)—Baby B—— (7 weeks). The mother stated that she suffered from "Sleepy Sickness" from the 3rd to 6th month of pregnancy. No confirmation of this statement could be obtained.

(*b*) Other Associations.

Group (3)—John F —— (12 years), of 30 Y—— Street. Onset about May 1st, 1924. On June 15th, 1924, Veronica

T—— (11 years), of 45a, C—— Street, was taken ill. She frequently visited Y—— Street to see an uncle there. This uncle, Christopher S—— (36 years) was taken ill on September 24th, 1924. All three cases developed characteristic residua of Encephalitis. None of these cases was recognised or isolated during the acute stages of the disease.

Group (4)—A medical man attending an acute case at time of onset.

(II.) Association with Sub-Acute or Chronic Cases.

Group (5)—R. W—— (11 years), of 66, H—— Street, developed Encephalitis lethargica in 1923. He is a chronic case with marked perversion of character. On January 21st, H. D—— (14 years), of 75 H—— Street, developed Encephalitis.

Group (6)—E. B—— (15 years), was a particular friend of E. T—— (8 years), a chronic case (onset November, 1924), and often visited her but had not done so for 3 months prior to onset of illness. During this period E.B.'s mother had several times visited E. T——. E. B.—— developed Encephalitis in June.

Group (7)—Ellen B—— (22 years), of 28a, A—— Street. Onset February 15th, and was removed to hospital on July 16th. On August 1st, Elizabeth D—— (18 years), of 75, A—— Street, was taken ill.

Group (8)—M. E. S—— (56 years), of 35, W—— Street. Onset August 3rd, 1925. A chronic case. R. A. S—— (59 years), resides at 29, W—— Street. Onset March, 1925.

Group (9)—A. E. H—— (26 years), of 88, E—— Street. His father, who exhibited mental deterioration with alteration of character, appeared to be suffering from a chronic form of Encephalitis.

Thus, in 13 cases out of 77, or 17 per cent., a possible connection with a preceding case was traced; in 1923 such a possible connection was traced in 10 cases, i.e., 9 per cent. of the total; and in 1924 in 32 cases, or 17.7 per cent. In 5 of the above groups there was association, more

or less definite, with a chronic case of the disease. In one instance, Group 5, there was a history of contact, not with an actual case, but with another person in close contact; it appears probable that temporary carriers of the infection exist, and also that in chronic cases the infection persists in the brain, being the cause of the persistent symptoms, and that some cases may be intermittently infective. Some cases shew relapses, especially in the cold season of the year.

Incubation Period and Duration of Infectivity.

Consideration of the above groups of cases shows that the incubation period is usually from a week to a fortnight, e.g., Groups 1 and 7.

The possible duration of infectivity is indicated by cases developing in persons in close contact with the patient in 5 months in two instances, 20 months and 2 years afterwards in two others.

In only a small number of cases reported in 1924, was there any history of a preceding attack of influenza.

Sequelae in Children.

Certain characteristic sequels of the disease are apt to develop. These may develop at once or not until a period of months or years after the primary attack; not infrequently they develop, especially in children, after apparently quite mild attacks, and the condition is so characteristic as to enable a diagnosis to be made retrospectively. A number of such cases have been reported by the School Medical Officers.

Since Encephalitis Lethargica was first reported in 1918, 13 cases under 5 years of age—of which 4 proved fatal—and 145 cases at ages over 5 years and under 16 years have come under the observation of the Public Health Department. Of these, 3 died of the disease.

Some cases completely recover, others are but slightly affected. Most often they develop a chronic condition, which is probably due to a persistence of the inflammatory lesions in the brain.

During the year 1925, twenty-two cases of Encephalitis Lethargica occurred amongst children of school age. Two of these proved fatal, and of the remainder 14 are known to have developed sequelae of a more or less chronic character. These mostly took the form of either (1)

Parkinsonism, in which the most prominent symptoms are slowness of movement and rigidity of limbs associated not infrequently with tremors, and which eventually produces the characteristic appearance, i.e., a mask-like face and senile stooping attitude. (2) Alteration in the diurnal sleep rhythm, so that sufferers are noisy, excitable, and restless during the night, and frequently extremely drowsy during the day. This is usually associated with deterioration of character, self-control being largely lost.

The following list gives the condition in the 14 chronic cases which occurred during 1925. A number of these were first brought to light by the School Medical Officers.

No. 28.	E.H.	13	years.	Inversion of sleep rhythm. Alteration of character; has taken to thieving.
No. 35.	V.T.	10	,,	Inversion of sleep rhythm.
No. 36.	G.C.	11	,,	Fidgety and irritable. Some mental deterioration.
No. 52.	K.C.	11	,,	Inversion of sleep rhythm. Very hot tempered and irritable, although boy's mentality is above the average.
No. 54.	J.F.	12	,,	Inversion of sleep rhythm.
No. 59.	J.W.	7	,,	Inversion of sleep rhythm. Very drowsy in the daytime. Hot tempered and of bad habits.
No. 67.	G.K.	8	,,	Parkinsonism.
No. 73.	H.S.	11	,,	Parkinsonism.
No. 81.	J.O.H.	6	,,	Parkinsonism.
No. 88.	L.D.	7	,,	Mentally defective.
No. 90.	T.H.	13	,,	Parkinsonism.
No. 95.	N.W.	6	,,	Suffered from inversion of sleep rhythm, but has now apparently recovered.
No. 100.	E.T.	10	,,	Very wilful and of bad habits. Mental deterioration. Cannot read or write properly.
No. 103.	J.L.	13	,,	Inversion of sleep rhythm. Cantankerous, sullen, and of bad habits.

Among children, therefore, the most frequent condition found was that of alteration of the daily sleep rhythm, so that the children are excited and wakeful at night, and sleep or are drowsy in the daytime. The children frequently exercise a very disturbing effect upon their families owing to their nocturnal wakefulness, they often whistle or sing, and some have been known to lean out of the windows and scream or shout to attract attention, whilst some have even attempted to set the house on fire.

This alteration of the diurnal rhythm is usually associated with deterioration of character to a greater or less extent. Such children have very little self-control, and, in extreme cases, this amounts to

moral imbecility, as evidenced by thieving and vagrancy; further, this lack of self-control renders many of the children whilst at school inattentive, mischievous and quarrelsome, and makes their continued attendance there difficult or impossible.

As recovery ensued in a number of instances, it would appear to be inadvisable to have children suffering from this disease certified as mentally defective. Their admission to asylums should be avoided for a similar reason.

In the present state of our knowledge of the disease, it would appear that the most satisfactory method of dealing with those cases which at the present time are capable of benefiting from some form of education would be in the first instance to certify them as physically defective and have them taught in special classes in the Schools for Physically Defective children, but kept quite apart from the other physically defective children.

The experience gained as the result of a trial of such classes should be valuable; on the one hand it might be found that this form of education would be quite suitable to meet the case, on the other hand it might prove unsatisfactory, and then the question of residential treatment, possibly (on economic grounds) in conjunction with other Local Authorities, might have to be considered.

Preventive Measures.

Encephalitis lethargica was made notifiable throughout the country from January 1st, 1919.

In view of the definite, though not very marked, infectivity of the disease all cases which could not be effectually isolated at home were removed to hospital, as soon as the attention of the Health Department was drawn to their occurrence, a course which was attended by much benefit to the patients themselves. As carriers of this disease are believed to occur, and in view of the possible developments of secondary cases, all school children from infected houses were excluded from school for a period of 10 days following the isolation of the case. This period has now been extended to three weeks. A child may not return to school, after suffering from encephalitis, until at least six weeks from the commencement of the disease.

ACUTE ANTERIOR POLIOMYELITIS (Infantile Paralysis).

During 1925 four cases of poliomyelitis were notified, one of which, or 25 per cent., proved fatal. This is a reduction in comparison with 1924, when 14 cases were reported, whilst 37, 5, 9, 4, 6, 2, 6, 6, 11 and 39 cases were reported in the years 1914 to 1923. The cases were reported as follows :—January, 1 case; May, 2 cases; December, 1 case.

INFLUENZA AND OTHER RESPIRATORY DISEASES.

Respiratory diseases cause an increasing proportion of the total deaths from all causes. In the decennial period 1871-80 the proportion of deaths certified as due to Respiratory diseases was 20·2 per cent. of all deaths; in 1911-1920 it was 27·3 per cent. of all deaths; in 1921 it had again fallen to 22·1 per cent. of all deaths, but in 1924 it rose to 27·0 per cent.; these alterations correspond to the prevalence of influenza. The table below shows for deaths due to Respiratory diseases the actual numbers, the percentage proportion to all deaths, the death-rates per 100,000 population, and the death-rates expressed as a percentage proportion of the rates experienced in 1871-80 (index figures) :—

DEATHS FROM RESPIRATORY DISEASES. (Including Influenza).

	Actual numbers of deaths.	Percentage proportion to all deaths.	Death-rate per 1,000 population.	Death-rates as a percentage proportion of rate experienced in 1871-80.
1871-80 ...	29,763	20·2	5·7	100
1881-90 ...	32,507	23·2	5·9	104
1891-1900	35,819	24·6	5·9	104
1901-10 ...	32,995	21·8	4·5	79
1911-20 ...	36,480	27·3	4·73	83
1921 ...	2,683	22·1	3·29	57·7
1922 ...	3,501	29·1	4·25	74·5
1923 ...	2,870	25·1	3·46	60·7
1924 ...	3,074	27·0	3·68	64·5
1925 ...	2,947	24·9	3·49	61·3

The rate per 1,000 population had therefore declined in 1925 to 61·3 per cent. of the 1871-80 rate. The decline, however, has not been steady; a rise occurred in 1881–90, and continued into the following decennium.

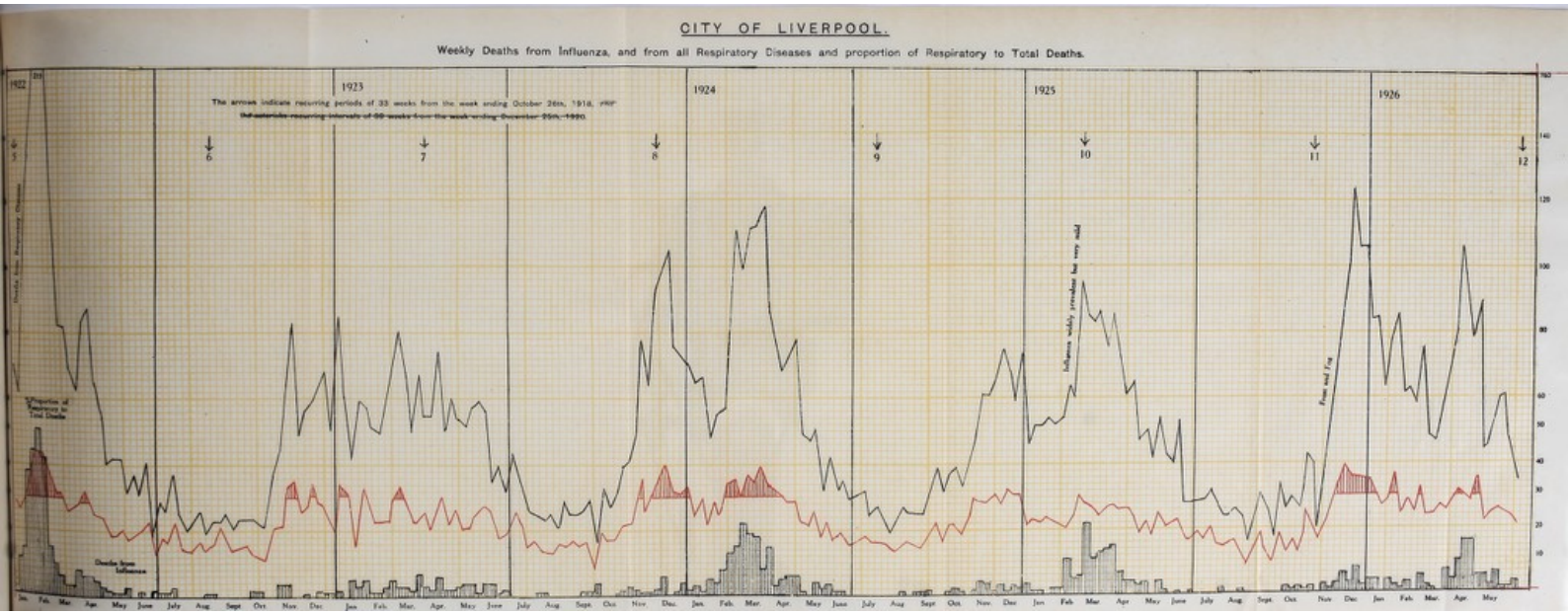
A later rise occurred in 1911-20 owing to the virulent Influenza pandemic of 1918-19. During 1923 influenza, in epidemic form, was conspicuously absent, and the weekly number of deaths from respiratory diseases—other than influenza—only exceeded 80 on two weeks in the first half of the year, and on three weeks in December there being no corresponding rise in the number of deaths from influenza. During 1924 there was a definite outbreak of influenza, the deaths attributed to influenza in the week ended March 1st rising to 22, and the deaths from other respiratory diseases exceeding 80 for seven consecutive weeks in January, February and March.

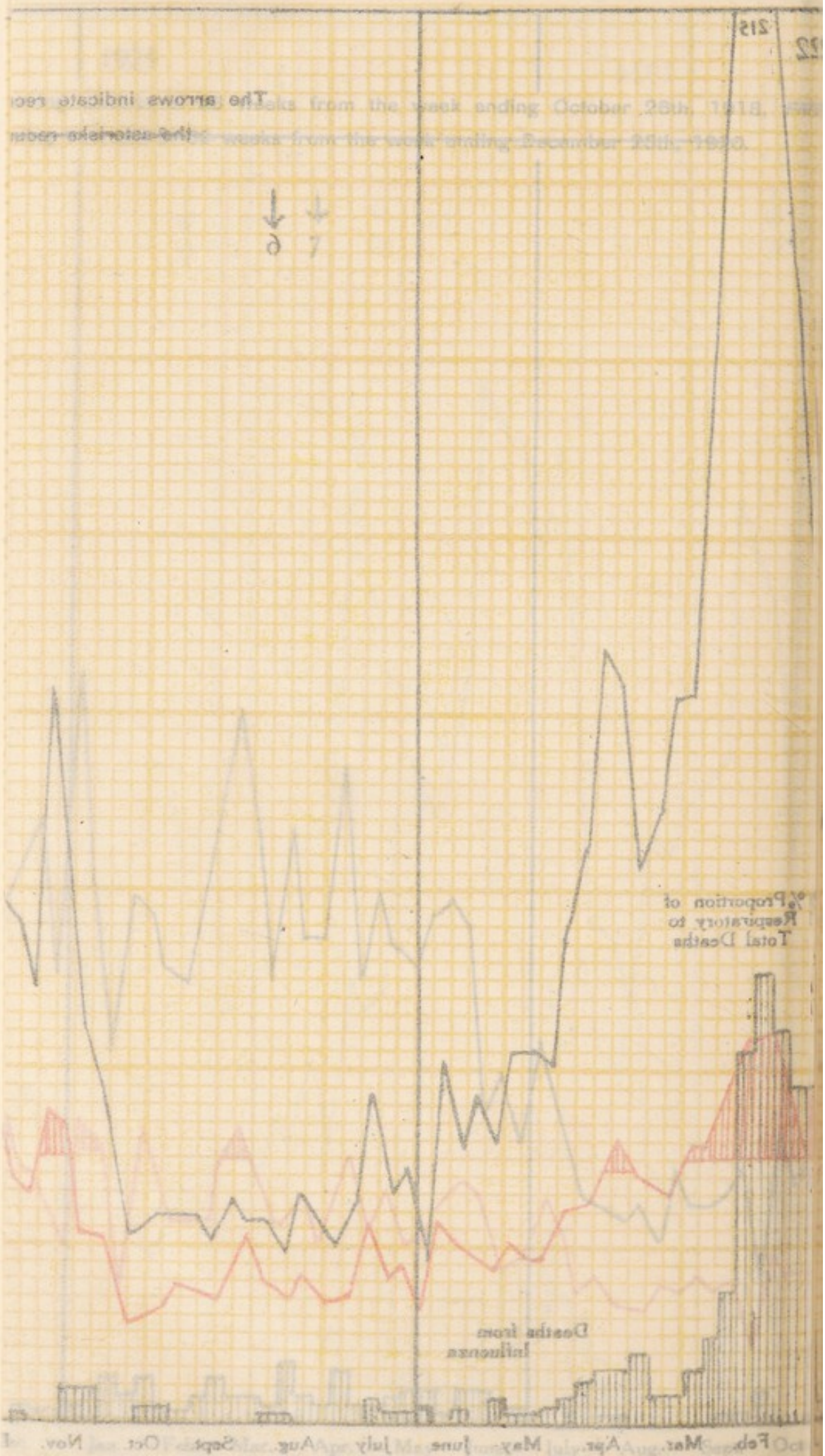
During 1925 a further outbreak of influenza occurred in February and March, but was of a very mild type; the weekly number of deaths from respiratory diseases exceeded 80 for five weeks in those two months and 22 deaths from influenza were again recorded in the week ending March 7th. In November and December very severe weather, accompanied by snow, fog and sharp frost, was experienced. The effect on the aged and on the infirm is shown in the following table, but the rise in mortality from respiratory diseases is no less marked, and the deaths from these diseases continued high after the severe weather had passed; the deaths from respiratory diseases exceeded 80 per week for the seven weeks from the week ending November 28th to the week ending January 9th, but there was no unusual prevalence of influenza during this period.

Deaths from.	Weeks Ending.					
	Nov. 7th.	Nov. 14th.	Nov. 21st.	Nov. 28th.	Dec. 5th.	Dec. 12th.
All causes	126	163	263	290	280	328
Over 65 years of age ...	31	50	101	95	83	73
Bronchitis	7	12	41	50	50	59
Pneumonia	14	21	27	43	55	59
Influenza	—	3	1	3	6	3
Nephritis	3	4	9	7	6	8
Cancer	12	17	28	27	17	17
Phthisis...	11	13	30	30	17	24
Weather Conditions—						
Average temperature ...	48·6	35·5	35·6	36·9	33·9	40·6
Rainfall	2·055	0·158	0·166	0·259	0·296	0·415
Cloudiness (10 is completely overcast)	7·7	3·7	4·6	5·3	6·0	6·7
Prevailing wind ...	W.	N. to N.E.	S.E.	N. to N.W.	N.	W.S.W.
Fog	Nil	Heavy	Heavy	Moderate	Moderate	Nil

CITY OF LIVERPOOL.

Weekly Deaths from Influenza, and from all Respiratory Diseases and proportion of Respiratory to Total Deaths.




Weekly Deaths from Influenza,
Deaths from Influenza
% Proportion of Respiratory to Total Deaths
Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov.

The following table shows week by week the total number of deaths from all causes, the general death-rate, and the number of deaths from Influenza, Pneumonia, Bronchitis, and the total respiratory deaths.

These figures do not include the deaths of Liverpool residents which occurred outside the City.

1925. Week ending.	Total Deaths.	Weekly Death Rate per 1,000 of Estimated Population	Number of Deaths from			Total Respiratory Deaths.	Percentage Proportion of Respiratory to Total Deaths.
			Influenza.	Pneumonia and Broncho-Pneumonia	Bronchitis.		
NUARY 1–3	89	12·9	1	19	3	22	24·7
10	225	13·9	1	32	19	52	23·1
17	235	14·5	1	27	24	52	22·1
24	226	14·0	—	31	17	54	23·9
31	227	14·0	2	27	19	52	22·9
BRUARY 7	243	15·0	2	39	15	54	22·2
14	311	19·2	11	39	22	63	20·3
21	255	15·8	5	35	20	60	23·6
28	312	19·3	6	48	45	96	30·8
RCH 7	301	18·6	22	49	32	85	28·2
14	301	20·3	11	46	33	83	27·6
21	309	19·1	13	54	29	86	27·8
28	281	17·4	14	44	30	76	27·0
	3,315	15·7	89	490	308	835	25·2
IL 4	308	19·1	15	47	36	86	27·8
11	270	16·7	7	43	25	71	26·3
18	228	14·1	4	37	24	61	26·8
25	256	15·8	4	38	25	65	25·4
2	250	15·5	3	29	16	47	18·8
9	216	13·4	4	34	13	50	23·1
16	223	13·8	—	25	13	41	18·4
23	202	12·5	4	34	16	52	25·7
30	197	12·2	1	24	17	43	21·8
E 6	179	11·1	—	29	11	40	22·3
13	219	13·5	1	34	16	51	23·3
20	172	10.6	—	19	9	28	16·3
27	175	10·8	1	6	10	18	10·3
	2,895	13·7	44	399	231	653	22·6
4	150	9·3	—	14	14	28	18·7
11	169	10·5	—	17	12	29	17·2
18	155	9·6	—	21	10	32	20·6
25	157	9·7	2	13	7	24	15·3
UST 1	154	9·5	—	13	9	24	15·6
8	159	9·8	—	15	9	26	16·3
15	176	10·9	1	20	3	24	13·6
22	163	10·1	—	7	8	16	9·8
29	174	10·8	—	12	9	23	13·2
EMBER 5	159	9·8	—	19	11	31	19·5
12	199	12·3	—	18	7	26	13·5
19	180	11·1	—	12	4	17	9·4
26	185	11·4	—	18	13	34	18·4
	2,180	10·3	3	199	116	334	18·3

1925. Week ending.	Total Deaths.	Weekly Death Rate per 1,000 of Estimated Population	Number of Deaths from			Total Respiratory Deaths.	Percentage Proportion of Respiratory Deaths to Total Deaths
			Influenza.	Pneumonia and Broncho-Pneumonia	Bronchitis.		
October 3	170	10·5	2	11	10	21	12·
10	166	10·3	1	14	11	27	16·
17	177	10·9	2	12	11	23	13·
24	167	10·3	1	24	15	43	25·
31	196	12·1	2	21	15	41	21·
November 7	126	7·8	—	14	7	21	16·
14	163	10·1	3	21	12	34	20·
21	263	16·3	1	27	41	72	27·
28	290	17·9	3	43	50	100	34·
December 5	280	17·3	6	55	50	111	39·
12	328	20.3	3	59	59	122	37·
19	296	18·3	7	54	47	105	35·
26	219	13·5	1	39	33	80	36·
27–31 ..... (5 days)	262	22·7	3	43	43	88	33·
	3,103	14·7	35	437	404	888	28·
Total 12 months ...	11,493	13·6	171	1,525	1,059	2,710	23·

PUBLIC HEALTH (PNEUMONIA, DYSENTERY, ETC.).

REGULATIONS, 1919.

The following statement shows the number of notifications received under the regulations and the number of deaths during 1924 and 1925 :—

	1924.		1925.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	1,885	1,550	1,920	1,560
Malaria	48	5	52	3
Trench Fever	—	—	—	—
Dysentery	7	—	8	4
	1,940	1,555	1,980	1,567

Enquiry was made into all these cases; 1,476 cases of influenzal pneumonia were visited and 20 received assistance from nurses appointed for the purpose, 143 revisits being made.

The cases of malaria reported were either amongst ex-soldiers who had been infected whilst on service in tropical climates, or amongst the seafaring population, principally persons infected on the African coast.

DYSENTERY.

During 1925 eight cases of dysentery were reported in the city in addition to one case which was brought into the Port of Liverpool on shipboard, and four cases were reported from hospitals in persons who had come from neighbouring districts. Dysentery was formerly prevalent in Liverpool, as many as 233 deaths having been registered from this cause in one year. Many of the cases reported in recent years are persistent infections acquired abroad on military service or otherwise. Four of the cases proved fatal. Further reference to dysentery will be found on page 64.

DEATHS FROM INFECTIVE DISEASES.

Infective diseases were responsible for 1,654 deaths, and accounted for 13·9 per cent. of the total mortality within the City during the year, the increase being largely due to heavier mortality in measles, diarrhœa and whooping cough.

DIGESTIVE DISEASES AND DIARRHŒA.

The following table shows the mortality from digestive diseases—including diarrhœa—in the City of Liverpool during the last 55 years :—

	Actual Deaths.	Deaths expressed as a percentage of deaths from all causes.	Death-rate per 1,000 population.	Death-rates as a percentage of the 1871-80 rate.
1871-1880	14,747	10·0	2·8	100·0
1881-1890	13,186	9·4	2·4	85·7
1891-1900	18,491	12·7	3·0	107·2
1900-1910	18,163	12·0	2·5	89·3
1911-1920	12,282	8·9	1·59	56·7
1921	1,120	9·5	1·37	48·9
1922	673	5·6	0·82	29·3
1923	763	6·7	0·92	32·8
1924	703	6·2	0·84	30·0
1925	852	7·1	1·01	32·2

The deaths from digestive diseases, which had been very numerous prior to 1871, fell in the penultimate decade of last century, but rose again in the last decade. Since the early years of the present century there has been a marked decline in the number of deaths. This was especially so during the latter years of the war.

Diarrhœa and enteritis form the greater part of the deaths from digestive diseases. Of these deaths approximately two-thirds occur in infants under one year of age. The age distribution of deaths from diarrhœa and enteritis during the past 55 years is shown in the next table.

	Average Numbers.					Per Cent.			
	Under 1 year	1–2 years	2–5 years	Over 5 years	Total	Under 1 year	1–2 years	2–5 years	Over 5 years
1871-1880 ...	559·9	170·4	36·3	79·4	846·0	66·2	20·1	4·3	9·4
1881-1890 ...	361·5	121·0	35·2	58 0	575·7	62·7	21·0	6·1	10·1
1891-1900 ...	577·4	167·7	40·8	60·1	846·0	68·0	19·8	4·8	7·2
1901-1910 ...	591·7	207·9	45·3	35·3	880·2	67·2	23·6	5·2	4·0
1911-1915 ...	619·6	285·4	58·6	43·2	1006·8	61·3	28·3	5·8	4·3
1916-1919 ...	312·2	104·5	31·2	63·5	511·5	61·0	20·4	6·1	12·4
1920 ...	382	61	17	29	489	79·1	12·5	3·5	5·9
1921-1924 ...	316·8	91·7	19·7	48·0	476	66·5	19·3	4·1	10·1
1925 ...	312	101	25	59	497	62·7	20·3	5·1	11·9

Down to the year 1915 there was a decline in the proportion of deaths from diarrhœal diseases in persons over five years of age, but otherwise there was very little variation in the ages at death. During the war period, however, owing to the fall in the birth-rate, the proportions varied somewhat. Owing to the rapid rise in the birth-rate in 1920 the proportions at different ages were quite abnormal. In 1921, however, the proportions of death at different ages returned to the normal pre-war distribution. In 1925 less than two-thirds of the deaths were of infants during their first year of life.

Diarrhœa and enteritis took a heavy toll of infant life during 1921, the number of infant deaths being 683. Mortality from diarrhœa is always heavier in dry hot summers, and 1921 was exceptional in both respects. When comparison is made with earlier epidemic years during which the climatic conditions were favourable to the development of the disease it will be seen that the mortality has been very much reduced. In 1925, the climatic conditions were again somewhat favourable to the spread of diarrhœa, and the mortality from diarrhœa and enteritis at all ages amounted to 497, of which number 413 were under two years of age, equal to a rate of 49·0 per 100,000 of the population. A noticeable feature of recent years has been that the height of the summer epidemic, which formerly occurred in August, about the 31st week of the year, has occurred progressively later and later in the year. In 1922 the peak of the epidemic, if it may so be termed, was not reached until October, namely, in the 41st week, and in 1923 and 1924 in the 38th week; but in 1925 it reverted to the 35th week. The very large diminution in the size of the epidemic in recent years and its concurrent retardation are well shown when comparison is made with the mortality in the year 1904. In that year the peak of the epidemic was reached in the 33rd week, no fewer than 259 deaths from diarrhœa alone being recorded in that week, as against 26, the greatest number in any week during 1925, i.e., almost exactly one-tenth of the number recorded 22 years ago.

In 1911 the Registrar-General included diarrhœa and enteritis (under two years of age) under one heading. Under the term enteritis many cases of diarrhœal diseases are doubtless included, but it also includes deaths from many conditions, including convulsions, which are not accompanied by the symptom of diarrhœa. Reference to the table

on page 65 shows that there is a marked excess of deaths from these diseases in the third and fourth quarters of the year, especially the third quarter; both diseases showed evidence of the seasonal fluctuation so characteristic of "Summer Diarrhœa."

The mortality rate per 1,000 of the births registered in the City during the last two years from diarrhœa and enteritis (under 2 years of age) was 10·3. The mortality in the several districts of the City is shown in the subjoined table:—

	Registered Births 1924-25.	Deaths. 1925.	Death Rate per 1000 births registered during the current and preceding years.	
			1925.	1924.
Exchange	4,547 ...	141 ...	31·1 ...	14·9
Abercromby ...	2,262 ...	33 ...	14·5 ...	7·7
Everton	6,959 ...	62 ...	8·8 ...	8·6
Kirkdale	3,630 ...	41 ...	11·3 ...	5·1
Edge Hill	4,376 ...	30 ...	6·8 ...	6·9
Toxteth	5,811 ...	55 ...	9·5 ...	7·1
Walton	3,066 ...	13 ...	3·8 ...	5·0
West Derby ...	3,711 ...	13 ...	3·5 ...	6·4
Wavertree	3,345 ...	17 ...	5·0 ...	4·7
Sefton Park ...	1,015 ...	4 ...	3·9 ...	1·8
Fazakerley	232 ...	1 ...	4·3 ...	4·0
Woolton	197 ...	3 ...	15·2 ...	—
	40,151 ...	413 ...	10·3 ...	7·7

NOTE.—Deaths occurring in public institutions have been transferred to the districts from which the patients came. In order to make comparison with earlier years the alterations in the registration districts detailed on page three should be noted.

The corresponding rates for the whole city during the last four years were 14·6, 6·2, 8·6 and 7·7 per 1,000 births registered in the preceding two years.

When comparison is made with the preceding year it is found that any material increase is entirely confined to the districts of Exchange,

Abercromby, Kirkdale, Toxteth and Woolton, that is, with the exception of the last, to those areas in proximity to the docks, in which there are numerous stables for horses.

Two outbreaks of diarrhœal disease were investigated by the assistant medical officer of health. In the first outbreak three fatal cases of choleraic diarrhœa in adults occurred during the week ending August 22nd.

The first case, G.T., aged 53 years, residing at 34, — Lane, was a dock labourer employed in handling grain from barges. He complained of abdominal pains, and diarrhœa on the 12th August, but continued at work until the 17th, when he was suddenly seized with vomiting, purging and cramps; he was admitted to Mill Road Infirmary on the 18th and died on the 19th August.

On August 20th, his son-in-law, T.A., aged 30 years, who took his meals at the above address, was affected with similar symptoms, namely, vomiting, purging, goose flesh, cramps and lividity. The attention of the Health Department was called to this case, which proved fatal on the 21st August. A post-mortem examination was held the next day, and the City Bacteriologist reported as follows :—

> "An organism was isolated which culturally and bio-chemically belonged to the Paratyphoid—Gaertner group. Agglutination reactions were tested against Standard Aertrycke (Newport Mutton strains), Gaertner, Para. A. B. and C. sera, also Lister Institute Gaertner, and three Aertrycke Types. No agglutination reactions were obtained in any case. The condition points to an infection with an organism of the above group, which is inagglutinable to the ordinary Standard Sera."

On August 24th, Mrs. R., of 48 — Lane, sister of the second case, was admitted to Mill Road Infirmary suffering from vomiting, but she recovered.

On August 22nd, T.R., aged 57, a fruit porter living in a common lodging house in the vicinity of the above cases, was admitted to Mill Road Infirmary. He had complained of abdominal pains and diarrhœa for some days, but became ill on the 22nd August with symptoms resembling those of the above cases, and he died at 5 p.m. the same day.

A post-mortem examination was made and the City Bacteriologist reported :—

> "An organism was isolated from the small intestines which corresponded in its reactions to the Bacillus Morgan No. 1, an organism often associated with epidemic diarrhœa."

Two of the above cases, therefore, would appear to have been infected with the organisms of food poisoning, and the last case was apparently one of severe diarrhœa in an elderly man.

An outbreak of what was apparently dysentery occurred during October and November in a Home, which receives illegitimate babies: the home accommodates 13 adults and 26 babies.

About October 7th, Helen B——, aged 9 months, and Norah D——, 15 weeks, were attacked with diarrhœa, and died on October 21st and 22nd respectively, the deaths being certified as due to acute enteritis and infective enteritis. On November 1st a third child, Frederick McP—, 12 months, died, and a fourth child, Francis B——, 13 months, was taken ill with diarrhœa and died on November 7th. Examination of the fæces of this child, by the City Bacteriologist, shewed the presence of dysentery bacilli. All four cases shewed marked toxic symptoms, and in view of this and the high fatality of the outbreak, it is probable that they were all cases of bacillary dysentery.

The attention of the Public Health Department was called to this outbreak on November 1st, and it was found that several members of the staff had also suffered from diarrhœa.

The following precautions were recommended :—

(1) That one nurse should be detailed to make up, and give the food for all babies bottle-fed.

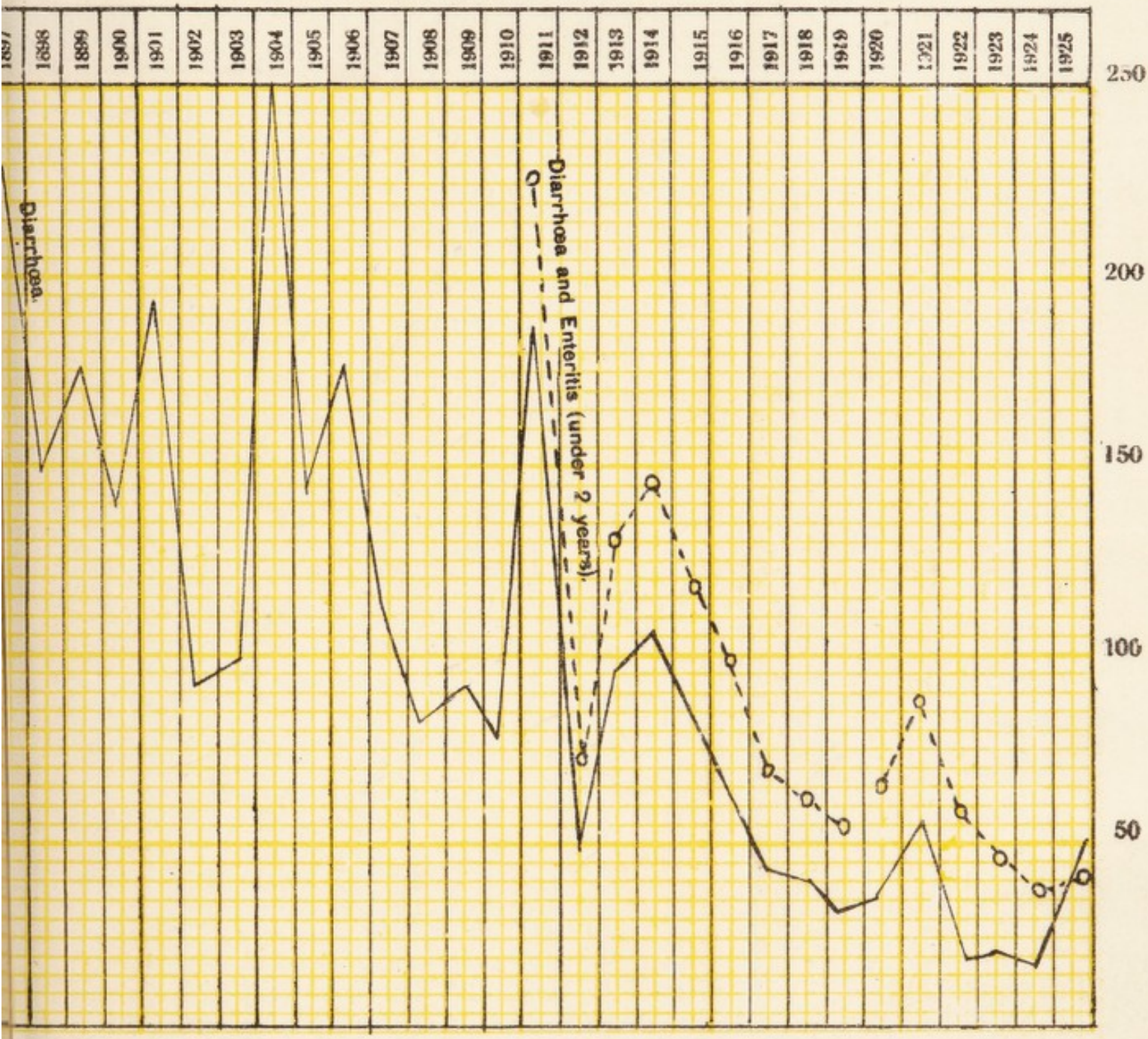
(2) That all members of the staff handling soiled napkins should immediately disinfect their hands.

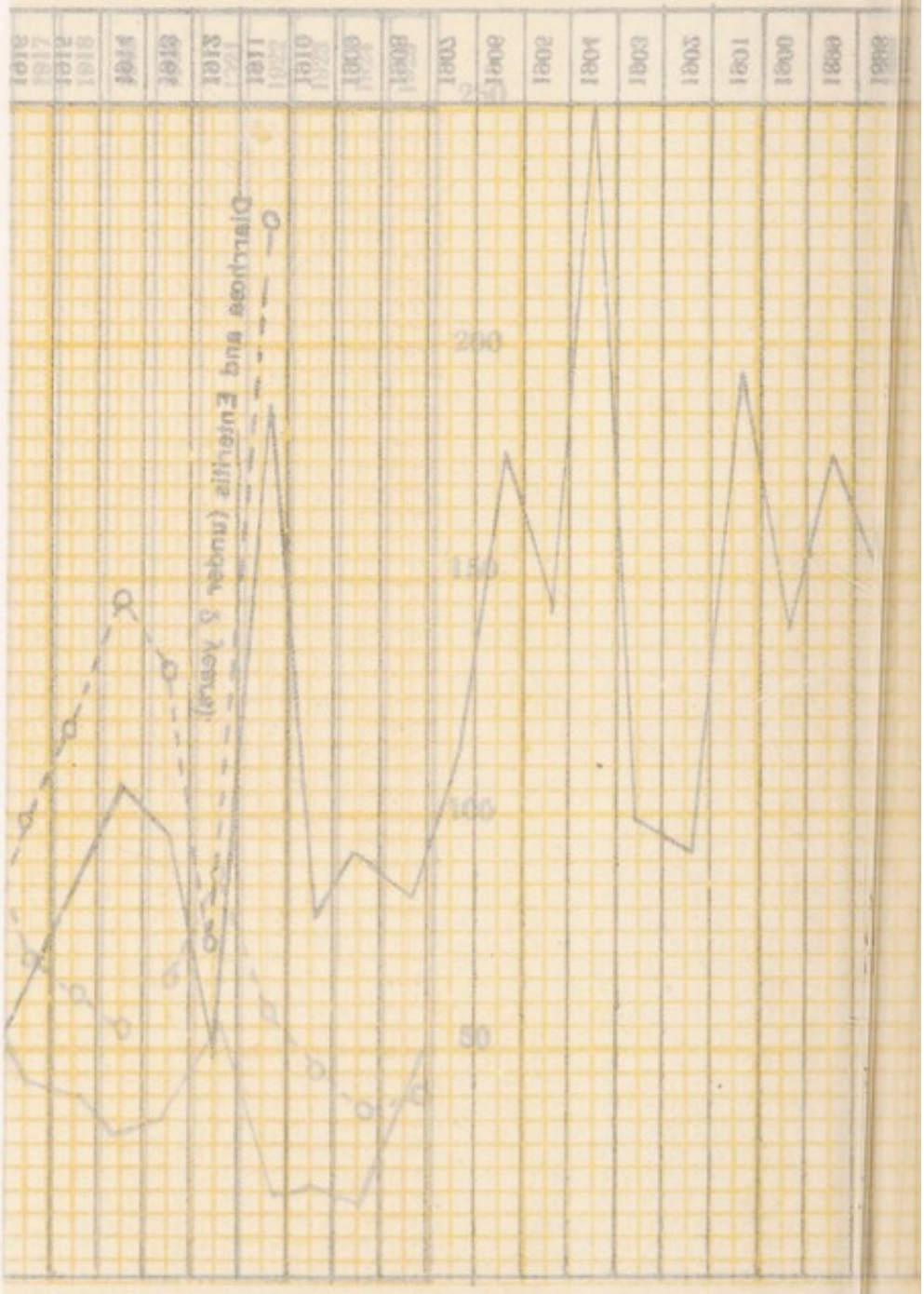
These precautions were effectual, no further cases occurring after November 1st.

In neither of these outbreaks was there any evidence of fly-borne infection, the disease having been probably spread in each case by personal contact

CITY OF LIVERPOOL.

Diarrnœa Death Rates (all ages), per 100,000 Population, 1896-1925 together with the combined rate from Diarrhœa and Enteritis (under 2 years), for 1911-1923.




Diarrhoea and Enteritis (under 2 years)

DEATHS FROM DIARRHŒA AND ENTERITIS

(Under Two Years).

DISTRICTS.	Quarters. March. M.	F.	June. M.	F.	Sept. M.	F.	Dec. M.	F.	Year 1925. M.	F.	Total
Exchange	8	13	10	3	42	36	20	9	80	61	141
Abercromby	6	4	4	3	4	4	4	4	18	15	33
Everton	3	8	5	3	16	6	12	9	36	26	62
Kirkdale	2	1	3	5	12	10	4	4	21	20	41
Edge Hill	2	1	...	2	5	7	4	9	11	19	30
Toxteth	3	1	4	...	16	17	8	6	31	24	55
Walton	1	...	2	2	1	3	2	2	6	7	13
West Derby	1	...	2	1	3	3	3	...	9	4	13
Wavertree	2	...	...	...	4	4	5	2	11	6	17
Toxteth East	...	...	...	1	2	...	...	1	2	2	4
Fazakerley	...	...	...	...	1	...	...	...	1	...	1
Woolton	...	...	1	...	...	1	1	...	2	1	3
City	28	28	31	20	106	91	63	46	228	185	413

Ages at Death.

Under 1 year	312
Under 2 years	101
Total	413

Deaths from Diarrhoea and Enteritis Separately.

	Quarters. 1st.	2nd.	3rd.	4th.	Whole year.
Diarrhœa	34	26	109	52	221
Enteritis	22	25	88	57	192

N.B.—Deaths in public institutions are transferred to the districts from which the patients came. In order to make comparison with earlier years the alterations in the registration districts set out on page 3 should be referred to.

Of the 413 deaths under 2 years of age, the majority, namely 290, took place in public institutions, as shown in the following table:—

DIARRHŒA AND ENTERITIS.

DEATHS IN INSTITUTIONS DURING 1925.

Brownlow Hill Institution	91
Alder Hey Hospital	52
Toxteth Institution	35
Royal Liverpool Children's Hospital	25
David Lewis Northern Hospital	16
Walton Institution	14
Fazakerley Hospital	14
Royal Southern Hospital	11
Royal Infirmary	5
Inglefield Babies' Home	4
Belmont Road Institution	3
Stanley Hospital	3
Grafton Street Hospital	2
Maternity Hospital	1
	290

The experience of previous years points strongly to the importance of flies as carriers of infection and that collections of stable manure form the most important breeding places for these insects. Regular visits of inspection are paid to stables and the occupiers informed as to the desirability of regular weekly removals of manure. The following notice has been issued to the owners of stables in recent years with the object of securing the frequent removal of manure from the latter :—

NOTICE.

REMOVAL OF MANURE FROM STABLES.

The Health Committee are very desirous that Manure from Stables should be removed with as little delay as possible, and with this object in view, arrangements have been made with the City Engineer for its speedy removal.

On application to the City Engineer, Municipal Offices, Dale Street, Manure will be removed from stable yards as often as required, free of charge.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in the City of Liverpool during 1925 :—

Anthrax
Anterior Poliomyelitis
Cerebro-spinal Fever
Cholera
†Chickenpox
Continued Fever
Diphtheria
Dysentery
Enteric Fever
Erysipelas
Encephalitis Lethargica, Acute
†German Measles
†Measles
Malaria
Membranous Croup
Ophthalmia Neonatorum
Paratyphoid Fever
Plague
Pneumonia, Acute Influenzal
Pneumonia, Acute Primary
Polioencephalitis, Acute
Poliomyelitis
Puerperal Fever
Relapsing Fever
Scarlet Fever or Scarlatina
Smallpox
Tuberculosis (all forms)
Trench Fever
Typhoid Fever
Typhus Fever.

The numbers of notifications received by the Medical Officer during the past three years, were as follows :—

	1923.	1924.	1925.
January	573	701	933
February	550	731	881
March	644	770	952
April	501	652	767
May	560	763	879
June	473	630	740
July	409	570	604
August	368	514	529
September	470	654	742
October	529	895	900
November	743	1,058	795
December	738	913	1,007
	6,558	8,851	9,729

†Measles and German Measles ceased to be compulsorily notifiable on 31st October, 1920, but a system of voluntary notification has been continued as is also the case with Chickenpox.

The diseases notified were as follows:—

	1923.	1924.	1925.
Smallpox	3	5	—
Scarlet Fever	2,165	3,505	3,357
Enteric Fever	35	59	56
Paratyphoid Fever ...	—	6	3
Relapsing Fever	1	—	—
Typhus Fever	—	1	—
Puerperal Fever	50	68	67
Continued Fever	—	1	3
Diphtheria and Croup ...	944	1,078	1,468
Erysipelas...	395	398	538
Anthrax	5	9	5
Cerebro-spinal Fever ...	16	16	26
Acute Poliomyelitis ...	37	16	6
Measles and German Measles	7,780	4,292	8,680
Ophthalmia Neonatorum	707	690	703
Pneumonia and Influenzal Pneumonia...	1,901	1,845	1,948
Malaria	34	48	56
Trench Fever	2	—	—
Dysentery...	4	6	15
Encephalitis Lethargica...	111	233	145
Polioencephalitis ...	4	1	—
Chickenpox	851	866	1,333
Plague	—	—	—
	15,045	13,143	18,409

The following table shows the number, monthly distribution, and nature of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the year 1925 :—

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Removed to hospital
Smallpox.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever.	11	2	1	4	3	...	2	4	2	5	1	...	35	30
Scarlet Fever.	393	304	250	247	360	225	197	244	348	493	264	236	3561	2976
Measles and German Measles.	868	1822	2176	1851	2152	1224	357	141	80	169	168	194	11202	1290
Diphtheria and Croup.	153	106	112	114	139	95	85	121	114	180	124	161	1504	1375
Puerperal Fever.	3	1	4	3	8	4	5	3	2	9	3	11	56	49
Erysipelas.	45	32	52	45	38	36	37	39	36	65	48	52	525	214
Cerebro-spinal Fever.	3	4	2	1	4	2	1	1	1	2	...	3	24	22
Poliomyelitis.	1	...	...	...	2	...	...	...	...	...	...	1	4	3
Ophthalmia Neonatorum.	59	66	56	54	76	54	50	57	47	70	51	63	703	43
Pneumonia & Influenzal Pneumonia.	152	165	246	154	174	120	79	64	85	93	164	424	1920	671
Malaria.	5	10	1	4	5	4	5	1	8	6	3	...	52	23
Dysentery.	...	2	...	1	...	1	...	1	1	1	1	...	8	4
Encephalitis Lethargica.	11	14	6	6	16	7	12	8	8	4	6	10	108	71
Whooping Cough.	360	279	326	243	274	199	57	81	60	96	145	154	2274	116
Anthrax.	...	1	1	...	1	...	...	1	...	...	...	1	5	5
Chickenpox	441	527	524	307	402	403	141	83	113	295	299	253	3788	177
Monthly Totals ...	2505	3335	3757	3034	3654	2374	1028	849	905	1488	1277	1563	25769	7069

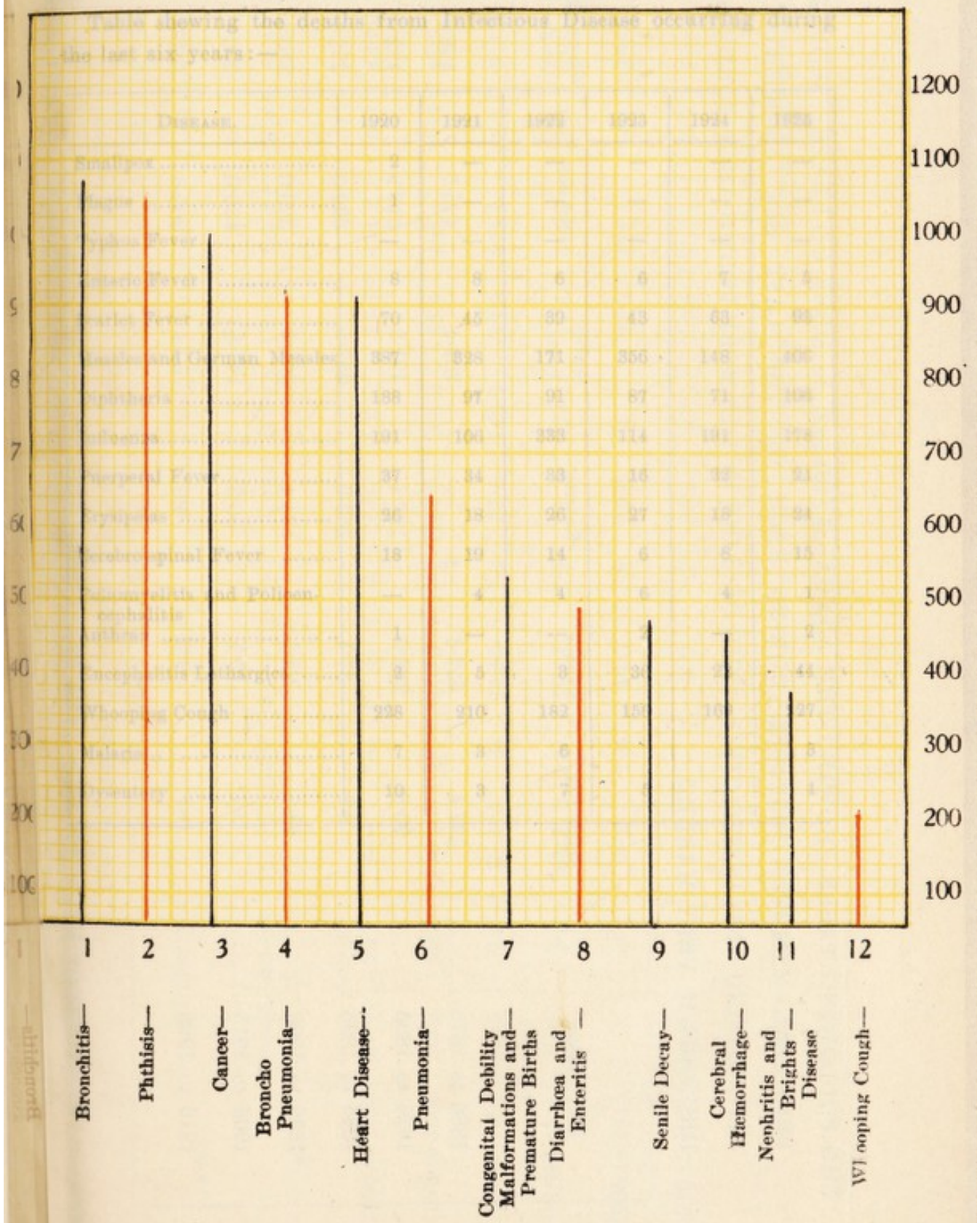
The number of patients removed to hospital includes those admitted to the general hospitals, as well as those admitted to the city infectious diseases hospitals.

The following table gives a summary of cases of infectious disease coming under the notice of the Medical Officer of Health during the last six years:—

Disease.	1920	1921	1922	1923	1924	1925
Smallpox	9	—	2	1	1	—
Plague	1	—	—	—	—	—
Typhus Fever	—	1	—	—	—	—
Enteric Fever	44	30	31	16	49	35
Scarlet Fever	3,230	3,062	2,419	2,307	3,790	3,561
Measles and German Measles	11,448	9,143	3,570	11,089	5,709	11,202
Diphtheria	1,654	1,182	953	993	1,105	1,504
Puerperal Fever	69	60	60	43	65	56
Erysipelas	505	471	522	395	384	525
Cerebro-spinal Fever	27	26	18	8	13	24
Poliomyelitis and Polioencephalitis	6	6	11	39	14	4
Ophthalmia Neonatorum	766	660	669	707	690	703
Anthrax	4	—	4	4	6	5
Encephalitis Lethargica	17	27	5	111	189	108
Whooping Cough	2,804	3,019	2,025	2,261	2,321	2,274
Malaria	172	90	43	36	48	52
Dysentery	14	12	2	8	7	8

CITY OF LIVERPOOL.

Comparative view of Twelve of the principal causes of Death during the Year 1925.



Comparative view of Twelve of the principal causes of Death during the Year 1925.

Table shewing the deaths from Infectious Disease occurring during the last six years:—

Disease.	1920	1921	1922	1923	1924	1925
Smallpox	2	—	—	—	—	—
Plague	1	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	8	8	6	6	7	5
Scarlet Fever	70	45	39	43	63	93
Measles and German Measles	387	328	171	356	148	406
Diphtheria	188	97	91	87	71	106
Influenza	191	106	333	114	191	178
Puerperal Fever	37	34	33	16	22	21
Erysipelas	26	18	26	27	18	24
Cerebro-spinal Fever	18	19	14	6	8	15
Poliomyelitis and Polioencephalitis	—	4	4	6	4	1
Anthrax	1	—	—	2	—	2
Encephalitis Lethargica	2	5	3	36	22	44
Whooping Cough	228	210	182	156	169	227
Malaria	7	3	6		5	3
Dysentery	10	3	7	5	—	4

THE FOLLOWING TABLE SHOWING THE ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST SIX 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	0·3	5·7	50·3	141·6	438·0	296·7	848·0
1916 to 1925	0·4	0·2	8·6	69·4	300·6	195·6	254·4

* Including extended City area.

† Records not available.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST SIX 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	·3	—	5·5	·2	49·0	1·3	50·9	90·7	23·9	414·1	9·2	287·5	30·8	817·2
1916 to 1925	·4	—	·2	—	8·5	·1	28·4	41·0	13·5	287·1	6·5	189·1	11·8	242·6

* 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 seven decades, 1856 to 1925 :—

DISEASE.		1856 to 1865.	1866 to 1875.	1876 to 1885.	1886 to 1895.	1896† to 1905.	1906‡ to 1915
	Average Population	443,938.	493,405.	538,651.	536,974.	691,351.	749,267.
Scarlet Fever	Total Deaths ...	5,994	7,894	4,212	2,575	2,013	1,416
	Rate per 100,000 per annum.	135·0	159·9	78·1	47·9	29·1	19·0
Typhus Fever	Total Deaths ...	7,482	6,528	2,380	371	251	57
	Rate per 100,000 per annum.	168·5	132·2	44·1	6·9	3·6	0·8
Enteric Fever	Total Deaths ...	*	*	1,264	1,530	1,344	503
	Rate per 100,000 per annum.	—	—	21·5	28·4	19·3	6·7
Measles	Total Deaths ...	3,215	4,257	5,178	3,995	3,290	4,380
	Rate per 100,000 per annum.	72·4	86·2	96·1	74·3	47·5	58·6
Whooping Cough	Total Deaths ...	4,779	4,968	4,723	3,224	3,304	2,967
	Rate per 100,000 per annum.	107·6	100·6	87·6	60·0	47·7	39·7
Smallpox	Total Deaths ...	1,673	2,374	908	88	195	3
	Rate per 100,000 per annum	37·6	48·1	16·8	1·6	2·8	0·4
Phthisis	Total Deaths ...	15,572	16,476	13,754	11,436	12,632	12,010
	Rate per 100,000 per annum.	350·7	333·9	255·3	212·9	182·7	160·7
Diphtheria	Total Deaths ...	*	2,129	2,434	1,655	1,955	1,239
	Rate per 100,000 per annum.	—	42·4	45·7	30·8	28·2	16·5

† City Boundaries extended in 1895, 1902, 1905. * Records not available.

‡ ,, ,, ,, 1913.

DIABETES.

The following table shows the incidence of fatal cases of Diabetes in Liverpool since 1890:—

	Actual Numbers.			Average.			Rate per 100,000	Ratio of Males to Females.
	Males.	Females.	Total.	Males.	Female.	Total.		
90–1894	55	45	100	11·0	9·0	20·0	3·8	1·22
95–1899	99	76	175	19·8	15·2	35·0	5·3	1·30
00–1904	132	100	232	26·4	20·0	46·4	6·5	1·32
05–1909	153	124	277	30·6	24·8	55·4	8·4	1·23
10–1914	162	153	315	32·4	30·6	63·0	8·4	1·06
15–1919	153	137	290	30·6	27·4	58·0	7·4	1·12
20–1924	153	203	356	30·6	40·6	71·2	8·6	0·75
1925	31	39	70	31·0	39·0	70·0	8·3	0·77

The death-rate from diabetes rose steadily up till 1910-14. It is probable that this rise was largely due to improved diagnosis. During the war the number of deaths showed a distinct fall, especially in 1917 and 1918; this was a real fall and not merely due to the absence of males on military service as, on the average of five years, females were equally affected with males. Since the war the figures have again risen, and are slightly above the average for the decade 1910-19. The disparity, in the incidence, between the two sexes, previously in favour of the females, has since 1904 tended to disappear. In 1890-1894, 55 per cent. of the deaths were of males; but in 1920-24 the position was reversed and only 42·9 per cent. were of males.

DEATHS FROM CANCER.

During 1925 there were 998 deaths attributed to cancer, equivalent to a rate of 1·18 per thousand. In 1871-1880 the rate of mortality was 0·4 per thousand, an increase of 195 per cent. having occurred. The tables on pages 10 and 11 give the figures for the intervening years. Comparing the anatomical distribution in 1920 and 1925 it will be observed that there is a tendency for deaths from cancer of the buccal cavity and breast to increase, whilst cancer of the stomach, liver, intestines, etc., remain stationary. The most marked increase is, however, under the heading "Other or unspecified Organs," deaths so classified having increased from 151 to 275. The table on page 78 shows the ages at deaths from cancer during the last thirty years, and also the numbers of males and females. Up to the age of 40 there is no increase in the deaths when comparison is made between 1896 and 1925. In the subsequent age periods the increases are as follows:—Below 50 years, 39 per cent.; below 60 years, 47 per cent.; below 70 years, 117 per cent.; below 80 years, 266 per cent., and below 90 years, 660 per cent.

The increase in the number of deaths of males during the same period is 145 per cent. and of females 72 per cent., or an actual increase of 294 male and 209 female deaths per annum, the increase of population during this period was 178,346 or 27 per cent.

The increased mortality from cancer was, therefore, (*a*) mainly among males; (*b*) most marked in the later years of life. There is evidence from other sources to show that the increase is especially in the case of cancer of the stomach and other internal organs where the disease is most difficult to diagnose. A great part of the increase is probably not real but statistical, and due to improved diagnosis. The term, old age, for example, is less frequently used as a cause of death than in former years.

CANCER.

DEATHS FROM CANCER, AND THE PART OF THE BODY AFFECTED, DURING THE YEARS 1920 TO 1925

Part of the Body affected.	1920.			1921.			1922.			1923.			1924.			1925.		
	M.	F.	Total.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.	M.	F.	Total.
Buccal Cavity	67	5	72	79	7	86	87	8	95	89	7	96	81	8	89	73	14	87
Stomach, Liver, etc	152	129	281	123	122	245	132	113	245	114	137	251	127	95	222	118	130	248
Intestines, etc.	88	80	168	78	87	165	68	70	138	94	66	160	75	84	159	108	87	195
Breast	—	75	75	1	72	73	—	69	69	—	70	70	—	83	83	1	91	92
Female Genital Organs ...	—	90	90	—	107	107	—	102	102	—	116	116	—	120	120	—	91	91
Skin.....	5	4	9	12	3	15	4	5	9	11	5	16	11	8	19	7	3	10
Other or Unspecified Organs	97	54	151	136	63	199	115	75	190	123	89	212	165	84	249	190	85	275
Totals.....	409	437	846	429	461	890	406	442	848	431	490	921	459	482	941	497	501	998

DEATHS FROM CANCER DURING THE LAST THIRTY YEARS.

	Age Below.												
	5	20	30	40	50	60	70	80	90	90 up	M.	F.	T
1896	1	4	12	52	100	142	128	51	5	...	203	292	
1897	1	2	10	47	124	157	114	53	6	...	190	324	
1898	4	4	13	32	108	141	131	58	4	...	210	285	
1899	1	7	11	44	122	146	116	73	9	1	222	308	
1900	2	...	12	43	108	165	136	49	11	...	187	339	
1901	2	5	9	47	132	175	159	53	10	1	246	347	
1902	4	4	18	39	129	182	160	64	13	...	258	355	
1903	3	7	16	48	122	210	164	81	10	...	269	392	
1904	2	1	9	42	101	164	150	70	7	...	235	311	
1905	2	3	16	35	114	157	213	69	9	...	277	341	
1906	2	5	14	62	114	190	205	74	12	...	282	396	
1907	1	4	17	42	123	213	182	93	8	1	280	404	
1908	2	7	10	42	139	201	181	67	9	...	298	360	
1909	...	2	7	43	137	237	162	99	7	...	287	407	
1910	1	4	17	46	151	201	216	91	17	1	342	403	
1911	1	4	9	44	135	209	207	96	21	...	329	397	
1912	5	6	6	42	143	220	216	110	21	...	371	398	
1913	1	3	17	48	130	199	200	103	15	1	347	370	
1914	6	5	11	46	131	208	223	112	8	...	351	399	
1915	...	5	11	39	107	228	196	122	17	...	330	395	
1916	1	5	10	40	113	238	224	137	23	...	340	451	
1917	2	1	8	43	136	216	201	116	24	...	342	405	
1918	2	4	7	38	125	202	239	113	19	1	355	395	
1919	2	2	5	41	152	239	229	103	10	...	352	431	
1920	1	5	10	44	146	249	243	131	17	...	409	437	
1921	3	4	19	45	133	281	236	140	29	...	429	461	
1922	4	3	5	38	127	247	258	139	27	...	406	442	
1923	2	3	11	38	124	301	261	151	30	...	431	490	
1924	2	3	8	35	136	257	280	185	34	1	459	482	
1925	...	4	13	38	139	300	278	187	38	1	497	501	
	60	116	341	1,283	3,801	6,275	5,908	2,990	470	8	9,534	11,718	2

DEATHS FROM EXCESSIVE DRINKING, &c.

It is still gratifying to note that the number of deaths due to drink remains so very low when compared with pre-war years. During the year 1925 they numbered 6, which is the lowest figure ever recorded in the City from this cause.

The number of deaths of infants under one year of age from suffocation was 16, which is still well below the years prior to 1921.

Improved habits and conditions, wider educational influences and other agencies, including those associated with the welfare of motherhood and infancy have all played their part in promoting a more temperate use of alcoholic drinks with results which are eminently satisfactory.

Housing operations so far as they have gone have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly housed in insanitary surroundings in slum areas.

The improved conditions of the children is especially noticeable; the reports in connection with medical inspection of school children in the poorer localities show welcome improvement, the details in reference to this subject being given in the Annual Report to the Education Committee.

The following tables give the actual figures for the past twelve years of the deaths from excessive drinking, and the deaths of infants under one year of age from suffocation. The appended chart shows the deaths from excessive drinking since the year 1903.

Year.	Males.	Females.	Total.
1914	73	52	125
1915	48	38	86
1916	35	9	44
1917	33	15	48
1918	14	2	16
1919	19	—	19
1920	7	7	14
1921	21	3	24
1922	10	2	12
1923	9	4	13
1924	7	2	9
1925	2	4	6

The deaths of infants under one year of age from suffocation have been as follows :—

Year.	Deaths.
1914	76
1915	50
1916	36
1917	23
1918	26
1919	25
1920	23
1921	12
1922	18
1923	7
1924	17
1925	16

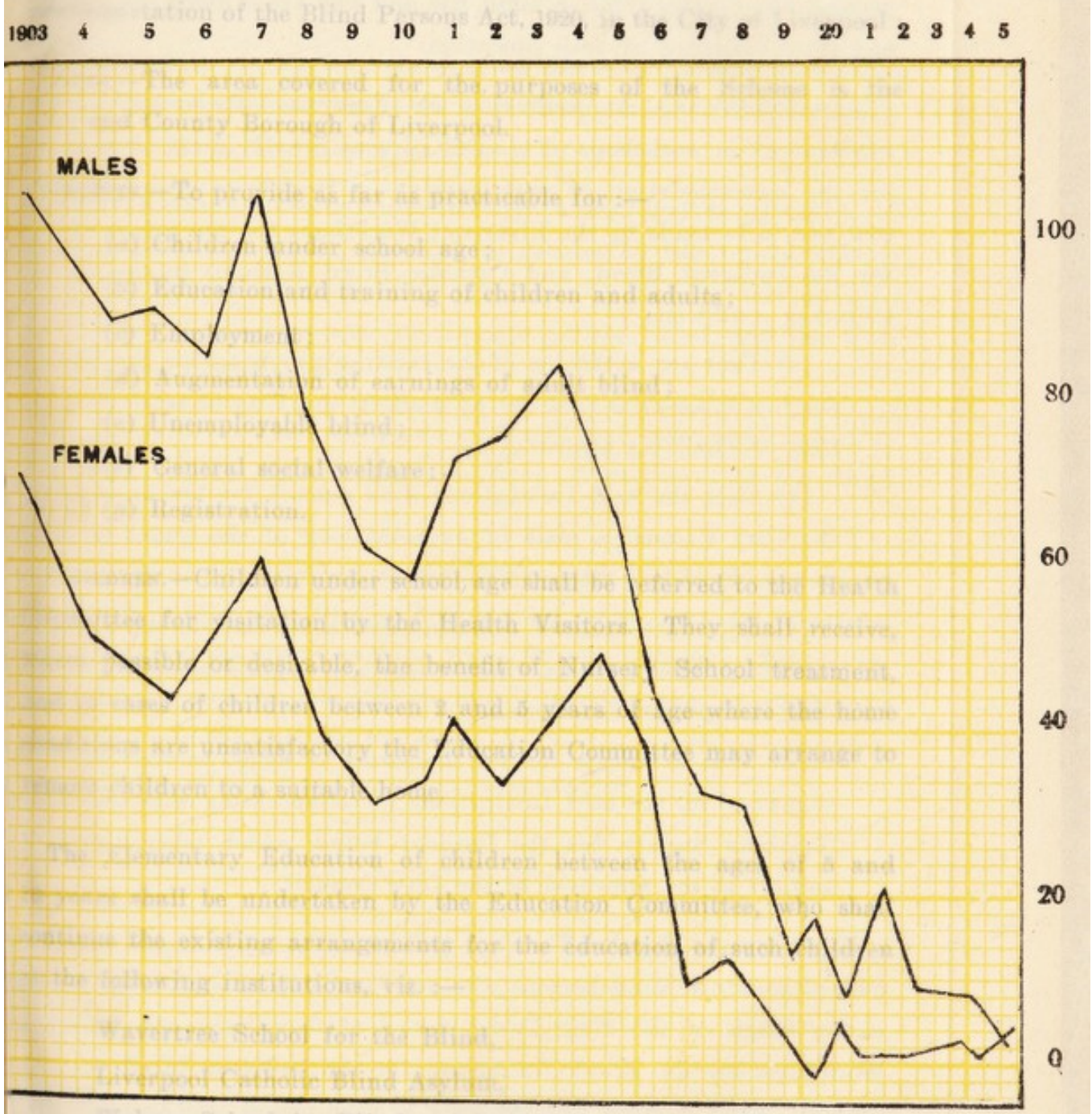
DEATHS FROM GAS POISONING.

Deaths from this cause fall under two headings, namely, from accidental poisoning (6 deaths) and suicides (22 deaths), a total of 28 deaths occurring in the year.

CITY OF LIVERPOOL.

Deaths from excessive drinking during the 23 years 1903 to 1925.

Marked reduction in number of deaths coincides with period of restricted sale of Alcoholic Liquors.



CITY OF LIVERPOOL.

Deaths from excessive drinking during the 23 years 1903 to 1925.

Marked reduction in number of deaths coincides with period of restricted sale of Alcoholic Liquors.

DEATHS FROM GAS POISONING

BLIND PERSONS ACT, 1920.

The following is the Scheme of the City Council now in operation, which has been approved of by the Ministry of Health, for the administrtation of the Blind Persons Act, 1920, in the City of Liverpool :

AREA.—The area covered for the purposes of the Scheme is the City and County Borough of Liverpool.

OBJECTS.—To provide as far as practicable for :—

(*a*) Children under school age;
(*b*) Education and training of children and adults;
(*c*) Employment;
(*d*) Augmentation of earnings of adult blind;
(*e*) Unemployable blind;
(*f*) General social welfare;
(*g*) Registration.

CHILDREN.—Children under school age shall be referred to the Health Committee for visitation by the Health Visitors. They shall receive, where possible or desirable, the benefit of Nursery School treatment, and in cases of children between 2 and 5 years of age where the home conditions are unsatisfactory the Education Committee may arrange to remove children to a suitable home.

The Elementary Education of children between the ages of 5 and 16 years shall be undertaken by the Education Committee, who shall continue the existing arrangements for the education of such children at the following institutions, viz. :—

Wavertree School for the Blind,
Liverpool Catholic Blind Asylum,
Walmer School for Blind and Defective, Rhyl,

or at such other Institutions as they may consider desirable.

YOUNG PERSONS AND ADULTS.—The further education of blind persons above the age of 16 years, whether Secondary or Technical, shall be left to the Education Committee, who shall also arrange where necessary for the proper maintenance in residential Institutions or otherwise of students during their periods of training. This provision shall include persons who became blind in adult life and who are capable of receiving and being benefited by such education.

EMPLOYMENT AND AUGMENTATION OF EARNINGS.—Provision for the employment in workshops of trained persons over 21 years of age, and for the accommodation of such persons in Hostels as required, shall continue to be made by the Liverpool Workshops for the Blind, School for the Indigent Blind, and Catholic Blind Asylum, subject to the following conditions :—

(*a*) That any extension of the existing provision for the employment of blind persons so far as it affects this City be referred to the City Council for approval.

(*b*) That the said Institutions shall submit for the approval of the City Council a scale of augmentation of the wages of blind persons employed either in workshops or at their own homes.

(*c*) That such scale of augmentation shall include the proposed monetary relief in cases where wages and augmentation are insufficient for proper maintenance.

(*d*) That a scheme for the assistance of home workers shall be organised by the said Institutions in collaboration with the Home Teaching Society for the Outdoor Blind, which scheme shall be subject to the approval of the City Council.

UNEMPLOYABLE BLIND.—The care and maintenance in homes or otherwise of destitute blind persons who are incapable of work shall remain in the hands of the West Derby Board of Guardians, the Liverpool Workshops for the Blind, the School for the Indigent Blind, and the Catholic Blind Asylum, but the work of such bodies and agencies shall be co-ordinated as hereinafter provided.

General Social Welfare.—The services of home teaching, visiting, and general social welfare shall be carried out by the Home Teaching Society for the Outdoor Blind, and such other institutions as may be approved by the City Council, and such societies shall be requested to submit to the City Council any proposals for the extension of necessary welfare services.

Registration.—It shall be the duty of the City Council to provide and maintain a system of registration of blind persons with full records as required by the Ministry of Health.

Administration.—The duties of the City Council shall be administered by the Health Committee, who shall be assisted by two representatives appointed by each of the several institutions in the city interested in the welfare of Blind persons, the League for the Blind, and the West Derby Board of Guardians.

Miscellaneous.—The City Council shall take such other steps as may be lawful for giving effect to the provisions of Section 2 of the Blind Persons Act, 1920.

During the year 1925 the sum of £5,500 was granted by the Committee appointed under the Blind Persons Act, 1920, to the Liverpool Workshops for the Blind and the Home Teaching Society, £258 to the National Library for the Blind, and a further sum of £500 as a contribution to the Catholic Blind Asylum for the structural alteration, painting, &c., of the premises under their control.

MATERNITY and CHILD WELFARE.

The infant mortality rate for 1925 is 99 per 1,000 births. A glance at the chart facing page 86 will show how the rate, in spite of fluctuations in individual years, has steadily declined during the past twenty-five years. At the beginning of this period the figure was nearly 200 deaths per 1,000 births.

It is very gratifying to record this decline, and moreover, it may be noted that the numbers of deaths from all the usual forms of infantile disease, such as Broncho-pneumonia, Convulsions, Prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic diarrhœa. The number of deaths under one year of age from this cause in the year 1925 was 312, as against an average of 1,000, or 1,100 twenty-five years ago. No doubt this gratifying result is due to a variety of causes, but one which has most materially hastened the decline is the initiation and carrying-on by the Health Committee of schemes for the promotion of the welfare of motherhood and infancy, including the work of the health visitors, the day nurseries, infant welfare clinics and milk depôts. It is unfortunate that a corresponding reduction cannot be recorded in the case of the mothers. No doubt the problems surrounding maternity are more difficult to solve than those relating to the lives of infants, but closer attention is being paid to the dangers to which the mothers are subject and which at the present time are not far removed from those of twenty-five years ago. A highly important step, however, has been made in providing maternity homes, and ante-natal and post-natal clinics, as it has been demonstrated that a large proportion of the accidents which occur during pregnancy and child-birth can be successfully forestalled and prevented if the patient is under medical supervision previous to her confinement.

INFANT MORTALITY.

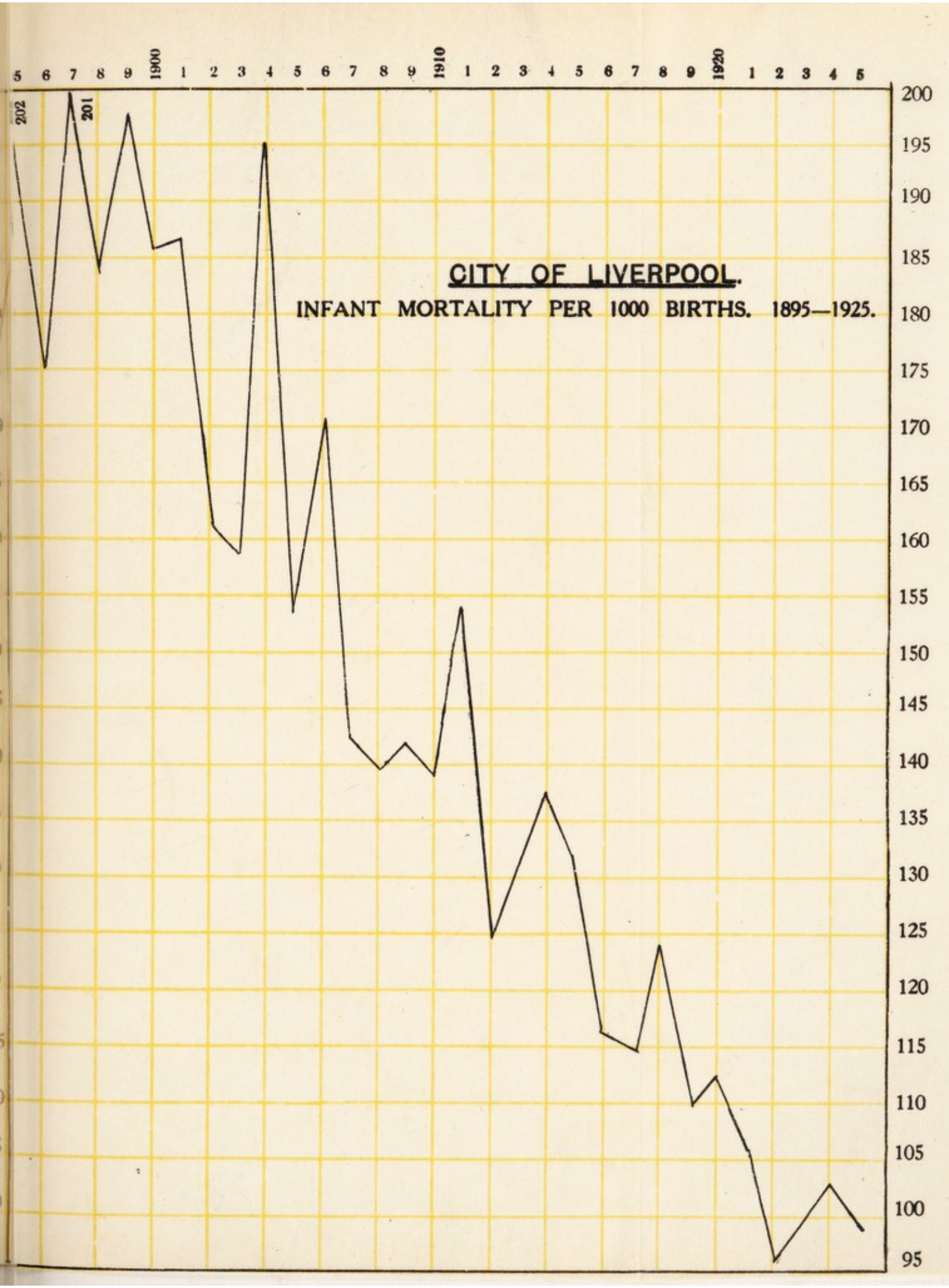
The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last sixty years and the average rate for each decade :—

Year	No. of Deaths below One Year of age.	Rate per 1,000 Births	Average for 10 years	Year.	No. of Deaths below One Year of Age.	Rate per 1,000 Births.	Average for 10 years
1866	5,569	281		1896	3,833	175	
1867	4,656	231		1897	4,488	201	
1868	4,876	252		1898	4,111	184	
1869	4,461	239		1899	4,481	199	
1870	4,952	258		1900	4,247	186	
1871	4,949	270		1901	4,138	187	
1872	4,288	222		1902	3,936	162	
1873	3,990	213		1903	3,815	159	
1874	4,663	235		1904	4,780	196	
1875	4,171	210	241	1905	3,752	154	180
1876	4,253	201		1906	4,137	171	
1877	3,827	188		1907	3,383	143	
1878	3,970	193		1908	3,355	140	
1879	3,384	164		1909	3,377	143	
1880	3,961	191		1910	3,216	139	
1881	3,587	173		1911	3,466	154	
1882	3,641	178		1912	2,778	125	
1883	3,686	185		1913	2,987	132	
1884	3,914	195		1914	3,219	139	
1885	3,391	174	184	1915	2,866	133	142
1886	3,670	188		1916	2,421	117	
1887	3,420	186		1917	2,071	115	
1888	2,981	168		1918	2,137	124	
1889	3,320	188		1919	2,055	110	
1890	3,438	195		1920	2,826	113	
1891	3,361	188		1921	2,339	107	
1892	3,209	181		1922	2,052	96	
1893	3,863	210		1923	2,058	99	
1894	3,210	179		1924	2,113	103	
1895	4,441	202	189	1925	1,935	99	108

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 1925 is shown in the following table, the detailed causes of death being set out in Table 4 (appendix).

DISTRICTS.	Number of Births. 1925.	Number of Deaths under 1 year of age. 1925.	Deaths under 1 year per 1000 Births. 1925
Exchange	2,709	393	145
Abercromby	1,157	123	106
Everton	3,444	340	99
Kirkdale	1,799	200	111
Edge Hill	2,031	184	90
Toxteth	2,769	270	97
Walton	1,504	121	80
West Derby	1,817	117	64
Wavertree	1,700	146	85
Toxteth—(East)	481	28	58
Fazakerley	102	4	39
Woolton	79	9	114
City	19,592	1,935	99

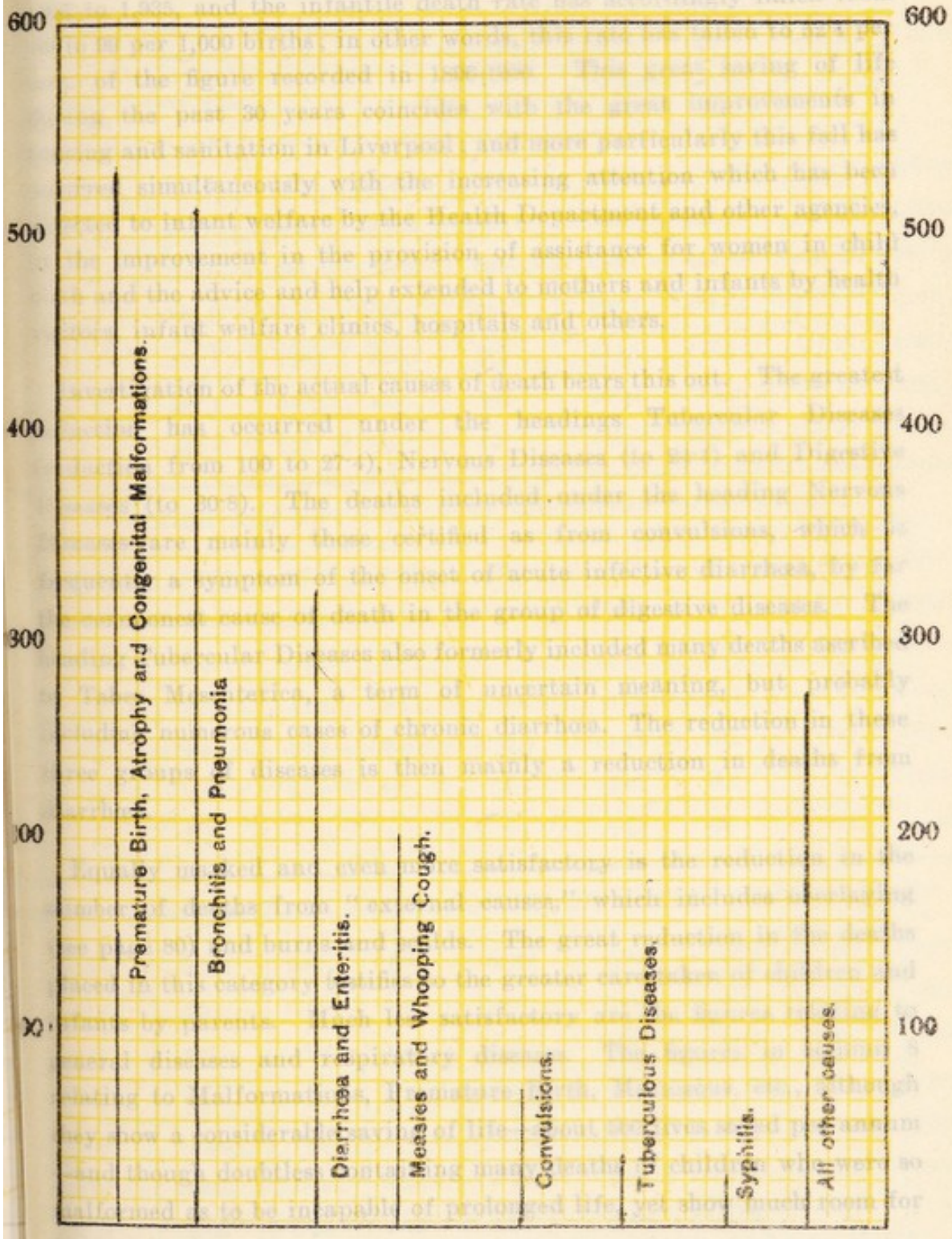
The accompanying table (page 88) provides an analysis of the principal causes of infantile mortality for successive periods of five years from 1896-1900 onwards. It is divided into three sections, the first giving the *actual number* of births and of deaths under 1 year of age, both the total deaths and the numbers of deaths from seven main categories of disease, which include almost all the deaths; the second section gives the birth rate and the deaths expressed as rates per 1,000 births, and the third section gives these rates as a percentage of the rates recorded in 1896-1900, such percentages being termed index figures.


CITY OF LIVERPOOL.
INFANT MORTALITY PER 1000 BIRTHS. 1895—1925.
5 6 7 8 9 1900 1 2 3 4 5 6 7 8 9 1910 1 2 3 4 5 6 7 8 9 1920 1 2 3 4 5
202
201
200
195
190
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95

1910
1900
201
195
190
185
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95

CITY OF LIVERPOOL.

Chart showing the principal Causes of Deaths of Infants, Under One Year of Age, during 1925.



CITY OF LIVERPOOL.

Chart showing the principal Causes of Deaths of Infants, Under One Year of Age, during 1925.

Examination of this table shows that whilst the annual number of births has remained approximately stationary, fluctuating from 22,340 to 19,592 per annum, the number of infantile deaths has fallen from 4,232 to 1,935, and the infantile death rate has accordingly fallen from 189 to 99 per 1,000 births; in other words, this rate has fallen to 52·4 per cent. of the figure recorded in 1896-1900. This great saving of life during the past 30 years coincides with the great improvements in housing and sanitation in Liverpool; and more particularly this fall has occurred simultaneously with the increasing attention which has been directed to infant welfare by the Health Department and other agencies, by the improvement in the provision of assistance for women in child birth and the advice and help extended to mothers and infants by health visitors, infant welfare clinics, hospitals and others.

Investigation of the actual causes of death bears this out. The greatest reduction has occurred under the headings Tubercular Diseases (reduction from 100 to 27·4), Nervous Diseases (to 24·4) and Digestive Diseases (to 30·8). The deaths included under the heading Nervous Diseases are mainly those certified as from convulsions, which is frequently a symptom of the onset of acute infective diarrhœa, by far the commonest cause of death in the group of digestive diseases. The heading Tubercular Diseases also formerly included many deaths ascribed to Tabes Mesenterica, a term of uncertain meaning, but probably including numerous cases of chronic diarrhœa. The reduction in these three groups of diseases is then mainly a reduction in deaths from diarrhœa.

Equally marked and even more satisfactory is the reduction in the number of deaths from "external causes," which includes overlaying (see page 80) and burns and scalds. The great reduction in the deaths placed in this category testifies to the greater care taken of children and infants by parents. Much less satisfactory are the figures relating to general diseases and respiratory diseases. The figures in column 8 relating to Malformations, Premature Birth, Marasmus, etc., although they show a considerable saving of life—about 500 lives saved per annum —and though doubtless containing many deaths of children who were so malformed as to be incapable of prolonged life, yet show much room for improvement.

ANALYSIS OF CAUSES OF INFANT MORTALITY IN SUCCESSIVE QUINQUENNIA 1896

(A).—RECORDED DEATHS.

Years.	1 Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tuberculosis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respiratory Diseases	7 Digestive Diseases; including Diarrhœa.	8 Malformations, Premature Birth, Marasmus, &c.
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764
1925	19,592	1,935	259	34	106	517	346	610

(B).—DEATHS EXPRESSED AT A RATE PER 1,000 BIRTHS.

1896/1900	33·4	189	12·7	6·2	22·1	32·0	57·1	51·0
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1
1925	23·3	99	13·2	1·7	5·4	26·4	17·6	31·2

(C.)—DEATHS EXPRESSED AS A PERCENTAGE OF THE RATES RECORDED IN 189

1896/1900	100	100·0	100.0	100.0	100.0	100.0	100.0	100.0
1901/1905	100	91·0	102·3	89·3	95·9	91·5	76·5	94·0
1906/1910	93	78·6	107·1	62·9	78·6	83·1	57·8	91
1911/1915	87	72·5	91·9	50·0	57·9	81·5	56·9	84
1916/1920	76	61·4	87·4	32·2	49·3	88·7	32·7	82
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8
1925	69·8	52·4	104·0	27·4	24·4	82·5	30·8	61·2

The schemes organised by the Health Committee for the welfare of mothers, infants and young children, have been carried on during 1925 with gratifying results.

For the purposes of classification, the Health Committee's Maternity and Child Welfare Scheme may be considered under several headings, but it will be understood that such divisions are chiefly theoretical and employed only for convenience of statistics and explanation.

The best policy in dealing with the welfare of future citizens is to apply welfare methods to the mother at the earliest possible moment. For practical purposes this means safeguarding and watching over the expectant mother's health from the date at which she reports pregnancy. This pre-natal work amongst the poorer class mothers is considered under the first heading of the scheme.

The aims and uses of ante-natal work are manifold, but the first consideration is that the influences, hygienic or the reverse, which surround the mother are all-important to the coming child. In carrying out ante-natal work in Liverpool, the Health Committee have organised the provision of pre-maternity centres, doctors, health visitors, and nourishment at a suitable cost for necessitous cases.

The policy of the pre-maternity clinic is to provide expert examination, advice and instruction for expectant mothers by qualified doctors and health visitors, but as treatment, except of a minor or "preventive" character, is not provided, it is necessary for the fulfilment of the Welfare Scheme to have the co-operation of private doctors, midwives, hospitals, and maternity and rest homes.

The Central Midwives Board is calling the attention of midwives to the importance of ante-natal supervision, and it is being found by many busy midwives that the pre-maternity clinic is of great assistance to them in their work.

Expectant mothers come to the clinics from many sources; e.g., some are sent by doctors. These cases are women who require regular supervision in view of a possible difficult confinement or the development of some suspected abnormal condition, but who are unable to pay the doctor's fees for frequent routine examinations. These patients are reported to their private doctors by the clinic doctor, and sent to him

when treatment is required. Others are sent or brought by midwives, either for a single examination or for regular attendance throughout the remainder of their pregnancies. Some midwives prefer to carry out their own ante-natal visiting, others request that the health visitor will do it and report to them if necessary. This has been found to work well. To one pre-maternity clinic alone seventeen midwives send or bring their patients. Again, other expectant mothers are sent to the clinics by the health visitors. Such cases include many in the early months of pregnancy. Many mothers, having once attended the clinic, return during subsequent pregnancies. This category tends to increase each year. It is gratifying to note that the number of primigravidæ attending the clinics is increasing, a great many of whom are recommended to attend by mothers or friends already on the attendance registers. The remaining cases are made up of patients sent by hospitals or voluntary agencies in their districts. Patients are tending to present themselves earlier in pregnancy than formerly, and are anxious to attend the clinic weekly. Some cases make one attendance only; reference has already been made to such cases who are sent by midwives for pelvimetery or a confirmatory diagnosis. Other patients at the first attendance are referred elsewhere by reason of illness or abnormality. The latter cases emphasise the value of the pre-maternity clinic as a diagnostic and sorting unit as well as an advisory and educational centre. Incidentally, this policy of diagnosis and instruction not only helps the midwife with the individual case in question, but tends to keep her alert and widen her experience and interests technically.

Further, the clinic, by supervising in the early months of pregnancy the patient, who will subsequently be admitted to hospital or rest home, is relieving the congested and overcrowded clinics of the respective hospital or home, thereby greatly assisting their administration.

The foregoing may be described as the direct policy of the pre-maternity clinic, but the indirect effects of such policy are far reaching and cannot be overlooked. Many expectant mothers on admission to the clinic are found to be suffering from pathological conditions which, although not completely disabling, are productive of impaired health. The alleviation, if not the curing of such ailments, will go a long way to improving the general condition of the patient and thereby the conduct of her home and the care she can expend upon her family.

Further, by improving the expectant mother's general health, she is made better able to meet the strain of labour and her subsequent breast-feeding will be more successful and prolonged. This condition minimises the extra work and expense of a bottle-fed baby, and helps to reduce infant mortality. Great assistance has been given to the pre-maternity clinics by the co-operation of general hospitals where ante-natal cases may be treated for such complaints as cardiac disease, bronchitis, anæmia, etc.; the treatment of these ailments not being part of the scheme of the clinics, nor yet the supervision of pregnancy within the sphere of the general medical work of a hospital out-patient department.

A much valued addition to the work of improving the condition of the mothers has been the provision by the Health Committee of beds in the new maternity ward of the Royal Infirmary. To this hospital ante-natal patients may be sent who require not only rest but special treatment.

It is evident, therefore, that the pre-maternity clinic is not a separate entity, but an instititution which provides one of the greatest co-ordinating factors between the patients attending and those whose work lies in the spheres of preventive and clinical medicine. It provides one of the surest methods of lessening infant and maternal mortality and alleviating maternal morbidity. It provides also, at the most appropriate and receptive time in a woman's life, the opportunity to instruct her in those ways most likely to ensure a healthy child and the maintenance of health in that child.

Year by year, those for whose betterment such schemes have been devised are showing a keener realisation of the value to be derived therefrom, and, as time goes on, co-ordination becomes more established between the various parts of the maternity and child welfare department and between the workers in that department and other workers and institutions, medical and social. This co-ordination naturally adds to the benefits derived from welfare work by the mothers and children of the district.

In the next division of the scheme, post-natal work, arrangements are made for the care of nursing mothers and their infants and children up to the age of five years by the provision of post-natal or infant clinics, the Carnegie model welfare centre, day and resident nurseries, infant welfare centres (milk depots), doctors and health visitors.

At the post-natal clinics the policy is similar to that carried out at the pre-maternity clinics.

The centres are staffed by doctors and health visitors, and are established primarily for instruction of the mothers in the care and feeding of infants and young children, and their purpose is to prevent unnecessary illness due to ignorance of mothers, to assist in restoring the mother to normal health, to instruct in all branches of hygiene pertaining to mother, child and home, and to sort and refer those cases which require treatment or help to the right quarter; these clinics do not in any sense take the place of a hospital, dispensary or private doctor's consulting room.

The post-natal clinics provide, where necessary, accessory foods, such as cod liver oil, pure or in emulsion, Virol, etc., simple tonics, and aperients at cost price. In the case of infants whose mothers are unable to suckle them, prepared milk, modified to prescription, or dried milk is provided at cost or reduced price. The latter may be obtained at the clinics; both may be obtained on a note from the doctor at one of the several infant welfare centres (milk depots) throughout the City.

The supply of milk in necessitous cases is invariably made the subject of careful enquiry as to the means of the recipient and her ability to pay. The return made to the Maternity and Child Welfare Sub-Committee fortnightly shews the extent to which recipients are in a position to pay for the milk, ordered on medical grounds, and supplied only on medical certificate.

Domestic science classes are held during each clinic; cookery, knitting, mending, reconstructing, cutting out and making of garments being taught. These classes are well attended and much appreciated. The sources of admission to the post-natal clinic are similar to those of the pre-maternity clinic, but mothers having once attended an "infant clinic" frequently attend with each succeeding child, so that the number of mothers coming under this category shew a marked increase each year.

The attendance of the mother at either a pre-natal or a post-natal clinic would be less valuable were she not visited in her home by the health visitors in order that she may be assisted to carry out instructions to the best of her ability and helped to make the most of her domestic conveniences.

CARNEGIE WELFARE CENTRE.

The Carnegie Welfare Centre, Liverpool, was declared open on the 15th December, 1923, by Miss Haldane, and has been in use for its clinic and ward activities since January, 1924, and March, 1924, respectively.

The centre serves a threefold purpose. Firstly, for the provision of clinics for expectant mothers and their infants. Secondly, for the provision of wards for the observation of children suffering from dyspepsias of infancy and the institution of a suitable dietary for those children, who, for some reason or other, e.g., illness or death of the mother, must be separated from the mother and weaned. Thirdly, for the instruction of students, either undergraduate or postgraduate, of those various branches of science in which preventive medicine or Public Health administration has a part, and has included medical students, social science students, health visitor students, student teachers, and foreign delegates.

The policy of administration in the wards is to admit infants which are between the type of cases which may be safely left at home and seen as an out-patient, and the type of case which is more suitably treated in a hospital ward. Theoretically, this policy appears to be very simple, but in practice has been found to present many difficulties. To minimise the confusion which might arise from the fact that different medical people might differ in their diagnosis of the class in which a given infant should be placed, all examination for admissions are carried out as far as possible by the same medical officer. Even then, a few of the children admitted exhibit progress quite contrary to that which had been anticipated, and it is therefore often extremely difficult to avoid occasionally, in the observation wards, the type of case which requires treatment in a hospital ward.

The following cases were admitted, for the observation of various disorders of digestion and nutrition, since the opening of the wards in March, 1924, viz. :—

Number of cases admitted from March, 1924, to December, 1924	69
,, ,, during the year 1925	116
	185

The results of treatment during the year were as follows:—

Good results	84·6%
Fair results	7·7%
Transferred to hospital	7·7%

The reasons for admission were:—

Infantile dyspepsia	107
Observation for lack of normal progress ...	56
Prematurity	3
Early rickets	15
Other causes	4
	185

At the end of the year there were 11 cases in residence for observation, viz. :—Dyspepsia, 6; lack of normal progress, 5.

Six children resident in the wards were breast-fed under supervision, the mothers attending at stated intervals.

In emergencies, when there has appeared to be no hope of recovery on artificial feeding entirely, human milk has been kindly supplied by patients in the maternity hospital and rest home, "Quarry Bank," rest home, and from mothers who were friends of the patients. All children fed thus did well, and went home in good condition, with one exception, in which the child developed hæmatemesis, and was transferred to the Royal Liverpool Children's Hospital, where he subsequently died.

With very few exceptions, all children discharged from the wards are referred to and attend clinics in the City.

PRE-MATERNITY AND POST NATAL CLINICS.

The clinics are situate as follows:—

†*Carnegie Welfare Centre.
†*70, Everton Road.
†*17, Upper Parliament Street.
†*Mission Hall, Breeze Hill.
*Girls' Institute, Bankhall.
St. Martin's Hall, Scotland Road.
*Technical Institute, Garston.
*201, Rathbone Road.
*56, Vauxhall Road.
*87, South Hill Road.
*196, Beaufort Street.

There are also eight other Ante-Natal Clinics and three Post Natal Clinics financially assisted by the Health Committee.

† Ante Natal. * Post Natal.

MIDWIVES ACTS, 1902 AND 1918.

The Midwives Act, 1918, as an extension of the principal Act, came into force on 1st January, 1919, and, under it, the Local Supervising Authority (Health Committee) is required to pay the fee of all medical practitioners called in cases of emergency. This section is the confirmation of the step taken by the City Council in 1904, when a resolution was passed authorising the Health Committee to pay the sum of one guinea in cases of emergency assistance. This has been found to be of the greatest benefit in dealing with cases of difficult midwifery.

During the year 1925 three hundred and four midwives gave the required notice, under Section 10, of their intention to practise midwifery in the City.

A total of 12,624 births was attended by these midwives, and 1,489 by the midwives on the staff of the Ladies' Charity, making altogether 72·0 per cent. of the total number of births registered in the City. So far as can be ascertained there were no births attended during the year by uncertified women.

STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING THE YEARS 1921 TO 1924

Notifications Received from	1921.		1922.		1923.		1924.		1925.	
	Births.	Percentage of Births Registered in the City.	Births.	Percentage of Births Registered in the City.	Births.	Percentage of Births Registered in the City.	Births.	Percentage of Births Registered in the City.	Births.	Percentage of Births Registered in the City.
Certified Midwives	15,351	70·09	14,323	66·72	13,953	67·42	13,270	64·55	12,624	64·43
Medical Attendants.....	1,902	8·68	1,798	8·38	1,694	8·19	1,920	9·33	1,852	9·45
Poor Law Institutions	772	3·52	943	4·40	1,055	5·10	1,197	5·82	1,463	7·47
Ladies' Maternity Hospital...	676	3·06	740	3·50	719	3·47	690	3·35	647	3·30
Charity District Homes	1,232	5·62	1,400	6·52	1,433	6·92	1,501	7·30	1,489	7·60
"Rest Home," Chatham St ...	259	1·18	317	1·48	334	1·61	335	1·63	331	1·69
Other Institutions	58	0·26	54	0·25	30	0·14	43	0·21	101	0·52
Parents	18	0·09	14	0·07	5	0·02	5	0·02	6	0·03
	20,262	92·50	19,589	91·25	19,223	92·89	18,961	92·23	18,513	94·49

Total Number of Births registered in the City — 1921 — 21,904; 1922 — 21,467; 1923 — 20,695; 1924 — 20,559; 1925 — 19,592

STILL-BIRTHS.

The number of still-births notified during 1925 was 716, of which number 397 were notified by midwives, being at the rate of 3·1 per cent. of the births attended by them.

In no case does a midwife give a certificate of still-birth unless she is present at the time of birth: she is instructed that if the birth should take place before her arrival she must report the matter to the Coroner, who, after enquiry, grants a certificate for the burial of the body.

Enquiries were made into the circumstances of these still-births, and the following are the figures relating to the months of pregnancy during which the still-births took place:—

Sixth month	20
Seventh month	72
Eighth month	76
Ninth month	229
	397

Of these, 346 were examined by the City Bacteriologist, and 21 or over 6 per cent., gave a positive reaction, indicating that the cause of the still births was probably syphilis (see page 247). In these cases every effort was made to induce the patient to undergo treatment under their private medical attendant or at one of the Venereal Diseases Clinics.

The number of visits paid with reference to still-births was 579.

Among the midwives cases there were 89 difficult labours, which were delivered by medical practitioners called in under the rules of the Central Midwives Board.

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 advised by midwives:—

Mother :	
Abnormal Presentation :	
Brow or Face Presentation	25
Occipito-posterior Presentation	57
Transverse Presentation	31
Breech Presentation	52
Foot Presentation	12
Cord Presentation	5
Placenta Prævia	14
Deformed Pelvis	40
Ante-partum Hæmorrhage	115
Post-partum Hæmorrhage	72
Retained Placenta or Membranes...	109
Ruptured Perinæum	397
Multiple Births	12
Abortion or Premature Birth	85
Pyrexia	157
Eclampsia	14
Obstructed Labour, Uterine Inertia, or requiring Instrumental Assistance	639
Influenza	3
Various	209
Child :	
Injury at Birth	1
Malformation	29
Feebleness and Prematurity	231
Skin Eruption	79
Ophthalmia	12
Other conditions in child	102
	2,502

The number of visits of enquiry with regard to accounts for emergency assistance during the year was 3,038.

PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 56, of which 21 proved fatal. This gives a death rate of 1·07 per 1,000 births in the City.

There were fifty-one cases admitted or occurred in hospital, viz. :— 8 Brownlow Hill Infirmary; 13 Mill Road Infirmary; 24 Walton Institution; 1 Toxteth Institution; 1 Royal Infirmary; 2 Maternity Hospital; 1 Stanley Hospital; 1 Hahnemann Hospital.

After the usual enquiries were made, 45 cases (of which 9 died) were found to have occurred in the practice of midwives. The number of visits paid in this connection was 74.

Number of deaths from Puerperal fever and other causes and accidents of pregnancy, and the rate per 1,000 births, for the years 1918 to 1925 :—

Year.	Total number of births in the City.	Deaths from Puerperal Fever.	Death rate per 1,000 births.	Deaths from Other Causes and Accidents of Pregnancy	Rate per 1,000 births.	No. of cases of Puerperal Fever removed to Hospital.
1918	17,133	16	0·93	35	2·04	23
1919	18,694	20	1·07	38	2·03	37
1920	25,039	36	1·49	54	2·16	50
1921	21,904	34	1·55	46	2 10	50
1922	21,467	33	1·54	28	1·30	55
1923	20,695	16	0·77	47	2·27	29
1924	20,559	22	1·07	39	1·90	57
1925	19,592	21	1·07	36	1·84	51

ROUTINE VISITS TO MIDWIVES.

Rule 25 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."

For this purpose three fully trained female inspectors have been appointed, all of whom hold the certificate of the Central Midwives Board. During the year, 2,858 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

The midwives of the city are, with very rare 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 that 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 closely linked up with sanitary administration, and they themselves, as well as their patients, derive considerable advantage from this. For example, they 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 and from the Medical Officer of Health.

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

MATERNITY AND REST HOME.

"Quarry Bank," 162, Hawthorne Road.

The accommodation of the home consists of two wards, together with an emergency ward and an isolation ward, containing 15 beds in all. It is intended to provide accommodation for women whose physical condition or home circumstances make it very desirable that they should have rest and care before, during, or after their confinements. It has proved to be of immense benefit in this way, and has been very much appreciated by those who have been received into the home.

The statistics relating to the treatment of patients in the home during the year 1925 are as follows :—

Total number of cases admitted	221
Number of women confined in the home (5 sets twins) ...	185
,, pre-maternity cases	36
,, post-natal cases (with infants)	2
,, ,, ,, (without infant)...	1

The average duration of stay was 16·5 days.

Of the 185 cases of labour conducted in the home, the patients in all cases made a good recovery, and no maternal mortality occurred. The normal cases numbered 143, and the cases of complicated labour were 42. Two patients were transferred to hospital for Caesarean Section. Of the total number of cases 126 were Primiparæ. Former patients admitted for a second confinement at the home numbered 13, and for a third confinement numbered 5.

Of the 190 babies born in the home, 186 were born alive and 4 were still-born, 3 were macerated and 1 in which the cause was undefined.

88 infants were males, average weight 7lbs. 4ozs.
102 infants were females, average weight 6lbs. 14½ozs.

Of the 186 babies born alive 2 died within 10 days of birth. The cause of death was stated to be :—

(1) Congenital malformation, Atelectasis and Broncho-Pneumonia (44 hours).
(1) Prematurity (32 hours).

The 36 pre-maternity cases were admitted on account of various complications associated with pregnancy, such as albuminuria, bacilluria, heart disease, contracted pelvis, and varicose veins.

The post-natal cases numbered 3, which may be divided as follows :—

After labour, with infants	2
,, without infant	1

No case of Puerperal Sepsis or any case with a temperature above 100·4 for 24 hours occurred in the home during the year. There were 2 cases of Ophthalmia Neonatorum, and in each case the infant made a complete recovery.

A Pre-maternity clinic is held at the home once per week, when a Medical Officer attends to see patients.

During the year 210 patients made a first attendance, and the total number of attendances was 878. The average attendance per week is 16·8.

OPHTHALMIA NEONATORUM.

INFLAMMATION OF THE EYES OF THE NEWLY-BORN.

The definition adopted for the purposes of dealing with this disease is that used in the rules issued by the Central Midwives

Board, governing the practice of midwives, namely (in the section relating to the child) "Inflammation of, or discharge from, the eyes, however slight." A considerable number of the cases enumerated below are exteremely mild, but it is so difficult to draw a line between "slight inflammation" and definite Ophthalmia Neonatorum that it is considered advisable to include inflammation of all degrees of severity in the term "Ophthalmia Neonatorum."

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

The total number of cases brought to the notice of the department, 734.

(1)	Reported by doctors	31
(2)	,, from hospitals	34
(3)	,, by midwives	500
(4)	Discovered by inspectors	165
(5)	Reported by parents	4—734

The above consisted of :—

(1)	Mild cases	571
(2)	Severe cases	132
(3)	Under private treatment	0—703
(4)	Not Ophthalmia Neonatorum	31

Number	treated in their homes under special nurse ...	480
,,	attended at hospital as out-patients	130
,,	admitted into hospital	43
,,	treated by doctors and private nurse	50—703

INTERVAL IN DAYS BETWEEN BIRTH AND ONSET OF DISEASE.

Days.	1	2	3	4	5	6	7	8	9	10 days and over.	Total.
Notified Cases during 1925	45	63	115	67	53	72	64	44	38	142	703

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.

No. of Notifications.	Cases from which Specimens were Examined by City Bacteriologist.	No. of Cases Positive Gonorrhoea.	Percentage to Total Cases Examined.	Percentage to Total Notification.
703	57	21	36·8	3·0

TABLE SHEWING INFECTION OF EYES AT ONSET.

Both Eyes.	Right Eye.	Left Eye.	Doubtful.	Total.
476	108	117	2	703

In the 117 cases where the left eye only was affected at onset the other eye became affected in 1 case.

In the 108 cases where the right eye only was affected at onset the other eye became affected in 5 cases.

The total number of visits and revisits paid in respect of the above cases was 6,388.

A very important part of the scheme for dealing with this disease is the provision at St. Paul's Eye Hospital of 10 beds and cots for the reception of infants with their mothers, where the former can be under the immediate care of Ophthalmic surgeons and nurses during the acute stage of the disease.

From the statistical table it will be seen that 43 babies were admitted with their mothers. The average stay in hospital was 12 days.

RESULTS.

Number of cases under treatment at 1/1/25	38	
,, ,, notified during year 1925	703	
		741
Number of cases cured	673	
,, died during treatment	7	
,, under private treatment	2	
,, in Poor Law Institutions...	4	
,, removed to other towns	2	
,, under treatment 31/12/25	53	
		741

It is satisfactory to note the entire absence of damage to sight during the year.

INFANT WELFARE CENTRES AND MILK DEPOTS.

The total number of persons supplied with milk during the year was 17,022, viz., 5,132 on the books at the beginning of the year, and 11,890 admitted during the year. The following statement shows the different centres and the number supplied at each, viz. :—

Centres.	Ante-Natal.	Nursing Mothers.	Infants.		Liverpool Child Welfare Association.	Totals.
			Under 1 year of age.	1 to 2 Years of Age.		
Netherfield Road ...	129	956	575	100	669	2,429
Earle Road ...	74	237	316	69	201	897
Park Road ...	239	464	498	161	323	1,685
Boaler Street ...	143	346	315	76	328	1,208
St. Anne Street ...	205	849	367	191	623	2,235
Rathbone Road ...	42	73	97	20	123	355
Mill Street ...	111	206	226	50	101	694
Agents	56	403	351	187	1,390	2,387
	999	3,534	2,745	854	3,758	11,890

The total quantity of milk supplied during the year was 239,564½ gallons, and the bottles prepared reached a total of 1,110,231.

Total cases on books, January 1st, 1925	5,132
,, ,, admitted during 1925	11,890
Total supplied during 1925	17,022
Remaining on the books at the end of the year ...	5,162
Quarterly Average—January, February, March	5,410
,, ,, April, May, June	5,417
,, ,, July, August, September	4,880
,, ,, October, November, December ...	4,955

The highest number being supplied with milk at one time was 5,633 during the week ended March 21st.

The number of attendances of persons at the centres during the year for weighing, advice, and payments for milk, etc., was 28,196.

On one day in each week mothers attend at the Centre in their district for the purpose of reviewing family circumstances when the supply of milk is either :—

Continued at the price being charged.

If the circumstances were improved, then the charge was increased.

If the circumstances were worse than when last reviewed, then the charge would be lowered.

The usual grant is for a period of 4 or 6 weeks. In exceptional cases 2 or 8 weeks.

The number of visits paid during the year to children in their own homes by the Health Visitors attached to the centres in order to see that the children were being properly fed and cared for and the milk properly used, was 6,951. From time to time information concerning cases is received from the district Health Visitors and clinics.

DRIED MILK.

The infants fed on dried milk during the year were 2,131, of whom 1,446 were admitted during the year.

The number remaining on the books at the end of the year was 668.

The quantity of dried milk used was 68,936½ lbs.

HEALTH VISITORS.

The work of the health visitors continues on the same lines as in former years, and owing to the prevailing industrial and economic conditions, increasing spheres have been found for their usefulness.

Their duties are numerous, as subsequent tables will show, and, although the work is varied, it is primarily educational and preventive.

The City is divided into districts, to each of which certain health visitors are allocated, this arrangement facilitating the carrying out of the work.

The routine work of the staff includes the following :—

Attendance at clinics for expectant mothers and home visiting of these cases.

At the ante-natal clinics, cutting out, sewing and knitting classes are held to enable and encourage the mothers to make suitable provision for themselves and their expected infants. The classes are well attended by the mothers.

Visiting under the Notification of Births Act.

Attendance at clinics for children from birth to five years of age, visiting these children, and instructing mothers in their own homes.

Visits to cases and home nursing of measles, whooping cough, influenza, pneumonia and infantile diarrhœa.

Re-visits to Phthisis cases amongst women and children.

Attendances at school medical inspections and following-up, in the home cases of physical defects and neglect found by the medical inspector.

Attendance at minor ailments clinics.

Attendance at Eye, Ear, Dental, Ringworm, Tonsils and Adenoids Clinics.

Visits to neglected and verminous school children and ensuring the cleansing of verminous children, and visits to school children with infectious skin diseases.

In addition to the duties enumerated above, the health visitors have given valuable assistance to the Housing Department in investigating the conditions of those applying for houses, so that the most pressing cases should receive priority.

Good work is still being done in co-operation with the Tuberculosis department, by specially qualified visitors, for discharged soldiers and sailors suffering from tuberculosis, especially with reference to their housing, surroundings and treatment.

Care of cases referred from the various voluntary organisations, e.g. : Child Welfare Association, Police, Relieving Officers, Liverpool Society for Prevention of Cruelty to Children, Personal Service Society, Society for the Care of the Mentally Deficient.

Ante-Natal Clinics.

There are four pre-maternity centres under the control of the Health Committee, at which six sessions are held.

The admissions to corporation ante-natal clinics during the year were as follows :—

Number of admissions	1,669	
Cases referred by doctors	34	
,, ,, midwives	382	
,, ,, health visitors	92	
,, ,, hospitals	21	
,, ,, recommended by friends	398	
,, ,, came of own accord	342	
*Return Cases	400	—1,669
Primigravidæ	376	
Multiparæ	1,225	
Not pregnant	68	—1,669

* These are cases which have attended an Ante-natal Clinic during a previous pregnancy.

History of previous pregnancies.

Normal confinement	1,014
Abnormal confinement	211—1,225

Arrangements made for confinements at time of admission.

Doctors	96
Midwives	1,144
Hospital	289
Arrangements not made	72—1,601

Period of pregnancy on admission.

2 months	164
3 ,, ...	214
4 ,, ...	237
5 ,, ...	257
6 ,, ...	291
7 ,, ...	281
8 ,, ...	151
9 ,, ...	6—1,601

There are additional ante-natal clinics which are organised by the Maternity Hospital.

The visits paid to expectant mothers during the year were :—

First visits	3,092
Total visits	5,256
Attendances at ante-natal clinics—new cases	5,322
Total number of attendances during the year	26,442
Attendances of mothers at classes	3,551

Notification of Births Acts, 1907 and 1913.

Number of births visited during the year	20,052
Re-visits to births during the year	42,526
Re-visits to infants up to 5 years of age	24,204

Post-natal Clinics.

The following figures give the condition and feeding of children on admission to those post-natal clinics which are under the control of the Health Committee :—

Admissions for year	6,487	
Conditions of health on admission—		
Good	3,910	
Fair (under average)	1,749	
Delicate	828	
Method of feeding on admission—		
Breast fed entirely	4,191	
Partly breast fed	665	
Artificially fed entirely	1,631	—2,296
Total attendances for year	100,295	

There are eleven centres at which 24 sessions are held per week.

Other Visits.

Visits to cases and home nursing of Measles	25,973
Visits to cases and home nursing of Whooping Cough...	853
Visits to cases of Influenzal Pneumonia	1,620
Visits to cases of Infantile Diarrhœa	2,044
Re-visits to Phthisis cases amongst women and children	7,865

Attendances of health visitors at school medical inspections and following-up in the homes cases of physical defects, verminous and neglect found by the school medical inspectors.

Visits to neglected and verminous school children, and ensuring the cleansing of verminous children :—

Number of visits paid to schools	7,515
Number of hours spent in schools	12,340
Number of children inspected in schools	33,756
Number of children re-inspected in schools	130,395
Number of Dental Inspections in school	52,179
Number of home visits to cases of physical defects ...	11,684
Number of home visits to neglected and verminous school children...	32,376
Number of home visits to school children suffering from infectious skin diseases, etc.	2,597

Attendance at minor ailments clinics, Eye, Ear, Tonsils and Adenoids, Dental and Ringworm clinics :—

Number of visits to school clinics	5,829
Number of hours spent at school clinics	20,699
Number of children seen at school clinics	205,610

The Liverpool Day Nurseries are eight in number, seven of which are under the control of the Health Committee. Children from the age of three weeks to five years are admitted to the nurseries between the hours of 7 a.m. and 7 p.m.

At one of the nurseries, children may be boarded for short periods to tide over special difficulties in the homes, usually illness of the mother, as indicated in a subsequent table.

A daily or weekly charge is made for each child. These institutions are greatly appreciated by the working class mothers when, by reason of widowhood or unemployment or incapacity of their husbands they are compelled to go out to work in order to make provision for themselves or their families.

The nurseries provide a training school for nursery nurses and an excellent preliminary training for girls wishing to become subsequently hospital nurses.

The children who attend are taught clean habits and good manners. Their diet, rest, play and progress being carefully supervised.

The day nurseries are situated as follows :—

	Attendances.
1.—264, Westminster Road	9,004
2.— 18, Gt. George Square	7,444
3.—407, Edge Lane (Day and Resident)	12,868
4.—141 and 143, Smithdown Lane	8,625
5.—Banks Road, Garston	8,571
6.— 87, South Hill Road	7,323
7.— 63, Everton Road	9,574
8.— 61, Shaw Street	5,785

The total number of children admitted into the resident nursery at Elms House from January to December, 1925, was 89.

45 were admitted as their mothers were about to be confined.
10 ,, ,, mothers were undergoing operations.
11 ,, ,, mothers were going into convalescent homes.
2 ,, ,, mothers were going into sanatoria.
12 ,, ,, mothers were ill in hospital.
7 ,, ,, mothers were ill at home.
1 was admitted as the mother had abandoned it.
1 ,, ,, mother had died.

LIVERPOOL CORPORATION ACT, 1921.

REGISTRATION OF LYING-IN HOMES.

The Liverpool Corporation Act, 1921, Part 28 (Lying-in Homes), came into operation on 1st April, 1922.

During the year 1925, 9 applications were received by the Town Clerk, which, after careful investigation of the practice and premises, were approved by the Health Committee. There were also 7 registrations cancelled owing to transfer to other premises or death, leaving 74 on the register at the end of the year.

Number of Rooms registered in the 74 Homes containing 182 beds	141
Additional rooms registered in cases of emergency	20
In registered Lying-in Homes an additional bed was allowed in an emergency	3
Number of Still-Births ,, ,, ,, ...	14
,, Live Births which took place in the above Homes	485
,, Legitimate Births ,, ,, ,, ...	453
,, Illegitimate Births ,, ,, ,, ...	46
,, Twin deliveries ,, ,, ,, ...	2
,, Deaths of children ,, ,, ,, ...	7
The death of a patient ,, ,, ,, ...	1

The number of visits paid to Lying-in Homes during the year was 385.

INFECTIOUS DISEASE IN SCHOOLS.

During the year 1925 there was a rather high prevalence of infectious diseases, 11,941 cases of school age being reported, the numbers in 1924, 1923, and 1922 having been 8,630, 11,523, and 5,773, respectively; 13,168 cases were reported in 1921. Influenza, measles, scarlet fever, and mumps were prevalent.

In one case only did a whole school require closure on account of influenza.

In 67 cases infants' departments had to be closed (measles, 45; measles and whooping cough, 2; whooping cough, 2; influenza, 5; and other infectious diseases, 13); in 15 cases closure of one or more classes was resorted to (measles, 12; measles and whooping cough, 1; other diseases 2). In only a limited number of cases was exclusion of all children who had not had the disease found to be a practical policy; in most cases such exclusion would reduce the attendance below that which would render it worth while to keep the school open. But the recent alteration of the rules of the Board of Education have permitted more flexibility in the measures taken to suppress epidemic diseases.

As will be evident from the above figures, measles was the most serious epidemic during 1925; 3,878 cases were reported among children of school age. As is usual the outbreak was mainly in the first quarter of the year, and during the rest of the year in only 11 schools did partial closure become necessary on account of measles. The seriousness of the outbreak will be recognised when it is stated that 406 deaths occurred in the city, the largest number recorded since the year 1918.

No considerable outbreak of diphtheria occurred in any day school during 1925, but two residential institutions which are also schools were somewhat affected, and in each case the testing of the children by the Schick test for susceptibility to diphtheria, and the subsequent immunisation of those found susceptible, was resorted to in 1926, owing to the continued prevalence of the disease. In other schools where a few cases arose search for carriers, by the taking of swabs, was undertaken

Scarlet fever was persistently prevalent in an elementary school in Toxteth during the second, third, and fourth quarters of the year; repeated visits were paid by the Assistant Medical Officer; on several occasions children who had returned to school after attacks of tonsillitis, for which they had received no medical attention, were found to have had mild attacks of scarlet fever, and in other cases the children were visited in their homes, under the same circumstances, and found to be suffering from scarlet fever. These measures eventually proved effectual.

AGE DISTRIBUTION.

Disease.	under 5	under 6	under 7	Total under 7	under 8	under 9	under 10	under 11	under 12	under 13	under 14	Over 14	Total upwards 7	Grand Total.
Diphtheria	22	123	79	**224**	65	38	47	50	38	39	33	14	**324**	548
Scarlet Fever	61	407	322	**790**	243	193	191	**166**	136	125	73	51	**1,178**	1,968
Measles	368	2,116	792	**3,270**	211	133	70	67	47	33	20	27	**606**	3,878
Whooping Cough ...	141	623	240	**1,004**	56	33	24	20	6	7	3	—	**149**	1,153
Chicken Pox	148	895	591	**1,634**	316	173	126	82	50	25	22	9	**803**	2,437
Mumps	77	650	518	**1,245**	281	115	95	62	51	53	51	3	**711**	1,956
														11,940

MONTHLY DISTRIBUTION.

Disease.	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Totals.
Diphtheria	57	46	35	25	38	37	30	36	60	46	70	60	548
Scarlet Fever	229	178	151	148	156	116	113	123	214	245	167	128	1,968
Measles	268	736	674	755	670	444	81	20	18	44	92	76	3,878
Whooping Cough ...	199	135	205	145	101	102	14	38	24	47	94	49	1,153
Chicken Pox	297	377	401	224	230	265	54	40	77	133	191	148	2,437
Mumps	39	40	74	25	34	103	3	43	120	300	625	550	1,956
													11,940

PUBLIC ELEMENTARY SCHOOLS.

	1925.
Number of visits to schools	3,094
,, found incorrect	32
,, of notices issued re defects	23

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 ; 10,151 cards were sent during the year, as against 8,284 in the preceding year.

TUBERCULOSIS.

NOTIFICATION.

Public Health (Tuberculosis) Regulations, 1912, and Regulations (No. 2), 1918.

Summary of Notifications during the period from 4th January, 1925, to 2nd January, 1926 :—

Age-periods.	Notifications on Form A.												Total Notifications on Form A.
	Number of Primary Notifications.												
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	Total Primary Notifications.	
Pulmonary—													
Males	4	70	150	134	107	123	244	272	215	97	40	1,456	1,749
Females	3	72	156	119	132	128	238	185	120	49	29	1,231	1,437
Non-Pulmonary—													
Males	13	123	102	63	54	23	32	16	8	6	5	445	529
Females	9	84	78	75	48	33	28	12	9	1	6	383	453

Age-periods.	Notifications on Form B.					Number of Notifications on Form C.	
	Number of Primary Notifications.				Total Notifications on Form B.	Poor Law Institutions.	Sanatoria.
	Under 5	5 to 10	10 to 15	Total Primary Notifications			
Pulmonary—							
Males	—	1	—	1	2	46	164
Females	—	—	—	—	—	13	82
Non-Pulmonary—							
Males	—	1	1	2	2	1	1
Females	—	—	2	2	4	—	7

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

Form "B" is used by School Medical Officers to make a weekly return to the Medical Officer of Health of all cases of tuberculosis coming under their notice in carrying out the duties of medical inspection of children in Public Elementary Schools.

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

The advantages which should result from the compulsory notification of tuberculosis are to some extent nullified by delay in notification, until the disease is in an advanced stage, as well as failure to secure notification in many cases. Statistical tables that follow indicate that 39 per cent. of the new pulmonary cases examined by the Tuberculosis Officers are in an advanced stage of disease, that 21 per cent. of them are deceased before the termination of the year, and that out of 1,218 deaths from all forms of tuberculosis enquired into, 273 had not previously been notified.

All patients notified by medical practitioners are given an opportunity of attending for examination at one of the Tuberculosis Institutes unless it is stated on the notification form that no action of this description is desired. It is exceptional to find that medical practitioners do not wish their patients to be examined by a Tuberculosis Officer or that the patients themselves refuse to seek his advice.

TUBERCULOSIS INSTITUTES AND DISPENSARY SYSTEM.

The Tuberculosis Institutes are three in number, and are situated within the Northern, Central and Southern areas of the City. In these branches there are engaged four Tuberculosis Officers and seven whole-time nurses.

The Tuberculosis Institutes serve as—

(*a*) Centres for the examination of all patients certified to be suffering from tuberculosis or in which this disease is suspected;

(*b*) Centres for the treatment of patients who cannot be more suitably treated at home or in an institution;

(*c*) Observation Centres for arrested, quiescent and doubtful cases;

(*d*) Centres for the examination of contacts;

(*e*) Centres from which are controlled after-care arrangements, grants of extra nourishment, home nursing, initial visits of sanitary inspectors and health visitors to the homes of notified cases, and repetition visits in the case of discharged service patients;

(*f*) Centres at which the continued treatment of all patients is supervised, and advice is given to those who need it.

A statistical summary of the work of the Institutes in relation to diagnosis is given in Table I. It is noteworthy that 3,542 new patients were examined during the year. Of these, 1,532 were judged to be suffering from a disability which was not tuberculous in nature, and no treatment at the public expense was granted. This rejection rate of 43 per cent. is higher than that of previous years, and is a measure of the protection of the Sanatorium accommodation from wrongful use.

TABLE 1.

Number of Patients	Under observation pending diagnosis on Jan. 1st.	Applying for the first time during the year.	Total.	Found to be			Under observation pending diagnosis on Dec. 31st	Ceased attendance before completion of diagnosis
				Suffering from Tuberculosis.		Not suffering from Tuberculosis.		
				Pulmonary	Non pulmonary			
New cases examined during the year (excluding "Contacts")—								
Adults—Male	26	1,072	1,098	630	67	340	29	32
Female	29	934	963	469	74	349	24	47
*Children—Male	37	665	702	145	168	331	33	25
Female	27	710	737	136	160	394	22	25
"Contacts" examined during the year—								
Adults—Male	—	16	16	2	2	12	—	—
Female	—	40	40	8	1	31	—	—
*Children—Male	—	55	55	16	5	34	—	—
Female ...	—	50	50	8	1	41	—	—
Totals	119	3,542	3,661	1,414	478	1,532	108	129
Insured persons (included above)—								
Male	20	819	839	489	38	272	20	20
Female	11	336	347	163	35	128	6	15

* Under 15 years of age.

In Table II. is given a comparison with previous years.

TABLE II.

Year.	Number of new patients	Suffering from Tuberculosis.	Not suffering from Tuberculosis.
1922	2,985	1,791	1,105 (37%)
1923	3,138	1,828	1,154 (37%)
1924	3,521	1,957	1,425 (40%)
1925	3,542	1,892	1,532 (43%)

DIAGNOSIS.

The chief aids to diagnosis in doubtful cases are:—

(*a*) Examination by X-ray.

(*b*) Continued observation while following an ordinary occupation.

(*c*) The repeated examination of the sputum.

(*d*) A period of observation in hospital, if necessary.

Considerable use has been made of examination by X-ray in cases in which there were diagnostic difficulties. During the year 213 cases were so examined, with the result that in 40 cases the evidence was in favour of a tuberculous infection, in 143 cases was against the presence of this disease, and in 30 cases the X-ray evidence was very inconclusive. The result of X-ray examination in conjunction with clinical evidence has enabled the Tuberculosis Officer to overcome diagnostic difficulties in the great majority of the cases which, at first sight, appeared to be doubtful.

The X-ray apparatus used for this purpose is situated at the Fazakerley Sanatorium.

The fact that out of 1,753 admissions to sanatoria and hospitals only 19 patients were considered subsequently to be non-tuberculous, is a sufficient indication that these safeguards are satisfactory in practice. Upon the negative side of the diagnosis question it is uncommon to find old rejected cases returning to the Tuberculosis Officer with undoubted disease of a tuberculous nature.

CLASSIFICATION OF PATIENTS SUFFERING FROM TUBERCULOSIS.

The terms used to describe the classification of patients suffering from tuberculosis, and the description of their condition, are in accordance with the instructions of the Minister of Health in Memorandum 37/T. The following is a brief resumé :—

CLASSIFICATION OF PATIENTS SUFFERING FROM TUBERCULOSIS.

(i) All patients are grouped according to their sex and age; patients under 15 years of age are classed as children, and those above that age as adults.

(ii) Patients are also classified according to the organs or parts affected, as follows :—

(*a*) Pulmonary Tuberculosis (including tuberculosis of the pleura and intra-thoracic glands).

(*b*) Non-pulmonary Tuberculosis.

Patients suffering from both pulmonary and non-pulmonary tuberculosis are classified as pulmonary cases.

(iii) Patients suffering from pulmonary tuberculosis are divided into :—

Class T.B. minus, viz., cases in which tubercle bacilli have never been demonstrated in the sputum.

Class T.B. plus, viz., cases in which at any time tubercle bacilli have been found.

Class T.B. plus cases are sub-divided into three groups, namely, group 1, presenting early lesions; group 3, presenting advanced lesions or complications of prognostic gravity; and group 2, including all remaining sputum positive cases.

(iv) Patients suffering from non-pulmonary tuberculosis are classified according to the site of the lesion, as follows :—

(1) Tuberculosis of bones and joints.

(2) Abdominal tuberculosis (*i.e.*, tuberculosis of peritoneum, intestines, or mesenteric glands).

(3) Tuberculosis of other organs.

(4) Tuberculosis of peripheral glands.

Patients suffering from multiple lesions are classified in one sub-group only, viz., in that applicable to the case which stands highest in the above Table.

RESULTS OF TREATMENT.

(v) "Cured."—Cases in which the disease has been arrested for a period of three years.

(vi) "Arrested."—Pulmonary cases which have been quiescent for a period of at least two years; non-pulmonary cases when there is reason to believe that the disease is unlikely to recur.

(vii) "Quiescent."—Cases which have no symptoms of tuberculosis and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and in which the sputum, if present, is free from tubercle bacilli.

(viii) "Improved."—Cases short of "quiescent," in which the general health is fair and the symptoms of tuberculosis have materially diminished.

(ix) "No Material Improvement."—All other patients who are alive

A statistical return showing in summary form the condition of all patients whose case records are in the possession of the Tuberculosis Institutes at the end of the year, arranged according to the years in which the patients first came under public medical treatment, and according to their classification, is given in two tables below, Table III relating to pulmonary cases and Table IV to non-pulmonary cases.

THE CONDITION OF PATIENTS WHOSE CASE RECORDS ARE IN THE POSSESSION OF THE TUBERCULOSIS INSTITUTES.

Condition at the time of the last record made during the year 1925.			Cases arising prior to 1922.					Cases arising in 1922.					Cases arising in 1923.					Cases arising in 1924.					Cases arising in 1925.				
			Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.			
				Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.
ALIVE. Discharged as Cured.	Adults	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Children	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease Arrested.	Adults	M	261	16	...	...	16	16	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	266	5	1	...	6	16	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	Children	M	59	1	...	...	1	9	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	35	...	...	...	...	7	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease Not Arrested.	Adults	M	328	125	69	18	212	57	25	17	4	46	97	39	31	2	72	106	43	56	8	107	198	35	172	29	236
		F	226	62	30	3	95	72	16	17	3	36	100	22	8	1	31	125	20	26	3	49	212	13	110	22	145
	Children	M	75	...	1	...	1	43	...	1	...	1	74	1	...	...	1	111	...	1	...	1	141	...	2	1	3
		F	68	1	...	...	1	41	...	1	1	2	80	2	1	...	3	93	2	...	...	2	128	...	1	...	1
DEAD	Adults	M	124*	111	141	273	525*	51	82	95	104	281	62	63	79	67	209	77	37	72	56	165	38	2	61	67	130
		F	78*	44	54	179	277*	31	61	69	72	202	72	45	60	74	179	68	24	72	46	139	30	...	29	44	73
	Children	M	10*	...	2	6	8*	15	1	...	2	3	19	2	1	...	3	14	...	...	...	...	15	...	...	1	1
		F	8*	2	1	7	10*	17	3	1	10	14	26	1	5	2	8	18	1	...	4	5	11	...	1	3	4
Lost Sight of or otherwise Removed from Dispensary Register...			1,768	185	46	12	243	163	24	21	9	54	105	26	28	2	56	88	16	16	1	33	30	1	13	4	18
TOTALS...			3,306	552	345	498	1,395	538	212	222	205	639	642	201	213	148	562	700	143	243	118	501	803	51	389	171	611

* Deaths occurring on and *after* January 1st, 1922, only.

TABLE IV.—NON-PULMONARY.

THE CONDITION OF PATIENTS WHOSE CASE RECORDS ARE IN THE POSSESSION OF THE TUBERCULOSIS INSTITUTES.

Condition at the time of the last record made during the year 1925.			Cases arising prior to 1922.					Cases arising in 1922.					Cases arising in 1923.					Cases arising in 1924.					Cases arising in 1925.				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands.	Total
ALIVE. Discharged as Cured.	Adults	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Children	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease Arrested.	Adults	M	17	7	3	10	37	4	2	2	5	13	4	...	1	...	5	...	...	...	...	...	...	...	...	...
		F	13	8	1	31	53	1	1	...	7	9	4	...	...	4	8	...	...	...	...	...	...	...	...	...
	Children	M	7	12	...	18	37	11	12	...	13	36	5	6	1	6	18	...	2	...	...	2	...	...	...	...
		F	10	14	1	18	43	6	4	..	11	21	7	2	...	7	16	...	...	...	...	...	...	...	...	...
Disease Not Arrested.	Adults	M	23	4	7	12	46	10	2	3	3	18	12	4	3	1	20	14	...	4	14	32	22	9	6	27	64
		F	29	2	6	21	58	5	2	2	7	16	14	1	...	17	32	9	7	5	21	42	16	9	2	41	68
	Children	M	13	9	3	12	37	7	12	1	10	30	17	17	5	34	73	22	34	7	47	110	27	53	9	50	139
		F	7	7	1	12	27	14	4	...	15	33	16	15	3	26	60	21	17	...	56	94	36	35	4	68	143
DEAD.	Adults	M	18	2	3	1	24*	5	5	5	2	17	7	2	1	1	11	2	3	2	...	7	1	2	...	1	4
		F	9	2	3	...	14*	4	1	1	1	7	6	5	3	2	16	5	...	2	2	9	1	1	...	...	2
	Children	M	3	5	3	2	13*	4	7	2	2	15	4	8	6	1	19	7	10	6	2	25	3	5	6	1	15
		F	4	2	1	1	8*	4	9	14	1	28	6	10	9	...	25	2	7	8	1	18	...	5	9	...	14
Transferred to Pulmonary			...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lost Sight of or otherwise Removed from Dispensary Register...			162	84	27	228	501	26	16	6	53	101	32	17	10	45	104	15	12	9	36	72	2	5	3	19	29
TOTALS...			315	158	59	366	898	101	77	36	130	344	134	87	42	144	407	97	92	43	179	411	108	124	39	207	478

It is noteworthy that of 1,414 new pulmonary cases accepted during the year 560 (39 per cent.) were in a very advanced stage of disease. By the end of the year 302 (21 per cent.) of the new cases arising during that year were deceased. There is but little hope of recovery for patients who come under treatment at so late a stage of their illness.

A statistical summary of the work of the Tuberculosis Institutes so far as all cases on the dispensary registers are concerned, is given in Table V, and at the foot thereof are included a few statistics of a general value.

TABLE V.

Patients under the supervision of the Tuberculosis Officers exclusive of diagnosis deferred cases :—

Number of Patients.	Pulmonary				Non-Pulmonary			
	Adults		Children*		Adults		Children*	
	M.	F.	M.	F.	M.	F.	M.	F.
r Treatment or Supervision on Jan. 1st luding patients in sanatorium... ...	1,875	1,315	470	522	196	237	503	428
ng for the first time under Public dical Treatment...	632	477	161	144	69	75	173	161
ming Public Medical Treatment ...	58	50	8	6	7	3	9	8
Totals (1)	2,565	1,842	639	672	272	315	685	597
arged as no longer requiring either atment or Supervision...	48	64	28	16	19	24	61	56
ferred to other areas	49	48	6	8	4	7	3	7
ng Public Medical Treatment ...	60	28	71	161	21	26	97	71
sight of	63	42	7	9	13	14	9	8
... ...	419	291	25	26	16	14	20	20
ining under Treatment or Supervision Dec. 31st including Patients in Sanaum	1,926	1,369	502	452	199	230	495	435
Totals (2) ...	2,565	1,842	639	672	272	315	685	597

Number of Attendances of Patients (including contacts) at the Dispensaries ... ... — Insured	6,413	
Non-insured	11,103	
Number of cases in which the period of observation for the purpose of diagnosis exceeded two months ...	Nil	
Number of Consultations with Medical Practitioners. (a) At the Homes of Patients ...	17	
(b) Otherwise...	6	
Number of other Visits paid by Tuberculosis Officers to the Homes of Patients	855	
Number of Visits paid by Tuberculosis Nurses to the Homes of Patients for Dispensary purposes ...	8,736	
Number of Patients under Domiciliary Treatment on December 31st — Insured	1,557	
Non-insured	1,055	

7. Number of Domiciliary Reports received during the year in respect of Patients under treatment at home.	
(a) Insured persons	4,557
(b) Non-insured persons	5,085
8. Number of Patients to whom Dental Treatment was given, at or in connection with the Dispensaries ...	Nil
9. Number of	
(a) Specimens of Sputum etc. examined	4,276
(b) X-Ray Examinations made in connection with Dispensary work	213
10. Number of Reports rendered to the School Medical Department ...	3,922
11. Number of Reports rendered to the Ministry of Pensions	1,994

* Under 15 years of age.

In Table VI is given a statistical analysis of the patients und dispensary treatment at the end of the year.

TABLE VI.

Patients under dispensary treatment at the end of the year.

		Pulmonary.	Non-Pulmonary.	Totals.
Insured Persons	Male	14	2	16
	Female	2	2	4
Non-Insured Persons	Male Adults	9	2	11
	Female Adults ...	24	4	28
	Male Children* ...	23	12	35
	Female Children* ...	27	8	35
Totals ...	... ...	99	30	129

* Under 15 years of age.

In Table VII is given a statistical summary of the patients who, not needing active treatment, were under dispensary supervision at the end of the year.

TABLE VII.

Patients not needing treatment who were under dispensary supervision at the end of the year.

		Pulmonary.	Non-Pulmonary.	Totals.
Insured Persons	Male	175	53	228
	Female	97	44	141
Non-Insured Persons	Male Adults	58	49	107
	Female Adults ...	254	88	342
	Male Children* ...	274	324	598
	Female Children* ...	195	309	504
Totals ...	... ...	1053	867	1920

* Under 15 years of age.

NURSING AND EXTRA NOURISHMENT.

The domiciliary nursing of both pulmonary and non-pulmonary cases is carried out by the Liverpool Queen Victoria District Nursing Association, with whom the Liverpool Hospitals Committee have an agreement, and to whom they make a grant-in-aid. During the year, 149 pulmonary and 154 non-pulmonary cases were nursed in their houses, and to these cases 13,257 visits were paid.

Extra nourishment is granted to patients who needed it as a part of their treatment and were unable to afford to purchase it for themselves. The staple grant is milk and (or) eggs and (or) a meat juice preparation. To the patient is given an order which can be presented to any tradesman. No orders are issued to a patient whose income exceeds the full pension payable by the Ministry of Pensions to a totally disabled pensioner. This scale serves as a useful guide to the Tuberculosis Officer in determining whether extra nourishment should be provided free of cost or not, when examination has shewn that for medical reasons additional diet is desirable. All extra nourishment orders expire at the end of each quarter and are not renewed until the patient makes a further application and, upon examination, it is shewn that renewal is desirable. During the year an arrangement was made whereby the names of all patients to whom extra nourishment was granted were referred to the Registration Department of the Liverpool Council of Voluntary Aid from whom in return reports were received as to the number of other sources from which the patient or the patient's family were receiving assistance. By this means overlapping of the Public Health Department with voluntary agencies, the Education Committee and the Poor Law Guardians has been minimised.

At the end of the year 195 patients were in receipts of extra nourishment involving the daily provision of 200 pints of milk and 26 eggs. The corresponding position at the end of previous years is given in Table VIII.

TABLE VIII.

End of Year.	Number of Patients in receipt of extra nourishment.	Total Daily Grant of	
		Milk.	Eggs.
1922	235	258	49
1923	207	223	34
1924	235	241	34
1925	195	200	26

The growth of the work of the dispensary system during the last few years is illustrated in Table IX, in which are given a few statistical comparisons.

TABLE IX.

	Year.				
	1921	1922	1923	1924	1925
Number of new cases examined ..	2,679	2,985	3,138	3,521	3,542
Total number of patients under supervision at the end of the year ..	4,555	5,020	4,972	5,665	5,716
Number of attendances of patients at the dispensaries during the year ...	...	11,921	13,460	15,338	17,426
Total home visits paid by Tuberculosis Officers, Tuberculosis Nurses, Health Visitors and Sanitary Inspectors, and Nurses of the Queen Victoria District-Nursing Association	33,042	33,433	37,717	41,101	37,167
Number of reports rendered to the School Medical Department	...	1,740	2,273	3,087	3,922
Number of reports rendered to the Ministry of Pensions	3,000 (approx.)	2,811	2,761	2,328	1,994

DOMICILIARY TREATMENT.

This form of treatment is arranged by the Tuberculosis Officers in such cases as have been examined by them, and in which it is considered to be the most appropriate form of treatment. Co-operation between

the Medical Practitioners and the Tuberculosis Officers is secured in every case by means of a quarterly report from the Practitioners. At the end of the year, 2,612 patients remained under domiciliary treatment, of which 1,557 were persons insured under the National Health Insurance Act, and were in receipt of treatment from their panel doctors, and 1,055 were not insured, and were under the treatment of doctors of their own choice. The domiciliary reports received relating to insured persons numbered 4,557, and those relating to non-insured persons numbered 5,085. Table X shows the position at the end of the year.

TABLE X.

Patients under domiciliary treatment at the end of the year.

		Pulmonary.	Non-Pulmonary.	Totals.	
Insured Persons	Male	1154	44	1189	1557
	Female	335	24	359	
Non-Insured Persons	Male Adults ...	158	14	172	1055
	Female Adults ...	458	45	503	
	Male Children*	146	52	198	
	Female Children*	137	45	182	
Totals ...	... ...	2388	224	2612	

* Under 15 years of age.

Commencing October 1st, 1925, the terms of domiciliary treatment were modified. Whereas prior to that date the fee paid to doctors for an attendance or a visit was 3/9, and practitioners were allowed either to prescribe or to dispense, whichever course they thought fit, rendering drug accounts in the latter event at the rate of 1/- for every twelve doses of medicine dispensed, the present arrangement reduces the medical fee to 3/- per visit or attendance, and all drugs required must be prescribed on forms provided for the purpose. These prescriptions are subsequently priced by the South-West Lancashire and Cheshire Pricing Committee, the amount of the chemist's account being determined by the price of drugs on the current price list issued by the Ministry of Health. The new arrangement possesses many administrative advantages and is working smoothly.

DENTAL TREATMENT.

There is no provision for dental treatment at the Tuberculosis Dispensaries. Pensioners suffering from dental disease of a character which interferes with the efficacy of treatment for tuberculosis are referred to the Ministry of Pensions, and in many instances treatment has been afforded by them. Patients under treatment in Fazakerley and Highfield Sanatoria, however, are under the supervision of a visiting dental surgeon. The following is a summary of his work during the year :—

Fillings	68
Extractions under gas	11
Extractions under local anæsthetic	380
Extractions without an anæsthetic	10
Scaling	18
Miscellaneous	26

The miscellaneous work includes the opening up of septic pulps, the removal of sequestra, etc.

CO-OPERATION AND CO-ORDINATION.

The activities of the Tuberculosis Institutes are now so well known that new or suspected cases of tuberculosis are referred from many sources for examination and treatment.

The most important source of reference is the medical profession. It is the practice of the Tuberculosis Officers to give every notified case an opportunity of attending for examination with a view to public medical treatment, and it is encouraging to note that only occasionally do patients refuse to be examined. Once patients have been examined they are kept under supervision until the disease is arrested or they are deceased, have left Liverpool or cannot be traced. Patients leaving Liverpool are notified to the Medical Officer of Health of the district in which they have gone to reside, and with each notification is sent a report as to their condition, treatment, and fitness or otherwise for employment.

The co-operation between the Ministry of Pensions and the Tuberculosis Officers is maintained, and during the year 1,994 reports were completed in reference to tuberculous pensioners.

The group of Institutions comprising Leasowe, West Kirby Convalescent Home, and the Ellen Gonner Home, are administered by the Child Welfare Association. Close co-operation between this Association and the Tuberculosis Department is maintained. In every case discharged from these institutions a full report is rendered upon discharge, of use to the Tuberculosis Officers in their work of continued supervision. This Association is, moreover, in touch with a large number of children attending the out-patient departments of the various general hospitals, a circumstance which enables them to refer cases to the Tuberculosis Officers when action by the Public Health Department is called for.

Arrangements are in force between the Department and the general hospitals which have been approved for the treatment of tuberculosis by the Minister of Health, namely, the Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, and the Royal Liverpool Children's Hospital, whereby the latter accept for treatment surgical cases and emergency pulmonary cases of tuberculosis at the expense of the Local Authority. It is a condition of payment that (1) prompt notification of admission for treatment be received; (2) the Tuberculosis Officer shall have access to the case when under treatment should he so desire; (3) a full report is rendered upon discharge as to the treatment afforded, the result thereof, and the condition of the patient upon discharge. These arrangements work smoothly, and valuable work is in progress.

Co-operation between the Tuberculosis Officers and the School Medical Officers is secured inasmuch as all definite and suspected cases discovered by the School Medical Officers are referred by the latter to the Tuberculosis Officer for examination, treatment and report. It is also the practice of the Tuberculosis Officers to report to the School Medical Officers their findings in any patient of school age examined. These cross references are very numerous, and during the year the Tuberculosis Officers rendered 3,922 reports to the School Medical Department.

SANATORIA.

The following institutions were utilised during the year to accommodate patients suffering from pulmonary and non-pulmonary tuberculosis :—

SANATORIA :—Fazakerley, Highfield, Delamere, the West Kirby Children's Convalescent Home, the Ellen Gonner Home, Freshfield, Thingwall Hall, and Daneswood.

HOSPITALS :—The Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, the Liverpool Hospital for Children, Leasowe; the Royal Liverpool Children's Hospital, the Royal Liverpool Country Hospital, Heswall; the Liverpool Chest Hospital, and the Crofton Convalescent Hospital.

The Fazakerley and Highfield Sanatoria are situated within the City boundary, and are equipped and administered by the Port Sanitary and Hospitals Committee. Their accommodation and staff at the end of the year were as follows :—

FAZAKERLEY SANATORIUM. Beds, 340.

Staff :—Medical Superintendent, Principal Resident Medical Officer, Consulting Surgeon, Visiting Dental Surgeon, three Assistant Resident Medical Officers, Matron, Sisters and Nursing Staff numbering 60.

Normal allocation of beds.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	6	84	57	36	11	194
Adult Females ...	4	44	17	12	5	82
Children under 15	6	33	10	5	10	64
TOTAL ...	16	161	84	53	26	340

See also page 149.

HIGHFIELD SANATORIUM. Beds, 336.

Staff:—Medical Superintendent, Visiting Dental Surgeon, four Assistant Resident Medical Officers, Matron, Sisters and Nursing Staff numbering 61.

Normal allocation of beds.

	Observation	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	—	110	64	—	—	174
Adult Females ...	—	72	50	—	—	122
Children under 15	—	40	—	—	—	40
TOTAL ...	—	222	114	—	—	336

See also page 149.

The remaining Institutions named in the opening paragraphs are responsible for the balance of the beds in use, namely, 299. The normal total accommodation for patients suffering from tuberculosis consists of 975 beds, allocated in the following manner:—

TOTAL NUMBER OF BEDS NORMALLY AVAILABLE FOR PATIENTS.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	6	227	142	19	19	413
Adult Females ...	4	137	78	14	7	240
Children under 15...	6	115	14	130	57	322
TOTAL ...	16	479	234	163	83	975

The extent of residential treatment afforded during the year is shown in Table XI.

TABLE XI.

	In Institutions on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institutions.	In Institutions on Dec. 31st.
NUMBER OF PATIENTS :—					
Adults—Male					
Pulm. ...	380	749	634	137	358
Non-pulm. ...	46	65	71	5	35
Female					
Pulm. ...	192	341	276	58	199
Non-pulm. ...	20	75	70	2	23
Children*—Male					
Pulm. ...	47	81	64	5	59
Non-pulm.	119	168	163	17	107
Female					
Pulm. ...	95	120	106	16	93
Non-pulm.	78	137	131	12	72
NUMBER OF OBSERVATION CASES :—					
Adults—Male	1	8	7	2	—
Female	—	2	2	—	—
Children*—Male	1	4	5	—	—
Female ...	1	3	3	—	1
TOTALS	980	1,753	1,532	254	947

* Under 15 years of age.

A return showing the immediate results of treatment of patients discharged from residential institutions during the year is given in Table XII.

TABLE XII.

Classification on admission to the institution and condition at time of discharge.	Duration of residential treatment												Total
	Under 3 months.			3—6 months.			6—12 months.			More than 12 months.			
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Pulmonary Tuberculosis :—													
Class T.B. minus—													
Quiescent	23	9	12	24	13	18	5	3	33	2	5	7	154
Improved	32	22	12	30	15	10	14	12	26	18	7	5	203
No material improvement ...	68	33	33	16	6	3	11	2	3	5	5	1	186
Died in Institution	6	4	5	2	—	—	2	—	1	1	1	1	23
Class T.B, plus Group 1—													
Quiescent	2	—	—	7	2	—	5	1	—	2	—	—	19
Improved	12	3	—	13	—	—	12	7	1	7	3	1	59
No material improvement ...	14	3	—	9	3	—	2	3	—	7	1	—	42
Died in institution	—	—	—	1	1	—	—	1	—	2	—	—	5
Class T.B. plus Group 2—													
Quiescent	3	—	—	7	1	—	4	—	—	—	—	—	15
Improved	23	6	—	26	11	—	14	7	—	8	5	—	100
No material improvement ...	67	28	—	50	16	—	23	7	1	8	7	2	209
Died in institution	27	7	—	4	5	2	11	8	1	9	3	2	79
Class T.B. plus Group 3—													
Quiescent	—	—	—	—	—	—	—	—	—	—	—	—	—
Improved	3	3	—	1	—	—	4	2	—	3	1	—	17
No material improvement ...	32	14	1	12	8	—	5	1	—	1	1	1	76
Died in institution	46	17	4	8	4	1	11	4	3	7	3	1	109
Non-Pulmonary Tuberculosis :													
Bones and Joints—													
Quiescent	—	3	5	—	—	5	1	—	10	5	1	39	69
Improved	10	4	8	1	—	1	3	1	—	5	—	1	34
No material improvement ...	10	5	9	1	1	1	—	—	1	—	—	2	30
Died in institution	1	—	3	—	1	—	—	1	2	1	—	5	14
Abdominal—													
Quiescent	—	—	10	—	—	14	—	—	14	1	—	2	41
Improved	4	5	18	—	1	5	—	1	4	—	—	1	39
No material improvement ...	3	4	21	—	1	4	—	—	1	—	—	—	34
Died in institution	1	—	7	1	—	—	—	—	1	—	—	—	10
Other Organs—													
Quiescent	—	—	1	—	—	2	—	—	—	1	—	—	4
Improved	3	4	6	—	—	1	—	—	—	—	—	1	15
No material improvement ...	3	—	3	—	—	—	—	—	—	—	—	—	6
Died in institution	1	—	10	—	—	1	—	—	—	—	—	—	12
Peripheral Glands—													
Quiescent	1	3	13	—	1	5	2	—	5	—	—	4	34
Improved	12	32	60	1	1	2	—	—	4	1	1	—	114
No material improvement ...	2	1	8	—	—	2	1	—	—	—	—	1	15
Died in institution	—	—	—	—	—	—	—	—	—	—	—	—	—
	Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks.			1,767
Observation for purpose of diagnosis.													
Non-Tuberculous	—	—	—	4	1	3	2	—	3	3	1	2	19
												Total	1,786

THE LIVERPOOL HOSPITAL FOR CHILDREN.

This Institution is situated at Leasowe, in the Wirral Peninsula, by the edge of the sea, and affords accommodation for children suffering from non-pulmonary tuberculosis. It is administered by the Liverpool Child Welfare Association, and 145 beds are allocated to Liverpool cases.

The following tables of work during 1925 have been kindly furnished by the Senior Medical Officer, Dr. T. Hartley Martin, and indicate the scope and results of the work carried out. Table A classifies the discharged Liverpool patients according to the localisation of the disease.

LIVERPOOL CASES DISCHARGED FROM LEASOWE HOSPITAL DURING 1925.

TABLE A.

Lesion.	Totals discharged.	Non-tuberculous.	Tuberculous.	Condition on discharge.						Duration of stay in days	Percentage discharged, disease quiescent
				Disease quiescent.	Improved.	Removed by parents.	Transferred.	Not improved.	Died.		
Tuberculous disease of the Spine ...	21	3	18	13	—	—	1	—	4	696	72·2%
Tuberculous disease of the Hip ...	12	3	9	9	—	—	—	—	—	553	100 %
Tuberculous disease of the Knee ...	5	—	5	3	—	—	—	—	2	429	60%
Tuberculous Osteitis...	31	2	29	24	—	2	—	1	2	592	82·7%
Tuberculous Adenitis	21	1	20	18	—	—	—	2	—	323	90%
Tuberculous Peritonitis ...	23	—	23	19	—	—	1	—	3	221	82·6%
Lupus	3	—	3	—	3	—	—	—	—	214	—
Totals ...	116	9	107	86	3	2	2	3	11	457	80·3%

The 86 patients discharged with the disease quiescent represent 80·3 per cent. of all tuberculous cases treated and 83·4 per cent. of the tuberculous cases treated to completion.

The after-care work in reference to Liverpool cases discharged from Leasowe is carried out at the Tuberculosis Institutes. Table B is compiled from records thus made, and the figures indicate that in a high proportion of cases a very satisfactory condition is maintained subsequent to discharge.

TABLE B.

Liverpool Cases discharged quiescent in	Numbers.	Percentage of cases quiescent year ending December 31st.						Percentage remaining quiescent without relapse since discharge.
		1920	1921	1922	1923	1924	1925	
1919 ...	84	89%	86·9%	86%	...	...	...	80%
1920 ...	86	...	90%	88%	89·5%	...	...	79%
1921 ...	90	...	...	90%	84%	86·7%	...	81%
1922 ...	77	...	...	...	85·8%	85·8%	85·8%	74%
1923 ...	81	...	...	...	...	95%	91%	80%
1924 ...	80	...	...	...	...	...	87%	81%

THE SANATORIUM WAITING LIST.

The number of patients waiting to enter a sanatorium at the end of each quarter from 1915 to 1925 is given in Table XIII. :—

TABLE XIII.

	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
March 31st ...	243	330	361	302	441	77	264	17	67	207	184
June 30th	291	253	442	425	328	131	325	58	135	251	202
September 30th	389	398	422	430	140	173	171	45	120	218	127
December 31st	335	389	265	549	163	190	47	65	132	156	90

AFTER-CARE.

The after-care arrangements in force are as follows: -

(1) The periodic examination by the Tuberculosis Officers of all cases under Public Medical Treatment.

(2) Visits paid to patients in their homes by the Nurses attached to the Tuberculosis Institutes, and by the Health Visitors and Sanitary Inspectors employed by the Health Committee.

(3) Visits paid to patients in their homes by the Nurses of the Queen Victoria District Nursing Association.

(4) The reference of cases presenting peculiar difficulties to voluntary associations, such as the Child Welfare Association, the Personal Service Society, and the Central Relief Society, etc.

During the year the Tuberculosis Nurses attached to the Tuberculosis Institutes made 8,736 home visits. The Health Visitors and Sanitary Inspectors made 14,296 home visits. All these visits are the subject of report to the Tuberculosis Officer concerned. The home visits of the nurses of the Queen Victoria District Nursing Association, to the number of 13,257, have already been referred to.

LEGISLATION AND REGULATIONS.

LIVERPOOL CORPORATION ACT, 1921.

PUBLIC HEALTH ACT, 1925.

Section 62 of the Public Health Act, 1925, has a purpose similar to that of Section 442 of the Liverpool Corporation Act, 1921, giving power to a Local Authority to obtain a magistrate's order for the removal to an institution of a patient suffering from pulmonary tuberculosis so housed that there is danger of the spread of infection. Although it has not been found necessary to take action under this Act, the possession of the power to do so has proved valuable in persuading to enter a sanatorium patients who would not otherwise have done so.

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

These regulations give power to the Local Authority to prevent patients suffering from tuberculosis in an infectious stage from handling milk under conditions which give rise to the danger of the spread of infection through the medium of the milk. During the year no persons who were employed in the milk trade were detected to be suffering from tuberculosis in an infectious form, so that action under these regulations has not been necessary.

NON-PULMONARY TUBERCULOSIS.

An enquiry was made into 847 new cases of non-pulmonary tuberculosis arising during 1925, with the following results :—

Ward.	Cases.	Rate per 10,000.	Average for previous four years.
Scotland	45	9·8	7·6
Exchange	61	19·0	12·5
Abercromby	54	11·3	8·6
Everton	142	11·0	8·5
Kirkdale	63	8·6	9·4
West Derby, West	93	10·4	8·2
Toxteth	87	7·9	6·7
Walton	70	8·0	6·3
West Derby, East	83	9·6	7·0
Wavertree	26	5·6	7·3
Sefton Park	13	3·8	3·4
Garston	23	8·3	4·5
Fazakerley	2	3·2	3·3
Woolton	5	8.2	5·7
Vagrants, Unknown, etc. ...	80	—	—
Whole City	847	10·06	7·2

The site of the disease was as follows:—

	Total Cases.		Cases having a clear family history of Tuberculosis.	
	Cases.	Per cent.	Cases.	Per cent.
Bones and Joints	175	20·7	20	21·5
Abdominal	211	24·8	30	32·2
Peripheral Glandular ...	260	30·7	31	33·3
Meninges and Brain ...	57	6·7	4	4·3
Skin	22	2·6	4	4·3
Urinogenital	17	2·0	...	...
Ill-defined and Other ...	105	10·9	4	4·3
	847		93	

There is an increase in the notifications of non-pulmonary tuberculosis from 728 in 1924 to 847 in 1925. This increase is mainly in the affections of the bones and joints.

There is also a further increase in the abdominal infections, which had risen from 69 to 131 in 1923, and to 152 cases in 1924; these again increased to 211 in 1925. The increase is probably due to better notification of cases and not to any increased prevalence.

NOTIFICATIONS AND DEATHS.

During the year inquiries made into a number of fatal cases of tuberculosis revealed the fact that a considerable proportion took place in cases which had not been notified during the lifetime of the patient.

In Table XIV. is given the results of this inquiry, together with those of a similar one in 1923 and 1924.

TABLE XIV.

Year	Total Number of Deaths inquired into.	Number of deaths in cases not previously notified or referred in any other way.	Notifications prior to death, or other references, within the time specified at the head of each column.						Number of these cases known to the Tuberculosis Officer at the time of death.
			Within 2 weeks of death.	Within 2–4 weeks of death.	Within 1–3 months of death	Within 3–6 months of death.	Within 6–12 months of death.	Over 12 months prior to death.	
1923	1,239	278	81	78	166	148	108	380	863
1924	1,207	249	68	88	166	139	126	371	757
1925	1,218	273	84	81	168	127	128	357	737

The figures for the three years are not materially different. It will be noted that during 1925 a considerable proportion of the cases (22·4 per cent.) were not reported until death had taken place, and an additional 13·5 per cent. were only notified within a month of death. Approximately one-third of the number of persons dying from tuberculosis, therefore, had no opportunity given to them of making use of

the facilities for treatment at the disposal of the Port Sanitary and Hospitals Committee. Doubtless there are several reasons which combine to produce so high a figure, such as the failure of patients to consult a doctor until the very end of illness, doubt and difficulty in regard to the diagnosis, and the failure on the part of doctors to notify cases although a positive diagnosis has been made.

DEATHS FROM PULMONARY TUBERCULOSIS.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1925, together with the number of new cases notified, and the death rate which prevailed in England and Wales is given in Table XV.

TABLE XV.

DEATHS FROM PULMONARY TUBERCULOSIS.

Years.	Cases notified.		Number of deaths.	Death Rate per 1,000 Liverpool.	Death Rate per 1,000 England and Wales.
1871 to 1880	Average yearly figures	Nil	1,506	2·90	2·24
1881 to 1890		Nil	1,260	2·35	1·81
1891 to 1900		Nil	1,171	1·92	1·42
1901 to 1910		2,216*	1,233	1·68	1·15
1911 to 1920		2,812*	1,214	1·55	1·10
1921.....	2,164		1,048	1·28	0·85
1922.....	2,078		1,086	1·32	0·85
1923.....	2,081		1,046	1·26	0·80
1924.....	2,345		1,056	1·26	0·80
1925.....	2,687		1,051	1·25	——

* Voluntary notification from 1901 to 1911.

In Table XVI. a similar return is made in respects of deaths from non-pulmonary tuberculosis, etc.

TABLE XVI.

Deaths from Non-Pulmonary Tuberculosis.

Years.	Cases notified.		Number of deaths.	Death Rate per 1,000 Liverpool.	Death Rate per 1,000 England and Wales.
1871 to 1880	Average yearly figures	Nil	481	·90	·65
1881 to 1890		Nil	527	·98	·64
1891 to 1900		Nil	500	·82	·61
1901 to 1910		100*	416	·56	·49
1911 to 1920		716*	349	·45	·37
1921.....	595		294	·36	·27
1922.....	553		240	·29	·23
1923.....	498		263	·32	·22
1924.....	692		216	·26	·21
1925.....	828		232	·28	——

* Voluntary notification from 1901 to 1911.

The age and sex distribution of deaths from both pulmonary and no pulmonary tuberculosis are given in Table XVII.

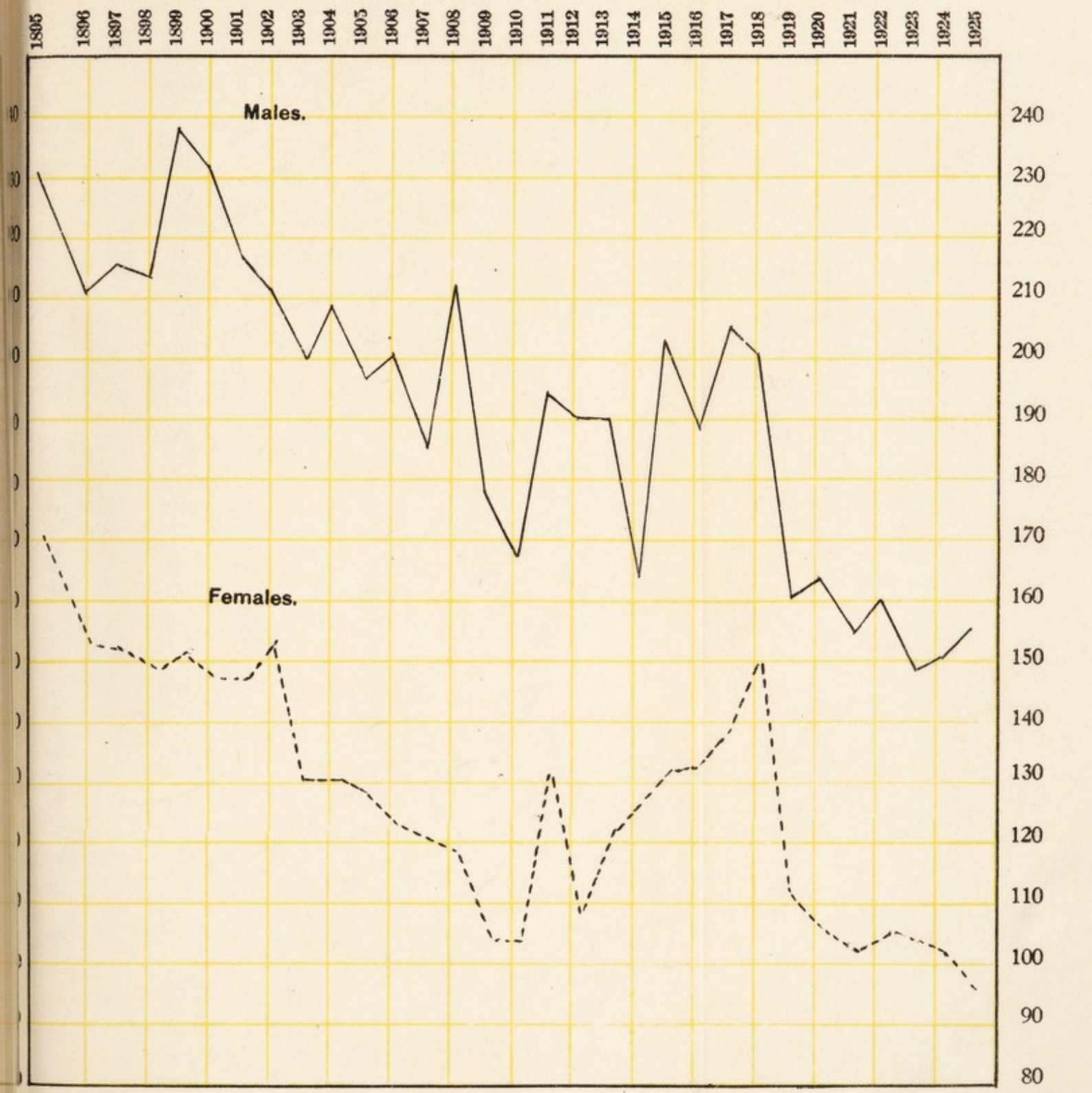
Table XVII.

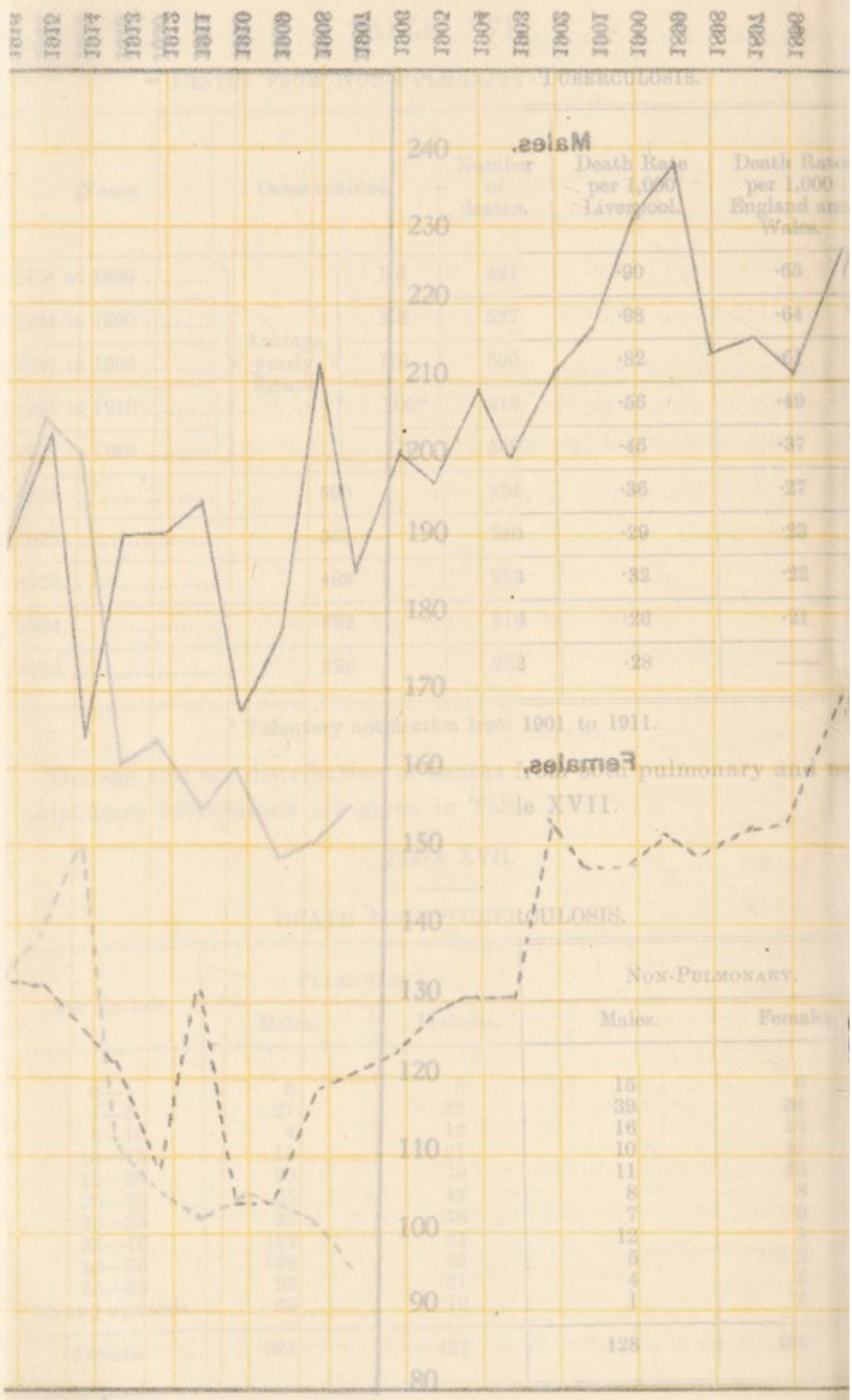
DEATH FROM TUBERCULOSIS.

Age Periods.	Pulmonary.		Non-Pulmonary.	
	Males.	Females.	Males.	Females.
0—1	8	5	15	6
1—5	27	22	39	34
5—10	4	12	16	13
10—15	13	21	10	11
15—20	30	78	11	13
20—25	65	47	8	8
25—35	93	76	7	9
35—45	133	64	12	3
45—55	128	62	5	2
55—65	95	21	4	2
65 and upwards	28	19	1	3
Totals ...	624	427	128	104

LIVERPOOL.

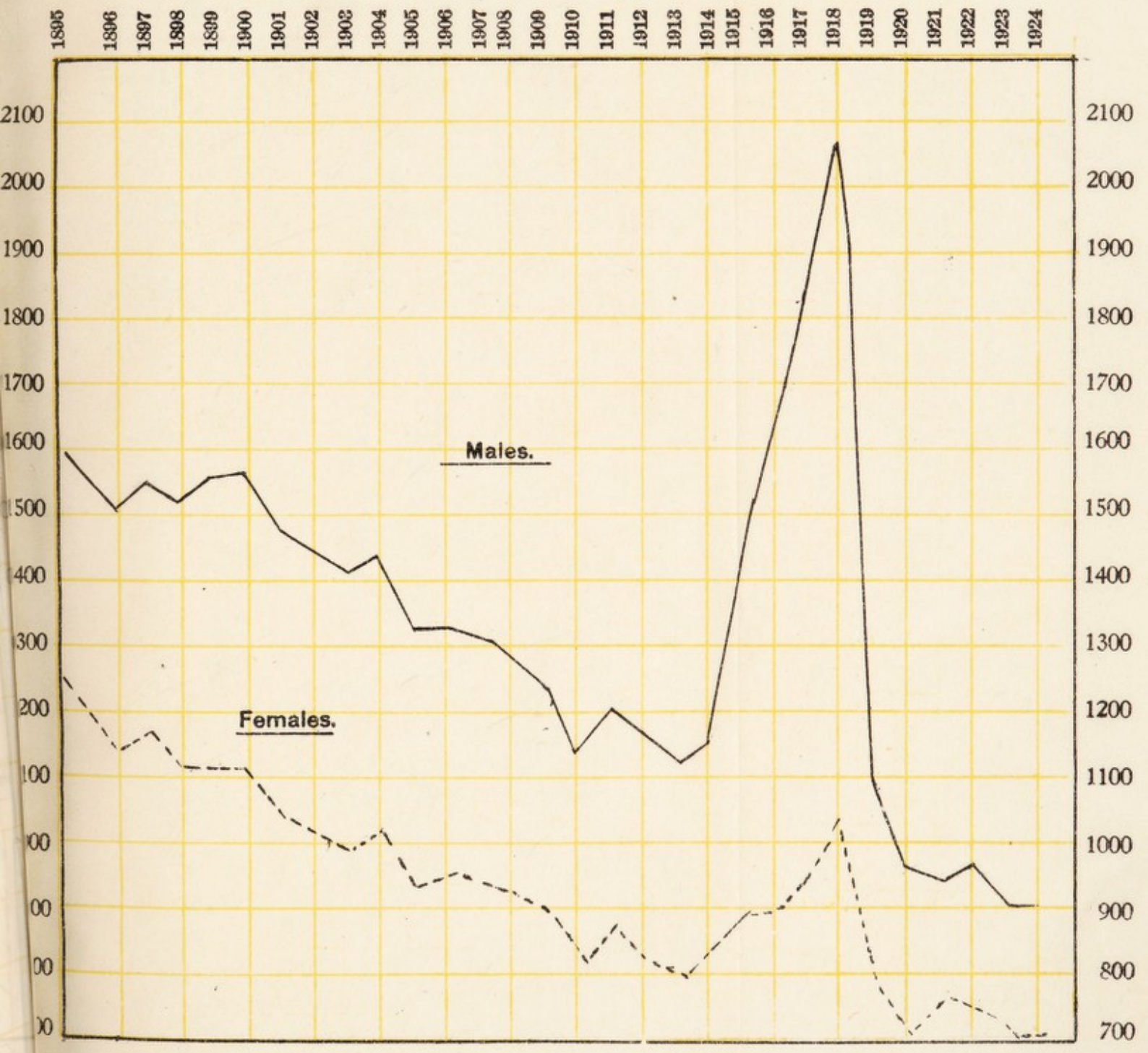
PHTHISIS DEATH RATES PER 100,000 OF POPULATION.




Males.
Females.
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80

ENGLAND AND WALES.

PHTHISIS DEATH RATES PER 1,000,000 OF POPULATION.



ENGLAND AND WAL

PHTHISIS DEATH RATES PER

POPULATION.

The distribution of deaths from pulmonary tuberculosis according to the districts in which the patients resided and according to the quarter of the year during which death took place is given in Table XVIII.

TABLE XVIII.

Deaths from Pulmonary Tuberculosis.

DISTRICTS.	Quarters.								Year 1925.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Exchange	36	20	32	16	20	16	22	21	110	73	183
Abercromby	18	15	10	5	11	4	8	5	47	29	76
Everton	30	18	36	22	27	10	34	19	127	69	196
Kirkdale	10	18	16	10	10	6	16	8	52	42	94
Edge Hill	15	15	17	18	15	10	14	13	61	56	117
Toxteth	17	10	17	9	13	7	18	12	65	38	103
Walton	10	12	12	10	7	4	17	14	46	40	86
West Derby (East)	20	14	14	9	10	4	14	9	58	36	94
Wavertree	8	8	10	12	11	4	15	2	44	26	70
Toxteth (East)	2	3	4	4	...	2	5	2	11	11	22
Fazakerley	1	2	...	1	...	...	...	1	1	4	5
Woolton	1	1	...	1	1	...	...	1	2	3	5
City	168	136	168	117	125	67	163	107	624	427	1,051

N.B.—Deaths in Public Institutions are transferred to the Districts from whence the patients came. In order to make comparison with former years the alterations in the Registration Districts set out on page 3 should be noted.

A similar return in respect of deaths from non-pulmonary tuberculosis is given in Table XIX.

TABLE XIX.

Deaths from Non-Pulmonary Tuberculosis.

DISTRICTS.	Tubercular Peritonitis.		Tubercular Meningitis.		Other forms of Tuberculosis		Year 1925.		
	M.	F.	M.	F.	M.	F.	M.	F.	T.
Exchange	6	6	8	4	4	9	18	19	37
Abercromby...	5	6	1	5	2	5	8	16	24
Everton	8	8	6	3	9	5	23	16	39
Kirkdale	2	5	3	4	3	3	8	12	20
Edge Hill	2	2	...	3	4	3	6	8	14
Toxteth	7	3	5	1	9	4	21	8	29
Walton	9	6	2	...	6	4	17	10	27
West Derby (East)	7	3	4	3	3	2	14	8	22
Wavertree	4	1	3	2	4	3	11	6	17
Toxteth (East)	...	...	...	...	1	...	1	...	1
Fazakerley...	1	...	...	1	...	...	1	1	2
Woolton	...	...	...	...	...	...	...	...	...
City	51	40	32	26	45	38	128	104	232

N.B.—Deaths in Public Institutions are transferred to the Districts from whence the patients came. To make comparison with former years the alterations in the Registration Districts set out on page 3 should be noted.

VENEREAL DISEASES.

Satisfactory results are still being achieved through the scheme for the prevention and treatment of venereal diseases.

The clinics, now of several years' standing, have been fully availed of. There were 3,471 new cases, male and female, and the total attendances at the clinics, including the Seamen's Dispensary, were 71,147, representing a reduction of over 4,000 on the previous year.

It may be claimed, therefore, that by prompt, efficient and free treatment, together with carefully conducted educational propaganda, the incidence of the disease has been gradually lessened.

The Liverpool scheme has from time to time been under the consideration of the Ministry of Health, and certain alterations at the Royal Infirmary, including the addition of a new irrigation department, have been effected.

A table shewing attendances, etc., at each of the clinics is given, and also details of the diseases and sexes dealt with at the largest centre, namely, the Royal Infirmary.

RETURN SHOWING THE NUMBER OF **NEW PATIENTS** ATTENDING THE VENEREAL DISEASES CLINICS DURING THE YEAR 1925. ALSO **TOTAL ATTENDANCES AND IN-PATIENT DAYS** OF **OLD AND NEW PATIENTS** DURING SAME PERIOD.

	Royal Infirmary.	Royal Southern Hospital.	David Lewis Northern Hospital.	Stanley Hospital.	Total.
New patients	1,197	468	355	316	2,336
Old and new patients—					
Total attendances...	21,060	8,052	7,487	6,760	43,359
In-patient Days ...	40	3,327	—	431	3,798

The occupations stated to be followed by patients registered at the Clinics at the Royal Infirmary during the year are of interest :—

Males.		Females.	
Seafaring people ..... (Of these, 12 were foreign.)	253	Housewives	114
		Home duties	16
		Shop Assistants	6
Artizans	415	Factory Hands	8
		Housemaids	3
		Waitresses	4
Miscellaneous ..... (Clerks, Agents, Hawkers, &c.)	279	Domestic Servants	18
		Other occupations	14
		Infants and Children*.....	17
	947		200

In addition, 74 male and 31 female patients who had ceased attending for six months (or longer) resumed their attendances during the year.

26·0 per cent. of the total male patients registered were seafaring people.

4·0 per cent. of the latter were not natives of the British Isles, and are classed as follows :—

U.S.A., 1; Colonies, 3; Sweden, 2; other nationalities, 6. Total, 12.

The ages range approximately from 15 to over 60 years, but the majority of the patients were between the ages of 20 and 30 years, as shown by the following table, viz. :—

	Males.	Females.
Under 10	—	*15
10—15	1	2
15—20	27	18
20—25	249	53
25—30	230	39
30—35	194	28
35—45	159	29
45—55	66	12
55—65	18	3
65 upwards	3	1

* This number includes male infants who are brought to the Female Clinic by their mothers.

There were 15 infants and young children under 10 years of age who attended this clinic during the year. Past experience shows that many cases of uncertain diagnosis, and simulating syphilis, especially skin eruptions, may be incorrectly reported as syphilis. Many of them require a more careful investigation before a definite diagnosis can be made. This has also been experienced in the past in other diseases, e.g., typhoid fever, with which disease many simulating conditions were confused. Of the above 15 infants and children only 3 were found to be suffering from syphilis, and 12 were non-venereal.

Particulars as to still-born infants examined will be found on page 247.

The importance of this work is very great, for where the actual causal spirochaete has been discovered the mother (and in some cases the father) can be advised to submit to treatment. The special Health Visitor also undertakes the visiting of these cases, and visits to the number of 119 were made during the year.

In many cases a visit was paid to the clinic to obtain information with regard to the attendance of patients, thus obviating the necessity of too frequent visits to the homes of the patients.

DURING THE YEAR 1925.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Syphilis and Gonorrhœa	Conditions other than Venereal.		Total.	
	M.	F.	M.	F.	M.	F.	F.	M.	F.	M.	F.
1. Number of cases which—											
(*a*) at the beginning of the year under report were under treatment or observation for	1,211	493	29	3	1,309	282	10	165	171	2,714	959
(*b*) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centres during the year under report suffering from the same infection ...	70	31	...	...	57	9	...	3	1	130	41
Total—Items 1 (*a*) and 1 (*b*) ...	1,281	524	29	3	1,366	291	10	168	172	2,844	1,000
2. (*a*) Number of cases dealt with at the Treatment Centres during the year for the first time	790	267	171	...	1,463	169	30	432	149	2,856	615
Total—Items 1 (*a*), 1 (*b*) and 2 (*a*)	2,071	791	200	3	2,829	460	40	600	321	5,700	1,615
2. (*b*) Number of cases included in Item 2 (*a*) known to have received previous treatment at other Centres for the same infection	100	4	42	...	29	4	7	...	...	171	15
3. Number of cases which ceased to attend—											
(*a*) before completing the first course of treatment for	265	83	33	...	943	86	25	237	56	1,478	250
(*b*) after one or more courses but before completion of treatment for ...	252	110	...	...	...	...	...	...	...	252	110
(*c*) after completion of treatment, but before final tests as to cure of ...	41	7	14	3	85	...	...	...	...	140	10

	Syphilis.		Soft Chancre.		Gonorrhœa.		Syphilis and Gonorrhœa	Conditions other than Venereal.		Total.	
	M.	F.	M.	F.	M.	F.	F.	M.	F.	M.	F.
4. Number of cases transferred to other Treatment Centres after treatment for ...	68	9	23	...	102	11	1	...	...	193	21
5. Number of cases discharged after completion of treatment and observation for ...	94	5	53	...	206	10	2	...	...	353	17
6. Number of cases which, at the end of the year under report, were under treatment or observation for	1,351	577	77	...	1,493	353	12	286	235	3,027	1,177
Total—Items 3, 4, 5 and 6 ...	2,071	791	200	3	2,829	460	40	523	291	5,623	1,585
7. Out-patient attendances—											
(*a*) For individual attention by the Medical Officer	15,337	6,539	1,415	...	17,314	2,992	170	1,226	472	35,292	10,173
(*b*) For intermediate treatment, *e.g.*, irrigation, dressings, etc.	1,805	36	928	...	22,345	499	6	63	...	25,141	541
Total Attendances	17,142	6,575	2,343	...	39,659	3,491	176	1,289	472	60,433	10,714
8. Aggregate number of "In-patient days" of treatment given to persons who were suffering from	746	821	72	...	912	3,337	3,779	100	35	1,830	7,972

	For detection of			For Wassermann Reaction.
	Spirochetes.	Gonococci.	Other Organisms.	
9. Examinations of Pathological material :—				
(*a*) Specimens which were examined at, and by the Medical Officer of, the Treatment Centres	44	1,990	54	...
(*b*) Specimens from persons attending at the Treatment Centres which were sent for examination to an approved laboratory	93	2,302	1	3,307

SEAMEN'S DISPENSARY.

The value of the above Clinic, which was opened early in 1924 for the treatment of ailments associated with seafaring life, more especially Venereal Diseases, has again been demonstrated. The patients are very attentive to treatment, and take an intelligent interest in their progress.

During the year, 1,220 cases were under treatment, the total attendances numbering 27,265. Irrigations average about 100 per diem, and the Medical Officer has seen and treated as many as 80 patients in a day.

The classification of persons dealt with at the Clinic for the first time was as follows :—

Suffering from Syphilis	293
,, ,, Soft Chancre	148
,, ,, Gonorrhœa	636
Not suffering from Venereal Disease	7
Total	1084

The following examinations of pathological material were made :—

For Spirochaetes	38
,, Gonococci	1,026
,, other	7
,, Wasserman Reaction (at City Laboratory) ...	469

A memorandum was issued in November last by the Ministry of Health intimating that an International Agreement had been arrived at relating to the treatment of seamen suffering from Venereal Diseases, and that this Agreement had been ratified by H.M. Government.

Under this Agreement facilities will be available at each of the chief sea and river ports of the countries concerned, for the gratuitous treatment of merchant seamen without distinction of nationality, such

facilities to include out-patient treatment, in-patient treatment when the Medical Officer in charge of the Centre considers it to be necessary, and sufficient medical supplies to enable the patient to carry out treatment during the voyage to the next port of call. The patient is to be provided with a card for the purpose of recording the diagnosis of his case, the treatment given and to be followed during the course of the voyage. This card is to be presented at each Treatment Centre attended by the patient. Under certain conditions, the Medical Officer of the Treatment Centre may supply certain drugs, dressings, &c., for use during the voyage, and, in addition, ships' doctors who possess the qualifications set out in the Circular of the Local Government Board (now the Ministry of Health) dated 29th August, 1916, may obtain supplies of approved Arsenobenzol compounds, a return being kept by him of the number and class of patient treated on the voyage, and the number of doses administered.

The arrangement with the Diocesan Association for the treatment at the Edge Lane Hospital of young women suffering from venereal diseases has been continued with gratifying results, the 15 beds provided being mainly occupied by this class of patient.

The important work of bringing home to the general public and those likely to come in contact with Venereal Disease of the dangers arising therefrom is being performed by the Merseyside Boroughs V.D. Education Committee. Addresses have been given in Liverpool by selected medical men at such places as H.M. Prison, Walton; Seamen's Institutes, various industrial concerns, and other suitable centres in the associated Boroughs. They have been well-attended and much appreciated. A lecture to mercantile marine cadets is now included in the series.

The question of obtaining powers to require persons suffering from Venereal Diseases to seek medical aid, which was fully discussed some five years ago, has not been lost sight of, and as far as may be gauged from reports and speeches in the press, etc., public opinion is gradually trending in the direction of some compulsion being exercised on certain types of patients. It is being slowly realised that something more than persuasion may be necessary to control the treatment and spread of these diseases.

HOSPITAL ADMINISTRATION.

During the year 1925 the City Infectious Hospitals and Sanatoria were in full commission.

At the end of the year the amount of hospital accommodation for infectious cases was as follows:—

City Hospital North	168	beds.
,, South	101	,,
,, East	156	,,
,, Fazakerley	300	,,
,, Fazakerley Annexe...	160	,,
,, Sparrow Hall	130	,,
Fazakerley Sanatorium	264	,,
Highfield Sanatorium	336	,,
	1,615	,,

At the City Hospital, Fazakerley, 72 beds are set aside for the treatment of tubercular patients, in addition to the beds at the Fazakerley Sanatorium.

During the year the beds in the city hospitals were well occupied, requests being received for the admission of a great many cases of measles, whooping cough, chickenpox and other ailments of children. Many of these patients were removed from houses which were sub-let and contained several families. The city hospitals have proved of great benefit during the housing difficulties, when many families are occupying one or two rooms, where effectual isolation of a case of infectious sickness is practically impossible.

At the request of the Health Committee a few beds were set aside at the Fazakerley Hospital for the treatment of infants suffering from diarrhœa during the summer months (see page 59). This practice has been followed in previous years, and has been found of great value in dealing with cases of infantile diarrhœa in some of the most congested districts in the City. The number of cases admitted was 47.

Scarlet fever and diphtheria were both prevalent throughout the year, and a number of beds were also required for cases of encephalitis lethargica.

The value of the hospitals, and the immense amount of useful work performed, is shown by the fact that no less than 7,045 patients were treated within their walls during the year.

The Hospitals Committee have agreed with 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, Leasowe Hospital, and the Children's Convalescent Home, West Kirby.

Arrangements have also been made to deal with any case of cholera, yellow fever, or plague, which may arise in any of the neighbouring Urban or Rural Districts. A suitable charge is made in each case.

THE HOSPITAL SERVICE.

FAZAKERLEY HOSPITALS AND SANATORIUM.

REPORT OF THE MEDICAL SUPERINTENDENT.

YEAR ENDING 31ST DECEMBER, 1925.

The total number of patients admitted to the Fazakerley Hospitals (excluding the Fazakerley Sanatorium) during the year ending 31st December, 1925, shows a decrease of 83 as compared with that of 1924. The number of cases under treatment reached a maximum of 590 on November 1st, a decrease of 3 upon the highest figure for the previous year. The following figures represent the gross monthly admissions :—

	Fazakerley Isolation Hospital.	Fazakerley Annexe Hospital.	Sparrow Hall Hospital.	Total.
January	203	87	96	386
February	168	96	121	385
March	194	49	61	304
April	155	98	61	314
May	180	88	70	338
June	170	60	43	273
July	135	62	48	245
August	147	40	23	210
September	186	123	69	378
October	238	113	104	455
November	155	63	67	285
December	137	44	12	193
Total	2,068	923	775	3,766

The number and description of cases proving fatal within 48 hours c admission are shewn in the following table :—

ANALYSIS OF CASES DYING WITHIN 48 HOURS OF ADMISSION

Disease.	Age.	Days ill prior to admission.	No. of hours in hospital
Scarlet Fever	1 year	3 ...	26
Do.	5 years	7 ...	5 minutes
Diphtheria	45 ,,	8 ...	2
Do.	2 ,,	3 ...	28
Do.	1½ ,,	3 ...	27
Do.	2 ,,	9 ...	8
Do.	5 ,,	7 ...	3
Do.	1½ ,,	5 ...	2
Measles	8 months	9 ...	33
Do.	1 year	14 ...	15
Do.	1 ,,	3 ...	24
Whooping Cough	1½ ,,	11 ...	23
Do	10 months	16 ...	29
Lobar Pneumonia	3 years	2 ...	9
Do.	48 ,,	8 ...	36
Do.	14 ,,	5 ...	47
Broncho-Pneumonia ...	10 months	2 ...	7
Do.	3 years	42 ...	46
Do.	1 ,,	5 ...	22
Do.	1½ ,,	3 ...	40
Do.	1 ,,	1 ...	2
Erysipelas	42 ,,	14 ...	8
Cerebro Spinal Fever ...	4 months	4 ...	2
Do.	19 years	3 ...	18
Do.	7 months	8 ...	21
Meningitis (tubercular) ...	19 years	No history	47
Do. do. ...	44 ,,	24 ...	36
Do. (pneumococcal)...	29 ,,	12 ...	37
Anthrax	35 ,,	4 ...	15
Encephalitis Lethargica ...	11 ,,	10 ...	47
Do. ...	15 ,,	3 ...	26
Do. ...	33 ,,	4 ...	10
Do. ...	47 ,,	9 ...	46
Do. ...	37 ,,	8 ...	15
Do. ...	18 ,,	8 ...	42
Infective Enteritis ...	1½ ,,	8 ...	34
Pemphigus Neonatorum ...	10 days	5 ...	8
Ulcerative Pharyngitis (streptococcal). ...	1½ years	3 ...	3

Diphtheria and Scarlet Fever.

The following particulars are of interest with reference to the practice of active immunisation of staff against these two diseases.

The incidence of diphtheria amongst members of the nursing staff engaged at the Fazakerley Hospitals during recent years has been considerably less than that experienced by the majority of hospitals of a similar character elsewhere. The average number of female staff in residence during the past six years is rather over 200. The personnel comprising this total is, of course, a constantly changing one. During this period (six years) the number of staff ill with Diphtheria has averaged just over three per annum. The total number of cases of diphtheria treated during this period exceed 1,300. A noticeable feature is that in no instance did a case of Diphtheria arise amongst the staff actually engaged in nursing that disease, in each instance the member of staff affected was employed at the time of onset in another section of the hospital, or in nursing tuberculosis. In view of the small incidence of diphtheria, and the mild character of the majority of cases, it was decided to restrict Schick testing and active immunisation to those members of the staff who expressed a desire for this practice.

The Schick test has, however, been in general use in the hospital over a considerable period, for purposes of diagnosis, and in the detection of susceptibles.

The incidence of scarlet fever amongst the staff referred to above, and for the period stated, has been of greater significance than in the case of diphtheria. During the years 1923 and 1924, for example, approximately 200 nursing staff were engaged. In 50 of these there was a previous history of scarlet fever. Of the remainder, 16 developed scarlet fever, of whom one died. Not only has the case incidence been higher in scarlet fever than in diphtheria, but the character of the illness, and nature of the sequelae have resulted in a greater economic disability than in the latter disease. Again, the risk of permanent incapacity, and the danger to life are considerably greater in scarlet fever than in diphtheria in an institution having the advantage of early diagnosis and treatment.

Since July, 1925, all newly appointed members of the nursing staff have been given a series of three immunising injections of toxin on

joining for duty. No instance of scarlet fever has, as yet, arisen amongst those immunised. The numbers so dealt with are insufficient to permit a definite expression of opinion as to the value of this procedure, but the full results will be published in due course.

The Schultz-Charlton reaction has been in general use at this hospital since December, 1924, for diagnostic purposes, and research work of considerable extent has been carried out, both with the Schultz-Charlton and Dick tests, with a view to the elucidation of possible types of hæmolytic streptococcus.

The use of specific anti-streptococcus serum in the treatment of scarlet fever is at present under extensive trial, and experience so far would indicate that it has an undoubted specific curative action in early and toxic cases.

Lastly, it is now possible to passively immunise susceptible contacts by the injection of a small quantity of scarlatinal anti-streptococcus serum, a practice of great value in the prevention of cross-infection.

TUBERCULOSIS.

Sanatorium School.

The average number of children of school age under treatment throughout the year shews little change from that of previous years. The numbers receiving instruction by teachers at the close of the year were as follows :—

(1) Pulmonary, negative sputum	40
(2) Pulmonary, positive sputum	20
(3) Non-Pulmonary	3

The progress reports for the year again afford evidence of the marked increase in knowledge of elementary subjects which it is possible to effect in a Sanatorium school. As an extreme instance the case may be quoted of a girl, aged 14, who had never previously attended school and who was, in consequence, unable to recognise the letters of the alphabet. In three months she was able to read, and enjoy, book stories of a simple character.

X-Ray Department.

During the year 835 screen examinations have been made, and 310 films taken. 223 cases of suspected tuberculosis have been examined by X-Ray methods, the majority of these examinations being made at the request of the Tuberculosis Officers. This department has again proved its value in the control of treatment by methods of induced pneumothorax.

The application of X-Ray therapy in cases of tuberculous adenitis has been largely discontinued in recent months, in view of the better results obtainable by exhibition of the Carbon-Arc.

Artificial Light Treatment.

The following particulars have been recently returned to the Ministry of Health on this subject :—

The installation comprises 2 carbon-arc lamps in parallel, each 75 amps. The current being 70 volts, direct.

Tuberculous patients only are receiving treatment, coming within the undermentioned categories :—

1. Pulmonary only	36
2. Pulmonary with tuberculosis of other organs—	
(*a*) Lungs and Peritoneum	3
(*b*) Lungs and Joints	2
(*c*) Lungs and Bones	1
(*d*) Lungs and Scrofulodermia	4
3. Non-Pulmonary—	
(*a*) Bones	18
(*b*) Bones and Joints	16
(*c*) Bones and Peritoneum	2
(*d*) Bones and Skin	7
(*e*) Joints	2
(*f*) Joint and Genito Urinary	1
(*g*) Peritoneal	8
(*h*) Genito Urinary	1
(*i*) Scrofulodermia	13

In the case of children the beginning dosage is usually 5 minutes, and in the case of adults the beginning dosage is usually 15 minutes. The dosage is increased gradually in both to a maximum of 1 hour. Three exposures a week are given to the children, and four exposures weekly to adults. The length of exposure is customarily somewhat less in the pulmonary type than in those whose disease is limited to the other organs. Some lung cases develop headache or nausea after a short exposure, and in these the time is limited to $\frac{1}{4}$ or $\frac{1}{2}$ hour, or less. In the experience of this Sanatorium the best results have been obtained by intermitting the treatment; a clinical fact which receives some support from the published results of experiments on vitamine production. The most satisfactory procedure appears to be a course of three or four months, followed by a few weeks interval, varying considerably with the type of disease and case.

The duration of treatment varies from a few exposures only (usually pulmonary cases), to a period of several months. The greatest number of exposures made of one case is 254 in a young girl suffering from tuberculosis of the pelvic bones and peritoneum. The average for all cases over a period of nearly two years is 76 exposures, but this number is tending to decrease as previously stated.

The temperature and pulse are taken in each case during the first five weeks of treatment. They are subsequently disregarded unless some noteworthy change has been observed, or a continuance has become advisable for clinical reasons. In the patients whose temperature was normal at the beginning of treatment no uniform, or marked, change in the temperature, or pulse rate, has been observed. Temperature variations, when they occurred, ranged from ·5° to 1° in either direction and were without significance.

In three instances the temperature was febrile at the beginning of treatment, showing a rise of ·5° to 1° after the early exposures. In these cases the temperature remained normal after an average of 30 exposures, and later tended to be markedly subnormal immediately after exposure. The blood pressure was estimated before and after exposure in 21 cases, using a Rocci Sphygmomanometer. In three of these no appreciable change in pressure occurred. The remaining 18 exhibited a fall of pressure varying from 5 to 10 m.m. This fall was fairly constant in the

same cases and appeared to be an immediate result of exposure. In no instance was this fall of blood pressure permanent, the normal pressure being restored within an hour.

An estimation of the hæmoglobin content was made in 17 cases at weekly intervals in the course of the initial five weeks' treatment. In 13 cases a definite and progressive increase took place. In three cases no change was recorded, and in one a decrease. In the same 17 cases the total white cell count shewed a decrease in seven, a decrease followed by an increase in three, an increase in four, and no change in three.

Artificial light treatment was initiated on 14th February, 1924, and 116 patients have received treatment to date.

The weights of patients are not recorded. The majority of adults undergoing treatment by a full course are recumbent surgical cases in which weight recording is difficult and not generally observed. The following figures are fairly representative of the change of weight observed in children undergoing treatment in which accurate estimations are possible. It should be stated that these children represent cases selected, by reason of their poor development and retarded growth, for treatment.

Age in years.	No. of cases.	Average total exposures. (hours)	Average duration of treatment. (months)	Average gain in weight. (lbs.)
Under 5	5	37	$4\frac{3}{4}$	$2\frac{7}{16}$
5-7	10	37	$4\frac{1}{2}$	3
7-9	6	52	$4\frac{1}{4}$	$3\frac{7}{24}$
9-11	1	21	$3\frac{1}{2}$	$1\frac{1}{4}$
11-12	2	50	$5\frac{3}{4}$	$3\frac{1}{2}$
12-13	1	130	9	$5\frac{1}{4}$
13-14	1	40	$2\frac{1}{4}$	7
14 and over	3	125	9	12

X-Ray films are made of all cases before and after treatment. In prolonged cases these are also recorded in the course of treatment. The films are filed in the X-Ray department for reference, and in numerous cases present striking evidence of the progress which has been made by non-pulmonary cases in the course of Arc-Light exposures.

There can be no question of the exhilaration and stimulus experienced

by patients as the immediate result of exposure. A feeling of well-being is common, with few exceptions, to all who have been subjected to a course of Arc-Light. In pulmonary cases this tonic effect is more transient than in tuberculosis of other organs and is followed by a corresponding reaction unless the dosage is very carefully controlled. Perhaps the most striking results have been observed in the case of children. In the young the natural absence of restraint makes it easy to observe an increased alertness resulting from physical and mental stimulus. That this change is not merely a transitory phenomenon is demonstrated by the important gain in weight ratio which so many of these cases exhibit, and by their improved capacity for progressive study at school. In the latter direction much useful and unbiased information is afforded by the statements of experienced teachers who have opportunities for the observation of individual children for lengthy periods before, and during, a course of Arc-Light treatment. The number of children who are in attendance at school, and who are also receiving Arc-Light therapy is as yet limited, and final judgment is not yet possible, but attention has already been drawn to a development of mental qualities in some pupils which has facilitated to a marked degree their ability and readiness under tuition.

It has been observed that, although both dark and fair skin desquamate readily, pigmentation is more commonly produced in the former. Many fair skins never pigment under exposure. Contrary to some published views it has not yet been definitely established at the Sanatorium that progress under treatment bears any relation to the rapidity or degree of pigmentation.

Local open lesions tend to secrete more copiously under the stimulus of light treatment. This increase in the amount of discharge undoubtedly occurs in the case of most sinuses, and when accompanied by the usual tendency of the sinus to heal and close externally, may result in a retention of pus. Careful observation and dressing will obviate this occurrence. Many excellent results have been obtained by the exhibition of Arc-Light in sinus cases which had previously been refractory.

In 116 cases treated improvement occurred in 82. More precise classification of end results is scarcely justifiable, having in view the short time that has elapsed since the completion of treatment in these cases.

It can, however, be stated that there are included in this figure a number of recoveries which are complete amongst patients whose lesions were such as to make the outlook exceedingly grave, e.g., tuberculosis of the spine, hip, and peritoneum. It cannot be claimed that these patients would never have recovered in the absence of Artificial Light, but it can certainly be said that many patients suffering from extensive disease of many months standing, and whose disease had hitherto remained stationary, shewed an early improvement under the stimulus of Arc-Light, and ultimately a complete recovery. In surgical tuberculosis of a less serious type, e.g., disease of the smaller joints, glands, skin and small bones, experience has demonstrated that recovery is hastened, and the necessary period of treatment curtailed with a resulting diminution in cost.

The less successful cases include in their number several instances of pulmonary disease of intractable character in which treatment was attempted as a last resource and finally abandoned.

The average cost of electric current is 3s. per hour, and the average cost of each patient's treatment is £4 to £5 approximately; this figure including cost of current and wages of staff employed.

ARC-LIGHT THERAPY.

Report by Visiting Surgeon (Mr. J. T. Morrison).

As far as possible during the last two years all types of "surgical" tuberculosis have been treated in the Arc-Light department. In tuberculosis anything of the nature of a crucial experiment is impossible, and opinions are of necessity merely personal impressions. At the same time during two years, by careful comparisons, it is possible to come to conclusions of some value.

First of all it is necessary to make clear that Arc-Light therapy is no specific cure for tuberculosis. It is an adjuvant merely to other recognised methods of treatment, vigilance in which it is quite unsafe to relax. With this proviso it is possible to speak with considerable hopefulness. One would say that, with few exceptions, all cases of surgical tuberculosis are benefited by carefully regulated dosage. A small percentage do not appear to react in any perceptible degree, and an isolated case or two has given rise to the fear (probably quite unfounded),

that in some way the patient has been adversely affected. Cases that are otherwise doing well seem to have their convalescence quickened and rendered more secure. In a certain proportion the Arc-Light treatment gives the impression of having provided just that extra stimulus which has made the difference between success and failure. One has seen this sometimes in elderly people, and sometimes in younger individuals who had reached a stage of chronic, or slow deterioration, in spite of prolonged sanatorium life and every care.

When tubercular infection of the different systems is considered it is difficult to draw inferences as to a special suitability for this form of treatment. Extremely grave lesions in spine and hip have been treated with benefit, while relatively less serious disease in lymphatic glands in certain instances has shewn no visible improvement after many months. Superficial lesions, as one might expect, do well, although even here one meets with refractory types occasionally.

It should be noted that a specially large proportion of the cases treated at Fazakerley are adults, so that such good results as have been obtained are of enhanced importance. Of all the various methods tested during recent years, Arc-Light therapy has given the most encouraging results, and in my opinion should be given extensive trial, not so much in the treatment of serious, thoroughly established lesions, as in the case of relatively early and mild infection of the abdomen and cervical glands. At the same time one feels the necessity for patient and prolonged investigation into questions of dosage and mode of action, especially in combination with other modes of treatment.

Report of the Consulting Surgeon.

The Surgical work of the sanatorium has now been carried on sufficiently long for an opinion to be expressed as to its value to the individual and to the community. Large numbers of patients with very serious disease of spine and hip are being treated, many of them with pulmonary complications, too. The question at once arises as to their ultimate outlook as regards personal health and civic usefulness. An effort has been made to trace the surgical patients who have passed through the sanatorium in the last five years and estimate the permanence of the good results obtained. It has been gratifying to find

that 67·7 per cent. of those traced were found to be fit for, or actually at, work. Naturally the spine and hip cases do not present so encouraging a picture. Very few of them have been out of hospital sufficiently long, even though they are walking about with every prospect of cure, they cannot, except in rare cases, be advised to seek work till further time has elapsed. There is, however, every likelihood of a considerable percentage of these becoming fit for useful, if not for strenuous, occupations. On the other hand, a certain number have been found (7·7 per cent.) who have relapsed. In not a few instances these are patients who have left hospital against advice. In others, economic pressure in their home life has been the apparent cause of their regression. The number of those failing after completing their course of treatment is surprisingly low.

We feel, then, that many are being restored to life and health and usefulness who would otherwise be condemned to crippledom, if not to death. Nevertheless, much remains to be done. A specific cure for tuberculosis has not been found, and is not likely to be found without the expenditure of time and much thought and money. The number and complexity of the problems involved demand the whole-hearted team work of experts in many fields.

In the meantime the resources at our command must be used to the full. Results appear to justify the more extensive use of Arc-Light treatment, and its employment in earlier cases. For this some form of Outpatient Clinic would be necessary. It would probably be possible to shorten the stay in hospital, too, if continuance of this form of treatment were available after discharge. It would also be possible to discharge certain patients earlier if suitable employment were available under something like sanatorium conditions. Too often it is found that the housing and industrial surroundings to which they must return, strain to breaking point their new-found health.

The tables here presented, shewing results of treatment in 49 patients discharged during 1925 refer to adults only. This fact has to be kept in mind in order to realise the excellence of the results obtained. These figures again shew an improvement on the previous year. The high percentage of cases with pulmonary disease discharged "quiescent" is peculiarly gratifying. It is due partly to the fact that several of the serious cases admitted in the relatively early days are now shewing good

results after prolonged treatment. Partly also it is due to the fact that many cases previously classified as non-pulmonary are now being more closely scrutinised, and found to have evidence of underlying—possibly latent—lung disease. Indeed a research carried out conjointly with Prof. J. M. Beattie shews that the huge majority of adults admitted to the Sanatorium with so-called "non-pulmonary" tuberculosis are infected with the human strain of the bacillus. This means that the disease has been acquired by contact with persons suffering from active phthisis, and that in all probability they are themselves the subjects of pulmonary, or at any rate, intra-thoracic tuberculosis.

(Adults only).

Part affected.	Number of Cases.	Average stay in Hospital in months.	Result.			
			Quiescent.	Improved.	Not improved.	Died.
WITH PULMONARY DISEASE.						
Bones and Joints ...	13	29	9	1	1	2
Abdomen	2	14	1	—	—	1
Genito-Urinary System	1	15	—	1	—	—
Lymphatic Glands ...	1	8	1	—	—	—
Miscellaneous	1	14	1	—	—	—
Total	18		66%			16.6%
WITHOUT (KNOWN) PULMONARY DISEASE.						
Bones and Joints ...	16	20	11	3	1	1
Abdomen	4	4	—	1	2	1
Genito-Urinary System	2	24	—	1	1	—
Lymphatic Glands ...	9	10	6	2	1	—
Miscellaneous	—	—	—	—	—	—
Total	31		55%			6.4%

DENTAL WORK.

Fazakerley Sanatorium.

During the year the following work was carried out :—

68 Fillings.
11 Extractions under gas.
225 Extractions under local anæsthetic.
6 Extractions without an anæsthetic.
10 Scalings (removal of tartar).
26 Miscellaneous (including opening up of septic pulps, removal of sequestra, etc.).

OCCUPATION LIST.

Fazakerley Sanatorium.

Males.

Barber	4	Musician	2
Barman	4	Nil	10
Boilermaker	3	Oilcake Worker	2
Butcher	2	Painter	3
Carter	7	Policeman	2
Cabinet Maker	2	Postman	2
Chemist	3	Porter	10
Clerk	21	Printer	3
Commercial Traveller	3	Sailor	14
Cooper	3	Sanitary Inspector	2
Copper Worker	2	Schoolboy	15
Dock Labourer	5	Scaler	2
Engineer, Marine	5	Ship's Cook	6
Fitter	4	Ship's Steward	7
Grocer	2	Soldier	12
Ice Worker	2	Student	2
Insurance Agent	3	Shop Assistant	4
Joiner	3	Tobacco Worker	2
Labourer	49	Tram Driver	3
Marine Fireman	5	Various	27
Messenger	2	Warehouseman	6
Motor Driver	2		

Females.

Barmaid	3	Nursemaid	2
Calico Bag Maker	2	Schoolgirl	37
Charwoman	2	Telephonist	3
Clerk	5	Tobacco Worker	2
Housework	36	Various	6
Nil	10	Waitress	3
Nurse	4		

HIGHFIELD SANATORIUM.

REPORT OF THE MEDICAL SUPERINTENDENT
YEAR ENDING 31ST DECEMBER, 1925.

During the year 580 cases were admitted, of whom 370 were males and 210 females.

AGE PERIODS.—The age periods of the cases admitted were as follows:

Under 5	5–10	10–20	20–30	30–40	40–50	50 upwards
1	9	112	133	123	121	81

OCCUPATIONAL TREATMENT.—The patients have been engaged chiefly in gardening work, in making paths, and in improvements in the grounds generally. The completion of the workshops, however, provides a variety of occupation which is appreciated by the patients and enables further developments to be undertaken.

SCHOOL.—Following on a recommendation by the Ministry of Health, a second teacher was appointed who commenced duties in November. The task of dealing with children of ages varying from 4 to 15 years will now be rendered easier, and, in addition, more time can be devoted to hard work while still paying special attention to reading, writing, arithmetic, etc.

During the year 82 children passed through the school, the average attendance being 40, the average number on roll 44. These numbers do not include several of the age of 16 and 17 years, whose tuition was undertaken at their own request, and one of whom could neither read nor write on commencing at the school.

The value of the school as an aid to treatment becomes increasingly obvious.

DENTAL TREATMENT.—Dental treatment has been confined to cases of dental sepsis interfering with the treatment of the pulmonary condition, and to cases requiring relief of pain. 261 cases were referred to the dental surgeon during the year. Of this number, in 159 cases extraction of teeth was carried out, and in a number of other cases scaling or other measures were adopted.

The following tables, prepared by the Medical Staff of each of the City Hospitals show the number of patients, the nature of the illness, and the results at each of the eight hospitals during the year 1925 :—

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

Visiting Physician, Dr. R. I. RICHARDSON.

Resident Physician, Dr. J. A. SCOTT.

Diseases.	Remaining Dec. 31st, 1924.	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.	138	1,114	—	1252	—	358	768	105	3	21	1·88
Enteric Fever.	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ...	—	1	—	1	—	—	—	1	—	—	—
Measles ...	—	1	—	1	—	—	1	—	—	—	—
Other Diseases	4	17	—	21	—	—	14	3	1	4	23·53
Isolation and Observation Cases ...	3	10	—	13	—	—	12	1	—	—	—
Totals ...	145	1143	—	1288	—	358	795	110	4	25	2·19

CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. RITA HENRY.

Diseases.	Remaining Dec. 31st, 1924.	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.
Enteric Fever..	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever.....	85	463	—	548	165	—	308	63	2	12	2·59
Diphtheria	—	1	—	1	—	—	—	—	—	1	100
Measles	16	355	—	371	—	—	335	10	1	26	7·32
Other Diseases.....	1	34	—	35	—	—	30	1	—	4	11·76
Isolation & Observation Cases.....	4	15	—	19	—	—	15	4	—	—	—
Totals	106	868	—	974	165	—	688	78	3	43	4·95

FAZAKERLEY SANATORIUM.

Medical Superintendent, Dr. C. RUNDLE.
Principal Resident Medical Officer, Dr. W. CRANE.
Assistant Resident Medical Officers, Drs. A. E. CONNOLLY and B. G. ELLIOTT.

Diseases.	Remaining Dec. 31st, 1924.	Admitted during the year.	Transferred from other City Hospitals	Total under Treatment during the year.	Transferred to Convalescent Hospital	Transferred to other City Hospitals	Discharged.	Remaining at end of year	Died within 48 hours of Admission	Total Deaths
Tuberculosis	305	389	—	694	—	—	308	314	—	72

CITY HOSPITAL, FAZAKERLEY ANNEXE.

Medical Superintendent, Dr. C. RUNDLE.
Assistant Resident Medical Officer, Dr. ELSIE BURNS.

Diseases.	Remaining Dec. 31st, 1924.	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.....	100	471	141	712	10	2	617	71	1	12	2·5
Enteric Fever	—	1	—	1	—	—	—	1	—	—	—
Diphtheria	—	126	—	126	—	—	102	19	—	5	3·9
Measles	2	135	—	137	—	1	121	—	1	15	11·1
Whooping Cough ...	19	7	—	26	6	—	17	—	—	3	42·8
Other Diseases.....	—	40	—	40	—	—	39	—	1	1	2·5
Isolation and Observation Cases	2	2	—	4	—	—	4	—	—	—	—
Totals	123	782	141	1,046	16	3	900	91	3	36	4·6

CITY HOSPITAL, FAZAKERLEY.

Medical Superintendent, DR. C. RUNDLE.

Principal Resident Medical Officer, DR. A. E. HODGSON.

Assistant Resident Medical Officers, DRS. C. ABERNETHY and L. DENIL.

DISEASES.	Remaining Dec. 31st, 1924.	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...	129	683	136	948	—	18	870	35	1	25	3·6
Enteric Fever..	1	21	—	22	—	—	21	—	—	1	4·8
Diphtheria.....	18	242	1	261	—	—	230	24	6	7	2·9
Smallpox	—	—	—	—	—	—	—	—	—	—	—
Measles	6	199	—	205	—	1	189	—	2	15	7·5
Whooping Cough.....	1	72	1	74	—	3	53	—	2	18	25·0
Phthisis	—	—	—	—	—	—	—	—	—	—	—
Other Diseases.	60	682	6	748	—	8	556	97	24	87	12·7
Isolation and Observation Cases.....	—	23	2	25	—	2	22	1	—	—	—
Totals.....	215	1922	146	2283	—	32	1941	157	35	153	8·0

CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, DR. H. A. CLARKE.
Resident Medical Officer, DR. F. WEIGHTMAN.

DISEASES.	Remaining Dec. 31st, 1924.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	22	217	—	239	41	—	147	40	4	11	5·1
Enteric Fever	—	—	—	—	—	—	—	—	—	—	—
Diphtheria.....	113	1007	—	1120	—	—	933	107	21	80	7·9
Measles	—	—	—	—	—	—	—	—	—	—	—
Other Diseases	3	19	—	22	—	—	10	1	6	11	57·9
Isolation and Observation Cases ...	4	20	—	20	—	—	20	—	—	—	—
Totals.....	142	1259	—	1401	41	—	1110	148	31	102	8·10

CITY HOSPITAL, SPARROW HALL.

Medical Superintendent, DR. C. RUNDLE.

DISEASES.	Remaining Dec. 31st, 1924.	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 Admission
Scarlet Fever.....	48	240	304	592	—	9	532	46	—	5	2·1
Enteric Fever	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough...	2	34	9	45	—	3	37	—	—	5	14·7
Diphtheria.	—	1	—	1	—	—	—	—	—	1	100·0
Measles	1	2	—	3	—	—	3		—	—	—
Other Diseases	16	168	16	200	—	3	188	7	—	2	1·2
Isolation and Observation Cases	5	1	—	6	—	—	6	—	—	—	—
Total	72	446	329	847	—	15	766	53	—	13	2·9

HIGHFIELD SANATORIUM.

Medical Superintendent, Dr. H. R. MACINTYRE.
Senior Resident Medical Officer, Dr. W. H. BROWN.
Assistant do do. Dr. MARGT. FERRIER.
do. do. do. Dr. H. A. THOMAS.
do. do. do. Dr. T. K. HUGHES.

Disease.	Remaining 31st Dec., 1924	Admitted during the year.	Total under Treatment during the year.	Transferred to Convalescent Hospital	Transferred to other Sanatoria.	Discharged.	Remaining at end of year	Died within 48 hours of Admission	Total Deaths
Phthisis.....	323	580	903	—	—	457	319	—	127

SANITARY ADMINISTRATION.

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

	Males	Females
*Chief Sanitary Inspector	1	—
*Deputy Chief Sanitary Inspector	1	—
*Prosecuting Sanitary Inspectors	10	—
*District Sanitary Inspectors	34	—
[1]Food Inspectors	9	—
(These Inspectors and the Port Sanitary Inspectors assist in carrying out the provisions of the Diseases of Animals Acts)		
*Inspectors under the Food and Drugs, etc., Acts ...	3	1
* ,, of Cowsheds and Milkshops	2	—
* ,, under the Shops Acts	2	1
* ,, ,, Factories and Workshops Acts	4	—
(These Inspectors are also appointed under the Shops Acts)		
[2]Smoke Inspectors	3	—
[3]Inspectors of Common Lodging Houses and Houses let in Lodgings	17	—
*Inspectors of Canal Boats	1	—
[4]Ambulance and Disinfecting Superintendents and Inspectors	14	—
Motor Ambulance Drivers	7	—
Rat Catchers, &c....	11	—
Men engaged stripping walls and spraying infected houses, limewashing middensteads, etc. ...	22	—
*Notice Servers	3	—
Chief Clerk	1	—
Clerical Staff (Permanent)	30	—
,, ,, (Temporary)	3	1
,, ,, (Health Visitors, etc.)	—	6
,, ,, (Tuberculosis Branch)	2	11
[5]Health Visitors, School Nurses, etc. (Permanent) ...	—	67
[5] ,, ,, ,, ,, (Temporary) ...	—	14

	Males	Females
[6]Inspectors under the Midwives Act	—	2
[7]Ophthalmia Neonatorum Nurses	—	2
Superintendent and Assistants at Infant Milk Centres (Permanent)	1	12
Temporary Assistants at Infant Milk Centres ...	4	30
[8]Nurses at Tuberculosis Institutes	—	7
Caretakers at Tuberculosis Institutes	2	—
,, Ford Street Mortuary	—	1
,, City Laboratories	1	—
Cleaners at City Laboratories	—	6
Staff at Seamen's Dispensary	3	1
Women engaged cleansing Verminous Children ...	—	2
Day Nurseries, Maternity Home and Clinics.		
Matrons	—	9
Deputy-Matrons	—	6
Nurses and Probationers	—	46
Domestic Staff, including Gardeners and Cleaners ...	3	60
Sempstresses	—	3
Total number of Staff	194	288

In every case Officers are selected for these positions whose previous training and occupation have been such as to fit them for the special duties they are called upon to discharge. Those marked * are required to hold a certificate affording evidence of adequate sanitary instruction. [1] Have special training in each branch of the work, *i.e.*, Butchers, Fishmongers, Fruiterers, &c., are also certificated. [2] Hold Marine Engineer's First Class Certificates. [3] All hold the certificate of the Liverpool University School of Hygiene, the Royal Sanitary Institute or an equivalent thereto. [4] The Ambulance Superintendent holds the certificate of St. John Ambulance Association. [5] Fully-trained and Certificated Nurses or other special qualifications. [6] Registered Midwives with special qualifying certificates. [7] Fully-trained Nurses with special training in Ophthalmia Neonatorum. [8] Fully-trained Nurses. The additional certificates usually held by the Health Visitors' Staff, in addition to the certificate of training as a nurse are those of the Central Midwives' Board, the Liverpool University School of Hygiene, the Royal Sanitary Institute, and, or, the Sanitary Inspectors' Examination Board.

COMPLAINTS OF NUISANCES.

In all complaints of nuisances the district sanitary inspector visits the same day as he receives the complaint, and on his report an informal notice is served upon the person responsible for the nuisance. A statutory notice follows the issue of the informal notice, and if the informal notice is not complied with when re-inspected by the district inspector, the matter is referred to the prosecuting inspector, upon whom is placed the responsibility of seeing that the nuisance is abated.

The number of occasions upon which the advice and assistance of the Health Department have been sought has increased during the year. These applications fluctuate year by year; in 1910 they were 9,354; in 1920, 18,730; in 1921, 20,688; in 1922, 18,934; in 1923, 17,900; in 1924, 18,626; and in 1925, 19,075. As in former years, complaint in many cases was made to the department only after repeated requests addressed to the persons causing or allowing the nuisance, or to the owners or agents of property, had been ignored. A great deal of the time of the inspectors was taken up by these special examinations.

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

Last year 26,533 nuisances were discovered as the result of complaints. Preliminary notices were served either on the owners or occupiers to remedy 21,805 nuisances. The remaining 4,748 nuisances came within the province of other departments, and were referred to those departments to be dealt with.

HOUSE TO HOUSE INSPECTION.

One of the most important duties placed upon Sanitary Authorities is that of house-to-house inspection. The Public Health Act provides that this should be done systematically by the officers of the local authority, and the importance of this work is indicated by the extent of the house-to-house inspection which is done within the city.

The value of this work is also recognised by owners of property who prefer that they should receive all notices at one time, thus avoiding

the unnecessary expenditure which would result if the notices were served at different periods.

In the course of house-to-house inspection 64,071 nuisances were discovered, to remedy which preliminary notices were served on either the owner or the occupier. A number of defects were also referred to other departments.

On re-inspection, the number found not abated was 21,928, and statutory notices were served to remedy them. These were again re-inspected by the district inspectors, and those found not abated were referred to the prosecuting inspectors for further action. In addition, all nuisances found in process of being abated, or to which the district inspector was unable to gain access for re-inspection, were referred to the prosecuting inspectors.

The following table shows the number of nuisances found by the district sanitary inspectors, and the character of the proceedings taken by the prosecuting sanitary inspectors to abate the nuisances, with the results :—

Number of complaints made by inhabitants	19,075
,, nuisances discovered on above complaints ...	26,533
,, ,, ,, on house to house inspection	64,071
Total nuisances	90,604
,, notices issued (owners)	67,107
,, ,, (occupiers)	400
Total notices	67,507
,, notes to complainants	—
,, visits to premises under observation	875
,, incidental calls	25,945
,, special nuisances referred to prosecuting inspectors	21,805
,, ordinary nuisances referred to prosecuting inspectors	22,809
Total	44,614

Number of visits made by prosecuting inspectors, re special reports	40,420
,, visits made by prosecuting inspectors, re ordinary reports	28,746
Total	69,166
,, re-inspection of nuisances	117,415
,, nuisances abated on first re-inspection	38,871
,, notes sent to comply with notices	4,263
,, re-tests of drains after compliance with notices ...	8
,, informations laid	241
,, magistrates' orders	126
,, fined	27
,, acquitted or withdrawn	88

For visitations in house to house inspection see page 194.

OFFENSIVE TRADES.

There are at present within the city 62 premises in which offensive trades are carried on, an analysis of the trades being as follows :—

Trade.	No. of Premises.
Fat melting	10
Soap boiling	11
Tripe boiling	7
Tanneries	5
Gut scraping	5
Knackers' yard	2
Fellmongers	2
Bone boilers	2
Rabbit skin stores	2
Resin burning	2
Oil refiners	1
Fertilisers	2
Palm oil, etc.	2
Hides and skins	1
Lard compound	1
Dripping	7

During the year six applications to carry on offensive trades were considered by the Health Committee, of this number five were granted and one declined.

When permission is granted, conditions are imposed requiring that the premises be put in order to the satisfaction of the City Engineer Building Surveyor and Medical Officer of Health, that no public or private nuisances be caused, and that the business be discontinued whenever the Council shall so require.

The number of inspections of premises where offensive trades are carried on was 1,730.

DETAILS OF VISITS.

Number of visits to	Bone boilers	76
,,	Bone stores	68
,,	Cotton seed oil works	—
,,	Destructors	13
,,	Dripping factories	159
,,	Fat and tallow melters	388
,,	Fellmongers	9
,,	Fertiliser works	54
,,	Fish oil works	6
,,	Gut scrapers	189
,,	Hide and skin works	71
,,	Knackers' yard	117
,,	Lard refiners	5
,,	Oil refining	24
,,	Oleo-margarine works	19
,,	Paint and resin works	1
,,	Palm oil works	7
,,	Patent manure works	7
,,	Rabbit skin stores	36
,,	Seed crushers	4
,,	Soap boilers	231
,,	Tanneries	52
,,	Tar and naphtha works	7
,,	Tripe boilers	187
	Total	1,730

FACTORY AND WORKSHOP ACT, 1901.

Factories, Workshops, and Workplaces.

All factories, workshops and workplaces are systematically visited by four inspectors appointed under the Act, the various premises being grouped in districts so as to secure the maximum number of visits in the minimum time.

Total number of Factories	1,930
,, Workshops	3,540
,, Workplaces	353
,, visits	14,102

Bakehouses.

During the past 25 years there has been a gradual but marked decline in the use of underground bakehouses, and since the passing of the Factory and Workshop Act, 1901, 325 underground bakehouses have been closed.

Many causes have led to the closing of underground bakehouses, but the main cause has been due to the retirement of the small master baker, the merging of smaller businesses into larger firms, the business competition of larger firms, and the centralisation of baking in well equipped up-to-date factories, provided with modern baking appliances. In a few instances, bakehouses have been closed owing to the premises having been acquired and used for other purposes.

During the year 4,472 visits were paid to bakehouses.

Number of bakehouses on register, 31st December	629
,, special visits to bakehouses on complaints ...	68
,, ordinary visits to bakehouses	3,470
,, re-inspections of incorrect premises	934
Total visits	4,472
,, occasions on which bakehouses were found incorrect	860
,, sanitary defects found	790
,, notices issued	344

All the above notices were complied with by the owners or occupiers.

DERMATITIS AMONGST BAKERS.

At an annual conference of Operative Bakers held in August, 1925, reference was made to the existence of dermatitis amongst bakers, and the absence of adequate washing facilities in the bakehouses was emphasised.

On October 2nd, 1925, His Majesty's Chief Inspector of Factories for the northern district had an interview with the Medical Officer of Health in respect of the above. In view of the press comment inquiries were made at 300 bakehouses employing close upon 400 men, and only four mild cases were discovered, all of which were at the time receiving medical attention.

In the majority of bakehouses within the city a suitable sink is provided with water direct from the main, and hot water is always available, being a necessity in the process of mixing.

In January, 1926, a representative of the Home Office, London, visited a number of factories employing about 60 operatives, and made inquiries in regard to washing facilities.

FACTORY AND WORKSHOP ACT, 1901.

Homework.

In accordance with the provisions of the Act, outworkers returns are received twice yearly, and the premises referred to in the returns are visited by the district sanitary staff to ascertain (*a*) that the sanitary condition of the premises is satisfactory, and (*b*) to ascertain if the premises are used as "domestic workshop" or "workshop." The following statement shows the work undertaken during the year, viz. :—

Number of outworkers' returns received	346
,, visits to premises	358
,, premises incorrect	Nil.

RESTAURANT KITCHENS.

All kitchens in connection with cafés and restaurants are systematically visited, particular attention being paid to the cleanliness of the premises and of the workers employed in the kitchen.

Total number of visits during the year	1,634
Number found incorrect	115

INSPECTION OF STABLES AND REMOVAL OF MANURE.

Stables within the city are systematically visited by two inspectors, who devote a great portion of their time to the work, constant attention being paid to the frequent removal of the manure and general sanitation.

A leaflet is served on the occupiers of stables intimating the grave danger to public health which may arise from flies, and the necessity to adopt all possible precautions and attack their breeding places. The co-operation of the occupiers of all stables is asked, in order that the means adopted by the Health Committee for the extermination of flies may be successful, and as a result, in a large number of cases, middensteads have been dispensed with, the manure being removed daily by the City Engineer's Department.

The total number of visits to stables during the year was 11,995.

MIDDENSTEADS.—To check the breeding place of flies, the middensteads in connection with stables are systematically sprayed.

The number of middensteads sprayed with lime during the year was 15,668.

In connection with stables, new bye-laws have been framed, and their confirmation by the Ministry of Health is expected shortly.

SHOPS ACT, 1912, 1913.

In accordance with the provisions of the Shops Acts, a register of all shops within the city is kept up to date by systematic visitation, the Health Committee have made 15 half-holiday orders, and eight closing orders under the Act, and day and night visits are made to see that the provisions of these orders are carried out.

With regard to the half-holiday orders, the majority of the shops are closed at 1.0 p.m. on Wednesday.

The Shops (Early Closing) Act, 1920, is also administered by the officers appointed under the Shops Acts.

The shops inspectors, in addition to their duties under the above Acts, are also concerned in the provision of sanitary conveniences in shops,

and the carrying out of that portion of the Public Health (Meat) Regulations which have reference to the sanitary condition of premises in which meat is sold or exposed for sale. They are also responsible for seeing that the shops are provided with suitable receptacles for trade refuse.

The officers of the Health Committee have received valuable assistance from the city police in carrying out the provisions of the Shops Acts and Orders made thereunder.

The female inspector, in addition to her duties under the Shops Acts, has also carried out the provisions of the order made by the Ministry of Health (Circular 325) with reference to "prohibition of the employment of women after childbirth." In this connection 944 visits have been made to factories and workshops within the city. In each case, the female overseer was interviewed and the requirements of the order explained and, as a result of her visit and explanation of the order, it may be anticipated that every precaution will be taken to see that the provisions of the order are carried out.

SHOPS ACTS, 1912/13 AND SHOPS (EARLY CLOSING) ACT, 1920.

During the year 320 complaints were received mainly in regard to the contravention of the Half-Holiday Order.

Number of complaints	320
,, visits by day	10,222
,, visits after 6 p.m.	164,005
,, informations	433
,, convictions	220
,, withdrawn	62
,, discharged cautioned	151

In addition to the above, it was found necessary to caution persons by letter for minor infringments of the Acts.

SHOPS' TRADE REFUSE.

Number of notices issued to provide bins for trade refuse ...	1,384
Number of bins provided	1,384

PREMISES LICENSED FOR PUBLIC DANCING, SINGING AND MUSIC.

In consequence of a complaint having been received by the Justices of the inadequacy of the sanitary arrangements in connection with the above halls, the Theatres Public Entertainments Committee asked the Health Committee to allow their officers to examine various premises.

In compliance with the request, the various premises were inspected and the report subsequently submitted to the Justices.

Total number of premises visited	132
Total number found incorrect	105
Number of premises in which the requirements were eventually complied with	89
Number of premises in which the requirements were pending	12
Number of premises eventually disused	4

The defects returned in the premises being incorrect had reference mainly to drinking water taps not being labelled, and the absence of suitable wash-basins, and insufficient urinal accommodation.

ST. NICHOLAS' CHURCH.

To meet the requirements of the church it was necessary to extend the church premises by the erection of choir vestries, etc., and before this was done a number of bodies were removed and re-interred in Walton Park Cemetery. The work was done by the contractors in a most satisfactory manner and no complaints were received.

CELLARS.

In view of the serious shortage of housing accommodation there is a tendency to re-occupy cellars as separate dwellings, many of which have been closed for several years, consequently it is necessary to make an annual inspection of all cellars, and if any are found re-occupied, the usual notice is served.

Examination of Cellars and Cellar Dwellings.

Number of inspections of street cellars	30,327
,, found illegally occupied	204
,, of inspections of court cellars	166
,, found illegally occupied	1
,, of notices issued to cease letting or occupying ...	147

REFERENCES.

The co-operation which the Public Health Department receives from other departments of the Corporation is fully appreciated, and as a result sanitary defects are brought to notice, and at once dealt with by the Sanitary Department. Were it not for this early intimation it is possible that defects might remain undiscovered until such time as the district inspector visits the premises in the course of house-to-house inspection.

References from other departments.

From City Engineer	4,694
,, Water Engineer	8,596
,, Lodging-house inspector	10,778
,, Education Department (suspected infection in school children)	13,417

References to other departments.

The officers of the Public Health Department also co-operate with other departments by referring matters which are not within their province to deal, such as waste of water, choked gullies, defective street and passage pavements, dangerous walls, floors and roofs.

To City Engineer	9,247
,, Building Surveyor	5,345
,, Water Engineer	8,726
,, Education Department, school children suffering from infectious diseases ...	27,626
,, Other departments	1,341

RATS AND MICE (DESTRUCTION) ACT, 1919.

Active measures have been taken within the city throughout the year to ensure the destruction of as many rats as possible, and also to bring to public notice the necessity for reducing the rat population to the lowest possible dimensions. There are special reasons for a constant campaign against rats in Liverpool. The first being the possibility of the spread of plague, a disease which from time to time is brought into the port. The destruction and damage to property, foodstuffs, etc., by means of rats further justifies the stringent measures which are constantly being taken against these vermin. In this connection the co-operation of warehouse owners and occupiers of rat-infested premises is always sought and obtained.

Ten rat-catchers are constantly engaged in the extermination of rats, four being engaged in connection with the extermination of rats in warehouses, which are visited every three months, in accordance with arrangements made with the Ministry of Health. For the purpose of systematic inspection the city has been divided into six districts, and the remaining six rat-catchers systematically visit cafés, fried fish shops, grocery shops, foodstores, bread shops, and all other places where rats are likely to be found. When a rat-catcher visits rat-infested premises, he operates for a few days, and by so doing indicates to the occupier methods whereby the occupier himself can help in the extermination of rats. In the event of the occupier failing to take action a notice is served under the Rats and Mice (Destruction) Act, 1919.

The assistance given by the rat-catchers is appreciated by occupiers and owners of premises, who are always willing and anxious to do what they can in the extermination of rats.

To save the time of the rat-catchers and to provide for the destruction of the rats as quickly as possible, each rat-catcher is met at a certain place each morning, the rats being collected and labelled in the minimum time and a proportion of the rats taken the same day for examination by the City Bacteriologist.

The City Engineer's Department in previous years has done valuable work in catching rats in public sewers, and these rats are also collected and dealt with in the same way.

Copies of the memorandum prepared by the Medical Officer of Health as to the destruction of rats have been widely circulated, and postcards are left with the warehouse keepers so that the information may be at once obtained in the event of any unusual mortality amongst rats.

An office record is kept indicating the number of complaints received and a register of all premises visited, the rat-catcher enters in his daily report book full details of the day's work.

It has not been found necessary to take proceedings for non-compliance with the provisions of the Act.

To ascertain from time to time the condition of the city in regard to rat infestation a weekly return is obtained from all the officers employed by

the health department, who in the ordinary course of their daily duties visit different types of premises, and at the same time make inquiries in regard to the presence of rats. In the event of an intimation that rats exist in premises, the rat-catcher at once visits.

SUMMARY OF RAT INVESTIGATIONS.

Number of visits to warehouses searched by rat-catchers ...	9,763
,, rats caught	5,569
,, shops, foodstores, cafés, etc., visited and searched by rat catchers	19,351
,, rats caught	4,978
,, rats caught by city engineer (sewerage dept.) ...	6,043
,, rats caught in public markets	1,573

Number of visits and inspections made by inspectors during their ordinary visits to dwelling-houses, common lodging-houses, houses let in lodgings, and canal boats :—

Total number of visits	461,633
With evidence of rats	893

Number of visits and inspections made by inspectors to factories and workshops, shops, food stores, slaughter houses, fried fish shops, cowsheds, piggeries, ice-cream shops, etc. :—

Total number of visits	197,709
With evidence of rats	70

Number of visits and inspections made by inspectors to offensive trades and stables :—

Total number of visits	18,489
With evidence of rats	42

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 or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices	Prosecutions.
Factories ... ... (Including Factory Laundries.)	4,810	389	—
Workshops ... ... (Including Workshop Laundries).	12,130	1,019	—
Workplaces ... ... (Other than Outworkers' premises included in Part 3 of this Report.)	1,634	61	—
TOTAL	18,574	1,469	—

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

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :**				
Want of cleanliness	1,374	1,374	—	—
Want of ventilation	19	19	—	—
Overcrowding	2	2	—	—
Want of drainage of floors	1	1	—	—
Other nuisances	1,260	1,260	—	—
Sanitary accommodation—				
Insufficient	34	34	—	—
Unsuitable or defective	661	661	—	—
Not separate for sexes	15	15	—	—
Offences under the Factory and Workshop Acts :—				
Illegal occupation of underground bakehouse (s. 101)...	2	2	—	—
Other offences ... ... (Excluding offences relating to outwork and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)	—	—	149	—
TOTAL	3,368	3,368	149	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

There were no cases of outwork in unwholesome premises (sec. 108) during the year.

AMBULANCE AND DISINFECTING STAFF.

There were 6,595 cases of infectious disease removed to hospital by officers of the ambulance staff during the year.

The number of rooms stripped or sprayed was 4,046, and the number of rooms disinfected was 38,546. There were also 2,773 library books disinfected.

The number of articles (bedding, clothing, etc.) disinfected at the disinfecting apparatus was 73,653. In addition there were 3,021 hanks of hair and 196,985 bags.

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.

DISINFECTION OF VERMINOUS PERSONS.

Typhus fever, which is a vermin-transmitted disease, has caused the Ministry of Health and also the American Health Authorities to view the arrival of emigrants and trans-migrants from these countries en route to America with some anxiety.

The emigration houses where these people are housed, pending the sailing of the vessel, are kept under strict supervision by the lodging-house inspectors; they are visited daily, and all cases of infectious illness promptly reported to the shipping company's doctor and the local health authority. The bedding is also frequently examined and attention is given to the occupation of the rooms to prevent over-crowding and to ensure cleanliness.

MORTUARIES.

The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed or found dead,, and upon which the Coroner desires to hold inquests. Bodies are taken to this mortuary by the police, and when it is necessary to make post-mortem examinations. During the year the number of bodies removed to Prince's Dock Mortuary was :—From the river, 7, and from the city, 363.

The method of transport of the bodies of persons killed, or found dead in the street, has been adequately provided for, the Health

Committee having arranged, through the Chief Constable, with a firm of undertakers to supply a hearse on short notice, together with a shell coffin. This arrangement has proved satisfactory.

The district mortuaries are seldom used. For the conveniece of juries, as well as for other reasons, it is preferable that bodies should be conveyed to the central mortuaries. The Ford Street mortuary is provided for the reception of bodies which cannot be kept at the homes in which death had taken place, without possible injury to the health of the inmates, and is also used for the reception of stillbirths. The number of bodies received during the year was 364.

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 Crematorium is attached to a Chapel, beneath which is a spacious columbarium, or chamber, fitted with small niches, used as the resting places for urns holding the ashes of the dead. The niches are closed with marble slabs bearing suitable inscriptions.

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

1896	2	1912	52
1897	10	1913	66
1898	27	1914	49
1899	23	1915	53
1900	40	1916	58
1901	40	1917	62
1902	54	1918	70
1903	35	1919	88
1904	40	1920	70
1905	35	1921	74
1906	46	1922	74
1907	34	1923	62
1908	32	1924	74
1909	46	1925	75
1910	37		
1911	50		1,478

The charge for a cremation is £5 5s., and arrangements can be made for the retention of the ashes in a suitable receptacle in the columbarium attached to the building, or they can be disposed of by burial or in other ways to meet the wishes of those concerned.

The Crematorium buildings are open to the public from 9.30 a.m. to 4 p.m. on week-days (except Saturdays 9 a.m. to 1 p.m.), and from 2 p.m. to 5 p.m. on Sundays. All information, with the necessary forms, may be obtained from the manager at the Crematorium, by letter or telephone (telephone No. 267 Anfield), and at the Public Health Department, Municipal Buildings, Dale Street.

SMOKE NUISANCES.

Proceedings for the abatement of nuisances caused by the emission of excessive smoke from factories, steamers, etc., were taken under the following Act :—

The Liverpool Corporation Act, 1921.—*Sections* 472 *and* 473.

Reports of Excessive Smoke.

Number of reports *re* Factories	29
,, ,, *re* Steamers in Dock	20
,, ,, *re* Steamers in River	132
Total	181

Admonished by the Health Committee or written to in respect of nuisances caused by the emission of excessive smoke :—

Manufacturers	4
Steamship Owners	62
Total	66

Cautioned.

Manufacturers	719
Steamship Owners	148
Total	867

Informations for Excessive Smoke.

Informations against Occupiers of factories	26
,, ,, Owners of steamers in river ...	86
,, ,, Owners of steamers in dock ...	4
Total	116

ACQUITTED OR WITHDRAWN.

Factories	0
Steamers	5
Total	5

FINED.

Factories	26
Steamers	85
Total	111

AMOUNT OF FINES.

Factories	£28 14 0
Steamers	£66 6 0
Total	£95 0 0

SMOKE INSPECTION.

The number of references and complaints received relating to defective house flues showed a large decrease during the past year. This has enabled the inspectors to give considerably more of their time to observation work on factories and steamers.

Total complaints received of nuisances caused by smoke from defective state of house flues, low chimneys, etc.	291
Visits relating to same	1,868

Chimneys raised in consequence of complaints received...	10
Flues altered or repaired	216
Complaints under observation	38
Complaints referred to other departments	1
Complaints not sustained	26
Total	291

SMOKE ABATEMENT.

Industrial Smoke.

Improvements.—The past year has been a year of general trade depression, and a number of factories have been closed down for periods during the year, while others have been working three and four days per week. Considerable improvement has, however, been made with the installation of large water tube type boilers, together with mechanical stokers and forced draught in two of our largest factories. Improvements have also been brought about by the introduction of electric motors, the current being obtained from the Corporation supply, thus replacing hand-fired steam boilers. Small boilers of the vertical type when fired with coal as fuel cause considerable nuisance, and users of this type of boiler have been advised to substitute coke for coal, or to change the type for horizontal boilers, with beneficial results.

Steam Waggons.—This type of transport was the cause of considerable nuisance on the thoroughfares of the city, but the number now working being considerably less, and the fact that drivers take more care with the charging of furnaces considerable improvement has followed. No information has been laid against any driver, and it has only been necessary to caution some of them.

Low chimneys.—From complaints received and observations taken it was found necessary to have ten chimneys raised during the year. It is often found that any products of combustion emitted from a chimney cause a nuisance to surrounding inhabitants. Sometimes it is possible to minimise the nuisance by the use of better fuel, but when this could not be done, notices were given to raise the chimney.

Steamers in dock and on the river.—Special observations have been continued with regard to excessive smoke emitted from steamers in dock and plying on the river. There were 152 reports of excessive smoke from steamers in dock and on the river, 62 of which related to foreign-going steamers, no proceedings being taken on this account, but the owners were communicated with in respect of the nuisance. The number of convictions in the other cases was 85. A slight improvement is shown on the previous year, but there is still room for further improvement.

There is no legislation to deal with this nuisance. Individually the amount of smoke emitted from the domestic fireplace is small. In the aggregate it is heavy, almost as heavy as that of the industrial chimneys. While many improvements have been made to reduce industrial smoke, little or nothing has been done to reduce domestic smoke. From observations taken the amount of smoke from domestic fireplaces is bad.

The substitution of coke for coal where possible, and the conversion of open hearths to gas fires and electric radiators would be beneficial, and would considerably assist in making the city a cleaner place to live in.

ATMOSPHERIC POLLUTION.

The analyses of the deposits collected from the atmospheric pollution gauge at the North Tuberculosis Dispensary in Netherfield Road are shown in the table (page 192). This is the fifth complete year's record since the gauge was reinstalled at the end of the war. It will be seen that deposits of soot and other material fell on every square mile of that part of the city in amounts averaging 50 tons per month, as against 51 tons in 1924 and 59 tons in 1923.

The collected rainwater was acid for five months out of the twelve, namely, January, February, October, November and December, this corresponds to the winter months, when domestic fires are most in use. The acidity is mainly due to the combustion of the sulphur compounds in coal. It is this acidity which has such a deleterious action on bronze statues and stone work containing large amounts of carbonate of lime.

It will be seen that about two-thirds of the deposits consists of mineral matter. The remainder is mainly sooty matter derived, in residential districts, mostly from domestic fires consuming coal. Relief is mainly to be sought in the increased use of electricity, of gas, and of smokeless fuels. These particles of suspended matter assist in the production of fogs and diminish to a considerable extent the amount of sunlight received, especially tending to cut off the ultra violet rays, whose action is of value in the prevention of rickets and other affections.

RESULTS OF ANALYSES BY THE CITY ANALYST (RESULTS CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Totals for 12 months.
Sum Total Solids	49·306	45·877	39·155	61·021	57·772	16·881	55·417	42·500	58·970	58·839	68·367	50·107	604·212
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·670	0·890	0·364	0·675	0·793	0·214	0·358	0·331	0·485	0·625	0·377	0·794	6·576
Other Organic Matter	8·160	8·004	6·646	10·621	10·894	4·901	9·870	7·786	10·142	9·970	10·327	7·795	105·116
Mineral Matter	17·284	16·009	16·073	24·286	22·386	9·267	23·825	12·923	16·603	21·375	20·681	21·026	221·738
Total Undissolved Matter ...	26·114	24·903	23·083	35·582	34·073	14·382	34·053	21·040	27·230	31·970	31·385	29·615	333·430
DISSOLVED MATTER—													
Organic Matter by Ignition	10·223	9·254	7·107	9.703	9·083	0·997	10·976	8·05	13·960	9·820	16·060	7·685	112·918
Mineral Matter	12·969	11·720	8·965	15·736	14·616	1·502	10·388	13·41	17·78	17·049	20·922	12·807	157·864
Total Dissolved Matter	23·192	20·974	16·072	25·439	23·699	2·499	21·364	21·460	31·740	26·869	36·982	20·492	270·782
Alkalinity as NH_3	—	—	0·038	0·064	0·097	Not Estimated	0·111	0·15	0·104	—	—	—	0·564
Acidity as H_2SO_4	0·188	0·905	—	—	—		—	—	—	0·630	0·454	0·313	2·490
Chlorine as C_l	3·904	3·501	1·678	5·120	1·960		1·789	1·425	3·832	2·108	2·784	2·726	30·827
Ammonia as NH_3	0·416	0·630	0·248	0·507	0·734		0·782	0·793	1·403	0·923	0·793	0·516	7·745
Sulphate as SO_3.....	5·602	4·021	5·049	5·628	7·802		5·144	6·928	8·718	8·960	12·507	6·042	76·401
Lime as CaO	1·866	2·776	1·183	2·621	1·777		1·187	1·790	0·948	0·512	8·588	2·080	25·328
RAINFALL { Millimetres ...	38·530	120·960	16·590	51·420	77·450	2·170	58·190	87·660	124·500	101·310	73·240	62·770	814·790
RAINFALL { Inches	1·50	4·76	0·65	2·02	3·05	0·085	2·29	3·45	4·90	3·99	2·88	2·47	31·945

BACTERIOLOGICAL EXAMINATION OF RATS.

During the year, the usual examination of rats for plague infection was carried out, the number of rats submitted for bacteriological examination being 2,171.

A free Public Lecture entitled "The Rat Menace and how to combat it," illustrated by an interesting cinematograph film, was given by Dr. C. F. White, Assistant Medical Officer, Liverpool, in the Picton Hall, William Brown Street, and was well attended.

SPECIAL VISITS.

Number of visits to railway carriages	577
,, ,, ,, platforms (fish arrivals) ...	157
,, ,, poultry depots	523
,, ,, manure depots	176
,, ,, marine stores	1,004
,, ,, fried fish shops	2,274

Complaints are occasionally received from passengers directing attention to the dirty condition of railway carriages. Railway carriages are from time to time inspected, and if they are found in an unclean condition the Railway Company concerned is informed and the matter receives prompt attention.

The manure depots are situated in close proximity to the North Corporation destructor, and visits are made to these depots to see that the manure which has been received from the stables in the centre of the city is frequently removed so as to avoid the possibility of the depots being the breeding places for flies.

HOUSE TO HOUSE INSPECTION.

The following table indicates the results of the systematic house-to-house visitation by the district male staff :—

Number of street houses examined	145,390
,, court houses examined	3,938
Total	149,328
Number of apartments examined	695,430
,, houses where nuisances existed	39,367

INFECTED HOUSES.

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

Number of street houses where notifiable disease occurred...	17,653
,, court houses where notifiable diseases occurred	312
,, visits to infected houses and cellars (notifiable cases)	24,068
,, visits to infected houses and cellars (School cases)	10,899
,, visits and re-visits to Phthisis cases	6,163
,, enquiries *re* suspected Smallpox contacts ...	216
,, other enquiries	33

COURT AND ALLEY EXAMINATIONS.

Number of inspections of courts and alleys	18,089
,, ,, water-closets	33,986
,, water-closets found dirty, but cleansed by officers' instructions	19,600

PICTUREDROMES.

There are 70 picturedromes situated within the city, and in every case plans have been approved by the Licensing Justices and the Health Committee, prior to the building being used. Particular attention is paid to the facilities provided for the ventilation of the auditorium, and in almost every case mechanical means of ventilation is provided to extract the vitiated air, suitable inlets being also provided.

At the request of the Licensing Justices, officers of the Health Committee systematically visit all picturedromes to see that the means provided for the ventilation of the auditorium is being used, attention also being directed to the condition of the sanitary conveniences, provision of seats for the attendants, the general cleanliness of the premises, and the water supply.

During the year 172 night visits were paid, and on each occasion the premises were found to be in a satisfactory condition, a day inspection is also made so that closer attention may be given to the examination of the sanitary conveniences.

SHAVING BRUSHES.

As a precautionary measure in connection with the possible spread of anthrax from shaving brushes, samples of shaving brushes are purchased weekly from shops in different parts of the city, and all of them are submitted to the City Bacteriologist for examination.

Number of shaving brushes submitted during the year ...	80
,, found infected "Positive B. Anthrax"	1

COMMON LODGING HOUSES.

In the year 1866 there were 1.278 Common Lodging Houses on the Register. These houses were registered under the Liverpool Sanitary Act, 1844, and the Common Lodging Houses Acts of 1851 and 1853.

Bye-laws were made in 1848 and 1860 to regulate such houses. These bye-laws were repealed in 1869, when new bye-laws were made under powers given by the Common Lodging Houses Acts of 1851 and 1853, and confirmed by the Public Health Act, 1875, Sec. 326, and these remain in force at the present time.

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

Further powers to deal with Common Lodging Houses are given under Part 5 of the Public Health Acts Amendment Act, 1907 (adopted in 1912), Sections 69 to 75, particulars of which will be found in the Annual Report for 1913.

Under Sections 69 to 72 of the above Act, 57 keepers were re-registered and 34 deputy-keepers registered.

The annual report for 1913 contains a list showing the number of Common Lodging Houses added to and removed from the Register since 1866.

INSPECTION OF LODGING HOUSES.

Lodging-houses on register, December 31st, 1924	...	158
,, removed from register during 1925	...	16
,, added to the register during 1925	...	11
,, on the register Dec. 31st, 1925 ...	...	153

These houses provided accommodation for 6,713 lodgers.

Visits by day	6,674
,, night	917
Visit to Houses not on Register	200

Informations were laid against keepers for the following offences :—

Receiving lodgers in un-registered houses—

Informations	4
Convictions	2
Withdrawn	2

INFECTIOUS DISEASES.

Twenty-four cases of infectious disease were notified during the year, the necessary disinfection and cleansing of the premises being carried out after each case.

One hundred and nineteen persons living in common lodging-houses were notified as suffering from phthisis. In all cases where patients on discharge from a sanatorium return to these houses, instructions are given regarding the isolation of the patient, and the precautions to be taken to prevent the spread of infection.

Enquiries were also made regarding 100 cases of Trachoma or Conjunctivitis occurring amongst transmigrants passing through Liverpool, the majority of which were notified from various ports in England where they landed from the continent. Prior to sailing for the American continent, persons affected with these diseases are re-examined by the doctors attached to the various shipping companies.

Those rejected are either placed under treatment in the care of the shipping companies or are taken charge of by the Jewish Board of Guardians until they are certified fit to sail, and should they not recover within a reasonable time they are returned home.

During this period the patients are kept under observation by the department and their ultimate destination ascertained, as shewn in the following table :—

TRACHOMA OR CONJUNCTIVITIS.

Cases under treatment 1st January, 1925	3	
,, notified from Hull	93	
		96
,, discovered in Liverpool		4
		100
Number of above who sailed for U.S. of America or Canada		98
Number recovered and waiting to sail		2
		100

There are 20 houses providing accommodation for 663 women lodgers. For details of women's lodging houses see Reports for the years 1909 and 1914.

LIVERPOOL CORPORATION ACT, 1921.

On the 1st February, 1923, after due notice had been given to every Common Lodging House keeper, Section 504, Part 27 (Police), was enforced as follows :—

1. Girls under the age of 17 years shall not be admitted or received as lodgers into any common lodging house unless and only while and so long as such common lodging house shall have been and be approved and certified for that purpose by the Corporation, and the Corporation are hereby empowered to grant such approval and certificates for such period and subject to such conditions (if any) as they may think fit and to revoke or suspend the same as and when they may think fit.

2. Any person offending against the provisions of this section or failing to comply with any such conditions aforesaid shall be liable to a penalty not exceeding £10 and to a daily penalty not exceeding £2.

3. The provisions of this Section shall be in addition to and not in substitution for any other provisions for the time being in force with respect to common lodging houses.

4. Notice in writing of the provisions of this Section shall be given by the Corporation to every common lodging house keeper.

Three houses have been approved under the above section by the Chief Constable, and certified by the Medical Officer of Health.

Twenty houses which are registered to receive transmigrants have been approved and certified. Many of these are owned or used exclusively by the shipping companies.

It has not been necessary to take any legal action under this section during the year.

SEAMEN'S LICENSED LODGING HOUSES.

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

Applications from the keepers of registered common lodging houses for licenses authorising the designation of such registered common lodging houses as seamen's licensed lodging houses, are infrequent, only three such licensed houses now being on the register, providing accommodation for 63 seamen.

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

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

Some years ago the holders of licenses to keep Seamen's lodging houses were authorised by the Board of Trade to board vessels and seek for lodgers, and while this privilege was granted there was an advantage in holding such a license, but that privilege being now withdrawn it does not appear that there is any advantage to the keeper of a common lodging house to have his premises registered as a Seamen's lodging house, hence, probably, the small number upon the register.

HOUSES LET IN LODGINGS.

(SUB-LET HOUSES.)

Overcrowding in sub-let houses was first dealt with under the Nuisance Removal Act, 1855.

The first bye-laws made to deal with these houses were confirmed by the Secretary of State, November, 1866, under powers given by the Liverpool Sanitary Act of 1866, Section 35. These bye-laws required only 300 cubic feet for an adult person if the room was used as a sleeping apartment only, and 350 cubic feet if used as a combined room, *i.e.*, without a separate day-room. Every person above the age of 15 years was considered an adult and two persons between the ages of 6

years and 15 years were considered one adult. No provision was made for cubic space for persons below 6 years occupying a room as a sleeping apartment, with or without their parents.

These bye-laws were amended in 1869 under the Act of 1866, and further amended in 1885 and 1886 under the Public Health Act, 1875, Section 90. Further amendments were made in 1901 requiring 400 cubic feet for each adult person and 200 cubic feet for every person below 10 years. Powers were also given to deal with non-separation of sexes in lodgers' rooms and to enforce the cleansing of stairs and passages used in common.

These bye-laws were amended in 1911, and additional powers were given requiring 400 cubic feet for *each* person occupying a room which is not exclusively used for sleeping purposes, the separation of the sexes, in rooms occupied by the tenant's family, or in rooms over which he retains possession or control. Lodgers are made responsible for overcrowding, and for the separation of sexes, in rooms let to them, and for the cleansing of the floors, and for the cleansing of the stairs, passages, and landings used exclusively by them.

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

INSPECTION OF HOUSES LET IN LODGINGS.

Houses on register, December 31st, 1924	17,267
,, removed from register during 1925	14
,, added to register during 1925	348
,, on register, December 31st, 1925	17,601

DAY VISITS :

Day visits	107,113
Rooms measured	1,965
Floors found dirty	394
Floors found cleansed on revisit...	394
Stairs and passages dirty	108
Stairs and passages found cleansed on revisit	108

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

Not washing floors	13
Not sweeping floors	2
Not cleansing stairs, passages	7

CLEANSING OF WALLS AND CEILINGS.

During the year the following Notices were served on Landlords of houses let in lodgings under Section 7 of the 1911 Bye Laws:—

Preliminary notices to cleanse walls and ceilings ...	18
Houses cleansed	15
Rooms cleansed	81
Houses standing over at end of 1925	3

REFERENCES FROM OTHER DEPARTMENTS.

All these References relate to matters within the province of the department to deal with:—

Received from Sanitary Department	296
,, by anonymous complaints	44
,, by tenants' complaints	55
,, by lodgers' complaints	18
,, by owners' complaints	9
,, by other sources	14

REFERENCES TO OTHER DEPARTMENTS.

The number of matters referred to other departments was:—

Referred to Sanitary Department	11,396
,, ,, (Specials)	190
,, City Engineer	201
,, Water Engineer	2,484
,, City Surveyor	514
,, Female Inspectors	3

NIGHT VISITS.

Overcrowding and Non-Separation of Sexes.

Up to the year 1918 the sub-letting of rooms was almost confined to houses in those districts in the city inhabited by the poorer classes.

Since then, owing to the housing shortage, sub-letting has extended to the houses occupied by the artizan and middle classes.

In these districts many newly married couples unable to obtain houses have been compelled to accept accommodation with relatives or friends, and in the course of time, increases in family and in the ages of the children, with no corresponding increase of accommodation cause overcrowding and inability to properly separate the sexes.

In order to deal with these offences a different method of procedure had to be adopted, which increased the work of the staff and resulted in reducing the number of informations laid against the offenders in these cases.

In all instances where the above infringements of the Bye-Laws are discovered during the night inspections, the offenders are interviewed the following day, and suggestions made or instructions given, whereby these offences can be abated with the least inconvenience to the occupants, e.g., by utilising apartments not at the time used for sleeping purposes, by transferring occupants of overcrowded rooms to rooms not fully occupied; or by obtaining more adequate accommodation in other premises.

Regarding this latter method the inspectors, on their visits by day, record any vacant rooms which they may notice, and which appear to be suitable for occupation.

Subsequent visits are made to ascertain if these instructions are carried out, and only when they are wilfully ignored, and infringements allowed to continue are informations laid against the offenders.

Night visits (between 11-45 p.m. and 2 a.m)	22,600
Number of nights on duty	127
Cases of overcrowding found	935
Visits to instruct how to arrange so to abate overcrowding ...	889
Re-inspection after instructions given	955
Cases of overcrowding abated on re-inspection	678
Informations laid for overcrowding	3
Convictions for overcrowding	1
Dismissed cautioned	2

DETAILS OF OVERCROWDING :

Overcrowding by families occupying 1 room...	253
,, ,, ,, 2 rooms	383
,, ,, ,, 3 or more rooms ...	273

NON-SEPARATION OF SEXES :

Cases found	186
Visits to instruct how to re-arrange so as to separate the sexes	185
Re-inspection after instruction given	218
Cases abated on re-inspection	149
Informations laid	5
Convictions	2
Discharged cautioned	1
Withdrawn	2

The following table shows the number of Houses let in Lodgings on the Register, together with the number of visits for the prevention of overcrowding for the past 12 years :—

Year.	No. of Houses let in Lodgings on Register.	No. of night visits for prevention of overcrowding.	No. of convictions for overcrowding.	Percentage of convictions to number of visits.
1914	16,492	24,309	693	2·85
1915	16,626	21,659	595	2·74
1916	16,827	22,199	636	2·86
1917	16,635	21,746	508	2 33
1918	16,870	19,524	220	1·12
1919	14,636	23,350	191	0·81
1920	15,080	24,596	85	0·34
1921	15,332	24,851	45	0·18
1922	15,802	23,910	50	0·20
1923	16,639	24,118	28	0·11
1924	17,267	22,838	4	0·01
1925	17,601	22,600	1	0·00

The Annual Report for 1913, contains a list shewing the number of "Houses let in Lodgings," added to and removed from the Register since 1866.

CANAL BOATS ACTS, 1877 and 1884, and CANAL BOATS ORDER, 1922.

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 inspections of canal boats during the year was 4,547, 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 :—

Boats on register, 1st January, 1925		310
New boats registered		13
Boats removed from register :—		
Broken up	6	
Left the District	13	
		19
Boats on register, 31st December, 1925		304
,, not seen in the district		21
,, regularly plying on the canal		200
,, ,, ,, on river and docks		83
,, re-registered on account of change of owners		2
,, on which contraventions occurred		*78

Two copies of the registration certificate were issued to owners of boats, owing to the original certificates being worn-out and illegible.

NATURE OF CONTRAVENTIONS :

Unregistered boats used as dwellings	12
No certificate of registration on board, or certificate illegible	16
Registered lettering, &c., not legible	7
Leaky decks	21
Defective decklight	1
,, stoves and stove-pipes	5
Cabins requiring repainting	10
No water cask, and defective water casks	5
Dirty condition of cabins	2
Unregistered cabin occupied	1
Verminous cabins	5
Defective scuttle-covers	3
No fixed sleeping accommodation	1
Defective cabin lockers	1

* Of this number 55 were registered by other Authorities.

Written notices were issued to owners in 20 instances and verbal notices were given to masters in 18 instances, and to owners in 30 instances.

No informations were laid during the year against owners or masters for infringements of the Acts and Regulations.

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

Three motor-propelled boats and fifty-four steam boats are registered by this Authority.

DETAILS OF VISITS TO CANAL BOATS FOUND ON CANAL.

Three hundred and twenty-seven boats were visited. These were registered as follows :—

192	registered at	Liverpool.
42	,,	Runcorn.
3	,,	Leigh.
4	,,	Wigan.
19	,,	Manchester.
13	,,	Chester.
32	,,	Blackburn.
2	,,	Widnes.
20	,,	Leeds.
327		

All these boats were "Wide" boats, 21 being propelled by steam, 34 steam-towed, 4 motor-driven, and the remainder horse-drawn.

The number of inspections of these 327 boats was 3,640, and the population was as follows :—

Men	680
Women	72
Children	31
	783 persons.

detailed as follows :—

Males over 14 years of age	680
,, ,, 5 and under 14	10
,, under 5 years of age	6
Females over 12 years of age	72
,, ,, 5 and under 12	4
,, under 5 years of age	11
	783

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, became adults, and are recorded as such in the above table.
(Regulation iii, Sec. 2, Canal Boats Act, 1877.)

No boats were found on the canal or river, or in the docks, with families on board, who had not a home ashore in addition to that on board.

Thirteen children of school age were found on canal boats during the year. All the children were on trips with their parents during the school holidays.

On May 1st, 1923, the Ministry of Health, under Section 10 of the Canal Boats Act, 1884, issued an Order, cited as the Canal Boats Order, 1922. This Order brings within the scope of the Canal Boats Acts all similar vessels which had hitherto been registered under the Merchant Shipping Acts, and were exempt from inspection. Thirteen boats of this class have been registered as canal boats, under the order, during the year.

In 1903 the inspectors of the Port Sanitary Authority were also appointed as canal boat inspectors. This appointment authorised them to inspect canal boats which ply to and from the docks and on the river.

During the year 907 inspections were made by these inspectors, and 40 contraventions were discovered, which were dealt with. In each instance a written notice was served on the owner. The figures are included in the foregoing totals.

SUPERVISION OF FOOD SUPPLIES.

During the year a great advance has been made in the safeguarding of food for human consumption. Meat especially has received attention under the new Public Health (Meat) Regulations of 1924, which came into operation on the 1st April, 1925. These regulations provide for the cleaner handling, storing and transport of meat, and for the control of the slaughtering of animals. It is now illegal to slaughter an animal for sale unless at least three hours' notice of the intention to slaughter has been given to the Medical Officer of Health. This practice has been carried on in Liverpool for some time, but now that it has become a statutory provision, more control can be exercised, and ample time is afforded for inspection before removal.

Much progress has also been made in the protection of meat and bacon in shops from contamination by dust, flies, etc. The co-operation and assistance of meat and provision traders has enabled the regulations to be carried out effectively in a comparatively short space of time.

Bacon is now dried under cover and the practice of hanging it outside shops has ceased.

Over 200 open-fronted butchers' shops in the city have been fitted with glass windows, with the result that all meat for sale is now under cover.

The objectionable habit of handling meat by customers before sale has almost been eliminated.

In connection with the general subject of food supply, it has been suggested that meat shops might be registered, and protection of a similar character extended to other articles of food, such as fish and fruit.

The food inspection staff consists of well-qualified officers, who systematically examine all markets, shops, factories, etc., where foodstuffs are sold or prepared for human consumption. The system adopted ensures that meat, whether slaughtered in the city or sent in as dressed carcases from other towns, must be inspected and passed by the food inspectors before being sold. To meet the early morning trade at the wholesale markets, the inspection staff begin duty before the markets are open for the retail buyers in order that congestion may not occur through wholesalers being

delayed by waiting for the inspection of their goods. Saturday evenings are also occasions for special inspection work, the shops and markets being systematically inspected until 9 p.m. Sunday is still a very busy day at the abattoir for the slaughter of animals ready for the Monday trade, and it has consequently been necessary to have some of the food inspectors on duty each Sunday. This practice is chiefly due to the lack of proper cooling accommodation at the abattoir, but in all probability Sunday slaughtering will practically cease with the advent of the new abattoir at Stanley.

There has been a decided increase in the number of animals slaughtered in the city during the year, which may be accounted for by the growing tendency of traders to slaughter animals on the premises where the carcases are to be sold, thus avoiding carting the meat through the streets. The following statistics demonstrate the necessity of a definite and systematic food inspection, viz. :—During the year 381,373 animals were slaughtered in the city, 66,619 were brought in dressed from other centres, and 384,985 imported carcases were sold from the market, Gill Street.

There were 5,028 animals which showed abnormal or diseased conditions detained, and a detailed examination made of each. There are no horse flesh shops in the City, but 2,107 horses were slaughtered for export to France and Belgium. These carcases are all inspected and stamped by the food inspector at the slaughterhouses before export.

The Tuberculosis Order of 1925 came into force on September 1st. Under this Order compensation is allowed to any cowkeeper who has a cow on his premises certified by the veterinary inspector to be showing symptoms of tuberculosis. These suspected cows are sent to the abattoir and slaughtered under the supervision of the food inspector and the veterinary inspector. A post-mortem examination is carried out, and if any part of any such animal is used for human food, the Medical Officer of Health must give a certificate in writing to the effect that such meat is free from disease before being sold. In addition to the cows slaughtered under this order from the city cowsheds, a number have been sent in by the county authorities, and the same procedure carried out. A number of carcases of animals slaughtered under the tuberculosis order have also been sent from outside districts. These have all been carefully examined by the food inspector on arrival, and in some cases rejected as being unfit for human food.

ABATTOIRS.

The central abattoir and meat markets, although considerable sums of money have been spent on repairs, remain in the same insanitary state so often reported upon, but great hope is entertained of having the new abattoir and comprehensive meat markets for the sale of home-killed and imported meats, at Prescot Road, Stanley, commenced this year.

A very elaborate scheme has been formulated, and a brief description of the modern methods to be adopted in the new scheme shews that no effort is being spared to erect an establishment commensurate with the trade of the city.

The following is an extract from the report of the Markets Committee :—

All the buildings are steel-framed and so arranged that this framework will carry the meat-hanging rails as well as the fabric. The floors throughout will be constructed of reinforced concrete.

The lairages, being built in two storeys, will be reached by easy gradients, carried on a steel framework winding round and making an easy ascent for the live animals. The dead meat market, from which home-killed and imported meat will be sold wholesale, will contain a steel grille, supporting the meat rails. For protection in the loading of meat there will be a verandah, 24 feet wide, extending the entire length of the building, under which carts and waggons will be loaded.

Slaughtering arrangements.

The ground floor is divided into two main sections, which are again sub-divided as main cattle slaughter and sheep slaughter sections. Each of the main sections have 28 dressing rooms, arranged in pairs, and each pair will be fed from one stunning pen.

Each stunning pen is equipped with a separate electric hoist which delivers the carcases to the bleeding rail, and each dressing room is fitted with an electric dropping device for conveying the carcases, after being bled, to the dressing floor. The blood is conveyed in glazed earthenware drains to the main collecting tanks in the offal department.

The dressing rooms are fitted with rails for the edible offal, and all other offal is despatched to the offal rooms by shutes, thus doing away with paunch carts, hide baskets, etc., and leaving the dressing floor clear for dressing only. Hot and cold water are available in each section.

Immediately adjoining the dressing rooms are the cooling rooms (atmospheric), equal in capacity to a full day's slaughter.

Lairage accommodation.

The lairages have been designed so that they can be used for long periods, and full arrangements have been made for feeding and watering the animals.

A separate department is reserved entirely for the lairage and slaughter of pigs, and the most modern appliances are contained in the equipment.

Refrigeration.

Chill-room accommodation has been designed immediately under the wholesale meat market.

The chill-rooms and stores are in direct communication with the cooling rooms and meat market by means of lifts and a continuous rail system connecting up to all stalls and railway sidings. The allied trades have premises arranged in the precincts of the abattoir. These include the hide market, hide and skin warehouses, blood factory, gut scraping, etc.

The following table shows the number of private slaughterhouses in the city, viz. :—

SLAUGHTERHOUSES.

	1920	Jan. 1925	Dec. 1925
Registered ...	5	5	5
Licensed ...	14	12	* 12

* Three of these are used exclusively for the slaughtering of horses for export.

ANIMALS SLAUGHTERED FOR HUMAN FOOD IN THE CITY.

	Bulls	Bullocks.	Cows.	Heifers.	Calves.	Sheep.	Lambs.	Goats.	Swine.	Horses
Public Abattoir	530	8,051	9,364	1,539	28,311	49,272	219,311	40	30,823	—
Private Slaughter-houses ...	1	118	451	49	1,546	175	4,473	3	25,209	2,107
TOTAL ...	531	8,169	9,815	1,588	29,857	49,447	223,784	43	56,032	2,107

Total number of animals slaughtered in the City = 381,373.

Compared with 1924 this figure shews an increase of 13,396 animals.

IMPORTED MEAT SOLD IN MEAT MARKETS.

	Cattle.	Calves.	Sheep.	Lambs.	Swine.
Abattoir (Irish and Birkenhead dressed)	12,186	2,990	15,650	26,573	8,206
Gill Street (Imported)	67,396	46	125,059	191,496	988
Retail Shops	4	—	2	102	906
TOTAL	79,586	3,036	140,711	218,171	10,100

ANIMALS IMPORTED, SLAUGHTERED AND SOLD FROM THE MEAT MARKETS AND PRIVATE SLAUGHTERHOUSES.

Cattle.	Calves.	Sheep.	Lambs.	Goats.	Swine.	Horses.
99,689	32,893	190,158	441,955	43	66,132	2,107

The 2,107 horses were slaughtered for export to France and Belgium. These carcases were inspected and passed by food inspectors, with the exception of 66, which were rejected as unfit for human food.

IMPORTED MEAT AND OFFAL SOLD IN BOXES AND BAGS AT THE MEAT MARKETS.

	Boxes and bags.
Abattoir (Irish and Birkenhead)	8,092
Gill Street (Imported)	81,694
TOTAL	89,786

During the year, 2,062 cows from cowsheds in the City were slaughtered at the abattoir, with the following result :—

Cows slaughtered.	Disease.	Totally rejected.	Partially rejected.	Organs only.
2,062	Tuberculosis ...	52	17	131
	Other Diseases...	38	4	12

Cows from shippons in the city dealt with at private slaughter-houses :—

Cows slaughtered.	Disease.	Totally rejected.	Partially rejected.	Parts effected.
129	Tuberculosis ...	4	2	Sternum.
	Septic Arthritis...	1	—	—
	Enteritis ...	1	—	—
	Septicaemia ...	1	—	—

The following carcases were seized or surrendered for various diseases :

Cattle	Calves.	Sheep.	Swine.	Goats.	Horses.	Total.
342	264	862	243	14	66	1,791

ANIMALS SENT TO KNACKER'S YARD AT CARRUTHERS STREET FOR DESTRUCTION.

Horses destroyed.	Horses sent in dead.	Asses destroyed.	Cows destroyed.	Other animals destroyed.	Total.
85	593	11	167	6	862

The following table shows the result of the examination of carcases of diseased or injured animals totally or partially rejected :—

Disease.	Bulls.	Bullocks.	Cows.	Heifers	Calves	Sheep	Swine	Goats	Horses
Abscess, Total	...	...	...	...	...	...	1	...	...
,, Partial ...	...	...	3	...	...	9	86	...	...
Anaemia	...	...	1	...	...	1	...	...	1
Asphyxia	1	...	2	1	18	114	58	...	1
Decomposition	...	1	4	...	5	44	9	...	1
,, Partial	1	1	9	...	...	...	34	...	...
Distomatosis	...	...	...	...	...	109	...	...	...
Dropsy	...	...	36	2	42	308	25	5	4
Emaciation.....	...	...	14	...	25	217	38	9	26
Enteritis	...	...	5	...	9	...	1	...	3
Gangrene	...	...	1	...	...	...	...	...	...
Gastritis	...	...	...	...	1	...	...	...	...
Gastro Enteritis ...	...	...	3	...	...	...	...	...	2
Icterus	...	...	1	...	47	44	8	...	1
Immaturity	...	...	...	...	68	...	...	...	...
Injury, Total.....	...	...	1	1	7	27	2	...	...
,, Partial	...	...	87	1	11	130	135	...	1
Johne's Disease.....	...	...	1	...	...	...	...	...	...
Joint ill	...	...	...	...	7	...	...	...	...
Lymphangitis	...	...	...	...	...	...	...	...	4
Leoplasm (Malign't)	...	...	6	...	...	1	...	...	...
Nephritis	...	...	5	...	...	...	...	...	...
Oedema	...	...	...	...	...	1	...	...	...
Parturient Apoplexy	...	...	1	...	...	...	...	...	...
Peritonitis	...	...	6	...	3	1	10	...	12
Pleurisy, Total	...	...	...	...	...	1	1	...	2
,, Partial ...	...	...	2	...	...	4	...	...	...
Pneumonia	...	...	2	...	2	...	...	...	1
Pyaemia	...	...	1	...	3	...	2	...	...
Pyrexia	...	...	14	...	4	1	14	...	3
Septicaemia	...	...	8	...	1	2	2	...	1
Septic Arthritis ...	...	...	21	...	17	15	28	...	1
,, Mastisis.....	...	...	10	...	...	...	1	...	...
Septic Metritis	...	...	4	...	...	...	...	...	...
Septic Pericarditis	...	...	8	...	1	...	2	...	...
Swine Erysipelas ...	...	...	...	...	...	...	1	...	...
,, Fever	...	...	...	...	...	...	2	...	...
Toxaemia	...	...	1	...	...	...	...	...	...
Tuberculosis Total	3	2	167	6	6	1	37	...	2
,, Partial	3	7	144	7	...	...	835	...	...
Uraemia	...	...	2	...	...	...	1		...

ORGANS DESTROYED.

Disease.	CATTLE.								
	Bulls.	Bullocks.	Cows.	Heifers	TOTAL	Calves	Sheep	Swine	Horses
HEADS :—									
Tuberculosis	9	35	608	7	659	1	...	...	...
Abscess	1	11	164	...	176	...	...	...	...
Actinomycosis ...	1	...	5	...	6	...	...	...	...
Injury	...	1	2	...	3	...	...	...	...
Decomposition ...	...	1	7	...	8	2	26	...	...
LUNGS :—									
Tuberculosis	24	29	1,694	11	1,758	10	...	249	...
Abscess	4	14	137	...	155	5	10	26	...
Echinocci	6	8	255	1	270	6	17	47	...
Pleurisy	...	1	12	...	13	...	3	5	...
Pneumonia	...	2	33	1	36	...	...	...	...
Congestion	...	7	151	...	158	4	36	492	...
Decomposition ...	...	...	27	1	28	10	166	795	...
Emphysema	...	...	14	...	14	...	3	...	...
Unclassiffed Cystic Conditions	...	...	2	...	2	...	1221	38	...
Adhesions	...	...	2	...	2	...	...	...	...
Melanosis	...	1	3	...	4	2	1	...	...
LIVERS :—									
Tuberculosis	4	17	706	10	737	7	...	215	...
Abscess	10	29	199	14	252	4	3	6	...
Distomatosis	23	194	3,242	16	3,475	...	1999	74	...
Cav. Angioma ...	...	4	371	...	375	...	...	...	...
Cirrhosis	7	15	408	4	434	1	...	338	...
Unclassified Cystic Conditions	...	...	...	...	...	...	221	...	...
Echinococci	...	...	145	1	146	3	...	143	...
Decomposition ...	...	7	102	1	110	2	74	445	...
Congestion	...	...	...	...	...	...	...	492	...
Chronic Venous Congestion	...	1	8	...	9	...	...	...	...
Fatty Infiltration	...	...	22	...	22	...	1	...	...
HEARTS :—									
Tuberculosis	4	7	463	4	478	1	...	234	...
Pericarditis.....	...	...	24	...	24	...	...	...	...
Decomposition ...	2	7	6	...	15	5	44	598	...
Congestion	...	...	...	...	...	...	...	492	...
Adhesions	...	...	1	...	1	...	...	...	...
Unclassified Cystic Conditions	...	...	...	...	...	...	...	...	...
SPLEENS :—									
Tuberculosis	2	6	465	3	476	...	...	...	...
Abscess	...	...	1	...	1	...	...	...	...
Congestion	...	...	8	...	8	...	...	...	...
Decomposition ...	...	...	82	...	82	...	...	...	...

ORGANS DESTROYED.

Disease.	CATTLE.								
	Bulls.	Bullocks.	Cows.	Heifers	TOTAL	Calves	Sheep	Swine	Horses
STOMACHS :—									
Tuberculosis	1	12	524	3	540	...	...	...	...
Abscess	...	...	34	...	34	...	...	...	...
Decomposition ...	...	...	5	...	5	...	...	...	...
INTESTINES :—									
Tuberculosis	2	12	740	3	757	...	...	...	...
Congestion	...	...	14	...	14	...	...	...	...
Decomposition ...	...	...	8	...	8	...	...	96	...
KIDNEYS :—									
Tuberculosis	2	18	787	6	813	...	...	..	...
Abscess	...	...	25	...	25	...	...	..	...
Cirrhosis	...	...	66	...	66	...	...	..	...
Cysts	...	3	107	...	110	...	...	..	...
Congestion	...	...	6	...	6	...	...	..	...
Decomposition ...	...	...	28	...	28	...	1	14	...
Hypertrophy	...	...	8	...	8	...	...	1	...
Nephritis	...	...	6	...	6	...	...	..	...
UDDERS :—									
Tuberculosis	...	...	56	...	56	...	...	1	...
Abscess	...	...	25	...	25	...	...	3	...
Mammitis	...	...	200	...	200	...	...	36	...
Decomposition ...	...	...	59	...	59	...	...	36	...
Actinomycosis ...	...	...	...	...	...	...	...	6	...
TONGUES—									
Decomposition ...	...	24	...	...	24	...	...	...	...
Actinomycosis ...	...	2	...	...	2	...	...	...	...
TAILS—									
Decomposition ...	...	59	13	...	72	...	...	...	...

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE MARKET.

Fish.				Rabbits.	Poultry.	Game.
Wet. Tons.	Dry. Tons	Shell. Tons.	Salmon. Tons.	No. of Packages.	No. of Packages.	No. of Packages.
19,628	3,233	1,249	24	10,526	7,287	211

The above figures do not include packages of fish, rabbits, etc., dealt with by firms not under the control of the Markets Committee.

FRUIT AND VEGETABLE MARKETS.

Large consignments from all over the world passed through the Fruit Markets and the wholesale depôts in Queen's Square. Liverpool is the principal distributing centre in the country for imported fruit, and during the year 95,693 tons of vegetables passed through the Vegetable Market.

PREMISES VISITED BY THE FOOD INSPECTORS.

Slaughter houses.	Butchers' shops.	Fruit shops.	Fish & Fruit shops.	Food Hawkers' premises.	Jam factor-ies.	Pickle factor-ies	Food factories	Knackers yards.	Total Visits Paid
7,434	49,613	47,963	35,524	4,640	39	35	853	101	146,202

Eighty-seven samples of foodstuffs were obtained for bacteriological and analytical examination, including fish, shellfish, meat, fruit, and assorted tinned foods.

The following articles were condemned as unfit for human food, viz.: Beef, mutton, lamb, etc., 558,221 lbs.; wet and dry fish, 291,737 lbs.; mussels, cockles and winkles, 111 packages; crabs, lobsters, crayfish and prawns, 6,697 lbs.; poultry, 1,832 head; game, 132 head; rabbits, 9,251 head; hares, 11 head; fruit, 588,442 lbs.; vegetables, 403,822 lbs.; tinned foods, 49,024 tins; eggs, 1,623; egg pulp, 210 lbs.; cheese, 2,296 lbs.; other foodstuffs, 4,539 lbs.

Liver Fluke in Sheep in 1925.

A serious loss to the Welsh sheep farmers was occasioned a few years ago by the prevalence of the Liver Fluke (Distomum Hepaticum),

and a large number of sheep from Wales were rejected at the Liverpool Abattoirs as unfit for food owing to the effects of this parasite. The efforts made by the Department of Agriculture in North Wales to eradicate the disease by spraying the pastures and brooks with chemical substances to destroy the small water snail which the liver fluke infests in one of its intermediate stages of growth seem to have had successful results. Careful observations on the efficacy of the various treatments have been made, and as a large number of Welsh sheep are slaughtered in Liverpool from time to time, strict examinations were made and records kept by the city food inspectors of all the Welsh and other sheep slaughtered in this city during 1925. It is interesting to observe that so far as Welsh sheep slaughtered in this city are concerned, the disease shows a remarkable decline, there being very few carcases or livers condemned on account of this condition.

The Irish and Scotch sheep, however, show an exceedingly severe type of infection. In this connection the results of the efforts made by the Department of Agriculture in North Wales show what can be achieved by efforts made under scientific direction.

The following table shows the number of carcases and livers condemned for the presence and effects of fluke infestation :--

LIVER FLUKE IN SHEEP DURING 1925.

	Carcases Rejected.				Livers Rejected.			
Month.	England	Ireland	Scotland	Wales	England	Ireland	Scotland	Wales
January	1	21	31	...	14	541	139	51
February	...	...	2	...	7	62	16	6
March ...	2	...	...	...	5	72	9	...
April ...	...	...	...	...	4	5	...	...
May ...	...	...	...	...	6	16	...	...
June ...	...	...	...	...	...	...	...	...
July ...	...	...	...	...	1	56	5	...
August ...	...	...	...	...	1	100	22	...
Sept. ...	4	42	...	...	42	104	41	...
October...	1	...	1	...	37	209	49	4
November	...	...	...	...	31	112	52	2
December	1	...	...	...	23	122	12	4
Total	9	63	34	...	171	1399	345	67

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.

The Milk and Dairies (Consolidation) Act, 1915, came into operation during the year, but as the Orders under this Act have not yet been published, the regulations under the earlier Orders continue in force. The definition of a dairy has been altered, and does not now include—

> "a shop from which milk is not supplied otherwise than in the
> "properly closed and unopened receptacles in which it was delivered
> "to the shop,"

owing to this definition many general shops are now selling sterilised milk, and several shops previously registered for the sale of milk have ceased to be dairies as defined by this Act, as they are now selling such bottled milk only.

There has been during the past two years a large increase in the sale of sterilised bottled milk : owing to the new definition of a dairy, milk can now be sold in any shop providing it is sold to the customer in the unopened bottles and in the condition in which it was delivered by the wholesaler to the retailer.

During the past year a special effort has been made to persuade Liverpool cowkeepers to provide a separate room for the cooling of milk: upwards of 70 of these cooling rooms have been built, and the cowkeepers who have constructed cooling rooms, find it has resulted in the production of a cleaner milk having correspondingly increased keeping qualities.

This method of milk cooling has given such satisfaction to those who have adopted it, that the Committee of the Liverpool and District Cowkeepers' Association have advised all their members in the Liverpool and district area to adopt this new system.

The application of a milk cooling-room separate from the cowshed was in advance of legislation : it is now one of the requirements of the proposed regulations drafted under the Milk and Dairies Act, 1915, the only difference being that the system recommended by the Public Health Department advises that wherever possible the milk cooling-room should be adjoining the outer walls of the cowshed, so as to save labour, and contamination of the milk by unnecessary exposure, as each pail of milk is at once removed from the atmosphere of the cowshed, and cooled.

STATISTICS RESPECTING COWSHEDS.

	1925
Number of applications to keep cows on premises not previously licensed	0
,, ,, for re-issue of licence	2
,, cows applied for	32
,, ,, granted	32
,, applications refused	0
,, applications for transfer to fresh tenants of cow sheds previous licensed	27
,, ,, granted	27
,, ,, refused	0
,, ,, for additional stock	9
,, Cowsheds on the Register 31st December, 1924... ...	291
,, ,, ,, ,, 1925... ...	286
,, cows licensed to be kept within the City area	4,830

COWSHED INSPECTION.

	1924.	1925.
Number of inspections of cowsheds	1,502	2,504
,, found incorrect	64	76

Thirteen notices were issued to occupiers directing their attention to minor contraventions of regulations.

The number of cowsheds in the city during the years 1917 to 1925, inclusive, together with the number of cows licensed to be kept, and the number of applications for new cowsheds, are shown in the following table :—

Years	Cowsheds	Cows	Applications.
1917 ...	393 ...	6,516 ...	3
1918 ...	339 ...	5,487 ...	1
1919 ...	323 ...	5,228 ...	2
1920 ...	295 ...	4,942 ...	7
1921 ...	296 ...	4,921 ...	1
1922 ...	294 ...	4,880 ...	3
1923 ...	293 ...	4,883 ...	1
1924 ...	291 ...	4,832 ...	3
1925 ...	286 ...	4,830 ...	2

MILKSHOPS.

	1924.	1925
Number of new applications for registration ...	61 ...	40
,, transfer ,, ,, ...	78 ...	75
Total number of ,, ,, ...	139 ..	115
Number of applications granted	123 ...	98
,, ,, withdrawn	15 ...	10
,, ,, in abeyance	1 ...	7

Number of milkshops on the register at the end of 1921	688
,, ,, ,, ,, 1922	691
,, ,, ,, ,, 1923	743
,, ,, ,, ,, 1924	790
,, ,, ,, ,, 1925	787

DAIRIES AND MILKSHOPS.

	1924.	1925.
Number of inspections of dairies and milkshops ...	8,338	7,793
,, found incorrect	111	87

Eighty-six caution notices were issued to occupiers of milkshops, and one notice was sent to a farmer for a minor contravention 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.

	1924	1925.
Number of premises under inspection	1,021 ...	1,157
,, visits made	2,868 ...	2,408
,, caution notices issued	47 ...	39

PIGGERIES.

In 1925, 7 applications, involving the keeping of 74 pigs, were made and granted.

There are now on the register 120 piggeries licensed for the keeping of 2,334 pigs, the average number kept being 1,130; 479 visits of inspection of premises were made during the year.

TUBERCULOSIS AND THE MILK SUPPLY.

The two principal aspects of milk supervision which concern the department are (*a*) the prevention of tuberculosis arising from milk from infected cattle, and (*b*) to ensure the supply to the public of a clean, wholesome milk, free from dirt and other contamination

For convenience of consideration the milk supply to the city may be divided into two classes, (i) that produced from cows within the city, and (ii) that coming from farms outside the city boundary.

Milk Produced within the City.

There are approximately 3,870 cows and 286 licensed cowsheds in the city. The examination of these cows and cowsheds has been duly carried out during the year, and any abnormal conditions among the cattle found by the dairy and cowshed inspectors, or reported by the cowkeepers to the department, were referred to the veterinary superintendent for a further and detailed examination. If an animal is found to be affected with a disease likely to be dangerous to the public health it is slaughtered. Cowkeepers are required to immediately notify the presence of any suspicious condition of the udder amongst the cows in the herd, but apart from these notifications the veterinary inspectors clinically examine all herds at definite intervals.

Two hundred and eleven samples of milk were taken during the year by the food and drugs inspectors, and were submitted to bacteriological examination. Eight of these were referred to the veterinary department as coming from cows probably affected with tuberculosis, but only three of the cows examined were found to be definitely infected.

Sixty-five cows were notified by owners as suspected of tuberculosis, but only seven of these were found to be infected.

The veterinary superintendent has kindly supplied a table shewing the number of visits to town cowsheds during the past six years :—

Year.	No. of Visits to Cowsheds.	No. of cases notified by owners.	Routine Visits to Cowsheds.	No. of Cows examined.	No. of Cows with Tuberculosis of the udder.
1920	67	11	56	934	6 or 0·6%
1921	91	7	84	1,400	21 or 1·5%
1922	100	8	92	1,535	6 or 0·39%
1923	130	6	124	1,849	15 or 0·81%
1924	714	17	697	8,949	26 or 0·28%
1925	780	63	717	11,161	21 or 0·18%

Year.	SAMPLES TAKEN.					
	CONTROL SAMPLES.			DIRECT SAMPLES.		
	TOTAL NO.	Tuberculous.	Non-Tuberculous.	TOTAL NO.	Tuberculous.	Non-Tuberculous.
1920	37	5	32	18	6	12
1921	72	19	53	33	17	16
1922	33	5	28	18	6	12
1923	27	2	25	27	11	16
1924	37	3	34	49	14	35
1925	20	2	18	28	10	18

MILK SUPPLIED FROM OUTSIDE THE CITY.

Systematic visits are paid by the food and drugs inspectors to hospitals and other institutions supplied with milk from farms outside the city and samples are taken. Samples are also taken regularly at the various railway stations. Should any of these prove to be tubercular steps are taken to examine the herd at the farm from which the milk was supplied, and any animals found to be affected are slaughtered.

This work was previously carried out under the Liverpool Corporation Act, 1921, but under the Milk and Dairies (Consolidation) Act, 1915, which came into force in September, 1925, the duty of dealing with the

animals giving infected milk now rests with the local authority of the district in which the milk is produced.

The following is a table of veterinary inspection of cows in country cowsheds from which tuberculous milk was received, together with the figures for the previous five years :—

Year.	No. of Farms visited.	No. of Re-visits.	Total Visits.	No. of Cows examined.	No. of Cows with Tuberculosis of the udder.
1920	23	4	27	1,225	4 or 0·32%
1921	40	18	58	2,225	10 or 0·44%
1922	49	21	70	2,324	16 or 0·68%
1923	36	19	55	1,754	17 or 0·97%
1924	98	15	113	3,802	17 or 0·44%
1925	74	19	93	3,315	17 or 0·51%

Year.	SAMPLES TAKEN.					
	CONTROL SAMPLES.			DIRECT SAMPLES.		
	TOTAL No.	Tuberculous.	Non-Tuberculous.	TOTAL No.	Tuberculous.	Non-Tuberculous.
1920	50	4	46	31	4	27
1921	89	11	78	37	10	27
1922	86	7	79	45	15	30
1923	97	11	86	39	18	21
1924	88	16	72	60	14	46
1925	83	13	70	43	14	29

Periodical visits are also made to farms supplying milk to the city infectious hospitals and infant welfare centres, and the following table shews the number of visits paid during the year :—

MILK SUPPLIED TO THE CITY HOSPITALS.

No. of Farms.	No. of Visits paid.	No. of Cows examined.
7	21	864

MILK SUPPLIED TO THE INFANT WELFARE CENTRES.

No. of Farms.	No. of Visits paid.	No. of Cows examined.
9	29	1,730

TUBERCULOSIS ORDERS (Nos. 1 and 2), 1925.

These Orders deal with the slaughtering of tuberculous cattle, and came into force in September, 1925. Notification by owners, or veterinary surgeons, of animals affected with tuberculosis is compulsory, the object being the elimination from herds of such cattle as are dangerous to the public health, or to other cattle, by spreading infection.

The owners of animals slaughtered under these Orders receive compensation, which is based upon the extent of the disease revealed at the post mortem examination.

The following particulars shew the number of animals dealt with during the last four months of 1925, and has been supplied by the veterinary superintendent who carries out the Orders.

Number of animals examined	398
,, ,, slaughtered	18
,, having tubercular udder	9
,, ,, chronic cough and showing definite signs of tuberculosis	9

BACTERIOLOGICAL EXAMINATION OF MILK.

From January, 1901, to December, 1925, 10,303 samples of milk from sources outside the City were submitted for bacteriological examination, and 704 of the samples were found to be contaminated by tubercle bacilli, this being equal to 6·8 per cent.

The 456 farms from which the contaminated milk was supplied were visited and the herds examined, the number of cows being 29,326; 233 cows were regarded as "suspicious," and the farmers were requested to isolate them pending a report of the City Bacteriologist on samples of milk taken direct; 515 samples were taken in this way, and 126 were reported by the City Bacteriologist to contain tubercle bacilli. In several

instances the emaciated condition of the animal was such as to justify immediate slaughter. "Control" samples were also taken, and the examination of these samples generally showed that the remainder of the herds were not giving tuberculous milk.

In the earlier years of the operation of the Liverpool Corporation Act, 1900 (now included in the Liverpool Corporation Act, 1921), the action of the Health Committee in regard to the examination of cattle and farms outside the city area was in many cases resented by the farmers concerned, and it became necessary for the committee to make orders prohibiting the sending of milk from certain farms into Liverpool. Twenty-three such orders were made. Twenty-seven convictions were also obtained against farmers, whose premises were outside the city, for failing to notify the Medical Officer of Health of the existence of "suspicious" animals amongst the herds.

As a general rule, when first visiting country cowsheds, it was found that very little inspection was done by the rural authorities, and the cowsheds were devoid of light, ventilation and drainage, the floors were badly paved and covered with filth, and the walls and ceilings extremely dirty and rarely, if ever, limewashed. In some instances the cubic capacity per cow was as low as 200 feet.

During latter years a much better condition has been found, and it is evident that the rural authorities are becoming more alive to the necessity for close attention to the sanitation of cowsheds. There can be little doubt that the action of such large milk-consuming centres as Manchester, Sheffield, Liverpool, etc., has been instrumental in bringing about more activity in regard to these matters in country districts.

During the same period 5,587 samples of milk from town cowkeepers were submitted for bacteriological examination, and 233 of the samples were found to be contaminated by tubercle bacilli, this being equal to 4·1 per cent.

Owing to the neglect to notify the Medical Officer of Health that they had in their dairy a cow "suspicious" of tuberculosis of the udder, it was found necessary up to the year 1905 to prosecute 21 cowkeepers. Since that time the requirements of the Act have been more closely observed.

The following tables give particulars relating to the samples taken and result of examination, together with the number of cows examined :—

TABLE RELATING TO COUNTRY SAMPLES.

Year.	Samples from Bulk.			Farms.			Samples direct from individual cows at farm		
	No. taken.	Tubercular.	Percentage Tubercular.	Farms affected.	Cows examined.	Cows suspected.	No. taken.	Tubercular.	Percentage Tubercular.
1913	412	28	6·80	13	784	4	14	2	14·29
1914	452	42	9·30	17	1,302	6	47	6	12·77
1915	419	30	7·16	4	1,265	3	16	3	18·75
1916	439	22	5·0	10	1,395	5	30	1	3·33
1917	387	20	5·17	11	898	10	18	3	16·70
1918	387	14	3·62	6	449	9	10	2	20·00
1919	346	26	7·51	6	312	1	3	1	53·33
1920	800	56	7·0	18	1,225	8	14	4	28·57
1921	507	54	10·65	23	2,225	10	37	10	27·02
1922	590	53	8·98	34	2,324	16	45	15	33·33
1923	593	62	10·45	36	1,754	17	39	18	46·15
1924	549	57	10·38	25	3,802	17	60	14	23·33
1925	482	36	7·46	29	3,315	17	43	14	32·55
Total ...	6,363	500	7·85	232	21,055	113	376	93	24·73

TABLE RELATING TO TOWN SAMPLES.

Year.	Samples from Bulk.			Cowsheds.	
	Number taken.	Tubercular.	Percentage Tubercular.	Cows examined.	Cows suspected.
1913	238	18	7·57	4,732	18
1914	206	11	5·34	4,043	21
1915	261	14	5·36	1,781	15
1916	147	5	3·40	3,232	11
1917	128	9	7·03	896	2
1918	113	12	10·62	1,570	2
1919	163	4	2·45	867	2
1920	222	17	7·66	934	6
1921	302	46	15·23	1,400	21
1922	244	11	4·50	1,535	6
1923	309	19	6·14	7,012	15
1924	232	22	9·48	8,949	26
1925	211	8	3·80	11,161	21
Total ...	2,776	196	7·06	48,112	166

SALE OF FOOD AND DRUGS ACTS
and Various Orders and Regulations relating to Food Supplies.

The Sale of Food and Drugs Act, and its various amendments, are designed to safeguard the public from purchasing articles injurious to health or not of the nature, substance and quality demanded.

Great care is necessary in procuring samples, and in submitting them for analysis, or very misleading results will ensue. All samples of food or drugs are taken either by or under the superintendence of trained and qualified Inspectors of the Health Department. It is of the greatest consequence that trained and practised persons should be employed for this purpose, and it is necessary from time to time to employ women or young people as agents, to go into the shop to purchase the articles, and as soon as the agent receives them, the Inspector enters the shop and completes the formalities which the Act requires.

Only a few purchases are made of those articles which, experience shows, are not likely to be adulterated. On the other hand, when enterprising firms, seeking new fields for adulteration and profit, place suspicious articles on the market, it becomes necessary, sometimes, to take a considerable number of the articles before the fraud can be detected and checked.

The practice of taking samples "informally" (*i.e.*, without any intimation to the vendor that samples are to be analysed) has been continued throughout the year. This practice is very valuable, as it saves time and trouble whilst causing no annoyance to honest shopkeepers, whose objections to the taking of samples, with all the formalities required by the Act, are that the counter space is occupied for the division of the samples into three parts, and, in addition, the action excites curiosity and possibly suspicion on the part of regular customers.

The tables on the following pages give a summary of the samples analysed during the year.

Summary of Samples submitted for Analysis from January 1st to December 31st, 1925, and other Statistical details.

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Informations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
—	—	—	—	Arrowroot	34	34	—	—	—	—
—	—	—	—	Barley	77	73	4	—	4	—
24	24	—	—	Beer and Stout	—	—	—	—	—	—
—	—	—	—	Bread	42	42	—	—	—	—
115	113	2	—	Butter	350	349	1	—	—	1
—	—	—	—	Cake Flour	7	7	—	—	—	—
34	31	3	—	Cheese	17	14	3	—	—	3
1	1	—	—	Cocoa	73	73	—	—	—	—
—	—	—	—	Corn Flour	28	28	—	—	—	—
30	29	1	—	Condensed Milk	—	—	—	—	—	—
81	81	—		Confectionery	51	51	—	—	—	—
2	2	—	—	Condiments and Spices	159	149	4	6	4	—

SUMMARY OF SAMPLES, &c.—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Infor-mations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
8	8	—	—	Coffee and Mixtures	93	92	1	—	1	—
—	—	—	—	Cream of Tartar	49	48	1	—	1	—
20	20	—	—	Cream Preserved	—	—	—	—	—	—
19	19	—	—	Cream	—	—	—	—	—	—
2	2	—	—	Custard Powder	17	17	—	—	—	—
1	1	—	—	Dripping	6	6	—	—	—	—
2	1	1	—	Dried Fruits	23	23	—	—	—	—
—	—	—	—	Egg Substitute Powder	10	10	—	—	—	—
—	—	—	—	Flour	78	78	—	—	—	—
5	5	—	—	Honey	—	—	—	—	—	—
13	13	—	—	Jam, Jellies and Marmalade	44	42	—	2	—	—
13	13	—	—	Lard	91	91	—	—	—	—
11	7	3	1	Lemon Cheese	1	1	—	—	—	—

SUMMARY OF SAMPLES, &c—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated. Sch'dule A.	Adulterated. Sch'dule B.		Number taken.	Number genuine.	Adulterated Sch'dule A.	Adulterated Sch'dule B.	Number caut'nd.	Informations.
102	101	1	—	Margarine	9	9	—	—	—	—
126	96	13	17	Milk	3927	3559	222	146	181	41
—	—	—	—	Do. Skimmed	20	19	1	—	—	1
—	—	—	—	Do. Separated	17	16	—	1	—	—
—	—	—	—	Do. Butter	8	8	—	—	—	—
—	—	—	—	Oatmeal and preparations	59	59	—	—	—	—
4	2	—	2	Preserved peas	—	—	—	—	—	—
16	14	—	2	Rice and ground	164	139	4	21	4	—
1	1	—	—	Self-raising flour	77	77	—	—	—	—
5	5	—	—	Spirits	21	21	—	—	—	—
10	10	—	—	Sugar	83	83	—	—	—	—
12	12	—	—	Syrup and treacle	1	1	—	—	—	—
2	2	—	—	Wine	14	14	—	—	—	—

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Infor-mations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
—	—	—	—	Tapioca	66	66	—	—	—	—
43	38	3	2	Tinned Foods	—	—	—	—	—	—
4	2	1	1	Temperance beverages	45	39	3	3	—	—
3	3	—	—	Vinegar	4	4	—	—	—	—
114	114	—	—	Drugs	—	—	—	—	—	—
117	109	7	1	Miscellaneous	326	311	12	3	12	—
940	879	35	26		6091	5653	256	182	207	46

SUMMARY OF SAMPLES OBTAINED IN WHICH LEGAL PROCEEDINGS WERE INSTITUTED DURING THE YEAR ENDING DECEMBER 31ST, 1925, TOGETHER WITH RESULT.

No. of Informations.	Nature of Sample.	Nature of Offence.	Result of Legal Proceedings.				
			No. of convictions.	No. withdrawn on payment of costs.	No. withdrawn and dismissed without costs.	Fines	Costs.
						£ s. d.	£ s. d.
20	Milk	Adulterated with water	7	10	3	13 0 0	22 14 0
18	„	Deficient in milk fat	9	7	2	24 0 0	18 11 6
3	„	Adulterated with water, and deficient in milk fat	3	—	—	7 1 0	3 3 0
1	Skimmed milk.....	Adulterated with water	1	—	—	5 0 0	1 1 0
1	Butter	50% Margarine.....	1	—	—	5 0 0	1 1 0
3	Cheshire cheese	Deficient in fat	—	3	—	—	3 18 0
46			21	20	5	£54 1 0	£50 8 6

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

	1924.	1925.
Number of samples purchased on week-days in town..	1,375	1,353
,, informations	21	23
,, samples taken at railway stations on week-days	1,423	1,413
,, informations	17	12
,, samples purchased on Sundays in town...	148	180
,, informations	7	8
,, samples taken at railway stations on Sundays	105	146
,, informations	10	1
,, samples taken at City Hospitals ...	213	155
,, informations	—	—
,, samples taken at Corporation Infant Welfare Centres and Day Nurseries..	310	360
,, informations	—	—
,, samples taken at other Institutions ...	483	440
,, informations	6	—

MARGARINE ACT.

	1924.	1925.
Number of visits to wholesale dealers in margarine...	288	88
,, visits to shops	3,654	2,595
,, visits to other places	2,609	2,133

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912 and 1917.

Report for the year ending 31st December, 1925.

1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

Number of samples examined for the presence of a preservative :— Milk, 4,053; Cream, 19.

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

(*a*) Milk	0
(*b*) Cream	0

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	20
Correct statements made	20
Incorrect statements made	Nil.

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

Above 35 per cent.	20

(*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.

SPECIAL EXAMINATIONS.

The total number of samples submitted during 1924 and 1925 for special examination was 60 and 130, respectively.

POISONS AND PHARMACY ACT, 1908.

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

The object of the Act is to regulate the sale of certain poisonous substances, and to amend the Pharmacy Acts. It is fully referred to in the Annual Report for 1909.

The number of licences issued under this Act during the year 1925 was 20.

CONDENSED AND DRIED MILK REGULATIONS, 1923.

Condensed Milk.

In accordance with the terms of Section 8 of the Milk and Dairies (Amendment) Act, 1922, the Minister of Health issued regulations relating to the sale of condensed milk. Definite standards are fixed by the regulations, and it is clearly set forth that a label must bear a definite statement of the equivalent amount of liquid milk which the tin contains, and for the purposes of the Order calculations are made on the basis of not less than 12·4 per cent. of milk solids, of which not less than 3·6 per cent. should be milk fat.

There are three kinds of offences under the regulations :—

1. The label may not be as described.
2. The statement of equivalence may be incorrect.
3. The standard of composition may be infringed.

During the year, 34 samples of condensed milk were examined, five of which were below standard, and the vendors in each case were cautioned.

Dried Milk.

In relation to dried milk the regulations apply to which any other substance has been added, and to the dried milk contained in any powder or solid of which not less than 70 per cent. consists of dried milk. There are standards laid down for dried full cream milk, dried partially skimmed milk, and dried skimmed milk. As in the case of the condensed milk regulations, the statement of equivalence is to appear on the label, which is also to contain in the case of infants' foods, to which the regulations apply, a notice of any substance added.

When dried milk is sold loose, a printed label or notice is to be delivered to the purchaser.

During the year 34 samples of dried milk were examined, and all of them were correct.

CHOCOLATE EGGS.

Early in the year a firm in the city drew the attention of the department to the colour of a consignment of chocolate eggs which they had just purchased from a London merchant through a local dealer. The local

firm in question decided not to sell any of the eggs until an opinion had been given by the City Analyst, who reported on samples submitted as follows :—

"The sample contained 3·8 per cent. of siliceous matter consisting mainly of quartz particles. It also contained 1·4 grains of lead and 0·66 grain of zinc per pound. In addition, it contained many small fragments of metal, some of which were iron and some lead. In my opinion it is totally unfit for human consumption."

The local premises were visited, and a similar consignment of chocolate eggs was found. The proprietor was informed that the eggs were unfit for human consumption and would be dealt with in due course. The block chocolate from which the eggs were made was also sampled and found to correspond with the above analysis. The entire stock, comprising 753 boxes, each containing 12 eggs, together with the remainder of the block chocolate, were seized under the Public Health Act, and an application for destruction was granted by the Stipendiary Magistrate.

Subsequently an information was laid against the local dealer and a fine amounting to £20 and costs was imposed.

ARSENIC ON APPLES.

Towards the end of 1925, the subject of arsenical contamination on imported apples and pears was brought very prominently before the public notice, and it was found to be due to the fact that in the United States and other countries it is the practice to spray fruit trees with the object of destroying the Codlin Moth. This spray contains a small quantity of arsenic, which after use during a dry season apparently leaves a small residue of arsenic on the fruit.

Following the usual custom, samples of imported fruit were taken immediately on arrival both by the port food inspectors and the city food inspectors, a large number of which were examined by the City Analyst, who found in some cases varying quantities of arsenic, but in no case was a harmful amount discovered.

In order to minimise the danger from eating fruit so affected, several local firms issued printed circulars for distribution amongst their customers, advising them to peel fruit before eating it.

The subject has been under the consideration of the Ministry of Health, who have been in touch through the usual channels with the foreign Governments concerned, with the result that methods are now being adopted which will avoid the presence of this substance on fruit. In the United States, for example, already growers and packers are installing apparatus for cleansing the surface of apples during grading.

GROUND ALMONDS.

During the year, a case of interest and importance occurred, namely, the examination of a consignment of alleged ground almonds sent to a Liverpool firm. In pursuance of Section 445 of the Liverpool Corporation Act, 1921, an inspector visited one of the railway goods stations, and there took samples from four boxes which were branded with the words "Ground Almonds." On analysis by the City Anaylst these proved to be ground apricot kernels. An information was laid against a London firm under the Merchandise Marks Act for applying a false trade description to the ground almonds.

The case was heard before the Stipendiary Magistrate, who convicted the defendants and imposed the maximum penalty of £20 and awarded the costs amounting to over £90 to the Corporation. This case created wide interest in the trade, and several important witnesses gave evidence in support of the Corporation case.

FERTILISERS AND FEEDING STUFFS ACT, 1906.

On 1st January, 1907, a Fertilisers and Feeding Stuffs Act, which replaced the old Act of 1893, came into operation.

Under it the City Analyst was appointed official agricultural analyst, and the three inspectors under the Sale of Food and Drugs Act were appointed official samplers.

A certain remuneration was agreed to in respect of the work done under the Act.

Total number of samples submitted during the following years:—

1920	18
1921	25
1922	18
1923	13
1924	61
1925	30

PRESERVATIVES IN FOOD.

In accordance with a resolution of the City Council, the Medical Officer of Health and the City Analyst issued a joint report on the effect of preservatives and adulterations on the health of the people, together with the effect of cold storage of meat and other common articles of food, the following extracts from which may be of interest :—

The frequent use of preservatives and colouring matters in the preparation of food has led, in the past, to special enquiries being made by the Government Departments concerned, and also by Local Authorities.

The publication of the Final Report of the Departmental Committee on the use of Preservatives in Food, which was issued in 1924, has again fixed public attention upon the subject, and it is therefore appropriate that the general position should be carefully considered.

In 1899, a Committee was appointed which reported on the subject in 1901. The chief recommendations of this Committee were :—

(*a*) That the use of formaldehyde as a preservative should be absolutely prohibited in food or drink.

(*b*) That the use of any preservative or colouring matter in milk should be prohibited.

(*c*) That boric acid and salicylic acid should be allowed in certain instances on condition that the amount does not exceed a fixed percentage, and that in all cases the presence of the preservative should be declared.

(*d*) That the use of copper salts to preserve the green colour of vegetables should be prohibited.

These recommendations proved to be valuable, and they were followed by certain legislative measures such as the Public Health (Regulations as to Food) Act. The Butter and Margarine Act, 1907, The Milk and Cream Regulations, 1912, which contain certain provisions relating to chemical preservatives, but the general question of preservatives in food was left untouched. The recommendations, however, formed a useful guide to Local Authorities as to the standards to be aimed at.

The recommendations of the recent Committee which was appointed in 1923 and reported in 1924, support the previous Committee in emphasising the importance of reducing the use of preservatives in food to a minimum, but differ in matters of detail. They are as follows :—

(1) Preservatives should be prohibited in all articles of food and drink offered or exposed for sale, whether manufactured in this country or imported, except that

(A) Sulphur Dioxide only should be permitted

(i) in sausages in amounts not exceeding 3 grains per pound ;

(ii) in jam in amounts not exceeding 0·3 grain per pound ;

(iii) in dried fruit in amounts not exceeding 7 grains per pound ;

(iv) in preserved (but not dried) whole fruit or fruit pulp in amounts not exceeding 5 grains per pound ;

(v) in beer and cider, whether in bottle or in cask, in amounts not exceeding 5 grains per gallon ;

(vi) in alcoholic wines, non-alcoholic wines and cordials, and fruit juices, sweetened and unsweetened, in amounts not exceeding 3 grains per pint.

(B) Benzoic Acid only should be permitted

(i) in coffee extract in amounts not exceeding 3 grains per pound ;

(ii) in non-alcoholic wines and cordials, and sweetened and unsweetened fruit juices (as an alternative to sulphur dioxide) in amounts not exceeding 5 grains per pint ;

(iii) in sweetened mineral waters and in brewed ginger-beer in amounts not exceeding 1 grain per pint.

The method of estimating the foregoing preservatives should be prescribed by the Minister of Health.

(2) The sale of any preparation as a food preservative or for use in such circumstances that it may be introduced into food, should be declared illegal unless such preparation—

(*a*) bears a description clearly indicating its composition and strength ;

(*b*) is free from impurities and in particular contains not more than 1/100th part of 1 grain of arsenic per pound or more than 1/7th part of 1 grain of lead per pound.

(3) The use of preservatives, so far as they are permitted, should be upon the condition that the nature and quantity of the preservative present in the article of food should be declared in a manner prescribed by the Minister of Health. In cases in which the declaration of the preservative might be difficult to enforce or might result in undue harm to the industry without compensating advantage to the consumer, exception to this requirement might be made, but the exception should in no circumstances apply to sausages.

(4) The employment of a copper salt to colour or preserve the colour of peas and other vegetables should be prohibited.

(5) A schedule should be issued by the Minister of Health after such enquiry as is necessary of colouring matters the use of which may be considered non-injurious to health, such schedule to be subject to amendment or extension from time to time as occasion may require. Within a suitable period after the publication of this list the use of any other colouring matter should be prohibited unless and until it shall have been approved by the Minister.

(6) Before the prohibition of preservatives or of colouring matters in food (including the use of copper salts for the so-called greening of vegetables) is enforced, a period of grace should be allowed sufficient to enable manufacturers and importers to adjust their methods and processes and to allow stocks to be cleared.

(7) Improved methods in the storage and transport of food by rail, road and water, especially as regards the use of refrigeration and cool-air storage, are urgently required.

It must be noted that the term "preservative" in these reports does not include such substances as salt, saltpetre, sugar, vinegar, alcohol, and other agents of a similar nature which have been used for the preservation of food from early times.

For a long time the use of other methods of preserving food, in which the use of chemicals is avoided, have been known and utilised. The processes maintain the character of the food with little loss of nutritive value. These methods are drying and smoking in the case of fish, bacon, etc.; canning and sterilisation in the case of meat foods and fruits; and refrigeration or the preservation by means of low temperatures in the case of these and many other kinds of foodstuffs.

With regard to drying, the preservation of fish and meat by this method is well known. Vegetables may also be effectively treated in this way, especially for export purposes, but when so treated they are said to be less efficient in preventing scurvy. Even milk may be dried and powdered, and if kept dry will remain sweet for a long time.

The smoking of certain foods is also widely employed, and smoked fish or meat is quite wholesome and nutritious.

The canning methods in connection with meat, fish and fruit, as well as milk, etc., have become of great industrial importance, the tins being heated to a high temperature and subsequently sealed hermetically to prevent access of air.

Products thus preserved have for a considerable period been proved to retain most of their nutritive food value unimpaired, and considering the enormous amounts which are consumed, the small number of cases of illness reported as having been caused by the consumption of canned food show that the process is an exceptionally safe one.

With regard to refrigeration, or the preservation of perishable foodstuffs by means of low temperature, this process is a most desirable one for conserving foodstuffs without material damage to the product, and an increase in the facilities for refrigeration and cold storage generally would undoubtedly be an advantage to the community. In this connection, it is interesting to observe that in the United States, where the use of preservatives is very restricted, the provision of cold storage facilities has increased.

The refrigeration of meat and milk for transport over long distances is an important matter which should receive further consideration from

the Railway Companies in this country, and it is confidently hoped that when further legislation is being promoted dealing with milk and dairies, provision will be made to ensure the prompt and efficient cooling of milk at farms, combined with cleaner methods of handling prior to despatch to the railway stations. If it were then conveyed under low temperature conditions, it would ensure for the public a cleaner milk supply containing a minimum number of bacteria, and enable the milk to be kept for a longer period without souring.

Certain foods (for example, chilled meat) are shipped to this country at temperatures close to freezing point, so that the physical state of the product is maintained during storage. Some foods which require to be brought long distances, or have to be kept for some time, require to be retained at a temperature well below freezing point, e.g., mutton, rabbits, and certain fish, such as salmon.

The processes involved in cold storage are three, viz. :—

(1) Freezing of the substance.

(2) Storage at low temperature suitable for each foodstuff.

(3) Thawing or de-frosting.

The length of time fresh meat and offal are kept in cold store depends largely on market conditions, but on an average it varies from a few days or weeks to six months. Meats which have been kept in cold store for over twelve months may show a slightly perished or dried condition. Poultry, fish and bacon may be found to be in perfect condition even after the end of six months' cold storage, but subsequent to that period slight deterioration may set in.

Eggs, if received into store in a sound condition, will probably be found at the end of six months to be as good as when first deposited there.

Fruits which are kept at temperatures slightly over freezing point will remain sound for about six months.

The above-mentioned methods for the preservation of food without the use of chemical agents have very little, if any, effect apart from those indicated, in reducing the food value of products so treated.

PUBLIC HEALTH (PRESERVATIVES IN FOOD) REGULATIONS, 1925.

Following upon the report of the Departmental Committee on the use of preservatives or colouring matters in food, the Minister of Health in the exercise of his powers, issued regulations relating to preservatives in food.

Certain of the regulations come into force on the 1st January, 1927, and provide that—

1. The regulations shall come into operation on the 1st day of January, 1928, so far as they relate to butter and cream and to the revocation of such of the provisions of the Public Health (Milk and Cream) Regulations, 1912, (*f*), and the Public Health (Milk and Cream) Regulations, 1912, Amendment Order, 1917, (*g*), as relate to cream; and

2. So far as the regulations prohibit the sale of an article of food containing any preservatives which is necessarily introduced by the use in its preparation of preserved bacon, ham, margarine or butter, they shall come into operation on the 1st day of July, 1927, in the case of bacon, ham, and margarine, and on the 1st day of July, 1928, in the case of butter.

The schedule states the kind and quality of preservatives permissible, and names the articles to which it may be added. It also prohibits the use of colouring matters in food which are named in the schedule. It also prescribes for the labelling of articles of food containing preservatives and of preservatives.

REPORT OF THE CITY BACTERIOLOGIST, 1925.

During the year 1925, 32,510 specimens were examined for the Public Health, Port Sanitary, Water and Baths and Wash-houses Departments, as compared with 28,632 for the year 1924. These specimens may be grouped as follows:—

1. Milk and other Food-stuffs.
2. Water.
3. Rats, etc., for possible infection with the bacillus of Plague.
4. Material from infectious diseases in man (Diphtheria, Typhoid Fever, Tuberculosis, etc.).
5. Venereal diseases.
6. Material from animals with suspected infection.
7. Other specimens.

The following samples of milk and other food-stuffs have been examined:—

(i) Fresh Milks—		
City Hospitals	172	
Infant Welfare Centres	84	
Milk Shops, Railway Stations, etc., ...	586	
		842
(ii) Tinned Milks		6
(iii) Other Food-stuffs — shell-fish, tinned and potted meats, etc.		66
		914

(i) *Fresh Milks*—

City Hospitals: Of the 172 samples examined 10 shewed no evidence of B. Coli in 1 c.c., 16 contained B. Enteritidis sporogenes in 10 c.c., 9 contained streptococci, and B. Tuberculosis was found in 14 samples. A bacterial count was done in 29 of these samples.

Infant Welfare Centres: Of the 84 samples examined, 6 showed no evidence of B. Coli in 1 c.c., 13 contained B. Enteritidis sporogenes in 10 c.c., 2 contained streptococci, and B. Tuberculosis was found in 7 samples. A bacterial count was also done in 3 of these samples.

Milk Shops, Railway Stations, etc. : Of the 586 samples examined 142 shewed no evidence of B. Coli in 1 c.c., 67 contained B. Enteritidis sporogenes in 10 c.c., 12 contained streptococci, and B. Tuberculosis was found in 63 samples. A bacterial count was also done in 6 of these samples.

Thus, in 842 samples of milk 84 were found to be infected with tubercle. This, at first sight, seems a large proportion, but many of the samples were in duplicate or triplicate, and it is impossible to draw any conclusions from these figures as to the percentage of tuberculosis in the milk supply of the City.

(ii) *Tinned Milks*—Of the 6 samples examined, 3 were sterile.

(iii) *Other Food-stuffs*—Of the 31 samples of tinned, potted, raw and cooked food-stuffs examined, 1 was sterile, 2 samples of water-cress contained B. Enteritidis sporogenes and also innumerable B. Coli in 1/25th of a gram, but none shewed any evidence of food-poisoning organisms. Of the 35 samples of shell-fish examined, none shewed any evidence of contamination with typhoid organisms.

There were 361 samples of water examined, viz. :—

For the Water Engineer—		
Daily samples		307
Monthly samples—		
Prescot-Vyrnwy	11	
Prescot-Rivington	8	
George Holt Well	7	
John Holmes Well	11	
Dudlow Lane Well	4	
	——	41
Special samples from—		
Rivington	8	
Lodge Lane Pumping Station	1	
Windsor Yard	4	
	——	13
		361

The water throughout the year, whether from the wells or from Prescot, was, from a bacterial standpoint, satisfactory.

Rats, etc.—

During the year 2,171 rats, from warehouses, etc., within the city, were examined, and no evidence of the bacillus of plague was found in any of them.

Material from Infectious Diseases in Man—

(*a*) Swabs from suspected cases of Diphtheria :—

	Positive.	Doubtful.	Negative.	Total.
City Hospitals	1,259	6	8,774	10,039
Infant Welfare Centres, etc.	7	1	170	178
Private Practitioners, etc. ...	213	1	984	1,198
	1,479	8	9,928	11,415

(*b*) Blood from suspected cases of Typhoid Fever :—

	Positive.	Negative.	Total.
City Hospitals	44	53	97
Private Practitioners, etc.	5	21	26
	49	74	123

(*c*) Urine and Faeces from suspected cases of Typhoid Fever, etc. :—

	Positive.	Doubtful.	Negative.	Total.
City Hospitals	4	4	221	229
Infant Welfare Centres, etc...	—	1	1	2
Private Practitioners, etc. ...	—	—	4	4
	4	5	226	235

(*d*) Sputa, etc., from suspected cases of Tuberculosis :—

	Positive.	Negative.	Total.
City Hospitals	27	579	606
Private Practitioners, etc.	220	1,002	1,222
	247	1,581	1,828

(*e*) Anthrax Infection—24 specimens of tissues, swabs, etc., were examined for the City Hospitals, and B. Anthracis was found in 6 cases.

(*f*) Vaccine—9 vaccines were prepared from specimens sent from the City Hospitals.

(*g*) Miscellaneous—345 specimens of tissues, secretions, fluids, etc., were examined, chiefly for the City Hospitals

VENEREAL DISEASES.

The following specimens have been examined from persons known, or suspected, to be suffering from Venereal Disease :—

	Positive.	Doubtful.	Negative.	Total.
Clinics –				
Wassermann Reactions	1,153	36	1,903	3,092
For Gonococci	51	21	994	1,066
For Spirochaetes	1	—	3	4
	1,205	57	2,900	4,162
Hospitals, Private Practitioners, &c.				
Wassermann Reactions	1,052	44	1,819	2,915
For Gonococci	57	25	346	428
For Spirochaetes	—	—	7	7
Still-born Infants	15	7	324	346
For Ophthalmia Neonatorum ...	21	2	34	57
	1,145	178	2,530	3,753
Grand Totals	**2,350**	**135**	**5,430**	**7,915**

As the majority of these specimens were sent from patients suspected to be suffering from syphilis, or undergoing treatment, several specimens of blood may have been sent from one case at different times, and therefore no percentages as to positive and negative results can be estimated from these figures.

In the case of still-born infants examined, those giving positive evidence of syphilis amount to over 4 per cent. In 3 of the doubtful cases a specimen of blood from each of the mothers was examined, and the three were definitely positive.

The cases of Ophthalmia neonatorum shewing positive evidence of gonococci amount to nearly 37 per cent.

MATERIAL FROM ANIMALS WITH SUSPECTED INFECTION.

For Tuberculous infection—Of the 5 specimens of tissues, etc., examined, 2 were tubercular, and 3 shewed no evidence of infection.

For Anthrax infections—There were 83 samples of shaving brushes, bristles, etc., and 6 specimens of tissues, etc., examined; one shaving brush and one sample of bristles only shewed evidence of B. Anthracis, and all the others were negative.

Other specimens—Two samples of water from swimming baths, and 2 disinfectants, were examined for the Baths and Wash-houses department. None of these samples calls for any special comment.

SUMMARY OF EXAMINATIONS FROM ALL SOURCES DURING THE YEAR 1925.

Description of specimens.	Numbers.
Milks and other food-stuffs	918
Waters	361
Rats, etc.	9,113
Material from infectious diseases in man:—	
Swabs for Diphtheria	11,415
Blood for Typhoid Fever	122
Urine for Faeces for Typhoid Fever	235
Sputa, etc., for Tuberculosis	1,828
Anthrax infection	24
Vaccines	9
Miscellaneous	345
Venereal Diseases	7,915
Tissues, etc., from animals with suspected infection	6
Hair, Shaving brushes, etc , for Anthrax infection	208
Other specimens	4
Tissues from animals suspected of Anthrax infection	6
TOTAL	32,510

CLEANSING AND SCAVENGING.

The City Engineer has kindly supplied the following information, which indicates the operations carried out by the cleansing staff under his control:—

The work of the Department consists of cleansing and watering the 592 miles of streets within the City, together with their back passages, the periodical emptying of ash-bins, street gullies, street and court-bins and ashpits, and the disposal of the refuse collected therefrom, etc. During 1925 the quantity of refuse collected was approximately 320,000 tons, and the quantity disposed of was approximately 373,000 tons, the latter figure including 53,000 tons of clinker residue and fluedust from destructors. The quantity dealt with per working day was 1,214 tons.

The whole of the 592 miles of streets with their passages, with the exception of a few on the outskirts of the City, are swept weekly, the principal streets, and streets in congested areas, receiving constant daily attention. In addition, certain streets and passages are washed by hose pipe. During 1925 street washing was carried out as follows:—

52 streets washed once a week;
1 street washed three times a week;
1 street washed daily; and
225 streets washed as occasion required;

and all tunnel entrances to courts were also regularly washed.

Three motor sweeping machines are employed regularly, and sweep approximately 30 miles of roadway nightly.

On Sunday mornings a number of the principal streets and streets in congested areas are cleansed, and certain street and court bins emptied.

During 1925 approximately 53,000 tons of street sweepings were collected and disposed of as manure and top dressing.

In connection with street watering upwards of 22½ million gallons of water were distributed during the season, in addition to the large quantity used for street washing.

541,742 square yards of carriageway were treated with dust-laying compositions, of which 80,777 square yards were in Sefton and Newsham Parks.

The frequent flushing of trough water closets is a sanitary measure, this type of closet being provided principally in the more densely populated areas of the City. The number of trough water closets in existence on 31st December, 1925, was 667.

There are 34 underground urinals with 317 stalls and 150 overground urinals with 556 stalls in Liverpool, which are cleansed and disinfected at least once daily. During the summer season a large number of urinals and trough water closets are cleansed and disinfected twice daily All private, domestic and office drains are flushed twice a year by the City Engineer's staff.

An improved type of fixture ash-bin was first supplied to Liverpool premises in 1898, and at the end of 1925 the number of bins in use of this type was 87,400, and the number of ashpits had been reduced from 65,000 to approximately 5,800. In addition, more than 61,000 loose bins had been supplied. In the year 1900 an improved sanitary ashbin was introduced for the use of courts, some of which have been removed owing to property being demolished. The number in use at the end of the year was 1,345, which are emptied daily. Ashbins and ashpits at domestic premises are emptied approximately once weekly. The Bell-Cart service provides for the daily removal of domestic refuse from shops, business premises, and dwelling-houses, where no provision can conveniently be made for the storage of this description of refuse.

The night service has now been discontinued, most of the ashpits having been abolished and bins substituted. Both bins and ashpits are now emptied during the early morning.

Horse middens are emptied weekly, and oftener if required, and abattoir garbage is removed nightly, 3,417 tons of abattoir garbage being removed during 1925.

All ashpits and ashbin refuse is emptied direct into the carts and motors, and all loaded carts and motors traversing the streets are covered.

The refuse collected is disposed of by burning at six destructors, by disposing at sea, by sale to farmers, and by other use for agricultural purposes. During the year 159,365 tons were burned at the destructors, 54,933 tons were deposited at sea by hopper barge, 31,362 tons were sold to farmers, and 76,015 tons were otherwise disposed of for filling up pits, and agricultural purposes, etc. In addition, approximately 47,100 tons of clinker residue from destructors were used almost entirely in the construction and maintenance of roads, tramways, and in the manufacture of mortar and concrete slabs, etc.

HOUSING.

Removal of Insanitary Property.

In connection with the removal of insanitary property, it would appear to be desirable to state the position in summary form, since the commencement of operations within the City :—

Date	Powers	Approximate number of houses dealt with
1865 to 1904	The Liverpool Sanitary Amendment Act, 1864.	6,300
1905 to 1925	Housing Acts.	
	(a) Unhealthy Areas (23)...	2,966
1906	(b) As the result of a Circular Letter directing the Owner's attention to the insanitary condition of the property	1,020
1906 to 1925	(c) Closing Orders	1,760

In addition to the above, a large number of insanitary houses has been demolished by owners for the purpose of private improvement.

Closing Orders.

In view of the shortage of dwellings no Closing Orders were made under the Housing Acts during the years 1916 to 1920 and 1922 to 1925 (inclusive).

In 1921 Closing Orders were made in respect to 55 houses in Quarry Street, Woolton, which were subsequently reconstructed and made sanitary.

HOUSING ACT, 1925.

The approximate number of insanitary houses existing on the 1st January, 1926 (including added areas) was as follows :—

Number of courts	266
Number of court houses	1,408
Approximate number of front houses contiguous to court houses	532

Official Representation, December 30th, 1925.

A representation was made by the Medical Officer of Health in respect to the compulsory acquisition of an area in Pitt Street, for the purpose of Part III of the Housing Act, 1925.

Pitt Street Area.

At a public enquiry held in the Municipal Offices on 30th December, 1925, the Medical Officer of Health submitted the following evidence in regard to this area :—

Demand for Dwellings.

For many years the question of the erection of suitable dwellings for the working-classes in this district has received the attention of the City Council.

In September, 1907, a deputation waited upon the Housing Committee and urged the Committee to undertake a housing scheme in this locality.

In September, 1908 a memorial was received from the residents in favour of a housing scheme.

In February, 1910, a further deputation of residents of St. Peter's Ward had an interview with the Committee with regard to the policy of building houses for the working-classes in the neighbourhood.

The points which the deputation brought before the Committee were, that during the past years there had been a considerable reduction in the population of St. Peter's Ward, which was accounted for largely by the demolition of house property, and that no houses had been erected, and that it was very desirable that houses should be built in the Ward in order that workmen might live near their work.

The Housing Committee has on several occasions considered three other sites in close proximity to the area now under consideration, but the amount of insanitary property on these sites is not great, and the bulk of the property is not of the description which the Committee usually deal with as insanitary property, although many of the dwellings are old and worn, and in some cases structurally dilapidated.

View of Pitt Street, showing old chapel and derelict houses.

In the reports submitted to the Housing Committee in regard to these three sites, it was pointed out that from the plans submitted in regard to rebuilding no great increase of population would result, and that a great number of persons at present on the areas would require to be temporarily displaced.

Mortality Rates.

The mortality statistics for the three years 1922, 1923 and 1924, together with the statistics for the entire City and Corporation tenements are as follows:—

	Entire City	Pitt Street Area.	Corporation Tenements.
Population	836,396	92	13,597
Average Annual General Death Rate (per 1,000)...	13·97	32·60	17·48
Average Annual Phthisis Death Rate (per 1,000)...	1·28	10·86	1·86
Average Annual Infant Mortality Rate (per 1,000 Births)...	99·21	142·85	12·158
Average Annual Birth Rate (per 1,000) ...	25·19	25·36	35·97

THE CITY OF LIVERPOOL (PITT STREET AREA).

Compulsory Purchase Order, 1925.

Order for the Purpose of the Compulsory Acquisition of Lands.

Application.

The area referred to in the application is an island site bounded by Pitt Street, Greetham Street, Forrest Street and Upper Frederick Street, and is shown on the accompanying plan (see over).

Area of Site.

Of the total contents of the site, namely 3,324 square yards, approximately 1,123 square yards is vacant land.

Contents.

On this area there are 22 dwelling-houses, fourteen of which have a ground floor room arranged for use as a shop. Many of the dwellings are

old and worn, in the majority of cases the fabric is in bad repair, and the yard space is small.

Of the 22 dwelling-houses, three are derelict and unoccupied, viz., Nos. 32, 34, 36, Pitt Street; one is of the back-to-back type, viz., No. 15, Greetham Street, and four are without adequate ventilation or yard space, viz., Nos. 6, Forrest Street, 15a, 17a and 19, Greetham Street.

In addition to the aforementioned there is a four-storied warehouse, No. 4, Forrest Street, occupied by Messrs. Yeoward Brothers, used for the storage of Canary Islands produce, also a disused chapel, No. 38, Pitt Street, occupied by the Salvation Army, and used for the storage of waste paper.

MEMORANDUM in regard to two premises, concerning which an objection to the proposed Order was received by the Minister of Health.

No. 4, FORREST STREET.

These premises are a four-storied warehouse and basement occupied by Messrs. Yeoward Brothers, for the storing of fruit, trade goods, and Canary Islands produce. The fabric is in fairly good repair, the premises being erected prior to 1878.

No. 52, PITT STREET.

These premises were formerly occupied as licensed premises, the fabric is in good condition, and the present tenancy is as follows :—

Ground Floor.—Occupied as a Social Club by Chinese who reside in the locality.

First and Second Floor.—Contains six rooms, occupied by one family with three persons, cross ventilation being provided by means of windows in Pitt Street and Greetham Street.

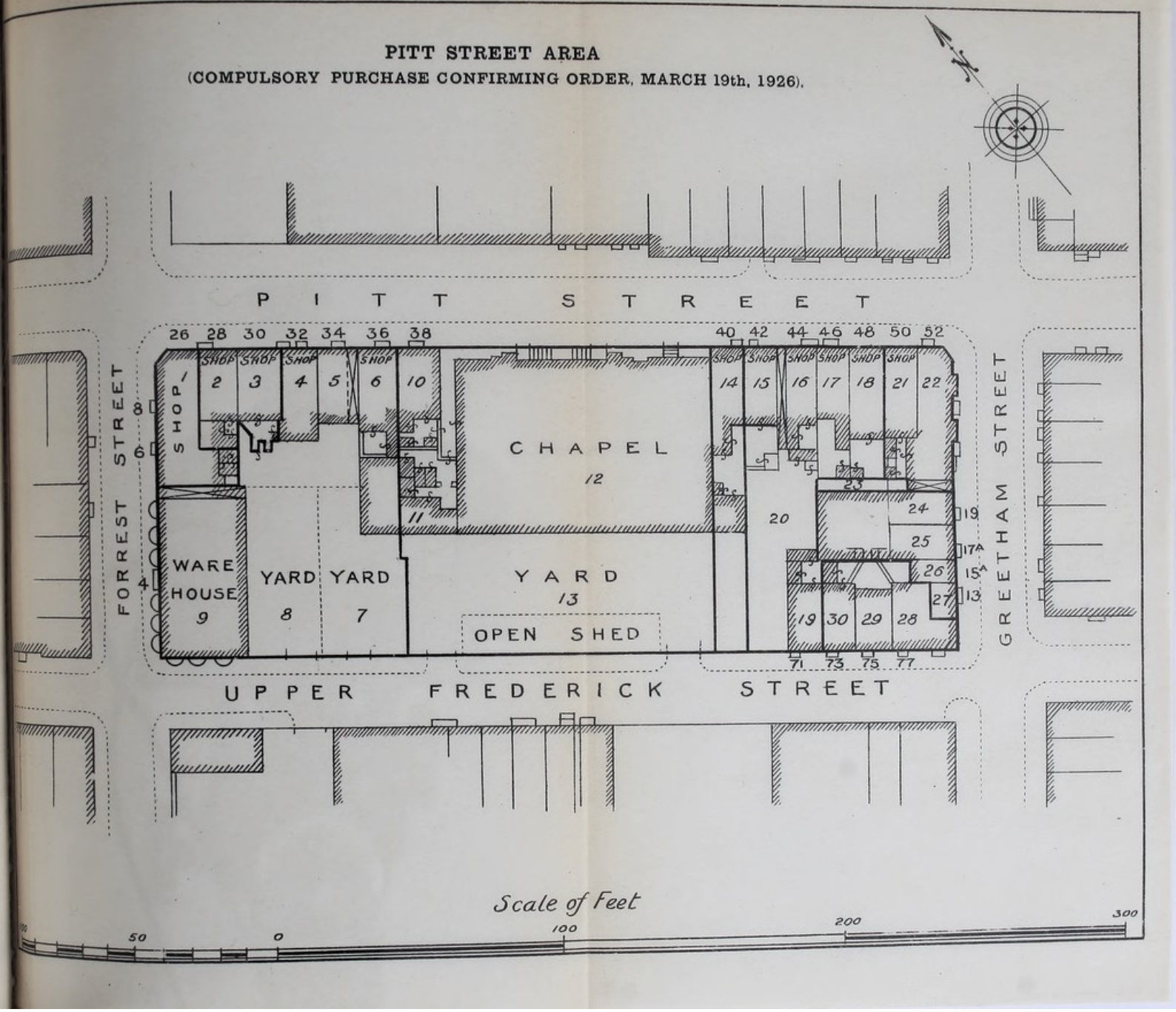
A sanitary convenience is provided on the first and second floor, situated in well ventilated apartments, but the yard space at the rear is very small.

MEMORANDUM IN REGARD TO INSANITARY HOUSES.

Derelict houses	3

PITT STREET AREA

(COMPULSORY PURCHASE CONFIRMING ORDER, MARCH 19th, 1926).



Scale of Feet

50 0 100 200 300

YARD
YARD
WARE
HOUSE
SHOP
FOREST STREET

Nos. 32, 34, 36, Pitt Street.

These three premises are unoccupied, in a derelict condition, and quite unfit for human habitation.

No 6, Forrest Street.

The ventilation to this house is insufficient, through ventilation being provided to the ground floor only, and the dwelling is without adequate air space.

The open space at the rear, which was formerly a yard. has been covered.

Nos. 15, 15a, 17a, 19, Greetham Street.

No. 15 is the usual type of back-to-back house containing four rooms, and is without through ventilation or yard space, closet accommodation is in the cellar.

No. 15a is a small house with two apartments, it has through ventilation, but there is no yard space. The yard space which is at the rear is used by the tenants of this house, but is connected with the dwelling-house No. 77, Upper Frederick Street. The water closet is in the yard.

No. 17a contains seven rooms, no yard space provided. The closet is situated in a room at the rear, in a close and confined position, the upper rooms being without through ventilation.

No. 19 contains eight rooms, but is sub-divided into two sections, the ground floor room at the rear being occupied by one family and containing two rooms, the closet being situated in a dark and confined position, and communicates direct with the kitchen. The upper rooms are provided with through ventilation and separate sanitary conveniences. This house has no yard space.

On March 19th, 1926, the Minister of Health made a Confirming Order in respect to this area.

INSANITARY PROPERTY.

The following report was submitted to the Housing Committee, indicating the position in respect to :—

"A."—Insanitary houses included in schemes approved by the Ministry of Health, and which still remain to be finally disposed of.

"B."—Insanitary houses which have not up to the present been dealt with in any way.

"C."—The work done by the officers of the Health Committee in respect to the inspection of all dwellings under the Public Health Acts.

Powers under the Housing Acts, 1925.

"D."—Recommendations in respect to action which may be taken.

"A."—INSANITARY HOUSES INCLUDED IN SCHEMES APPROVED BY THE MINISTRY OF HEALTH, AND WHICH STILL REMAIN TO BE DEALT WITH.

BEAU STREET AREA. (Confirming Order dated 23rd October, 1908.)

The land and premises on this area have been acquired and all the property demolished; the vacant land is let at short tenancies until such time as it is required for street improvement purposes or for the erection of dwellings.

PRINCE EDWIN STREET AREA. (Confirming Order dated 10th October, 1924.)

Sixty tenements have been erected on this area, but there still remain 39 insanitary houses to be demolished; 24 houses are occupied and are in front of the new dwellings; the remaining houses are unoccupied and derelict.

RATHBONE STREET AREA. (Confirming Order dated 1st August, 1913.)

At the present time all the property on this area is in possession of the Corporation. The houses have been demolished with the exception of 23 houses, of which 16 are occupied, and 7 unoccupied and derelict.

The City Council has instructed the City Surveyor to acquire sites in the neighbourhood with a view to dwellings being erected thereon.

SALTNEY STREET AND DUBLIN STREET AREAS. (Confirming Order dated 10th October, 1924.)

With regard to Saltney Street, all the houses are occupied, and the only change since the date of the Order is the demolition of eight houses which became in a dangerous condition.

With regard to Dublin Street, twelve houses have been purchased by the City Council and improved by the provision of through ventilation, yard space, bath, sanitary conveniences, and water supply. An arrangement has been made to acquire the remaining houses, and when the purchase is completed they may also be improved and rendered sanitary.

Blenheim Street Area. (Confirming Order dated 10th October, 1924.)

On this area the City Council has erected twenty-four tenements, but there still remains to be dealt with the property fronting St. Augustine Street and Silvester Street, a total of forty-eight houses. Of this number ten are in possession of the Corporation.

Burlington Street, Hopwood Street, Gt. Richmond Street and Rankin Street Areas.

Burlington Street Area. (Confirming Order dated 11th January, 1924.)

Twenty-four tenements have been erected by the City Council on the site of the old school in Bond Street. There still remain to be dealt with 302 houses included in the scheme. Of this number eight are in possession of the Corporation.

Gt. Richmond Street, Rankin Street and Hopwood Street Areas.

With the exception of twelve houses remaining to be purchased, the whole of the property on the Hopwood Street area has been acquired.

With regard to Gt. Richmond Street and Rankin Street areas no change has taken place since the date of the Confirming Order.

Under the provision of Section 40, Sub-Section (4), Housing Act, 1925, the land comprised in unhealthy areas, in respect to which Closing Orders have been made, should be acquired within three years after the date of the Confirming Order.

"B."—Insanitary Houses which have not up to the present been dealt with in any way.

1 Worst Type of Court House and Contiguous Front House.

There are at present existing within the city approximately 1,940 houses of the worst type, in respect to which no proceedings have as yet been taken. These houses are without through ventilation, yard space, suitable closet accommodation, or adequate water supply, the majority of them being situated in close and confined courts. They are all occupied.

2. Bad Type of Front House.

In addition to the above 1,940 houses of the worst type, there are, scattered throughout the City, approximately 6,000 front houses, which,

although not of the back-to-back type, are in such an insanitary condition in respect to structure and sanitary arrangements that they call for improvement. For example, of these 6,000 houses, approximately—

600 are without through ventilation and separate yard space, and in the majority of cases separate closet accommodation is not provided;

3,000 are provided with through ventilation to the ground floor room only, the area of the open space at the rear is very small, but there is a separate closet and water supply;

1,200 have also a small yard and closet, but are not provided with through ventilation to the upper room.

The remaining houses are unsatisfactory in regard to ventilation of the rooms, and closet accommodation.

"C."—The Work Done by the Officers of the Health Committee in respect to the Inspection of all Dwellings under the Public Health Acts.

Under the Public Health Acts, 1875 and 1907, it is the duty of every Local Authority to inspect their district in order to abate nuisances for the purpose of these Acts, a nuisance being defined by Section 91, Public Health Act, 1875.

House-to-House Inspection.

A permanent staff of 44 male inspectors devote almost the whole of their time to the detection and removal of nuisances in connection with all dwelling-houses by systematic inspection, including the aforementioned houses referred to under the heading "B" (page 257), and a record is kept indicating the date when the inspection of each street is completed.

Wherever sanitary defects and nuisances are found a notice is served upon the owner or occupier, and, if the notice is not complied with, an information is laid, and an order of the court obtained for the abatement of the nuisance.

The statistics in respect to house-to-house inspection will be found on page 194.

Court and Alley Inspection.

Special and systematic visits are made by the sanitary inspectors to courts at least twice weekly, with the object of ensuring the cleanliness of the court surface and sanitary conveniences, and to guard against the deposit of refuse in cellar areas. The aim is to keep the courts and alleys uniformly clean throughout the week, and with this object in view the district inspectors instruct a tenant in each court with regard to the weekly cleansing of the water closet.

The scavengers employed by the Health Committee brush the surface of the courts at least once a week, and the ashbins in the court are cleansed daily.

The statistics in respect to court and alley inspection will be found on page 194.

Limewashing of Courts.

The exterior of all court houses, and interior of the water closets in the courts, are limewashed yearly by the owners as the result of notices issued by the Health Committee.

LIMEWASHING OF EXTERIORS OF COURT HOUSES.

Number of	courts	591
,,	exteriors of court houses limewashed ...	2,234
,,	interiors of court water closets limewashed	979
,,	notices issued to limewash	512
,,	notices complied with	512

The work of the lodging-house staff in respect to night visitation is recorded on page 201.

"D."—Recommendations in respect to Action which may be taken.

Insanitary Houses in Schemes.

"A."—With regard to insanitary houses already included in a scheme, it does not appear possible to proceed with demolition until such time as suitable accommodation is provided for persons to be dispossessed.

The existing insanitary houses may then be demolished and the erection of suitable tenements proceeded with.

Insanitary Houses not yet dealt with.

"B."—A circular letter to be sent to the owners intimating that the property is unfit for human habitation and inquiring whether any, and, if any, what steps the owner proposes to take with a view to the removal of the present necessity to close the property. Generally speaking, it is essential that improved sanitary arrangements and means of ventilation should be introduced, and that the properties should be put into a reasonable state of repair.

In order to make an immediate commencement upon the suggestion contained in the above paragraph, it is recommended that a circular in the terms suggested be sent to the owners of the properties in question.

In the houses in respect of which it is suggested a circular letter should be sent, the City Engineer and Medical Officer are of opinion that the following work requires to be done to put these premises into a condition reasonably fit for human habitation, viz. :—Improved ventilation and open space, sufficient w.c. accommodation and water supply and general repairs.

PROVISION OF DWELLINGS.

Despite the operations of the Housing Committee, and the activity of private builders, who during the past five years have erected 8,122 dwellings, there is still an urgent demand for dwellings. Applications are continually received by the Housing Committee, and at the end of 1925, there were over 11,000 applications for Corporation dwellings on the waiting list, no dwellings being available.

The difficulty in regard to the removal of insanitary houses is the question of replacing the persons who may be dispossessed. The Ministry of Health have recognised this difficulty and have inserted a clause in their Confirming Order in respect to "unhealthy areas" recently dealt with, to the effect that any occupied houses on the areas shall not be demolished until accommodation for the number of persons equivalent to the number of working-class occupants in each house is available in new dwellings erected by the Council, unless the Council are satisfied that suitable alternative accommodation for such occupants is available elsewhere.

RE-HOUSING IN OLD CITY AREA.

The number of dwellings provided by the Corporation up to the present is 3,043; their situations and dates of opening are as follows :—

Situation	Date opened.	Number of tenements. (Including houses with shops attached)
St. Martin's Cottages	1869	124
Victoria Square	1885	270
Juvenal Dwellings	1891	101
Arley Street	1897 1902/3)	46
Gildart's Gardens	1897 1904	229
Dryden Street	1901	182
Kempston Street	1902	79
Kew Street	1902/3	114
Adlington Street Area	1902/3	273
Stanhope Cottages	1904	60
Mill Street	1904	55
Hornby Street	1904 1906/7	454
Clive Street and Shelley Street	1905	83
Eldon Street	1905	12
Upper Mann Street	1905/6	88
Combermere Street	1909	49
Burlington Street	1910	114
Saltney Street	1911	48
Grafton Street	1911	60
Bevington Street Area	1912	224
Northumberland Street Area	1913	68
St. Anne Street Area	1914	77
Gore Street	1916	24
Jordan Street	1916	31
Sparling Street	1916	16
Penrhyn Street	1921	26
Mason Street	1921	28
Blenheim Street	1923	18
Prince Edwin Street	1924	60
St. Augustine Street	1925	6
Bond Street	1925	24
Total	—	3,043

DESCRIPTION OF TENEMENTS.

Number of 1-roomed dwellings	193
Number of 2-roomed dwellings	1,366
Number of 3-roomed dwellings	1,166
Number of 4-roomed dwellings	318
	3,043
Number of self-contained dwellings (included in above)	133
Number of lock-up shops	15

RENTALS.

The rentals of the tenements vary from 2s. 8d. to 8s. 10d., and those of the self-contained cottages from 8s. 10d. to 10s. 5d. per week.

NEW DWELLINGS IN SUBURBS.

The Housing Committee has erected the following dwelling-houses since 1919 :—

	"A" (Non-parlour)	"B" (Parlour)	Totals
Elms House Estate	252	—	252
Larkhill Estate	476	1,730	2,206
Fazakerley Estate	62	150	212
Edge Lane Drive Estate ...	560	311	871
Walton and Clubmoor Estate	957	600	1,557
Springwood	224	819	1,043
Partly developed Estates ...	—	554	554
Woolton	48	—	48
Knotty Ash	24	—	24
Highfield Estate	—	151	151
Pinehurst Road Estate ...	47	24	71
King Street, Garston ...	44	—	44
	2,694	4,339	7,033

All these dwellings are completed and occupied.

Contracts have been entered into for the erection of 5,044 houses and 169 flats, and contracts for a large additional number of houses are in contemplation.

In addition to the above, 488 wooden bungalows were converted from military huts for temporary occupation as dwellings on a site at Knotty Ash, and these dwellings, most of which have been occupied since the early part of 1920, are now being replaced gradually by permanent houses.

ALLOCATION OF HOUSES.

The Housing Committee has drawn up regulations in regard to the allocation of Corporation houses, and broadly speaking, the applicants are dealt with in order of their application. The applicant must have a residential qualification in the city, and the family must consist of at least four persons. Preference is given to ex-Service men, and families which contain a large number of children, or in those cases where one of the members of the family is suffering from tuberculosis.

PROPOSED HIGH STOREY TENEMENTS.

A proposal was submitted to the Committee suggesting the erection of ten-storey tenements at the Melrose Road and Dingle Sites, but the Minister of Health indicated that so far as financial assistance was concerned, such assistance would only be given on the basis of the loss in connection with tenements five storeys high, and if an equal number of tenements were erected ten storeys high, any additional loss resulting from the increased cost of buildings of this height would have to be borne by the Corporation. Further plans have been submitted indicating the erection of blocks of tenements five storeys in height on each of the aforementioned sites.

VISIT OF MINISTER OF HEALTH.—HOUSING SCHEMES.

On October 8th and 9th, 1925, the Right Honourable Neville Chamberlain, M.P., Minister of Health, visited this city, and made an official inspection of several housing schemes, together with wide roads, hospitals, and Poor Law institutions.

HOUSING OF THE WORKING CLASSES ACTS, 1890 TO 1924.

BURLINGTON STREET.—Nos. 1 to 8 (inclusive) in 26 Court.
Nos. 116, 116a, and 118 (fronts).

BACK BOND STREET.—Nos. 3 and 5 (fronts).

BURLINGTON STREET.—Nos. 1 to 10 (inclusive) in 32 Court.
Nos. 132 and 134 (fronts).

On 14th July, 1925, Sir Anker Simmons, K.B.E., Arbitrator, conducted an Inquiry in regard to the above premises, and the award of the Arbitrator was received in due course.

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Tables.

ALL DWELLINGS.

Population, 1920	12,664
Population, 1921	12,870
Population, 1922	13,402
Population, 1923	13,597
Population, 1924	13,775
Population, 1925	13,786

	1920.		1921.		1922.		1923.		1924.		1925.	
	Total number	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,600.
Births	583	46·03	517	40·1	542	40·44	475	34·93	450	32·66	476	34·52
Deaths	279	22·03	246	19·1	245	18·28	242	17·79	226	16·40	258	18·71
Infantile Mortality ..... Deaths under 1 year	92	157·80 per 1,000 Births.	68	131·5 per 1,000 Births.	69	127·30 per 1,000 Births.	60	126·31 per 1,000 Births.	59	131·11 per 1,000 Births.	61	128·15 per 1,000 Births.
Phthisis	26	2·05	27	2·09	26	1·9	28	2·05	22	1·59	22	1·59

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Tables.

RESTRICTED DWELLINGS.

Population, 1920	10,642
Population, 1921	10,840
Population, 1922	11,361
Population, 1923	11,516
Population, 1924	11,690
Population, 1925	11,683

	1920.		1921.		1922.		1923.		1924.		1925.	
	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.
Births	485	45·57	431	40·6	452	39·78	406	35·25	364	31·13	399	34·15
Deaths	240	22·55	206	19·003	208	18·30	211	18·32	193	16·50	218	18·65
Infantile Mortality ..... Deaths under 1 year	81	167·01 per 1,000 Births.	54	125·2 per 1,000 Births.	62	137·16 per 1,000 Births.	51	125·61 per 1,000 Births.	51	140·10 per 1,000 Births.	51	127·81 per 1,000 Births.
Phthisis	22	2·06	21	1·9	24	2·11	23	1·99	16	1·36	21	1·79

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Tables.

UNRESTRICTED DWELLINGS.

Population, 1920	2,022
Population, 1921	2,030
Population, 1922	2,041
Population, 1923	2,081
Population, 1924	2,085
Population, 1925	2,103

	1920.		1921.		1922.		1923.		1924.		1925.	
	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.
Births	98	48·46	86	42·3	90	44·09	69	33·15	86	41·24	77	36·61
Deaths	39	19·28	40	19·7	37	18·12	31	14·89	33	15·82	40	19·02
Infantile Mortality ..... Deaths under 1 year	11	112·24 per 1,000 Births.	14	162·7 per 1,000 Births.	7	77·77 per 1,000 Births.	9	130.43 per 1,000 Births.	8	93·02 per 1,000 Births.	10	129·87 per 1,000 Births.
Phthisis	4	1·9	6	2·9	2	0·97	5	2·40	6	2·87	1	0·47

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Statistics as to Birth Rate and Infantile Mortality Rate in Corporation Dwellings as a while for the five years 1921 to 1925 :—

Year	Birth Rate per 1,000 of population.	Infantile Mortality. Deaths under 1 year per 1,000 births.
1921	40·10	131·5
1922	40·44	127·3
1923	34·90	126·3
1924	32·66	131·1
1925	34·52	128·15

ALL DWELLINGS.

Average Birth Rate for the 5 years 1921 to 1925 ... ... 36·48
Average Death Rate for the 5 years 1921 to 1925 ... ... 18·04
Average Infantile Mortality Rate (under 1 year) 1921 to 1925 ... 128·86
Average Phthisis Death Rate for the 5 years 1921 to 1925 ... 1·85

CELLARS.

On the 31st December, 1912, there were 1,614 cellars let as separate dwellings.

The present position in regard to these cellars is as follows :—

Number at present unoccupied 657
Number occupied as kitchens or wash-cellars 455
Number occupied as a kitchen and separately let with the front parlour 112
Number permanently closed 248
Number demolished 9
Number of cellars occupied as separate dwellings, 31st March, 1925 133

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING THE YEAR ENDING DECEMBER, 1925.

DISTRICTS.	Number Erected.	Number Taken Down.
Exchange	31	23
Abercromby	1	19
Everton	36	14
Kirkdale...	—	—
Edge Hill	—	—
Toxteth	1	1
Walton	157	1
West Derby	446	2
Wavertree	923	—
Toxteth (East)	7	1
Fazakerley	34	—
Woolton	11	—
Totals	1,647	61

Of the 1,647 dwelling-houses erected during 1925, 491 were built under the direction of the Housing Department, these forming parts of Government assisted schemes.

RETURN OF HOUSES ERECTED, 1923-1925.

The City Building Surveyor has kindly furnished the following return of houses erected in the City :—

NUMBER OF ROOMS, (Exclusive of Bathrooms, Sculleries, &c.)	1923	1924	1925
4 Rooms or less	5	14	13
5 or 6 Rooms	763	479	1,298
7 or 8 Rooms	937	265	333
9 or 10 Rooms	4	10	3
More than 10 Rooms	—	—	—
Totals	1,709	768	1,647

The numbers of houses which have been erected by or for the Housing Committee and which form parts of Government assisted schemes during the last three years, are—

1923 = 1,548
1924 = 88
1925 = 491

RETURN REQUIRED BY MINISTRY OF HEALTH,

YEAR ENDED 31ST DECEMBER, 1925.

GENERAL STATISTICS.

Area (acres)	21,219
Population	842,968
Number of Inhabited Houses	167,436
Number of Families, or separate Occupiers (1921 Census)	173,823
Rateable Value	£7,021,884
Sum represented by a Penny Rate	£24,875

Housing.

Number of New Houses erected during the year :—

(*a*) Total	1,647
(*b*) With State Assistance under the Housing *Act*, 1924 :—	
(i) By the Local Authority	491
(ii) By other bodies or persons... ...	678

1. Unfit Dwelling-houses.

Inspection—

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	145,390
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	145,390
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	1,940
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	Nil.

2. Remedy of Defects without Service of Formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers	Nil.

3. Action under Statutory Powers.

A.—*Proceedings under Section 3 of the Housing Act*, 1925.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	Nil.

(2) Number of dwelling-houses which were rendered fit :—

(*a*) by owners ... ... Nil.

(*b*) by Local Authority in default of owners Nil.

(3) Number of dwelling-houses in respect to which Closing Orders became operative in pursuance of declarations by owners of intention to close.. Nil.

B.—*Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 39,367

(2) Number of dwelling-houses in which defects were remedied—

(*a*) by owners 39,367

(*b*) by Local Authority in default of owners.. Nil.

C.—*Proceedings under Sections* 11 *to* 15 *of the Housing Act*, 1925.

(1) Number of representations made with a view to the making of Closing Orders ... ... Nil.

(2) Number of dwelling-houses in respect of which Closing Orders were made ... ... Nil.

(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit... ... ... Nil.

(4) Number of dwelling-houses in respect of which Demolition Orders were made ... ... Nil.

(5) Number of dwelling-houses demolished in pursuance of Demolition Orders ... ... Nil.

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° 24′ 5″ N. Longitude 3° 4′ 20″ W.
Height above the Mean Level of the Sea 202 feet.

1925.	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	30·117	42·6	1·469	15	83
February	29·542	41·3	4·258	21	83
March	30·192	41·8	0·711	15	81
April	29·819	45·6	1·773	16	75
May	29·736	52·3	2·340	23	79
June	30·154	58·9	0·064	5	72
July	29·921	61·9	2·361	13	75
August	29·940	60·1	3·298	22	78
September	29·934	53·3	3·877	22	78
October	29·873	51·4	3·291	21	85
November	20·966	39·1	2·784	14	83
December	29·701	38·6	2·170	22	85

Difference from the Average Quantities observed during the last 59 years.

1925.	Barometer.		Temperature.		Rainfall.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches	Degrees.	Degrees.	Inches.	Inches.
January	0·180	...	3·4	...	...	0·678
February	...	0·377	0·1	...	2·552	...
March	0·311	...	...	0·4	...	1·145
April	...	0·085	...	1·6	0·105	...
May	...	0·234	0·5	...	0·337	...
June	0·158	...	1·5	...	...	1·951
July	...	0·029	1·1	...	...	0·335
August	0·022	...	...	0·4	0·222	...
September	...	0·034	...	2·9	1·125	...
October	...	0·010	1·8	...	...	0·044
November	0·067	...	...	4·2	0·319	...
December	...	0·143	...	1·3	...	0·009

Observations of Velocity of Wind.

1925.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date.	Minimum Hourly Velocity.	Date.
	Miles.	Miles.		Miles.	
January	20·4	66	Jan. 4	0	January 18, 19, 24.
February	19·2	59	Feb. 10	0	February 20, 28.
March	17·9	54	Mar. 8	0	March 17.
April	17·3	79	April 16	0	April 29, 30,
May	12·5	46	May 30	0	May 10, 14, 16, 19. 20.
June	13·3	33	June 18, 21	1	June 4, 5, 28, 23, 26. 29.
July	12·5	36	July 7, 27, [28	0	July 1, 6, 12, 13, 14, 16, [22, 23, 31.
August	12·5	38	Aug. 29	0	August 5.
September	18·4	50	Sept. 26	1	Sept. 29, 30.
October	14·2	49	Oct. 17	0	October 5, 6, 9, 11.
November	13·1	43	Nov. 27	0	Nov. 6. 13, 19, 20, 22.
December	19·1	67	Dec. 30	0	December 3, 16.

The Corporation of Liverpool makes a yearly donation to the Funds of the Royal Society for the Prevention of Cruelty to Animals, Liverpool Branch, and the Liverpool Dogs' Home, on account of the work done for the Health and Watch Committees, and the following reports from their various Liverpool Centres may be of interest :—

Liverpool Cats' Shelters, 41, Russell Street; 90, Smith Street, Kirkdale; 171, Mill Street, Toxteth.—The usual work of humanely destroying the surplus animals of this city has been carried on during the year 1925 with larger results than ever, the total number of animals handled numbering 25,419. A van had to be purchased to replace the old one, and is expressly employed in collecting unwanted animals from owners' houses from any part of the city. Requests desiring service should be directed to : The Caretaker, Liverpool Cats' Shelter, 41, Russell Street, Liverpool, and the van will thereupon call and remove the cat. Boarder cats to a very limited number are received at this address, and also at one of the branch shelters, namely, 90, Smith Street. It will be obvious that the early removal of unwanted animals from private houses, and also of diseased animals from the streets, contributes very largely to the health and general interest of the community.

Liverpool Horses' Rest, Broad Green.—During 1925 the total number of animals which benefited by stays of varying lengths at the Horses' Rest was 73, most if not all being the property of humble owners, At the same time a few horses belonging to the society are kept there, and are used as loan animals for the purpose of helping a poor owner while his own is laid up. The total number of animals thus furnished during the year was 28. This work is entirely confined to the humbler classes of animal owners in this city, and is of immense value to them.

Liverpool Animals' Hospital, Larch Lea.—The total number of attendances on poor people's animals during the year 1925 was 2,983, and every care is taken to prevent people who should take their animals to veterinary surgeons bringing them to the hospital. Emergency cases are, of course, dealt with at once, by whomsoever they may be brought, an assistant living on the premises.

These three institutions are all alike conducted by the R.S.P.C.A., Liverpool Branch; office address, 3, Crosshall Street, Liverpool.

Liverpool Dogs' Home, Edge Lane.—During 1925 11,250 dogs were received at the home, and over and above a comparatively small number which were claimed by their owners, boarded for temporary periods, or sold to good homes, the majority, over 9,500, were humanely destroyed. These figures show that the total number of animals handled has more than doubled within the short space of five years. More kennels are now being erected for the purpose of dealing with this growing demand. The cheap facilities provided by the home in the way of collecting unwanted dogs direct from owners' houses, on receipt of a post card addressed to the keeper of the home in Edge Lane, are very largely availed of by the public. Unfortunately, however, it still seem to be the practice with large numbers of people, possibly through thoughtlessness, to turn their dogs adrift when the time for renewal of licences comes, so that the total number received from the police pinfolds was no less than 5,588. If dog owners would merely send a post card to the home as suggested above then animals would be called for and not become wanderers on the streets, this saving an immense amount of canine misery. There is accommodation for boarders, which is heavily taxed during the summer season, and therefore those who desire to take advantage of it should apply early to the keeper so that a kennel may be reserved for their animal.

A

The following tables I, II, III, IV, and marked also A, B, C, D, are prepared pursuant to an instruction of the Ministry of Health.

CITY OF LIVERPOOL.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1925 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths. ‡		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 year of age.		At all ages.	
			Number.	Rate.	Number. *	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Number. *	Rate per 1000 Nett Births.	Number. *	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1920.....	810632	25172	25039	30·9	13185	16·3	739	406	2826	113	12852	15·8
1921.....	817000	21988	21904	26·8	12075	14·8	781	372	2339	107	11666	14·3
1922.....	823416	21478	21467	26·1	12367	15·0	808	433	2052	96	11992	14·6
1923.....	829881	20630	20695	24·9	11715	14·1	724	414	2058	99	11405	13·7
1924.....	836396	20560	20559	24·6	11813	14·1	792	369	2113	103	11390	13·6
1925.....	842968	19587	19592	23·3	12391	14·7	898	409	1935	99	11902	14·1

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 included the whole of the deaths registered during the calendar year as having actually occurred within the district.

In Column 12 is entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

‡ "Transferable Deaths" are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e.g.*, casuals, are not included in Columns 8 or 9, except in certain instances under 3 (*b*) below. In Column 8 the number of transferable deaths of "non-residents" are deducted, and in Column 9 the number of deaths of "residents" registered outside the district are added in calculating the net death-rate of the district.

The following special cases arise as to Transferable Deaths :—

(1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.

(2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.

(3) Deaths from violence are to be referred (*a*) to the district of residence, under the general rule ; (*b*) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known ; (*c*) failing this, to the district where death occurred, if known ; and (*d*) failing this, to the district where the body was found.

Area of District in acres (land and inland water) 21,219.

Total population at all ages.....802,940 } At Census of 1921

Total families or separate occupiers ...173,823 }

TABLE II.

CITY OF LIVERPOOL.

Cases of Infectious Disease notified during the Year 1925.

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	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...
Diphtheria (and Croup)...	1504	34	448	651	244	106	19	2
Erysipelas	525	18	24	44	66	148	181	44
Scarlet fever	3561	62	1071	2076	250	90	12	...
Typhus fever	...	...	...	...	...	...	...	...
Enteric fever	35	...	4	10	15	6	...	...
Puerperal fever	56	...	...	...	11	45	...	...
Cerebro-Spinal Fever	24	11	4	5	4	...	...	...
Poliomyelitis	4	1	1	1	...	1	...	...
Ophthalmia Neonatorum	703	703	...	...	...	...	...	...
Pulmonary Tuberculosis	2690	7	141	561	490	942	480	69
Tuberculosis other than Pulmonary ...	833	22	207	320	160	89	24	11
Anthrax	5	...	...	...	1	3	1	...
Measles and German Measles	11202	812	6074	4216	100	...	...	...
Pneumonia and Influenzal Pneumonia	1920	197	611	299	215	305	217	76
Malaria	52	...	...	...	14	26	8	4
Trench Fever	...	...	...	...	...	...	...	...
Dysentery	8	...	1	2	...	4	1	...
Encephalitis Lethargica...	108	...	4	30	24	22	25	3
Totals	23230	1867	8590	8215	1594	1787	968	209

City Hospital North, Netherfield Road.
" " South, Grafton Street.
" " East, Mill Lane, Old Swan.
" " Fazakerley Isolation.
" " do. Annexe.
" " Sparrow Hall, Fazakerley.
Sanatorium, Fazakerley.
" Highfield.

} All within the City.

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

TABLE III.

CITY OF LIVERPOOL.

C

Causes of, and ages at, Death during the Year 1925.

(See notes at back.)

Causes of Death	Nett Deaths at the Subjoined Ages of "Residents" whether occurring within or without the District (a).									Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District (b).
	All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1	2	3	4	5	6	7	8	9	10	11
All causes (Certified (c))	11819	1918	897	559	399	528	1306	2964	3248	6014
All causes (Uncertified)	83	17	—	—	2	1	5	16	42	3
1. Enteric Fever	5	—	—	—	—	3	2	—	—	5
2. Small-pox	—	—	—	—	—	—	—	—	—	—
3. Measles	406	115	187	93	10	—	1	—	—	207
4. Scarlet Fever	93	9	21	44	19	—	—	—	—	94
5. Whooping Cough	227	82	88	51	6	—	—	—	—	116
6. Diphtheria and Croup	106	5	31	37	32	—	1	—	—	105
7. Influenza	178	—	2	1	4	10	23	70	68	23
8. Erysipelas	24	8	—	1	—	1	5	7	2	22
9. Phthisis (Pulmonary Tuberculosis)	1051	13	23	23	52	225	369	303	43	586
10. Tuberculous Meningitis	91	10	10	30	23	14	4	—	—	68
11. Other Tuberculous Diseases	141	11	15	19	27	26	23	16	4	88
12. Cancer, malignant disease.	998	—	—	—	1	6	102	544	345	513
13. Rheumatic Fever	50	—	—	1	19	12	12	5	1	19
14. Meningitis (*See* note (d))	72	28	11	10	6	12	4	—	1	48
15. Organic Heart Disease	902	—	1	—	24	45	98	306	428	332
16. Bronchitis	1078	106	44	12	7	8	39	294	568	325
17. Pneumonia (all forms)	1560	402	263	149	53	36	145	280	232	708
18. Other diseases of Respiratory organs	121	6	9	—	4	3	21	55	23	42
19. Diarrhœa and Enteritis. (*See* note (e))	413	312	101	—	—	—	—	—	—	313
20. Appendicitis and Typhlitis	57	—	1	3	7	16	9	16	5	58
21. Cirrhosis of Liver	24	—	—	—	—	—	2	16	6	18
21a. Alcoholism	4	—	—	—	—	—	1	3	—	2
22. Nephritis and Bright's Disease	378	2	3	1	9	10	70	154	129	216
23. Puerperal Fever	21	—	—	—	—	5	15	1	—	23
24. Other accidents and diseases of Pregnancy and Parturition	36	—	—	—	—	3	32	1	—	30
25. Congenital Debility and Malformation, including Premature Birth	547	527	17	1	2	—	—	—	—	207
26. Violent Deaths, excluding Suicide	303	20	15	31	30	24	47	74	62	206
27. Suicide	64	—	—	—	—	3	23	33	5	14
28. Other Defined Diseases	2913	278	53	52	65	67	259	787	1352	1621
29. Diseases, ill-defined or unknown	39	1	2	—	1	—	4	15	16	8
Totals	11902	1935	897	559	401	529	1311	2980	3290	6017
Sub-Entries included in above figures— Cerebro-Spinal Meningitis	15	5	2	—	4	4	—	—	—	3
Poliomyelitis & Polioencephalitis	1	—	—	—	1	—	—	—	—	—
*Encephalitis Lethargica	44	—	1	3	3	7	13	15	2	4
*Pneumonia	645	62	48	37	25	27	125	188	133	24

* 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 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.

TABLE IV.

CITY OF LIVERPOOL.

INFANT MORTALITY DURING THE YEAR 1925.

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	368	92	58	57	575	292	342	352	357	1918
All Causes. Uncertified	10	—	1	1	12	1	2	—	2	17
Small-pox	—	—	—	—	—	—	—	—	—	—
Chicken-pox	—	—	—	—	—	—	—	1	1	2
Measles	—	—	—	—	—	1	12	35	67	115
Scarlet Fever	—	—	—	—	—	—	1	4	4	9
Whooping Cough	—	1	—	—	1	8	13	19	40	81
Diphtheria and Croup	—	—	—	—	—	—	1	1	3	5
Influenza	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	5	—	3	—	8
Tuberculous Meningitis	—	—	—	—	—	1	4	2	3	10
Abdominal Tuberculosis (*b*)	—	—	—	—	—	1	—	3	—	4
Other Tuberculous Diseases	—	—	—	—	—	4	4	9	3	20
Meningitis (*not Tuberculous*)	1	—	—	—	1	3	7	7	5	23
Convulsions	18	10	5	5	38	8	5	11	7	69
Laryngitis	—	—	—	—	—	1	—	1	1	3
Bronchitis	4	1	4	6	15	28	25	20	19	107
Pneumonia (all forms)	8	6	6	10	30	50	81	121	120	402
Diarrhœa	—	1	2	1	4	26	60	45	31	166
Enteritis	2	2	1	1	6	30	51	33	26	146
Gastritis	1	1	—	1	3	6	2	3	3	17
Syphilis	1	6	—	3	10	9	3	1	1	24
Rickets	—	—	—	—	—	—	1	2	5	8
Suffocation, overlying	2	1	—	3	6	5	4	—	1	16
Injury at Birth	13	1	—	—	14	—	—	—	—	14
Atelectasis	55	1	—	1	57	1	1	—	1	60
Congenital Malformations (*c*)	34	8	6	1	49	21	6	5	2	83
Premature Birth	215	24	22	17	278	20	4	1	—	303
Atrophy, Debility and Marasmus	8	9	7	7	31	51	44	8	7	141
Other Causes	16	20	6	2	44	14	15	17	9	99
	378	92	59	58	587	293	344	352	359	1935

Nett Births in the year { Legitimate ... 18,851 ; Illegitimate ... 741 }

Nett Deaths in the year of { Legitimate Infants 1,767 ; Illegitimate Infants 168 }

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.

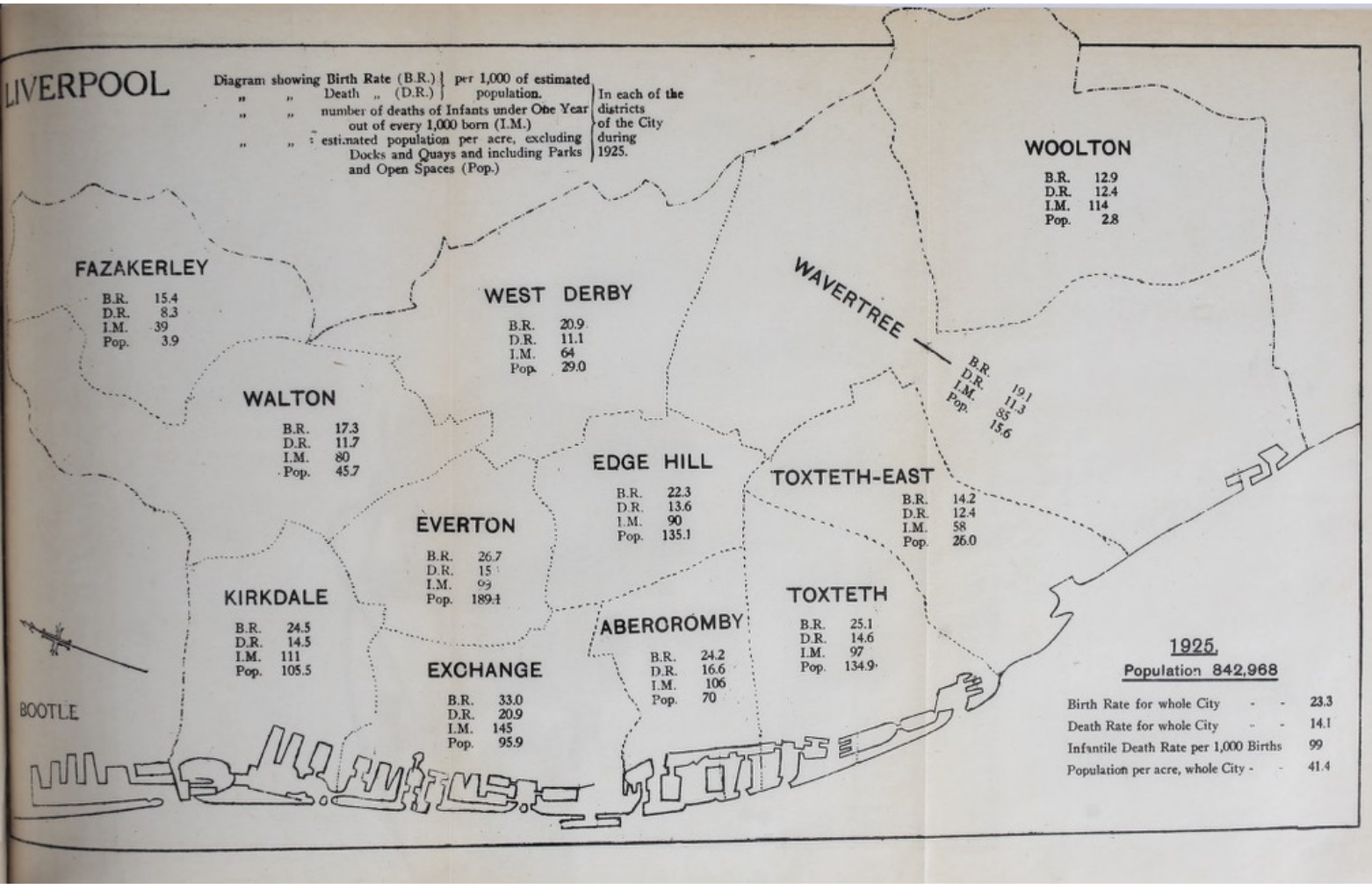
(*b*) Under Abdominal Tuberculosis are to be included deaths from Tuberculous Peritonitis and Enteritis and from Tabes Mesenterica.

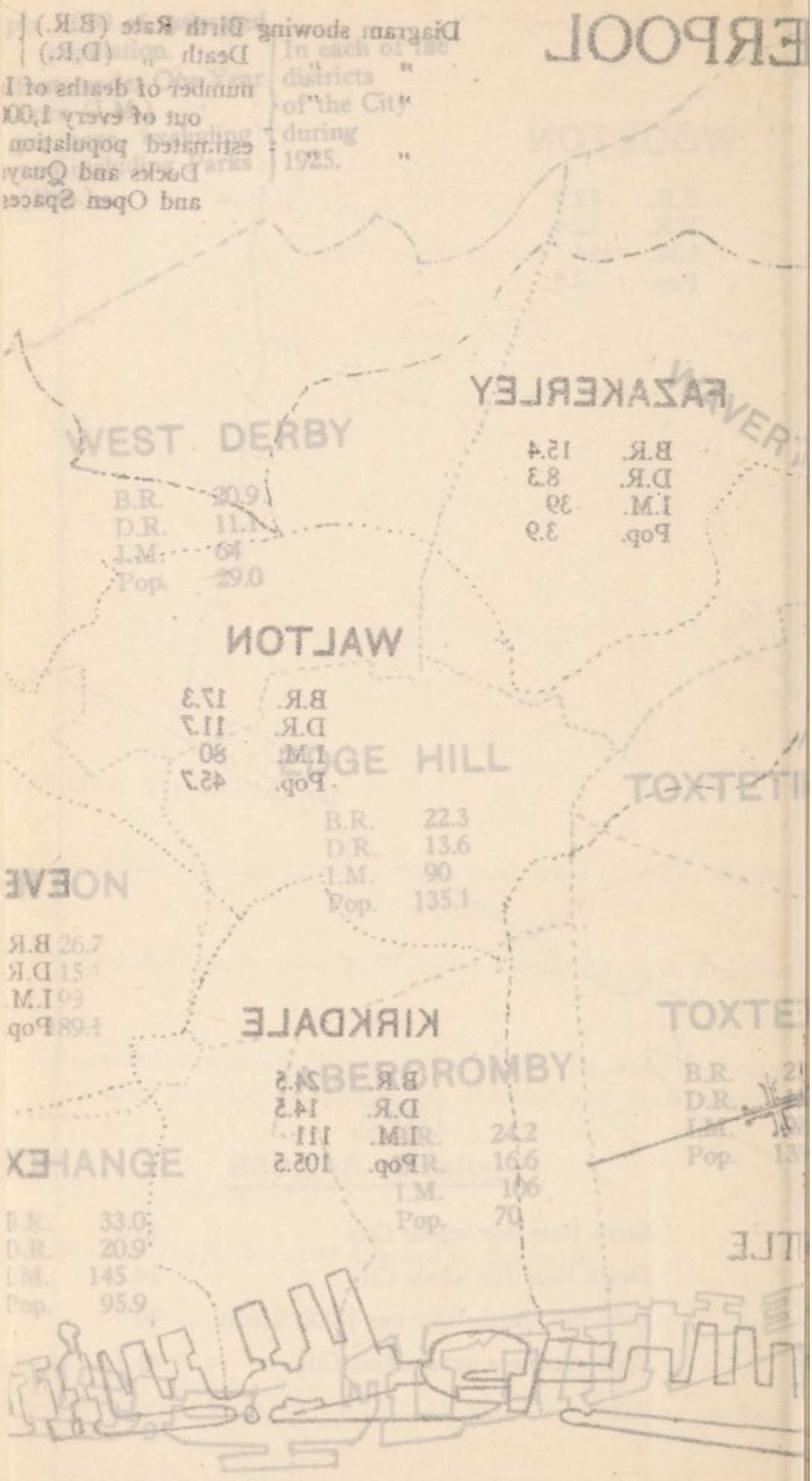
(*c*) The total deaths from Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, should equal the total in Table III. under the heading Congenital Debility and Malformation, including Premature Birth.

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.


LIVERPOOL
Diagram showing Birth Rate (B.R.) Death (D.R.) per 1,000 of estimated population.
number of deaths of Infants under One Year out of every 1,000 born (I.M.)
estimated population per acre, excluding Docks and Quays and including Parks and Open Spaces (Pop.)
In each of the districts of the City during 1925.
WOOLTON
B.R. 12.9
D.R. 12.4
I.M. 114
Pop. 2.8
FAZAKERLEY
B.R. 15.4
D.R. 8.3
I.M. 39
Pop. 3.9
WEST DERBY
B.R. 20.9
D.R. 11.1
I.M. 64
Pop. 29.0
WAVERTREE
B.R. 19.1
D.R. 11.3
I.M. 85
Pop. 15.6
WALTON
B.R. 17.3
D.R. 11.7
I.M. 80
Pop. 45.7
EDGE HILL
B.R. 22.3
D.R. 13.6
I.M. 90
Pop. 135.1
TOXTETH-EAST
B.R. 14.2
D.R. 12.4
I.M. 58
Pop. 26.0
EVERTON
B.R. 26.7
D.R. 15
I.M. 93
Pop. 189.4
KIRKDALE
B.R. 24.5
D.R. 14.5
I.M. 111
Pop. 105.5
TOXTETH
B.R. 25.1
D.R. 14.6
I.M. 97
Pop. 134.9
ABERORMBY
B.R. 24.2
D.R. 16.6
I.M. 106
Pop. 70
EXCHANGE
B.R. 33.0
D.R. 20.9
I.M. 145
Pop. 95.9
BOOTLE
1925.
Population 842,968
Birth Rate for whole City - - 23.3
Death Rate for whole City - - 14.1
Infantile Death Rate per 1,000 Births 99
Population per acre, whole City - - 41.4


WEST DERBY
B.R. 20.9
D.R. 11.1
I.M. 64
Pop. 29.0
FAZAKERLEY
B.R. 15.4
D.R. 8.3
I.M. 39
Pop. 3.9
WALTON
B.R. 17.3
D.R. 11.7
I.M. 80
Pop. 45.7
EDGE HILL
B.R. 22.3
D.R. 13.6
I.M. 90
Pop. 135.1
KIRKDALE
B.R. 24.5
D.R. 14.5
I.M. 111
Pop. 105.5
ABERCROMBY
B.R. 24.2
D.R. 16.6
I.M. 106
Pop. 70

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DEATHS REGISTERED IN THE CITY OF LIVERPOOL,

DURING THE YEAR 1925.

| CAUSE OF DEATH | SEX. | | AGE—BELOW | | | | | | | | | | | | | | | | | | | DISTRICTS. | | | | | | | | | | | | | | | | | | |