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PUBLIC HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1935

BY

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Medical Officer of Health.

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PUBLIC HEALTH DEPARTMENT,
MUNICIPAL ANNEXE,
DALE STREET, LIVERPOOL, 2.

June, 1936.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you herewith my fifth Annual Report, relating to the health of the City of Liverpool during the year 1935.

I desire to acknowledge figures and information for inclusion in the Report from the Town Clerk, the City Treasurer, the City Engineer, the City Analyst, the City Bacteriologist, the City Building Surveyor, the Director of Housing and the Chief Veterinary Officer. I am also indebted to the Chief Officers of the City Hospitals, Sanatoria and Institutions for reports and statistics received, as well as to the officers of the voluntary hospitals and various charitable institutions and others who have supplied valuable information for inclusion in the Report.

A perusal of the information from such diverse sources, scattered throughout the following pages, affords a good indication of the co-operation which exists between the Corporation's Public Health Department and the many other agencies, official and voluntary, in the City which affect, directly or indirectly, the health of the community and the individual.

Any survey of the health of a sanitary district such as is contained in the present Report should commence with a discussion of the total population in the area and the birth-rates and death-rates, since such figures prescribe the extent of the authority's Public Health activities and provide an indication of the major problems which require consideration. Commencing, therefore, with the salient vital statistics of the City we find that in 1935 the estimated mid-year population was 867,110, an increase of 1,097 over that of 1934. The natural increase of births over deaths was 5,900, but allowance has been made for the migration of part of the city population to the newly-erected houses on the Knowsley Estate outside the city boundary.

The total number of births was 17,347, giving a birth-rate per 1,000 of the population of 20·0 as contrasted with a figure of 20·3 for the previous year. The total number of deaths from all causes was 11,447,

giving a general death-rate of 13·2 as compared with 13·1 in 1934. Infantile mortality showed a rate of 83 per 1,000 births, as contrasted with the previous year's rate of 81.

Such are the salient vital statistics for the year 1935, and although the general death-rate and infant mortality rate show a slight increase as compared with the figures for the previous year, it should be remembered that the figures for 1934 were the lowest ever recorded in the city. The birth-rate of 20·0 per 1,000 is a slight decrease on that of 1934, and with the exception of the year 1933, when the birth-rate was 19·5 per 1,000, is the lowest ever recorded. The number of cases of infectious disease reported to the Health Department was 5,526 less than in the previous year. Scarlet fever cases were less by 1,674 and measles cases by 2,148.

The number of deaths from cancer is increasing year by year, and in the year under review reached the heavy rate of 1·51 per thousand of the population. It is to be noted that this increase, which has now been going on for many years, has occurred mainly amongst males, and is most marked in the later years of life. It is not to be explained entirely by the increased average age of the population, although this is evidently an important factor, nor by improved methods of diagnosis which vary but little in efficiency from one year to the next, but is a real increase affecting especially the stomach and other internal organs. In view of the marked tendency to a greater average age of the population arising from a lessening birth-rate and lowered death-rate it appears inevitable that the vital statistics of the country as a whole will have to record in future years a gradual increase in the proportion of deaths due to this disease unless some means of prevention shall be discovered in the meantime.

The statistics for the year 1935 have been based on the new registration districts in accordance with the registration scheme formulated by the City Council and the Registrar-General which came into operation on October 1st, 1934, and are not comparable with the previous statistics for the old registration districts.

The work in connection with the demolition of insanitary property has progressed on the lines indicated in the report for 1933. During

1935 the Medical Officer of Health made official representations to the City Council in respect of 107 Clearance Areas and 2,967 insanitary houses.

On August 2nd, 1935, the Housing Act, 1935, came into operation. This Act provides for the abatement and prevention of overcrowding, the re-development of urban areas in connection with the provision of housing accommodation therein and the re-conditioning of buildings. A detailed survey, including every working-class house is necessary under the Act to ascertain which houses are overcrowded.

Under Section 2 of the Act overcrowding is defined by the standard of occupation either in terms of persons per house consisting of so many rooms or of persons per room. A report has to be prepared and submitted to the Ministry of Health showing the result of the inspection and the number of new houses required to abate the overcrowding in the district.

It was estimated that 120,000 houses would have to be inspected, and 40 temporary officers were appointed for this purpose. The survey is being carried out in two parts, the first to ascertain the houses which are definitely overcrowded, those which are possibly overcrowded and those which are not overcrowded. The second survey entails the measurement of all houses which the first survey has shown to be definitely or possibly overcrowded, together with the measurements of the remaining houses for the purpose of ascertaining the number of persons which can be accommodated in such houses.

The increasing demands made upon hospital accommodation necessitated extensive alterations in the various municipal hospitals. The policy of previous years in modernising the hospitals to allow of a greater turnover of beds has been followed during 1935. The continuation department at Smithdown Road Hospital was completed and opened during the year; the plans of a similar department at Mill Road Infirmary were approved, and plans are being prepared for a continuation department at Walton Hospital. These departments, when completed, will, it is hoped, greatly relieve the pressure on the wards. The augmentation of the nursing staffs owing to the increased pressure of work has rendered the accommodation of the nurses' homes inadequate, and the necessary extensions to the various homes are

being carried out. The new nurses' home at Smithdown Road Hospital is almost completed, while work is in progress on the homes at Walton and Alder Hey Hospitals. The increasing use of hospital beds means an increase in the amount of bed linen used, with a corresponding increase in the amount of laundry work. To meet this demand, re-organisation of the laundries at Smithdown Road and Fazakerley Hospitals and Broadgreen Sanatorium is in progress, and it is anticipated that when the re-organisation is completed it will allow of the closure of the laundries at the smaller isolation hospitals.

The transfer of a number of patients from Belmont Road Institution to Mill Road Infirmary on the completion of the in-patient department for the treatment of venereal diseases has relieved the pressure on Belmont Road Institution and arrangements have been made for the establishment of a special light clinic for the treatment of cases of lupus at the latter hospital.

Increasing use is being made of the ancillary services connected with the hospitals. During the year 56,584 radiological and 78,590 pathological examinations were made, an increase of 4,672 and 21,015 respectively, compared with the corresponding figures for the previous year.

A perusal of the pages of the present Report will suffice to indicate the large amount of work performed yearly by the Corporation's health services. The volume of work here described could not have reached its present standard of usefulness were it not for the high ideals of duty which animate the medical, inspectorial, nursing and clerical staffs of the Department, and I wish to acknowledge, in cordial terms, my great appreciation of their co-operation with me during the past year.

I would also like to be permitted to express my warm thanks to the Chairmen and members of the Corporation Committees concerned with the Public Health Department for the courtesy and kindness with which they have considered the various suggestions and recommendations made to them.

I am,

Your obedient Servant,

W. M. FRAZER,

Medical Officer of Health.

VITAL STATISTICS.

CITY OF LIVERPOOL.

SUMMARY

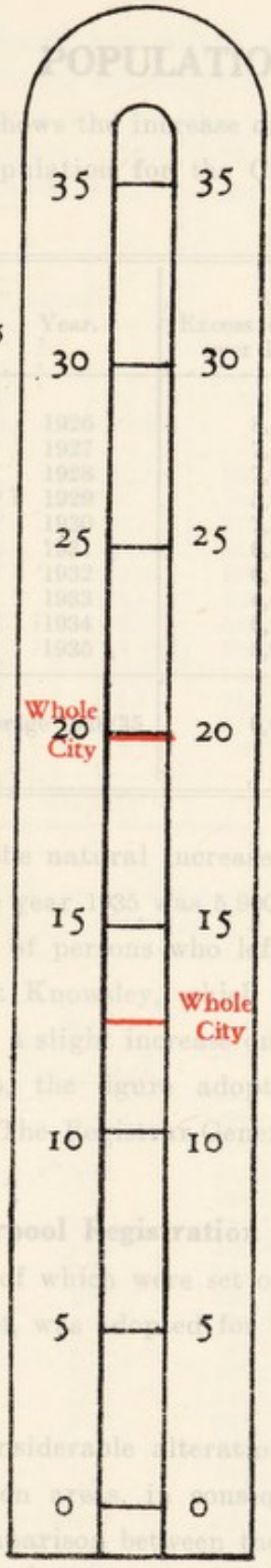
OF

VITAL STATISTICS FOR 1935.

Area (land and inland water)	...27,321	Acres (43 sq. miles)		
Population (Census 1931)	855,688			
do. (estimated to middle of Year, 1935)	867,110			
Live Births...	17,347	Live Birth rate	20·0	per 1,000 of the population
Deaths (all causes) ...	11,447	Death rate	13·2	
Do. (under 1 year of age)	1,445	Infant Mortality rate	83 per 1,000 live births.	
Do. from :—				
Seven principal Zymotic diseases	607	Zymotic death rate	0·70	per 1,000 of the population
Pulmonary Tuberculosis	812	Pulmonary Tuberculosis death rate	0·94	
Other forms of Tuberculosis	123	Non Pulmonary Tuberculosis death rate	0·14	
Respiratory diseases	1,733	Respiratory death rate	2·00	
Cancer	1,311	Cancer death rate	1·51	
Maternal Deaths	59	Maternal Mortality rate	3·26 per 1,000 live and still births.	

CITY OF LIVERPOOL.

COMPARATIVE VIEW OF THE BIRTH AND DEATH RATES PER 1,000 POPULATION IN THE DIFFERENT DISTRICTS OF THE CITY DURING THE YEAR 1935.



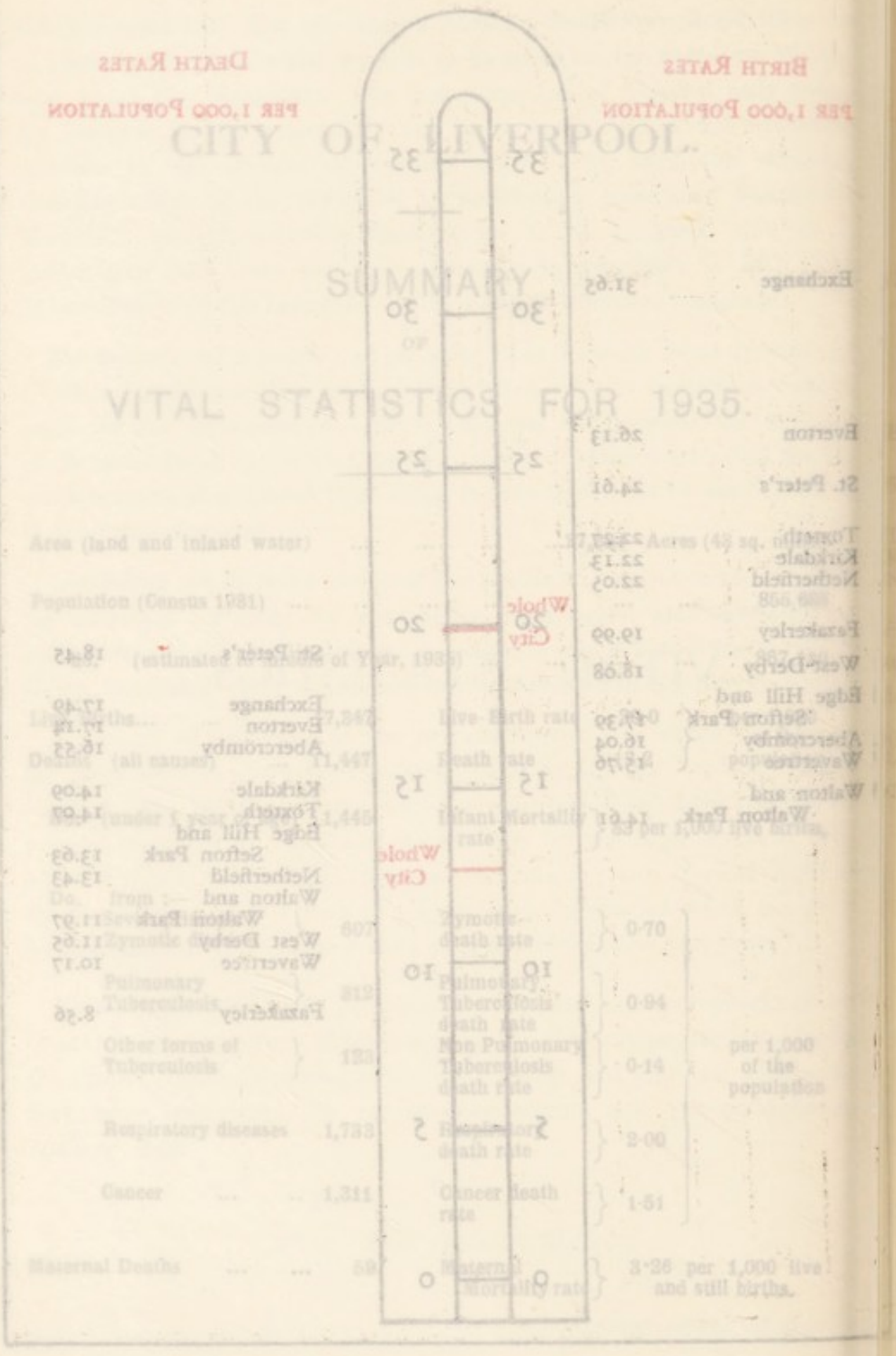
BIRTH RATES PER 1,000 POPULATION

Exchange	31.65
Everton	26.13
St. Peter's	24.61
Toxteth	22.27
Kirkdale	22.13
Netherfield	22.05
Fazakerley	19.99
West Derby	18.08
Edge Hill and Sefton Park	17.39
Abercromby	16.04
Wavertree	15.76
Walton and Walton Park	14.61

DEATH RATES PER 1,000 POPULATION

St. Peter's	18.45
Exchange	17.49
Everton	17.14
Abercromby	16.55
Kirkdale	14.09
Toxteth	14.07
Edge Hill and Sefton Park	13.63
Netherfield	13.43
Walton and Walton Park	11.97
West Derby	11.65
Wavertree	10.17
Fazakerley	8.56

DEATHS IN PUBLIC INSTITUTIONS ARE TRANSFERRED TO THE DISTRICTS FROM WHICH THE PATIENTS CAME.


35
30
25
20
15
10
5
0
Whole City
Whole City

POPULATION.

The following table shows the increase of births over deaths, i.e., the natural increase of population for the City of Liverpool during the last ten years:—

Year.	Excess of Births over Deaths.
1926	8,166
1927	7,146
1928	7,688
1929	5,707
1930	7,593
1931	6,383
1932	6,779
1933	4,485
1934	6,274
1935	5,900
Average 1926/35	6,612

As indicated above, the natural increase of population for the City of Liverpool during the year 1935 was 5,900. This increase was largely reduced by the number of persons who left Liverpool to reside in the new Housing Estate at Knowsley, which is situated outside the city boundary. Accordingly a slight increase only was made in the estimate of population for 1935, the figure adopted being 867,110 compared with 866,013 for 1934. The Registrar-General's estimate was 854.500.

The Liverpool Registration Scheme, 1934.

This Scheme, details of which were set out in the Medical Officer of Health's Report for 1934, was adopted for the compilation of statistics from 1st January, 1935.

Under the scheme considerable alterations were made in the boundaries of the registration areas, in consequence of which it will not be possible to make comparison between the statistics based on the old registration sub-districts and those based on the new areas.

Populations, Births and Deaths.

The following table shows the estimated population, the number of births and deaths, and the rate per 1,000 in each district of the city for the year 1935, the births and deaths registered at the various hospitals and institutions having been transferred to the districts of residence.

Registration Sub-Districts.	Estimated Mid-Year Population 1935.	Births.		Deaths.	
		Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
EXCHANGE	50,383	1,595	31·6	881	17·5
ABERCROMBY	23,321	374	16.0	387	16·5
ST. PETER'S	53,872	1,326	24·6	994	18·4
TOXTETH PARK	91,133	2,030	22·3	1,282	14·1
EDGE HILL & SEFTON PARK	115,993	2,018	17·4	1,581	13·6
WAVERTREE	99,308	1,565	15·8	1,010	10·2
FAZAKERLEY	68,788	1,375	20·0	589	8·6
WALTON & WALTON PARK ...	90,496	1,322	14·6	1,083	12·0
KIRKDALE	61,767	1,367	22·1	870	14·1
NETHERFIELD	74,434	1,641	22·0	999	13·4
EVERTON	30,574	799	26·1	524	17·1
WEST DERBY	107,041	1,935	18·1	1,247	11·6
	867,110	17,347	20·0	11,447	13·2

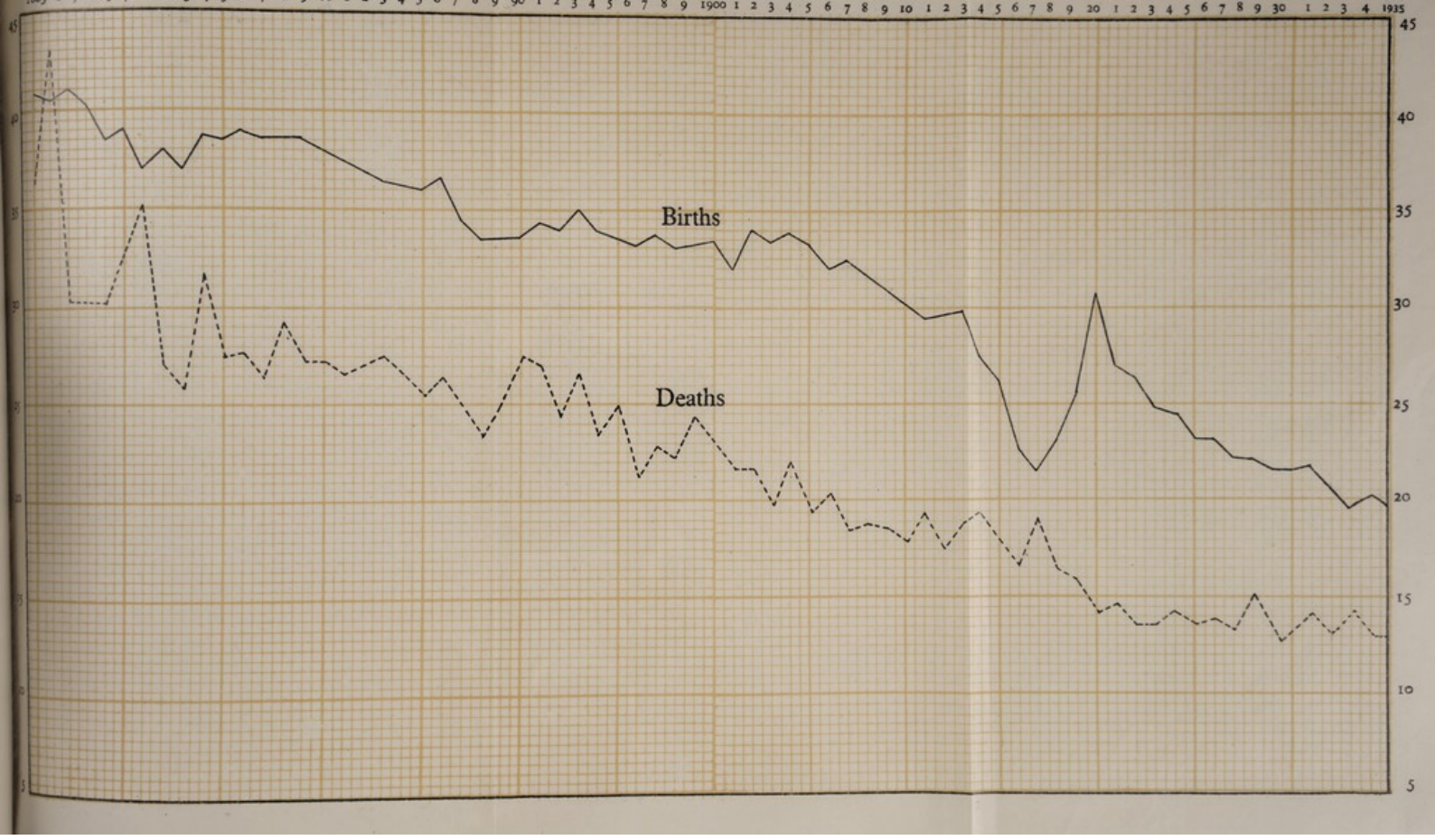
The following table shows the population, births and deaths, with birth and death rates, during the last 20 years (1916 to 1935) :—

Year.	Estimated Mid-Year Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
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	820,663	21,467	26·1	11,992	14·6
1923	824,342	20,695	25·1	11,405	13·8
1924	828,038	20,559	24·8	11,390	13·7
1925	831,750	19,592	23·6	11,902	14·3
1926	835,479	19,792	23·7	11,626	13·9
1927	839,223	19,020	22·7	11,874	14·1
1928*	845,093	19,120	22·6	11,432	13·5
1929	848,873	18,888	22·2	13,181	15·5
1930	852,669	18,881	22·1	11,288	13·2
1931	856,483	18,626	21·7	12,243	14·3
1932*	861,935	18,149	21·0	11,370	13·2
1933	866,013	16,929	19·5	12,444	14·4
1934	866,013	17,593	20·3	11,319	13·1
1935	867,110	17,347	20·0	11,447	13·2

* City area extended

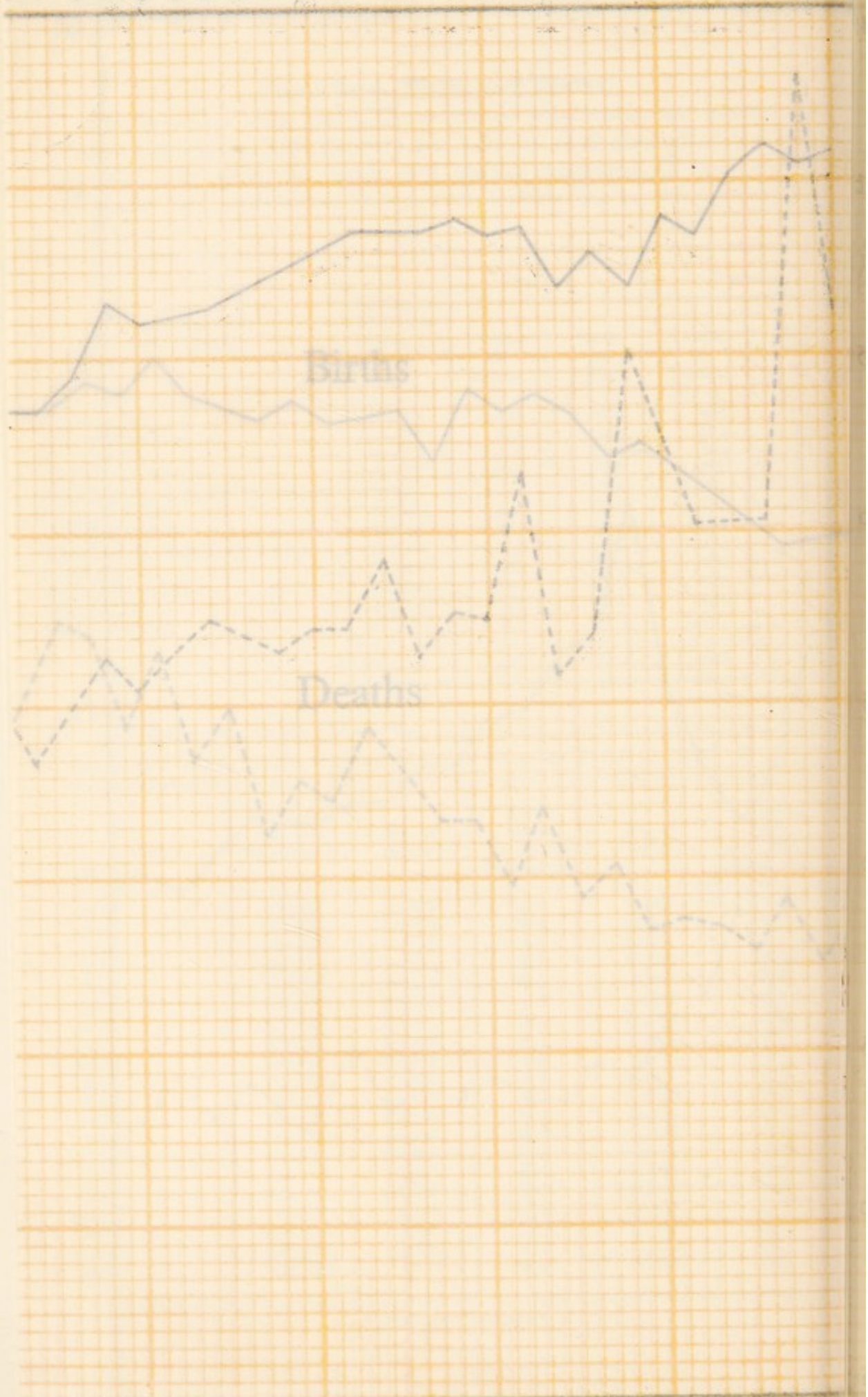
CITY OF LIVERPOOL.

BIRTH AND DEATH RATES PER 1000 POPULATION FOR THE YEARS 1865 TO 1935.



CITY OF LIVERPOOL.

Births per 1000 Population for the Years 1865 to 1935.



BIRTHS.

The number of live births recorded during the year 1935 within the city was 17,347, equal to a rate of 20·0 per 1,000 of the population, the average of the previous five years (1930-1934) being 20·9. Of the total births, 8,881 were males, and 8,466 were females. The number of illegitimate live births was 754, or 4·3 per cent. of the total births, 393 being males and 361 females.

The birth-rate calculated upon the Registrar-General's estimate of population was 20·3.

The Registrar-General intimated that 381 births (203 males and 178 females) should be added to and 1,032 births (508 males and 524 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 was considerably above the average of the great towns, which was 14·8 per 1,000 of the population, as well as of England Wales taken as a whole, where the rate was 14·7 per 1,000.

The number of still-births registered was 749, as shown in the following table. This represented 41·4 per thousand of the total (live and still) births registered and 0·86 per 1,000 of the estimated population. The total birth rate therefore (live and still births) was equal to 20·86 per 1,000 of the population.

Live Births.

	Males.	Females.	Total.
Legitimate	8,488	8,105	16,593
Illegitimate	393	361	754
	8,881	8,466	17,347

Still-Births.

	Males.	Females.	Total.
Legitimate	388	329	717
Illegitimate	12	20	32
	400	349	749

DEATHS.

The total deaths registered in the city during the year numbered 12,288. Of these deaths 1,170 were those of non-residents, chiefly occurring in public institutions, nursing homes, etc., and these were excluded from the returns. On the other hand, the deaths of 329 Liverpool residents which occurred in other districts and in the County Mental Hospitals, etc., were included in the returns for the year.

This gave a corrected number of deaths of 11,447, being 5,963 males and 5,484 females for the year, equal to a death rate of 13·2 per 1,000 of the population. The death rate for England and Wales was 11·7, and that of the great towns was 11·8.

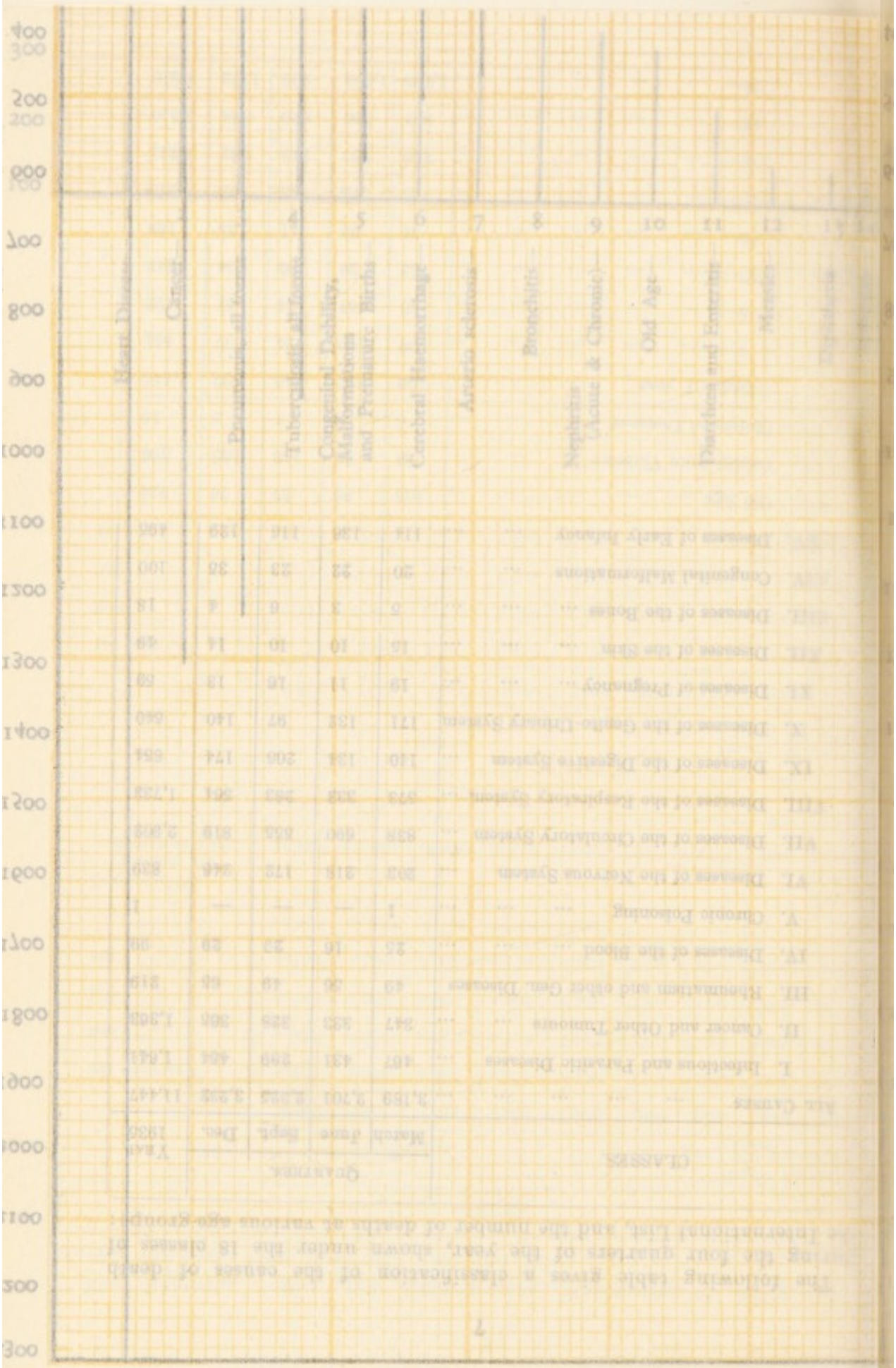
The death rate for Liverpool calculated on the Registrar-General's estimate of population was 13·4.

During the five years (1911-1915) the average death rate was 18·6 per 1,000, whilst during the five years (1930-1934) the average rate was 13·6 per 1,000.

A comparison of the table on page 14 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.

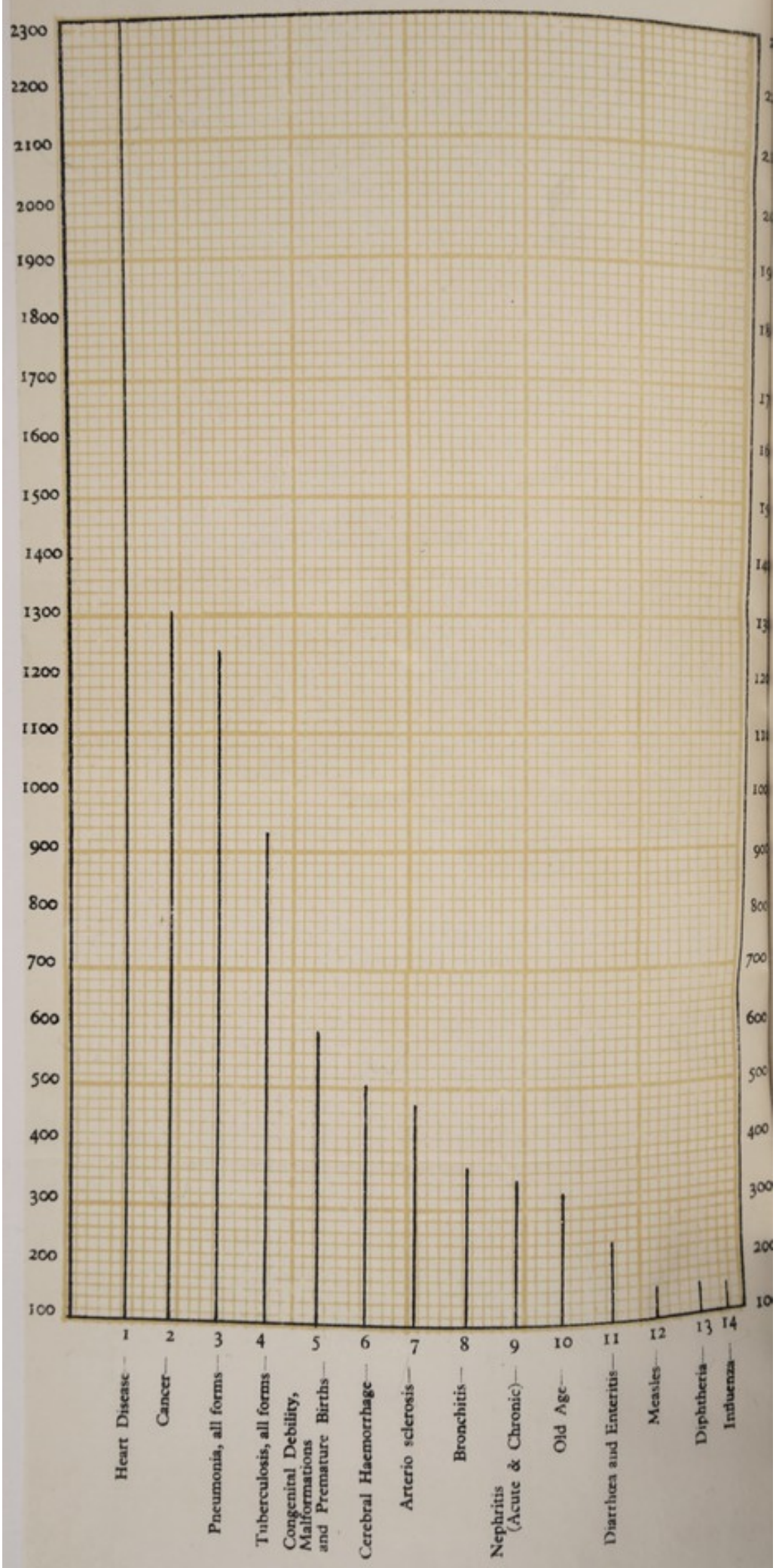
Causes of Death.

The Short List of Causes of Death appears in Appendix C. Fuller details as to the causes of death are set out in Appendix F; in the same table the various age periods at which deaths took place and the districts in which they occurred will also be found.



CITY OF LIVERPOOL.

COMPARATIVE VIEW OF THE PRINCIPAL CAUSES OF DEATH DURING THE YEAR 1935.



The following table gives a classification of the causes of death during the four quarters of the year, shown under the 18 classes of the International List, and the number of deaths at various age-groups:

CLASSES.		Quarters.				Year 1935
		March	June	Sept.	Dec.	
All Causes		3,189	2,701	2,325	3,232	11,447
I. Infectious and Parasitic Diseases ...		467	431	289	454	1,641
II. Cancer and Other Tumours		347	323	328	365	1,363
III. Rheumatism and other Gen. Diseases		49	56	49	65	219
IV. Diseases of the Blood		25	16	29	29	99
V. Chronic Poisoning		1	—	—	—	1
VI. Diseases of the Nervous System ...		203	218	172	246	839
VII. Diseases of the Circulatory System ...		838	690	555	819	2,902
VIII. Diseases of the Respiratory System ...		573	333	263	564	1,733
IX. Diseases of the Digestive System ...		140	134	206	174	654
X. Diseases of the Genito-Urinary System		171	132	97	140	540
XI. Diseases of Pregnancy		19	11	16	13	59
XII. Diseases of the Skin		15	10	10	14	49
XIII. Diseases of the Bones		5	3	6	4	18
XIV. Congenital Malformations		20	22	23	35	100
XV. Diseases of Early Infancy		114	136	116	129	495
XVI. Old Age		103	88	57	76	324
XVII. Deaths from Violence		93	92	108	103	396
XVIII. Ill-defined Diseases		6	6	1	2	15
Ages at Death	Under 1 year	309	297	346	493	1,445
	1—	130	100	124	207	561
	5—	50	57	34	51	192
	10—	35	39	39	34	147
	15—	51	68	41	35	195
	20—	76	72	55	73	276
	25—	346	295	248	322	1,211
	45—	907	730	629	844	3,110
	65—	1,285	1,043	809	1173	4,310

The following tables give Comparative Statements of Vital Statistic during the years 1931, 1932, 1933, 1934 and 1935.

BIRTHS.

	Births.					Birth Rates per 1,000 population.				
	1931	1932	1933	1934	1935	1931	1932	1933	1934	19
1st quarter ...	4,623	4,963	4,631	4,831	4,490	21·6	23·0	21·4	22·3	20
2nd ,, ...	4,903	4,924	4,512	4,760	4,651	22·9	22·9	20·8	22·0	21
3rd ,, ...	4,789	4,535	4,361	4,586	4,567	22·4	21·0	20·1	21·2	21
4th ,, ...	4,658	4,184	3,988	4,118	4,303	21·7	19·4	18·4	19·0	19
	18,973	18,606	17,492	18,295	18,011					
Corrected for transfers per Registrar Gen.	18,626	18,149	16,929	17,593	17,347	21·7	21·0	19·5	20·3	20

DEATHS.

	Deaths					Death Rates per 1,000 population.				
	1931	1932	1933	1934	1935	1931	1932	1933	1934	193
1st quarter ...	4,185	3,346	4,167	3,455	3,189	19·5	15·5	19·2	15·9	14·1
2nd ,, ...	2,711	2,861	2,749	2,944	2,701	12·7	13·3	12·7	13·6	12·
3rd ,, ...	2,219	2,293	2,402	2,271	2,325	10·4	10·6	11·1	10·5	10·
4th ,, ...	3,128	2,870	3,126	2,649	3,232	14·6	13·5	14·4	12·2	14·1
	12,243	11,370	12,444	11,319	11,447	14·3	13·2	14·4	13·1	13·

DEATHS OF INFANTS UNDER 1 YEAR OF AGE.

	Deaths.					Death Rates per 1,000 births registered.				
	1931	1932	1933	1934	1935	1931	1932	1933	1934	193
1st quarter ...	520	482	458	412	309	112	97	99	85	69
2nd ,, ...	377	373	377	362	297	77	76	83	76	64
3rd ,, ...	329	338	402	298	346	68	75	92	65	76
4th ,, ...	514	453	418	346	493	110	108	105	84	116
	1,740	1,646	1,655	1,418	1,445	93	91	98	81	83

The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1935 :—

Year	Under 5 years.	At Ages—Years. 5—	10—	20—	30—	40—	50—	60—	70—	80—	
	%	%	%	%	%	%	%	%	%	%	
1915 ...	33	2	4	4	7	9	12	13	12	4	100
1916 ...	30	3	4	5	6	9	12	14	13	4	100
1917 ...	29	3	4	5	7	9	12	14	13	4	100
1918 ...	29	5	6	8	8	9	11	12	9	3	100
1919 ...	25	4	5	7	8	9	12	13	13	4	100
1915-1919 (average)	29	3	5	6	7	9	12	13	12	4	100
1920 ...	33	2	4	5	7	9	11	13	12	4	100
1921 ...	33	2	4	5	6	9	11	13	12	5	100
1922 ...	28	2	4	5	6	9	12	15	14	5	100
1923 ...	30	2	4	5	6	9	12	14	13	5	100
1924 ...	29	2	4	4	6	8	12	15	15	5	100
1920-1924 (average)	30	2	4	5	6	9	12	14	13	5	100
1925 ...	28	2	4	4	5	9	12	15	15	6	100
1926 ...	28	2	3	5	6	9	12	15	14	6	100
1927 ...	25	2	3	5	5	9	12	16	16	7	100
1928 ...	25	2	4	5	5	9	12	16	16	6	100
1929 ...	23	3	3	5	5	9	12	16	17	7	100
1925-1929 (average)	26	2	3	5	5	9	12	16	16	6	100
1930 ...	20	3	4	5	5	9	14	17	16	7	100
1931 ...	23	2	3	5	5	8	12	17	18	7	100
1932 ...	22	2	3	5	5	8	13	17	17	8	100
1933 ...	21	2	3	5	5	8	13	17	18	8	100
1934 ...	20	2	3	5	6	8	12	18	18	8	100
1930-1934 (average)	21	2	3	5	5	8	13	17	18	8	100
1935 ...	17	2	3	5	5	8	13	19	20	8	100

Analysis of Decline in Mortality.

The accompanying tables (pages 12 and 13) show the deaths that have occurred in the city of Liverpool during the past 65 years. These have been separated into five principal classes of disease which 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 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 11,447 in the year 1935. The general death rate has fallen from 28·5 to 13·2 per thousand, a fall of more than 50 per cent.

The greatest proportional decline has been experienced in the group of infective 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 86·5 per cent. during the 65 years.

A similar steady decline has been shown by the tubercular diseases, which have fallen to 30·5 per cent. of the earlier figure. These deaths still account for 8·2 per cent. of the total.

In the group of respiratory diseases, although there has been a reduction in the death rate of 61 per cent., during the period under review, namely, between 1871-1880 and 1935, the decline has not been continuous; rises occurred in 1881-90 and in 1911-20, and again in 1929

and 1933, due in all cases to the prevalence of influenza. Although a marked decline in respiratory deaths has occurred, this decline is not commensurate with that recorded in deaths from all causes.

Digestive diseases, of which diarrhœa and other digestive diseases of infants form 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, taking the latter rate as equal to 100. From that time on there has been a most marked and rapid decline to 25 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 contrast, however, there has been a considerable increase in the deaths from cancer during the past 65 years (see pages 12 and 13). The rate of mortality is now nearly four times as high as in the seventies of last century. This increase is, however, mainly due to the increasing longevity of the people and to the better diagnosis of the disease. The increasing proportion of persons dying in later life is well shown in the table on page 9, from which it will be seen that since 1915 the proportion of deaths at ages 70 and over has increased from 16 to 28 per cent.

If the general rate of mortality experienced in 1871-80 had prevailed during the year 1935, there would have been more than twice as many deaths as those actually recorded, viz., 24,724 instead of 11,447, a saving of 13,277 lives being thereby effected.

Deaths from certain Groups of Diseases in each decade from 1871 to 1930, and during 1931, 1932, 1933, 1934 and 1935.

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
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931	947	1,153	2,742	658	5,500	1,128	12,243
1932.....	826	1,139	1,905	654	4,524	1,167	11,370
1933.....	808	1,157	2,466	729	5,160	1,232	12,444
1934.....	780	996	1,792	563	4,131	1,276	11,319
1935.....	560	935	1,879	654	4,028	1,311	11,447

Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).

1871-1880	19·2	13·5	20·2	10·0	62·9	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
1921-1930	6·6	10·7	25·0	6·9	49·4	8·4	100·0
1931	7·7	9·4	22·4	5·4	44·9	9·2	100·0
1932.....	7·3	10·0	16·7	5·7	39·7	10·3	100·0
1933.....	6·5	9·3	19·8	5·9	41·5	9·9	100·0
1934.....	6·9	8·8	15·8	5·0	36·5	11·3	100·0
1935.....	4.9	8·2	16·4	5·7	35·2	11·5	100·0

Death Rates per 1,000 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	17·3	0·4	28·5
1881-1890	3·6	3·2	5·9	2·4	15·1	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	1·3	1·9	4·7	1·6	9·5	1·0	18·1
1921-1930	0·9	1·4	3·3	0·9	6·5	1·1	13·6
1931	1·1	1·3	2·8	0·8	6·0	1·3	14·3
1932.....	0·9	1·3	2·2	0·7	5·1	1·3	13.2
1933.....	0·9	1·3	2·8	0·8	5·8	1·4	14·4
1934.....	0·9	1·1	2·1	0·6	4·7	1·5	13·1
1935	0·7	1·1	2·2	0·7	4·7	1·5	13·2

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
1921-1930	17·1	40·0	58·8	36·8	38·5	280·0	47·7
1931	21·2	36·1	49·1	28·6	36·7	325·0	50·0
1932	19·2	36·1	38·6	25·0	29.9	325·0	46·3
1933.....	17·3	36·1	49·1	28.6	33·9	350·0	50·5
1934.....	17·3	30·5	36·8	21·4	27·2	375·0	46·0
1935.....	13·5	30·5	38·6	25·0	27·2	375·0	46·3

Table showing the Annual Rate of Mortality per 1,000 and the total number of deaths at each of Twelve Age-Periods during the year 1935 in Liverpool.

1935.	Under 1 year.	At Ages											All Ages.
		1—	2—	5—	10—	20—	30—	40—	50—	60—	70—	80—	
Rate of Mortality per 1,000 living at ages indicated	*83	17·5	5·4	2·2	2·2	3·7	4·7	8·5	17·5	42·9	100·4	227·0	13·2
Total Number of Deaths at each Age-Period ...	1445	295	266	192	342	545	571	903	1522	2217	2221	928	11447
Approximate Population	17320	16883	49345	85236	158274	148503	120893	105723	87094	51622	22129	4088	867110

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

Deaths in Public Institutions.

In Liverpool the number of deaths which take place in Public Institutions is large—indeed more than half the total. 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 in institutions during the year numbered 7,458, and included 1,170 persons who were non-residents in the city area. The number of deaths in the various institutions is shown in the following table :—

	Total Deaths.	Deaths of non-residents.
Walton Hospital	1,932	425
Belmont Road Institution	347	34
Smithdown Road Hospital	1,319	29
Mill Road Infirmary	842	7
Alder Hey Hospital	764	74
Kirkdale Homes	225	21
Olive Mount Children's Hospital ...	45	5
Royal Infirmary	332	125
David Lewis Northern Hospital ...	204	79
Royal Southern Hospital	229	69
Stanley Hospital	86	23
Liverpool Maternity Hospital ...	76	19
Royal Liverpool Children's Hospital	185	45
Consumption Hospital	19	16
Liverpool Hahnemann Hospital ...	12	2
The Women's Hospital	26	12
Carried forward ...	6,643	985

	Total Deaths.	Deaths of non-residents.
Brought forward ...	6,643	985
Eye and Ear Infirmary	20	9
Garston Hospital	31	—
City Hospital North	25	1
do. South	26	1
do. East	52	—
do. Fazakerley	119	12
do. do. Annexe ...	52	4
do Sparrow Hall ...	13	—
Sanatorium, Fazakerley	82	2
do. Broadgreen	140	—
St. Joseph's Home	39	—
Home for Incurables	13	6
Turner Memorial Home	10	3
St. Augustine's Home	28	7
H.M. Prison, Walton	3	—
Other Institutions, Nursing Homes, etc.	162	140
	7,458	1,170

Of the above deaths, 5,474 took place in the transferred institutions, 1,220 in voluntary hospitals, 509 in city hospitals, and 255 in other institutions.

The following table shows the total number of deaths in public institutions during the years 1929 to 1935:—

1929.	1930.	1931.	1932.	1933.	1934.	1935.
7,334	6,447	7,053	6,858	7,461	6,987	7,458

Infant Mortality.

The following table shows the deaths and death-rates of infants under one year of age for the year 1935 :—

	Infant Deaths.	Infant Death Rates.
All Infants	1,445	83 per 1,000 live births.
Legitimate Infants ...	1,352	81 ,, legitimate live births.
Illegitimate Infants ...	93	123 ,, illegitimate live births.

The infant mortality rate for 1935 was 83 per 1,000 births. Reference to the table on page 18 will show that the rate, in spite of fluctuations in individual years, has steadily declined during the past thirty-five years. At the beginning of this period the figure was nearly 200 deaths per 1,000 births.

The infantile mortality rate in 1935 was less than one-half the rate in the first years of the present century.

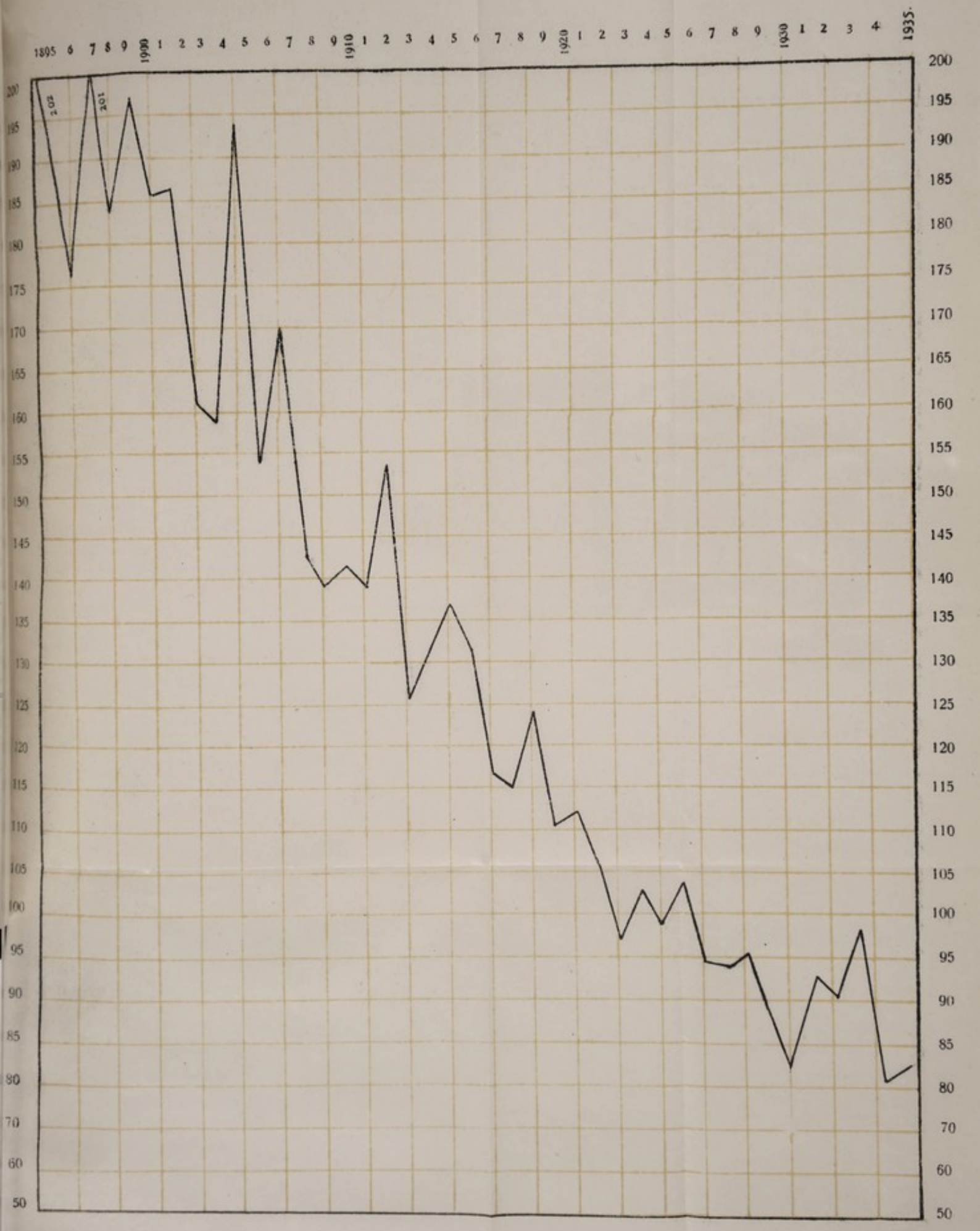
It may be noted that the numbers of deaths from all the usual forms of infantile diseases such as broncho-pneumonia, convulsions, prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic diarrhœa. The number of deaths under one year of age from this cause in the year 1935 was 186 as against an average of 1,000, or 1,100 thirty years ago. No doubt this 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 Infant Welfare Committee of schemes for the promotion of the welfare of motherhood and infancy, including the work of the health visitors, pre-maternity and infant clinics and milk depots, and the measures taken to prevent the breeding of flies.

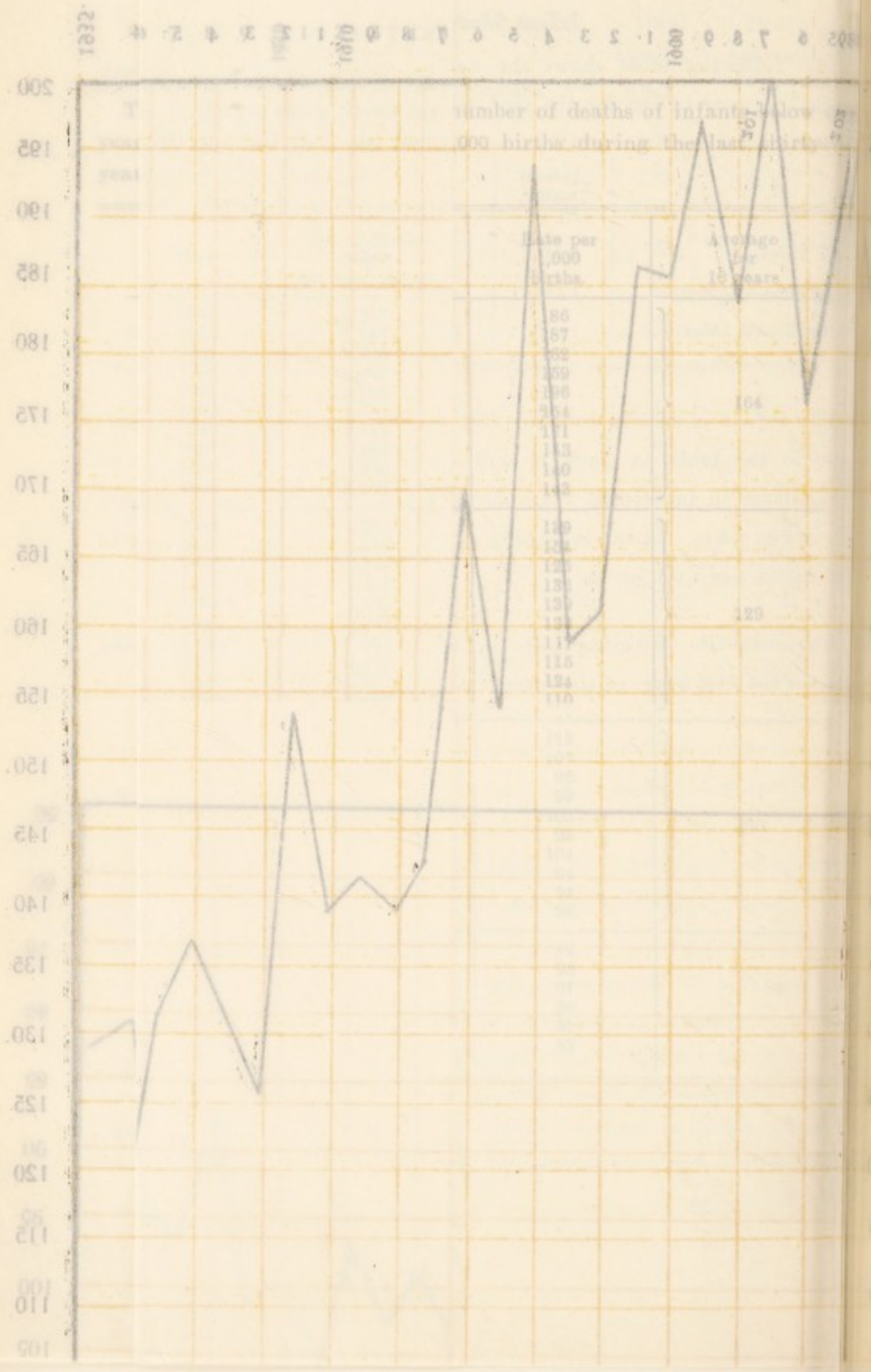
The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last thirty-six years :—

Year.	No. of deaths below one year of age.	Rate per 1,000 births.	Average for 10 years
1900	4,247	186	
1901	4,138	187	
1902	3,936	162	
1903	3,815	159	
1904	4,780	196	164
1905	3,752	154	
1906	4,137	171	
1907	3,383	143	
1908	3,355	140	
1909	3,377	143	
1910	3,216	139	
1911	3,466	154	
1912	2,778	125	
1913	2,987	132	
1914	3,219	139	129
1915	2,866	133	
1916	2,421	117	
1917	2,071	115	
1918	2,137	124	
1919	2,055	110	
1920	2,826	113	
1921	2,339	107	
1922	2,052	96	
1923	2,058	99	
1924	2,113	103	100
1925	1,935	99	
1926	2,066	104	
1927	1,781	94	
1928	1,789	94	
1929	1,822	96	
1930	1,544	82	
1931	1,740	93	
1932	1,646	91	
1933	1,655	98	
1934	1,418	81	
1935	1,445	83	

CITY OF LIVERPOOL.

INFANT MORTALITY PER 1,000 BIRTHS, 1895–1935.





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 1935 is shown in the following table. The detailed causes of death are set out in Appendix D.

DISTRICTS.	Number of births. 1935.	Number of deaths under 1 year of age. 1935.	Deaths under 1 year per 1000 births. 1935.
Exchange	1,595	147	92
Abercromby	374	64	171
St. Peter's.....	1,326	149	112
Toxteth Park	2,030	163	80
Edge Hill & Sefton Park	2,018	170	84
Wavertree	1,565	84	54
Fazakerley	1,375	101	73
Walton & Walton Park	1,322	99	75
Kirkdale	1,367	122	89
Netherfield	1,641	143	87
Everton	799	82	103
West Derby	1,935	121	62
City	17,347	1,445	83

The table on page 21 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.

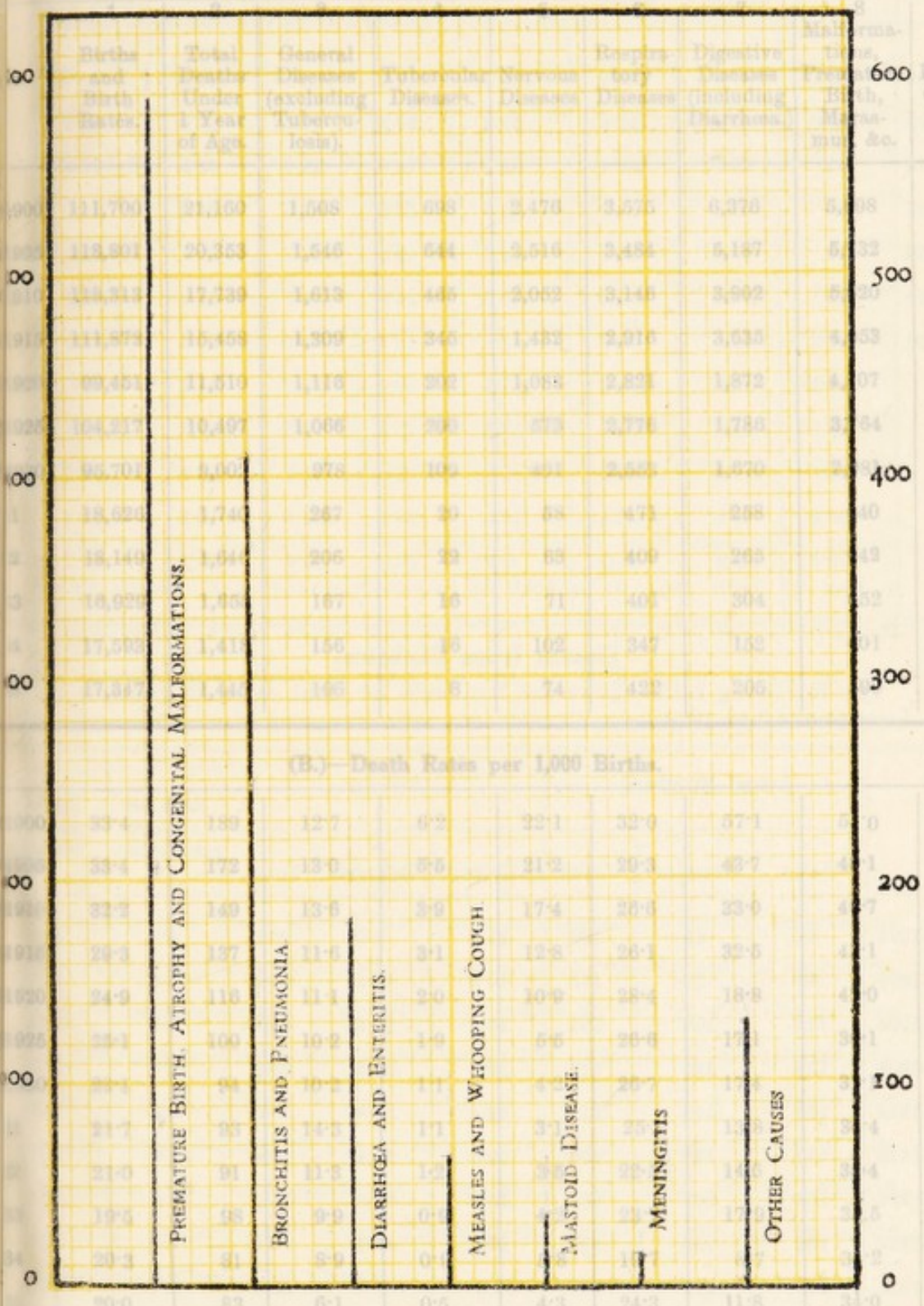
Examination of this table shows that whilst the annual number of births has shown some decline, fluctuating from 22,340 to 17,347 per annum, the number of infantile deaths has fallen from 4,232 to 1,445, and the infantile death rate has accordingly fallen from 189 to 83 per 1,000 births; in other words, this rate has fallen to 43·9 per cent. of the figure recorded in 1896-1900. This great saving of life during the past 40 years coincides with the many 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 bodies, 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, ante-natal, post-natal and infant clinics, hospitals and other agencies.

Investigation of the actual causes of death bears this out. The greatest reduction has occurred under the heading Tubercular Diseases--reduction from 100 to 8·1, Nervous Diseases to 19·5, and Digestive Diseases to 20·7. The deaths included under the heading Nervous Diseases are mainly those certified as from convulsions, which are frequently a symptom of the onset of acute infective diarrhœa, by far the commonest cause of death in the group of digestive diseases. Convulsions may also occur at the onset of other infectious diseases, and further may result from injuries during birth. 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 21) 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 respiratory diseases. The figures in column 8 relating to malformations, premature birth, marasmus, etc., although they show a considerable saving of life—550 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.

CITY OF LIVERPOOL.

CHART SHOWING THE PRINCIPAL CAUSES OF DEATHS OF INFANTS UNDER ONE YEAR OF AGE DURING 1935



CITY OF LIVERPOOL.

CHART SHOWING THE PRINCIPAL CAUSES OF DEATHS OF INFANTS

UNDER ONE YEAR OF AGE DURING 1923

alysis of causes of Infant Mortality in successive quinquennia 1896-1930, and the years 1931, 1932, 1933, 1934 and 1935. (A.)—Recorded Deaths.

rs.	1 Births and Birth Rates.	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.	9 External Causes.
1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
31	18,626	1,740	267	20	58	471	258	640	9
32	18,149	1,646	206	22	63	409	265	642	12
33	16,929	1,655	167	16	71	401	304	652	16
34	17,593	1,418	156	16	102	347	152	601	18
35	17,347	1,445	106	8	74	422	205	590	12

(B.)—Death Rates per 1,000 Births.

1900	33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·2
1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
31	21·7	93	14·3	1·1	3·1	25·3	13·8	34·4	0·5
32	21·0	91	11·3	1·2	3·5	22·5	14·6	35·4	0.7
33	19·5	98	9·9	0·9	4·2	23·7	17·9	38.5	0·9
34	20·3	81	8·9	0·9	5·8	19·7	8·7	34·2	1·0
35	20·0	83	6·1	0·5	4·3	24·3	11·8	34·0	0·7

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

Years.	1 Birth Rates.	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.	Ext. Ca.
1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	1
1901/1905	100·0	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	91·0	
1911/1915	87	72·5	91·9	50·0	57·9	81·5	56·9	84·0	
1916/1920	76	61·4	87·4	32·2	49·3	88·7	32·7	82·0	
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	
1931	64·9	49·2	112·6	17.7	14·0	79·0	24·2	67·5	
1932	62·9	48·2	89·0	19·3	15.9	70·3	25·6	69.4	
1933	58·4	51·8	77·9	14·5	19·0	74·1	31·4	75·5	1
1934	60·8	42·8	70·1	14·5	26·2	61·6	15·2	67·1	
1935	59·9	43·9	48·0	8·1	19.5	75·9	20·7	66·7	

Deaths from Diabetes.

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

	Actual Numbers.			Average.			Rate per 100,000 population.	Ratio of males to females.
	Males.	Females.	Total.	Males.	Females.	Total.		
1890–1894	55	45	100	11·0	9·0	20·0	3·8	1·22
1895–1899	99	76	175	19·8	15·2	35·0	5·3	1·30
1900–1904	132	100	232	26·4	20·0	46·4	6·5	1·32
1905–1909	153	124	277	30·6	24·8	55·4	8·4	1·23
1910–1914	162	153	315	32·4	30·6	63·0	8·4	1·06
1915–1919	153	137	290	30·6	27·4	58·0	7·4	1·12
1920-1924	153	203	356	30·6	40·6	71·2	8·6	0·75
1925–1929	168	216	384	33·6	43·2	76·8	8·9	0·78
1930–1934	138	311	449	27·6	62·2	89·8	10·4	0·44
1935	18	60	78	—	—	—	9·0	0·30

The death-rate from diabetes rose steadily 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 now 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 change. In 1890-1894, 55 per cent. of the deaths were of males; but since 1920-25 the position has been reversed, and in 1935 only 23 per cent. were of males. It is not improbable that the greater attention that has recently been paid to this disease has led to its more frequent recognition as a factor in mortality.

The age at death has also greatly altered and, especially among males, there is a preponderance of deaths at ages over 60 and a reduction in deaths under this age. In the year 1910, 66 per cent. of the deaths were under 65 years of age, in 1929 55 per cent., in 1930 63 per cent., in 1931 56 per cent., in 1932 57 per cent., in 1933 46 per cent., in 1934 43 per cent., and in 1935 50 per cent.

Deaths from Cancer.

During 1935 there were 1,311 deaths attributed to cancer, equivalent to a rate of 1·51 per thousand, whereas in 1871-1880 the rate of mortality was 0·4 per thousand. The tables on pages 12 and 13 give the figures for the intervening years. Comparing the anatomical distribution in 1930-1934 and 1935 it will be observed that there is a tendency for deaths from cancer of the stomach, liver, etc., from cancer of the intestines, etc., and especially from cancer of other organs, mainly internal, to increase. Such fluctuations, however, are apt to occur under the influence of chance.

Part of the increase in mortality from cancer is due to the increased longevity of the population, more of whom survive into those periods of life when cancer is most frequent. Whilst during the last 50 years there has been an increase in recorded cancer mortality at each age period except the earliest, the increase is most marked at the three later age periods, that is at ages over 60 years. The increase in recorded cancer mortality is mainly at old age.

The increased mortality from cancer was, therefore (*a*) mainly among males; (*b*) most marked in the later years of life. There is evidence 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 in 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; doubtless many deaths from cancer were formerly concealed under this title.

Deaths from Cancer, showing the parts of the body affected, during the years 1930 to 1935.

Parts of the Body affected.	1930.			1931.			1932.			1933.			1934.			Average 1930-34.			1935.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Buccal Cavity...	70	10	80	72	14	86	86	15	101	80	12	92	90	10	100	80	12	92	83	7	90
Stomach, liver, etc.	167	141	308	168	160	328	185	132	317	221	181	402	243	169	412	197	157	354	224	183	407
Intestines, etc.	100	106	206	118	102	220	115	115	230	114	122	236	119	143	262	113	118	231	149	146	295
Breast	1	111	112	—	107	107	—	106	106	2	116	118	—	101	101	1	108	109	3	90	93
Female Genital Organs	—	81	81	—	88	88	—	91	91	—	87	87	—	108	108	—	91	91	—	114	114
Skin	7	7	14	3	5	8	9	8	17	13	8	21	29	7	36	12	7	19	12	8	20
*Lungs.....	—	—	—	—	—	—	—	—	—	67	17	84	67	19	86	—	—	—	86	22	108
Other Organs....	158	121	279	173	118	291	199	106	305	126	66	192	111	60	171	180	101	281	112	72	184
Totals.....	503	577	1080	534	594	1128	594	573	1167	623	609	1232	659	617	1276	583	594	1177	669	642	1311

* The deaths from cancer of lungs prior to 1933 are included in the deaths from cancer of other unspecified organs.

Deaths due to Rheumatic Fever, Pericarditis and Acute Endocarditis (during 1935 and 9 previous years).

	1926.		1927.		1928.		1929.		1930.		1931.		1932.		1933.		1934.		1935.		Av. of 10 yrs 1926-1935.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Rheumatic Fever	19	19	28	45	30	55	30	49	42	51	26	36	21	27	33	36	33	38	22	31	29	38
Pericarditis.....	4	5	7	3	6	3	10	4	6	9	9	4	8	2	6	5	12	6	5	6	7	4
Acute Endocarditis.....	23	42	29	43	24	31	34	53	18	33	15	27	15	21	15	13	9	9	9	3	22	32
TOTALS	46	66	64	91	60	89	74	106	66	93	50	67	44	50	54	54	54	53	36	40	58	74
	112		155		149		180		159		117		94		108		107		76		132	

Monthly Distribution of Rheumatic Fever Deaths.

	1935. M.	1935. F.
January	1	2
February	1	3
March	2	1
April	—	4
May	3	3
June	1	2
July	2	2
August	4	2
September	1	3
October	—	4
November	4	2
December	1	2
Inward Transfers	2	1
	22	31

Deaths from Excessive Drinking, &c

It is still gratifying to note that the deaths due to or accelerated by excessive drinking continue to remain low, the number being five.

The number of deaths of infants under one year of age from suffocation was three.

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 have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly living in insanitary surroundings in slum areas. The improved condition of the children is especially noticeable; the reports in connection with medical inspection of school children in the poorer localities show welcome improvement, details in reference to this subject being given in the annual reports to the Education Committee.

The following table shows the number of deaths from excessive drinking from the year 1900 to date, together with the number of deaths of infants under one year of age from suffocation for the same period :—

	Deaths from excessive drinking.			Deaths from suffocation under 1 year of age.
	Males.	Females.	Total.	
1900—1909 (yearly average)	101	63	164	94
1910—1919 (yearly average)	53	28	81	51
1920—1929 (yearly average)	7	3	10	12
1930	4	—	4	12
1931	2	5	7	8
1932	3	4	7	5
1933	5	1	6	6
1934	1	3	4	5
1935	4	1	5	3

Deaths from Gas Poisoning.

Deaths from this cause fall under two headings, namely, from accidental poisoning and suicide. The following table gives the number for the last eight years, viz. :—

Year.	Accidental.	Suicide.
1928	8	29
1929	9	49
1930	4	46
1931	5	49
1932	5	47
1933	7	71
1934	9	52
1935	10	41

METEOROLOGY.

The Director to the Liverpool Observatory and Tidal Institute, Bidston, has kindly furnished the following tables relating to Meteorological observations made by him at the Observatory, Bidston :—

Latitude 53° 24′ N. Longitude 3° 4′ W.

Height above the Mean Level of the Sea 202 feet.

1935	Barometer. Mean.	Temperature. Mean.	Rainfall.		Mean Humidity of the air (Complete Saturation 100 %).
			Amount.	No. of days on which 0·01 in. fell.	
	Inches.	Degrees F.	Inches.		
January	30·281	41·7	1·267	14	86·3
February	29·664	43·0	2·217	17	81·7
March	30·163	43·9	0·776	9	72·6
April	29·790	46.2	1·807	14	77·2
May	30·152	50·2	1·685	7	67·4
June	29·838	56·2	3·457	18	78·9
July	30·116	61·0	2·272	9	76·5
August	29·994	60·4	1·472	9	81·0
September	29·783	56·0	4·823	19	77·8
October	29·752	49·4	3·811	20	82.1
November	29·540	44·5	3·358	19	87·7
December	29·616	38·6	3·480	18	88·9

Difference from the Average Quantities observed during the last 69 years.

1935.	Barometer.		Temperature.		Rainfall.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees F.	Degrees F.	Inches.	Inches.
January	0·342	...	1·9	...	...	0·923
February	...	0·269	2.7	...	0·504	...
March.	0·268	...	1·8	...	...	0·997
April.....	...	0·105	...	0·4	0·142	...
May	0·187	...	...	1·9	...	0·317
June	...	0·153	...	1·1	1·405	...
July.....	0·167	...	0·6	...	...	0·428
August	0·076	...	0·6	...	...	1·664
September	...	0·183	...	0·1	2·048	...
October	...	0·125	...	0·3	0·435	...
November.....	...	0·344	0·6	...	0·767	...
December	...	0·236	...	2·1	0·783	...
Year's Totals ...	...	0·031	0·2	...	1·755	...

Monthly Analysis of Wind Observations during 1935.

Based on daily observations at fixed hours.

1935.	Force of Wind				Direction.							
	8 or over.	4–7	1–3	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	4	57	61	2	24	17	6	2	4	8	17	44
February	5	68	35	4	9	10	2	8	6	25	30	18
March	1	60	56	7	0	6	22	20	7	12	35	15
April.....	2	56	56	6	16	3	15	16	2	11	29	22
May	0	62	60	2	9	45	26	15	5	2	10	10
June	0	43	73	4	4	3	10	27	21	12	20	19
July.....	0	17	42	3	5	0	2	3	2	7	13	27
August	0	11	37	14	1	1	2	4	4	9	10	17
September	1	27	31	1	2	0	3	15	9	8	14	8
October	4	25	30	3	7	0	1	10	4	9	20	8
November.....	1	25	34	0	1	4	9	16	7	6	11	6
December	1	24	28	9	2	6	12	9	2	3	14	5
Year's Total	19	475	543	55	80	95	110	145	73	112	223	199

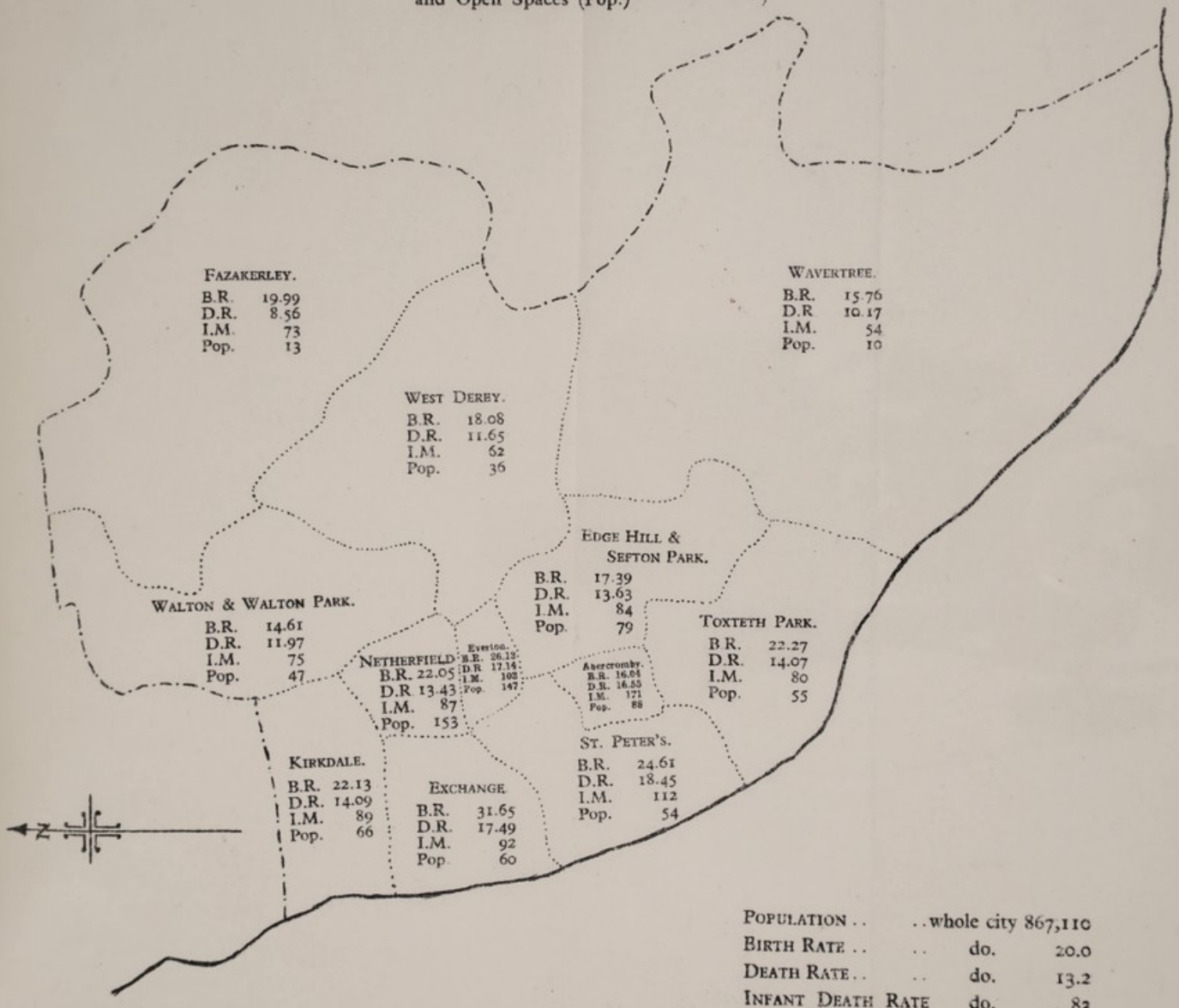
1935 Week Ended.	Barometer Mean.	Temperature.			Rainfall.		Wind Mean direction.	Median Humidity %.	Sunshine hours.	Ultra-Violet Radiation.
		Maximum.	Minimum.	Mean.	Amt. inches	Duration hours.				
January 5	30·176	53·9	37·7	47·1	0·4	13·5	N.W.	87·2	9·1	—
,, 12	30·14	48·0	31·1	37·1	0·515	11·9	N.W.	83·6	12·4	—
,, 19	30·47	48·0	37·8	43·2	0·173	14·3	N.W.	90·5	6·2	—
,, 26	30·26	51·2	34·2	41·3	0·25	7·8	N.W.	84·5	7·4	—
February 2	30·13	52·2	30·9	41·1	0·11	7·6	N.W.	83·2	22·9	1·02
,, 9	30·1	51·0	33·9	40·2	0·566	11·8	N.W.	84·4	7·9	—
,, 16	29·76	55·0	40·2	46·2	0·52	19·4	S.W.	81·4	10·3	—
,, 23	29·39	54.0	33·2	44·65	0·6	13·8	S.W.	88·8	10·5	—
March 2	29·28	45·4	31·2	39·2	0·5	17·9	S.E.	84·9	16·6	—
,, 9	30·44	51·4	32·0	41·27	0·28	8·9	Var.	82·6	15·6	—
,, 16	30·2	48·8	30·2	40·1	0·067	5·6	E.	76·3	22·2	—
,, 23	29·86	55·0	38·1	48·75	0·25	5·8	S.W.	81·1	22·0	1·4
,, 30	30·3	57·0	41·0	47·3	0·14	6·0	N.W.	82·0	35·3	2·3
April 6	29·9	50·0	34·2	41·67	0·157	7·9	N.W.	70·3	36·5	2·6
,, 13	29·55	56·2	38·3	47·4	0·3	8·6	Var.	72·2	39·2	2·7
,, 20	29·52	56·8	39·0	46·8	1·3	28·7	Var.	83·2	21·7	1·4
,, 27	30·01	59·0	39·0	49·17	—	—	Var.	80·2	43·4	1·8
May 4	30·15	67·3	41·8	51·4	0·008	1·3	Var.	73·8	28·2	1·6
,, 11	30·33	63·0	40·0	52·6	—	—	E.	70·9	57·1	2·4
,, 18	30·12	55·3	32·4	43·3	1·24	24·0	Var.	66·7	63·8	1·4
,, 25	30·15	65·2	47·6	49·2	0·34	12·7	N.E.	60·1	55·9	2·0
June 1	30·02	68·0	42·0	54·5	0·1	0·7	E.	69·5	53·5	1·8
,, 8	29·61	63·0	45·0	54·6	0·81	11·4	Var.	77·9	33·6	1·8
,, 15	29·72	65·0	47·4	56·1	0·58	12·9	Var.	73·7	48·5	2·8
,, 22	29·89	83·4	49·2	60·3	1·087	23·6	S.E.	83·1	33·2	2·6
,, 29	30·08	81·3	55·0	65·5	0·177	8·7	Var.	79·3	53·6	3·6

1935 Week Ended.	Barometer Mean	Temperature.			Rainfall.		Wind Mean direction.	Median Humidity %.	Sunshine hours.	Ultra-Violet Radiation.
		Maximum.	Minimum.	Mean.	Amt. inches	Duration hours.				
July 6	30·13	68·5	53·0	59·8	1.01	20·7	W.	84·0	39·4	3·6
,, 13	30·17	79·3	54·8	64·7	0·011	1·2	Var.	71·4	60·1	5·1
,, 20	29·95	64·1	51·0	58·3	2·000	12·3	N.W.	79·2	31·6	2·4
,, 27	30·2	74·0	54·0	62·6	0·035	1·2	W.	78·7	45·9	3·1
August 3	30·187	69·3	49·1	59·3	—	—	N.W.	72·0	67·8	6·1
,, 10	30·20	72·6	55·0	63·34	0·035	1·1	N.W.	79·1	65·6	1·3
,, 17	30·02	73·2	49·1	60·46	0·24	3·6	N.W.	74·2	30·1	3·4
,, 24	29·98	76·0	54·3	63·9	0·063	2·1	Var.	80·3	42·2	3·1
,, 31	29·69	64·6	45·3	55·7	1·13	18·8	N.W.	81·0	35·6	2·0
September 7	29·85	65·0	46·0	56·84	0·89	14·6	Var.	77·6	36·6	1·6
,, 14	29·94	67·3	50·0	58·56	0·19	1·5	Var.	72·2	31·5	2·8
,, 21	29·53	64·0	50.0	56.3	1·775	32·2	W.	76·6	29·1	1·3
,, 28	29·86	64·2	46·2	53·86	1·44	30·5	N.W.	83·8	20·8	—
October 5	29·35	57·3	43·0	50·37	0·9	19·3	Var.	84·7	20·7	—
,, 12	29·73	56·4	43·9	49·9	1·74	22·6	W.	80·9	39·4	1·1
,, 19	30·05	60·8	42·2	52·37	0·5	2·0	W.	78·0	9·7	—
,, 26	29·92	57·6	35·0	41·8	0·69	28·7	Var.	82·7	12·1	—
November 2	29·68	59·0	40·2	51·3	0·55	9·0	W.	85·3	5·7	—
,, 9	29·52	60·0	36·9	45·27	0·6	17·9	S.E.	90·6	21·8	—
,, 16	29·54	49·1	33·7	42·7	1·11	20·6	Var.	90·1	14·3	—
,, 23	29·63	46·6	33·7	43·7	0·8	25·2	E.	88·2	5·2	—
,, 30	29·77	54·0	35·8	45·7	0·78	10·5	W.	82·3	15·3	—
December 7	29·38	44·8	32·9	39·5	1·2	15·8	W.	85·9	10·3	—
,, 14	30·28	46·0	31·0	38·3	0·165	4·2	N.E.	83·3	9·4	—
,, 21	29·72	42·4	23·8	33·6	0·8	9·7	W.	89·2	12·6	—
,, 28	29·25	46·2	23·4	37·97	0·6	15·5	E.	96·2	2·2	—

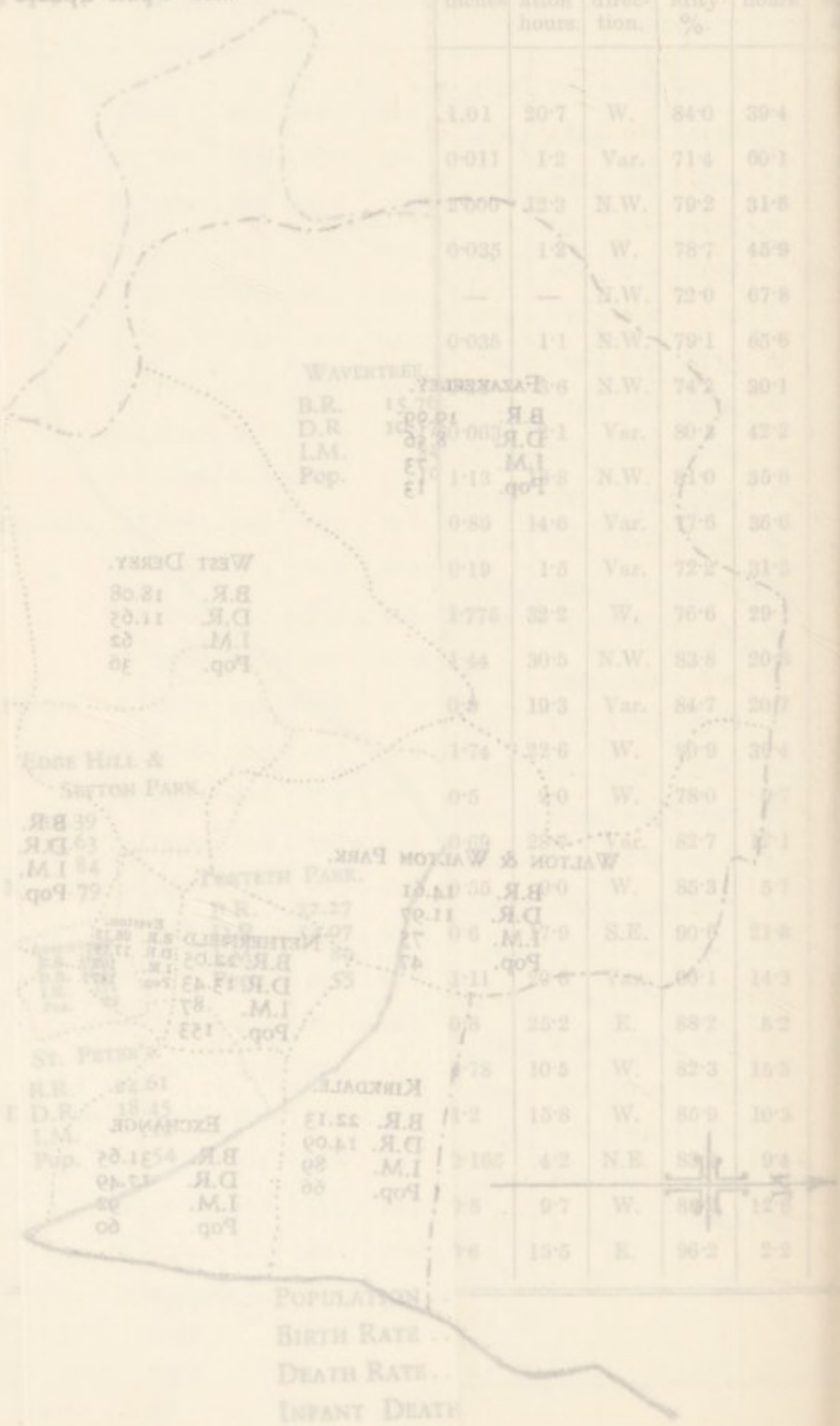
CITY OF LIVERPOOL.

Diagram showing Birth Rate (B.R.) per 1,000 of estimated population
Death Rate (D.R.) 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 1935.



POPULATION . .	. . whole city	867,110
BIRTH RATE . .	. . do.	20.0
DEATH RATE . .	. . do.	13.2
INFANT DEATH RATE	do.	83
POPULATION PER ACRE	do.	32



INFECTIOUS DISEASES.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1935:—

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

* Measles and German Measles ceased to be compulsorily notifiable on 31st October, 1920. A system of voluntary notification has been adopted in regard to these diseases and Chickenpox.

General Statistical Tables.

In Table I are given the numbers of notifications of infectious disease received from medical practitioners during each month of 1935.

TABLE I.

MONTHLY NUMBERS OF NOTIFICATIONS OF INFECTIOUS DISEASE DURING 1935.

January	1,019
February	1,051
March	1,186
April	1,100
May	1,472
June	1,724
July	1,449
August	998
September	956
October	1,571
November	2,593
December	2,926
	18,045

In Table II are given the numbers of cases of infectious disease coming to notice during 1935, both by means of notifications from medical practitioners and in other ways, together with the number of patients who were removed to hospital.

TABLE II.

NUMBERS OF CASES OF INFECTIOUS DISEASES COMING TO NOTICE DURING 1935, AND NUMBERS ADMITTED TO HOSPITAL.

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Cases admitted to hospital	Per centage
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Enteric Fever ...	1	1	2	1	1	1	3	11	6	2	1	—	30	27	9
Scarlet Fever ...	148	205	185	107	162	190	120	151	146	173	188	125	1900	1536	8
Measles and German Measles	84	154	266	354	520	1128	856	420	327	639	1806	2353	8907	996	1
Diphtheria	287	270	244	196	187	230	161	221	193	207	294	205	2695	2656	9
Puerperal Fever ...	3	4	5	8	4	3	3	6	4	2	2	4	48	44	9
Puerperal Pyrexia...	19	28	27	22	23	37	28	41	34	33	40	21	353	331	9
Erysipelas	68	56	73	57	82	60	35	47	53	85	133	82	831	526	6
Cerebro-spinal Fever	5	7	9	15	2	1	5	4	5	2	6	8	69	65	9
Poliomyelitis and Polioencephalitis	—	—	—	—	—	—	1	2	—	—	—	—	3	2	6
Ophthalmia Neonatorum	59	47	71	57	64	66	48	66	50	56	56	30	670	200	2
Pneumonia & Influenzal Pneumonia	140	152	353	117	137	204	85	126	103	180	434	199	2230	710	3
Malaria	2	2	—	2	—	—	2	1	3	1	1	1	15	6	4
Dysentery	—	—	—	—	—	—	—	1	1	1	—	—	3	2	6
Encephalitis Lethargica	3	3	3	1	1	1	3	4	1	2	3	—	25	19	7
Whooping Cough ...	54	83	90	69	69	60	19	122	50	72	209	147	1044	185	1
Anthrax	—	—	—	—	1	—	—	1	—	—	—	—	2	2	10
Chickenpox... ...	211	288	382	212	275	508	156	83	83	130	240	196	2764	256	
Totals ...	1084	1300	1710	1218	1528	2489	1525	1307	1059	1585	3413	3371	21589	7563	3

The numbers of patients admitted to hospital include the cases which occurred while in hospital.

In Table III are given the numbers of cases of infectious diseases coming to notice during 1935, and also corresponding cases during the previous five years.

TABLE III.

NUMBERS OF CASES OF INFECTIOUS DISEASES DURING 1935 AND THE FIVE PREVIOUS YEARS.

Disease.	1930	1931	1932	1933	1934	1935
Smallpox	1	—	1	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	60	37	54	70	23	30
Scarlet Fever	3,069	1,407	1,925	5,286	3,574	1,900
Measles and German Measles	5,966	7,572	8,816	10,004	11,055	8,907
Diphtheria	4,023	3,256	3,312	2,917	2,913	2,695
Puerperal Fever	43	54	54	44	43	48
Erysipelas	720	510	592	920	819	831
Cerebro-spinal Fever	21	57	76	64	69	69
Poliomyelitis and Polioencephalitis	14	7	25	10	9	3
Ophthalmia Neonatorum	610	718	668	594	695	670
Anthrax	3	2	2	—	2	2
Encephalitis Lethargica	27	35	21	30	30	25
Whooping Cough	1,147	2,267	1,596	987	2,437	1,044
Malaria	125	98	24	26	18	15
Dysentery	27	12	7	3	7	3
Chickenpox	2,567	1,568	2,993	2,888	2,715	2,764

In Table IV are given the numbers of deaths from infectious diseases during 1935, and also corresponding deaths during the previous five years.

TABLE IV.

NUMBERS OF DEATHS FROM INFECTIOUS DISEASES DURING 1935 AND THE FIVE PREVIOUS YEARS.

Disease.	1930	1931	1932	1933	1934	1935
Smallpox	—	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	1	6	6	2	—	4
Scarlet Fever	35	11	11	27	19	6
Measles and German Measles	170	369	312	299	229	154
Diphtheria	236	197	184	177	177	149
Influenza	75	345	128	342	116	146
Puerperal Fever	16	20	16	29	25	29
Erysipelas	24	27	42	73	54	55
Cerebro-spinal Fever	17	47	47	45	37	33
Poliomyelitis and Polioencephalitis	6	4	11	3	3	—
Anthrax	1	—	—	—	—	—
Encephalitis Lethargica	18	26	15	21	24	22
Whooping Cough	75	189	148	93	172	62
Malaria	12	3	1	2	2	4
Dysentery	4	5	5	2	2	4
Chickenpox	3	1	—	1	—	1

In Table V are given the case-rates per 1,000 of the population and the death-rates per 100,000 of the population in respect of the infectious diseases named at the head of the table.

TABLE V.

CASE-RATES AND DEATH-RATES OF INFECTIOUS DISEASE DURING 1935.

	Smallpox.	Enteric Fever.	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis and Polioencephalitis.	Encephalitis Lethargica.	Malaria	Whooping Cough.
.....30.....	—	30	1,900	8,907	2,695	48	831	69	3	25	15	1,044
...te per 1,000 inhabitants	—	0·03	2·19	10·27	3·11	2·65*	0·96	0·08	0·00	0·03	0·02	1·20
.....	—	4	6	154	149	29	55	33	—	22	4	62
...rate per 100,000 inhabitants	—	0·5	0·7	17·8	17·2	160·2†	6·3	3·8	—	2·5	0·5	7·1

* Case-rate per 1,000 births.

† Death-rate per 100,000 live and still-births.

INFECTIOUS SICKNESS.

Plague.

No case of plague occurred in the city during the year.

Smallpox.

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

The following figures for England and Wales show a gradual and remarkable spread of a very mild type of smallpox during the years 1925 to 1930, followed by a rapid decline. Only a few deaths occurred among the thousands of cases reported.

Year.	Cases.	Deaths.
1925	5,365 ...	9
1926	10,205 ...	19
1927	14,769 ...	49
1928	12,433 ...	53
1929	10,975 ...	39
1930	11,855 ...	28
1931	5,665 ...	9
1932	2,070 ...	3
1933	631 ...	2
1934	179 ...	6
1935	1 ...	0

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

On account of its world-wide trade, Liverpool must always be one of the channels through which the severe types of smallpox may be imported. Furthermore, the constantly moving population—inwards and outwards—renders the city particularly liable to infection. For that reason it has always been the policy of the department to continue to urge that the only safeguard against smallpox and the risk of death from this disease is vaccination and re-vaccination.

In Liverpool, however, the child population is relatively well vaccinated, as the most recent available figure for 1934 shows that approximately 68·4 per cent. of the children born in Liverpool have been successfully vaccinated.

In Table VI are given the numbers of primary vaccinations in Liverpool during the year 1934 and five previous years.

TABLE VI.

PRIMARY VACCINATIONS.

	1929.	1930.	1931.	1932.	1933.	1934.
1 Number of children born ...	19,145	19,183	18,917	18,543	17,448	18,230
2 Number of primary vaccinations...	13,368	13,711	13,678	13,122	11,921	12,466
3 Number of exemption certificates granted ...	1,907	2,036	1,993	2,134	2,295	2,536
4 Number of certificates of insusceptibility sent ...	235	115	149	120	96	58

In Table VII are given the numbers of primary vaccinations during 1934, arranged in accordance with their occurrence in four districts.

TABLE VII.

PRIMARY VACCINATIONS IN DISTRICTS DURING 1934.

District	Sub-District.	No. of children born.	No. of primary vaccinations.	No. of exemptions granted.	No. of certificates of insusceptibility.	Percentage of children successfully vaccinated.
1	Toxteth Park	2,779	1,663	428	12	59·8
	Sefton Park ...	335	185	49	1	55·2
	St. Peter's (part of)	89	59	13	—	66·3
	Edge Hill (part of)	49	30	9	—	61·2
	Wavertree ...	863	511	208	7	59·2
	Woolton	53	42	8	—	79·2
	Speke	31	20	5	—	64·5
2	Abercromby ...	2,950	1,945	524	14	65·9
	St. Peter's (part of)	138	97	9	1	70·3
	Exchange	1,413	1,071	49	—	75·8
	Everton ...	2,595	1,885	239	7	72·6
	Netherfield ...	247	189	31	—	76·5
3	Edge Hill (part of)	922	543	145	5	58·9
	West Derby ...	1,015	693	212	5	68·3
	Walton	2,296	1,703	279	3	74·2
	Walton Park ...	460	344	30	—	74·8
	Fazakerley ...	1,060	729	226	1	68·8
4	Kirkdale... ...	935	757	72	2	81·0
	Total ...	18,230	12,466	2,536	58	68·4
Summary	No. 1 District ...	4,199	2,510	720	20	59·8
	No. 2 District ...	7,343	5,187	852	22	70·6
	No. 3 District ...	5,753	4,012	892	14	69·7
	No. 4 District ...	935	757	72	2	81·0
	Total ...	18,230	12,466	2,536	58	68·4

Typhus Fever.

No case occurred in Liverpool during 1935, and no indigenous case has occurred in the city during the course of the past seventeen years.

Anthrax.

The importation of large amounts of animal products, which are handled in transit to stores or manufactories, has associated with it the risk of human infection with the anthrax bacillus, causing a condition known as malignant pustule or cutaneous anthrax.

The fatal cases frequently quoted in these reports emphasise the importance of early diagnosis and serum treatment in all cases of this disease, and the Health Department has taken steps to make facilities for diagnosis available for the public.

Posters have been printed on the subject and are affixed in suitable places. A pocket card has also been issued containing full information regarding the appearance and symptoms of cutaneous anthrax and advice on the action to be taken. Arrangements are also made to admit all cases of anthrax or suspected anthrax direct to Fazakerley hospital.

Two cases of anthrax infection came under treatment at the City Hospital, Fazakerley, during 1935. Both patients were Liverpool residents working in the city, one being employed as a warehouseman by a firm of wool brokers, and the other as a wool sorter by a local wool merchant. The first of these, that of an elderly man, was moderately severe, but the second was of marked severity and required an exceptionally large amount of anti-anthrax serum (2355 ccs.) to effect recovery. Details relating to these cases are given on page 159 of this Report.

In the course of the year eighteen persons attended at the Fazakerley hospital for investigation under anthrax suspicion. These were mainly employees at the docks or local tanneries, etc. One man was found to be suffering from that disease and was detained for treatment. The others were cases of local septic infection, boils, carbuncles, etc.

Special arrangements have also been made for the treatment of cases coming from districts outside Liverpool.

The question of the disinfection of hides and skins is still under consideration, but there are difficulties in evolving a method which will be successful, not only in destroying the anthrax spores without damaging the material, but one which can be utilised on a commercial scale. A method has recently been evolved depending upon a selective action of hydrogen sulphide upon anthrax spores, but has so far not led to a commercially practicable method of treatment.

In order to eliminate as far as possible the handling of hides by dock labourers and others, the hide trades connected with this port have agreed not to open bales of China hides at the docks beyond what is necessary for sampling purposes.

The disinfection of imported dangerous wools is carried out at the Government Wool Disinfecting Station, Love Lane, and the Liverpool Port Sanitary Authority assists by having samples of the untreated wools and those which have passed through the disinfecting process, examined by the City Bacteriologist; this helps to confirm and control the Duckering disinfecting process. During the year 356 samples of treated and untreated wool, hair, etc., were examined and 82 untreated samples showed positive evidence of anthrax infection.

The Ministry of Agriculture has drawn attention to the danger to farm animals in Great Britain in connection with the shipment in foreign ports of commodities containing the spores of anthrax. The disease is prevalent in animals in many parts of the world from which supplies of raw hides, hair, wool and feeding stuffs, e.g., cattle cake and its ingredients, are drawn. Infection may be conveyed to the farm by means of such animal substances from foreign countries, especially those places where inadequate or no precautions are taken.

Anthrax spores may be shaken from the above-mentioned animal products and may become mixed with foodstuffs or hold-sweepings, and thus infection may be indirectly conveyed to animals of the farm.

The spores of the anthrax bacillus have great resisting power, and may remain active for years unless measures are taken to destroy them.

The suggestion is made that special precautions should be adopted so that dried hides, wool, hair, etc., should not be carried, mixed with, or be placed on top of grain or feeding stuffs, and that the holds which have contained animal products of this nature should be thoroughly disinfected; further, that the sweepings of holds containing grain, etc., should not be mixed with other foodstuffs.

Typhoid and Paratyphoid Fever.

During the year there occurred 25 cases of typhoid fever and 5 cases of paratyphoid fever.

Typhoid fever differs from paratyphoid fever in fatality and complications and is also different epidemiologically. As a rule, typhoid fever can occur with equal frequency in either sex and is largely indifferent to age, whereas paratyphosus occurs in the young rather than the old and tends to occur in females rather than males. Large epidemics of typhosus are water-borne, and small outbreaks may be due to the consumption of infected shell-fish. On the other hand, the paratyphoid fevers are spread mainly by infected food, including infected milk. For these reasons distinction is made in the tables that follow between the typhoid and paratyphoid fevers.

In Table VIII are given the number of cases occurring in each type of infection together with the sex distribution.

TABLE VIII.

TYPHOID AND PARATYPHOID FEVER.

Type.	Cases.		Deaths.	
	Male	Female	Male	Female
Typhoid Fever	13	12	1	3
Paratyphoid—A	—	—	—	—
Paratyphoid—B	3	2	0	0
Paratyphoid—C...	—	—	—	—
Unclassified	—	—	—	—

The 25 typhoid cases (of which 14 were indigenous) represent a case-rate of 0·03 per 1,000 of the population. The 5 paratyphoid cases (all indigenous) represent a case-rate of 0·006 per 1,000 of the population.

Eleven of the 25 cases of typhoid fever were probably infected when away from Liverpool. Of these cases, 6 females were infected during the course of a pilgrimage to Lourdes, and 4 males and 1 female patient gave a history suggesting infection during a visit to a district outside of Liverpool.

In Table IX are given the age and sex distribution of both typhoid and paratyphoid fever cases.

TABLE IX.

TYPHOID AND PARATYPHOID FEVER.—AGE AND SEX DISTRIBUTION.

Age	Typhoid		Paratyphoid	
	Male	Female	Male	Female
Under 1 Year... ...	1	—	—	—
1 + ...	—	—	—	—
2 + ...	—	—	—	—
5 + ...	3	1	2	—
10 + ...	4	—	—	—
15 + ...	—	1	1	—
20 + ...	2	3	—	—
30 + ...	1	2	—	1
40 + ...	1	2	—	—
50 + ...	1	3	—	1
70 + ...	—	—	—	—
TOTAL... ...	13	12	3	2

In Table X are given the months during which the cases occurred.

TABLE X.

TYPHOID AND PARATYPHOID FEVER.—MONTHS DURING WHICH CASES OCCURRED.

Month of Onset.	Typhoid		Paratyphoid	
	Male.	Female.	Male.	Female.
December, 1934...	1	...	...	...
January, 1935	...	...	...	...
February, 1935	1	1	...	...
March, 1935	...	...	...	...
April, 1935	1	1	1	...
May, 1935	...	...	...	...
June, 1935	...	...	1	2
July, 1935	8	...	1	...
August, 1935	1	7	...	...
September, 1935	...	3	...	...
October, 1935	...	...	...	...
November, 1935	1	...	...	...
December, 1935	...	...	...	...

TYPHOID AND PARATYPHOID FEVERS IMPORTED FROM OVERSEAS.

During the year, 1 case of typhoid fever (a male) was imported from overseas. The patient recovered. This case is not included in the Tables in the preceding paragraphs.

Undulant Fever.

No cases of undulant fever were reported during the year.

Diphtheria.

During 1935, 2,695 cases of diphtheria were reported, a case-rate of 3·11 per 1,000 of the population. Of these cases, 149 proved fatal, making a fatality rate of 5·5 per 100 cases and a mortality rate of 17·2 per 100,000 of the population.

In Table XI are given the numbers of cases of diphtheria and of deaths from this disease during 1935 in the various districts of Liverpool.

TABLE XI.

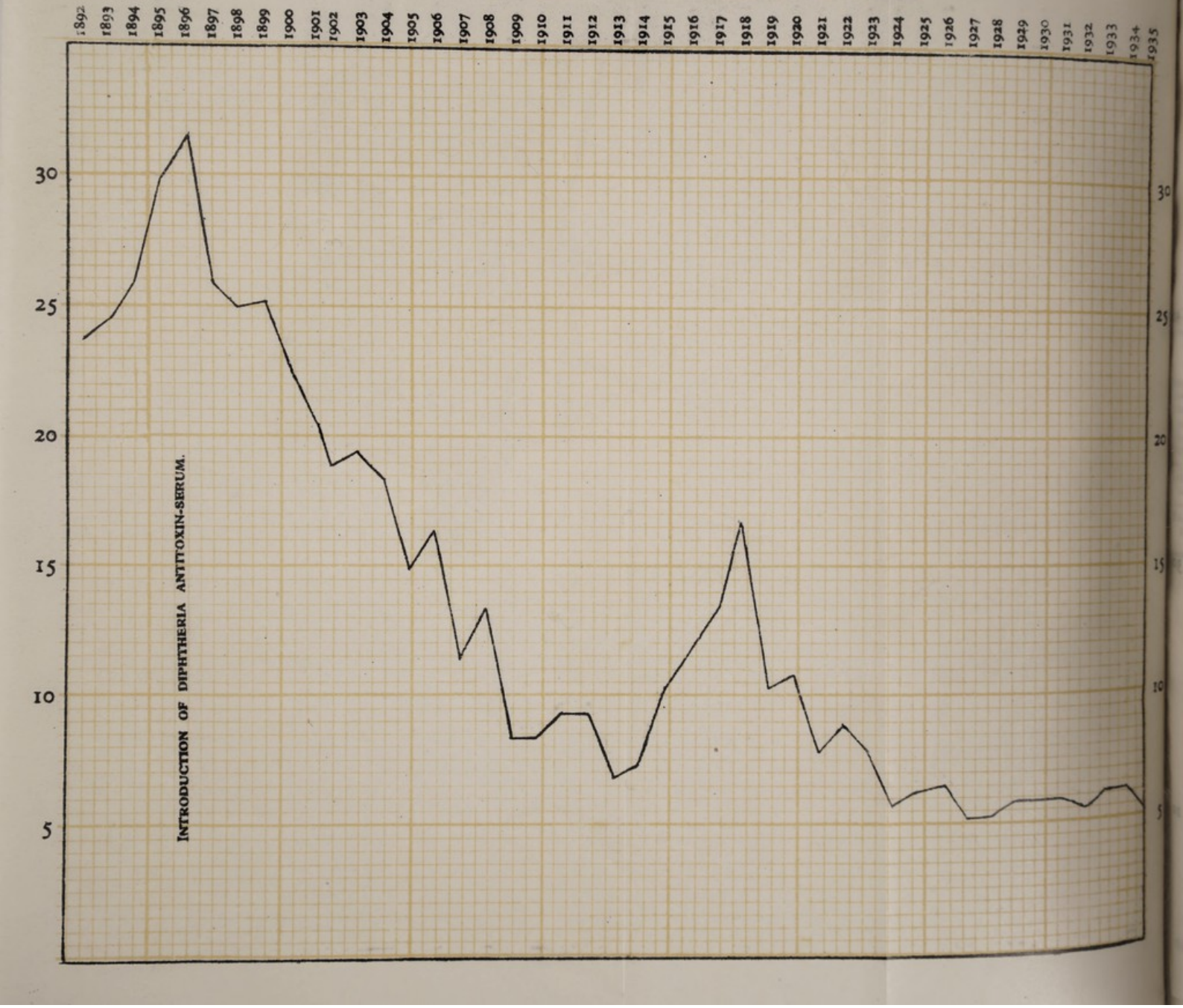
DIPHTHERIA—CASES AND DEATHS DURING 1935.

District.	Estimated Population, 1935.	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	Percentage Proportion of Secondary to Primary Cases.	Percentage Proportion of Children under 2 years of age to Total Cases.	Percentage Proportion of Children under 5 years of age to Total Cases.
1. Exchange	50,383	221	10	4·4	19·8	4·5	6·2	7·7	26·7
2. Abercromby	23,321	89	4	3·8	17·1	4·5	8·5	7·9	25·9
3. St. Peter's	53,872	188	3	3·5	5·6	1·6	5·0	5·9	31·4
4. Everton	30,574	124	6	4·1	19·6	4·8	4·2	6·4	33·8
5. Netherfield	74,434	282	24	3·8	32·2	8·5	6·4	3·9	25·2
6. Kirkdale	61,767	229	9	3·7	14·5	3·9	6·0	4·4	30·1
7. Edge Hill & Sefton Park	115,993	287	15	2·5	12·9	5·2	2·1	4·5	25·4
8. Toxteth Park	91,133	274	16	3·0	17·5	5·8	5·4	3·6	27·4
9. Walton & Walton Park	90,496	205	12	2·3	13·2	5·8	4·6	3·4	21·0
10. West Derby	107,041	331	22	3·1	20·5	6·6	8·9	2·7	17·2
11. Wavertree	99,308	234	10	2·4	10·1	4·3	4·5	4·3	21·4
12. Fazakerley	68,788	231	18	3·3	26·2	7·8	8·4	3·0	21·2
Central Districts (1 to 3)	127,576	498	17	3·9	13·3	3·4	6·2	7·0	28·3
Middle Districts (4 to 9)	464,397	1,401	82	3·0	17·7	5·8	4·8	4·2	26·6
Outer Districts (10 to 12)	275,137	796	50	2·9	18·2	6·3	7·4	3·3	19·6
Whole City	867,110	2,695	149	3·1	17·2	5·5	5·8	4·4	24·9

30
25
20
15
10
5

CITY OF LIVERPOOL.

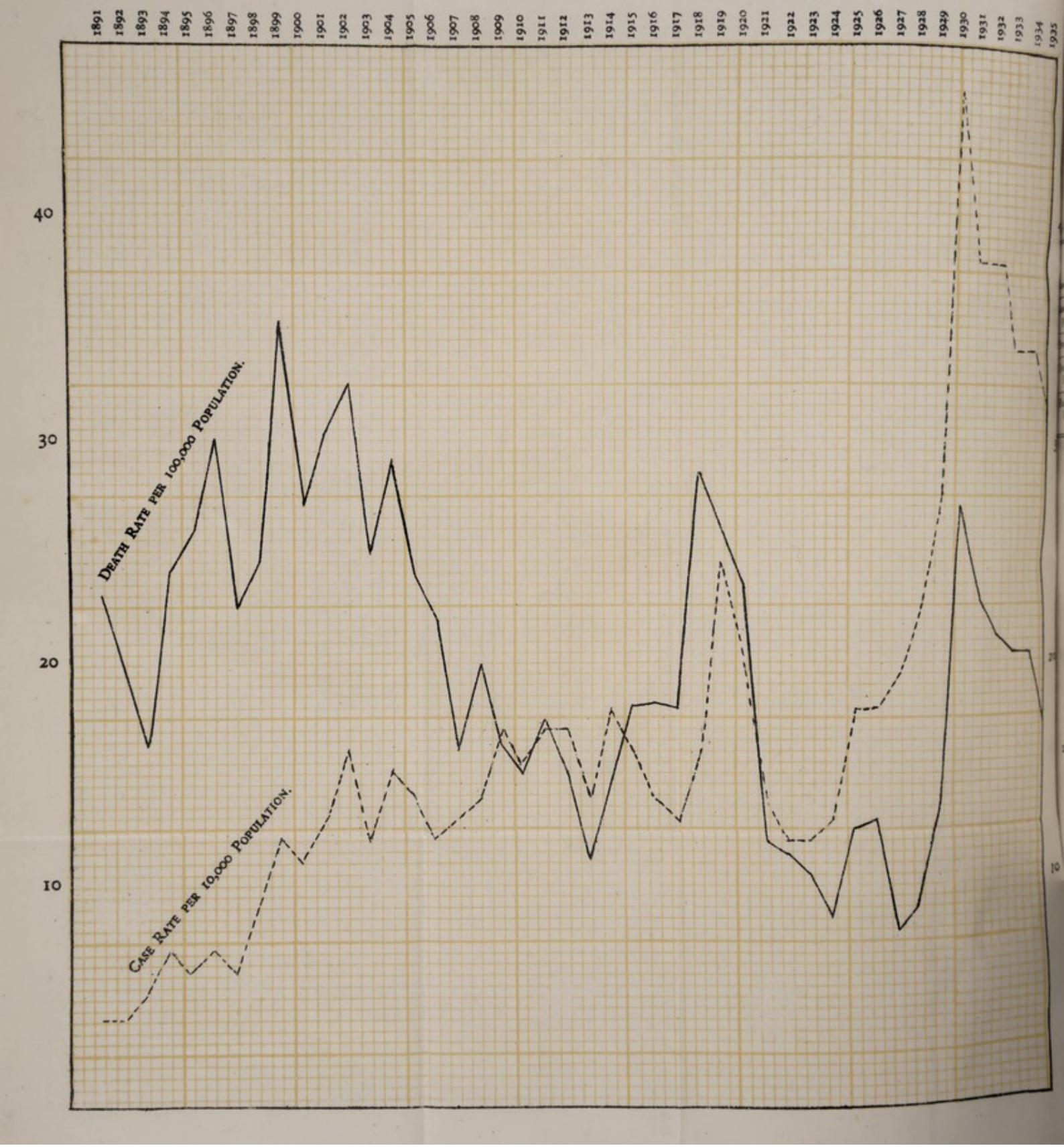
DIPHTHERIA 1892-1935 FATALITY RATES PER 100 CASES.



DEATH RATE PER

CITY OF LIVERPOOL.

DIPHTHERIA 1891-1935. CASE RATES PER 10,000 POPULATION AND DEATH RATES PER 100,000 POPULATION.



In Table XII are given the number of cases of diphtheria and of deaths from this disease during 1935, and also during nine previous years.

TABLE XII.

DIPHTHERIA—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
ases	1,519	1,664	1,902	2,336	4,023	3,256	3,312	2,917	2,913	2,695
ase-rate per 1,000 population	1·8	1·9	2·2	2·7	4·6	3·8	3·8	3·4	3·4	3·1
eaths	112	90	100	139	236	197	184	177	177	149
eath-rate per 100,000 population ...	13·2	10·5	11·5	15·9	26·8	23·0	21·3	20·4	20·4	17·2
atality rate per 100 cases	7·4	5·4	5·3	5·9	5·9	6·0	5·5	6·1	6·1	5·5

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, however, the term diphtheria has steadily replaced croup as a certified cause of death.

The accompanying graphs show the decline in the fatality rate of this disease since 1892, and also the great rise in the annual number of cases during the same period of time.

In Table XIII are given details relating to ages at death, ages of notified cases, and percentage fatality at various ages, etc.

TABLE XIII.

DEATHS FROM DIPHTHERIA.

DISTRICTS.	Quarters.								Year 1935		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	1	—	—	2	2	—	2	3	5	5	10
Abercromby	1	—	—	—	1	—	1	1	3	1	4
St. Peter's	—	—	1	—	—	1	—	1	1	2	3
Toxteth Park	2	4	1	2	—	—	3	4	6	10	16
Edge Hill & Sefton Park	3	2	1	3	1	1	1	3	6	9	15
Wavertree	3	2	—	—	1	1	2	1	6	4	10
Fazakerley	1	2	2	3	1	—	4	5	8	10	18
Walton & Walton Park	5	2	—	2	1	—	1	1	7	5	12
Kirkdale	2	1	—	—	1	2	1	2	4	5	9
Netherfield	6	5	1	6	3	2	—	1	10	14	24
Everton	—	—	3	—	—	1	2	—	5	1	6
West Derby	4	5	2	3	4	1	2	1	12	10	22
City	28	23	11	21	15	9	19	23	73	76	149

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
3	10	14	21	21	62	13	2	1	1	—	1	—	149

Ages of Notified Cases.

38	82	151	176	223	1047	477	203	188	76	26	6	2	2695
64%						36%							

Percentage Fatality at each age.

7·9	12·2	9·3	12·0	9·4	5·9	2·7	1·0	0·5	1·3	0·0	16·7	0·0

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

It was in 1890 that diphtheria and membranous croup became notifiable. In 1895 treatment by antitoxin was introduced. Since that time there has been a steady reduction in the fatality-rate. Whereas in 1895, 31 patients out of every 100 died in Liverpool, the percentage fatality-rate now varies between 5% and 7%. This favourable result is greatly helped by the admission to hospital of all patients willing to go. During 1935, 2,656 patients were admitted to hospital out of 2,695 cases notified, an admission rate of 98%.

It was hoped at one time that extensive hospitalization and improvements in treatment would result in a material reduction in the number of cases occurring. This has not been so. On the contrary, in Liverpool, there has been a considerable rise in the number of cases and, since 1929, there has been an epidemic which has taxed the hospital accommodation severely and has given rise to considerable anxiety.

There is reason to believe that the way out of this dilemma lies in the extensive protection of children against diphtheria by means of inoculation. In later paragraphs (1) the steps which have been taken successfully in this direction are described.

Scarlet Fever.

During 1935, 1,900 cases of scarlet fever were reported, a case-rate of 2·2 per 1,000 of the population. Of these cases, 6 proved fatal, making a fatality-rate of 0·3 per 100 cases, and a mortality-rate of 0·7 per 100,000 of the population.

In Table XIV are given the numbers of cases of scarlet fever and of deaths from this disease during 1935, in the various districts of Liverpool.

(1) Page 55.

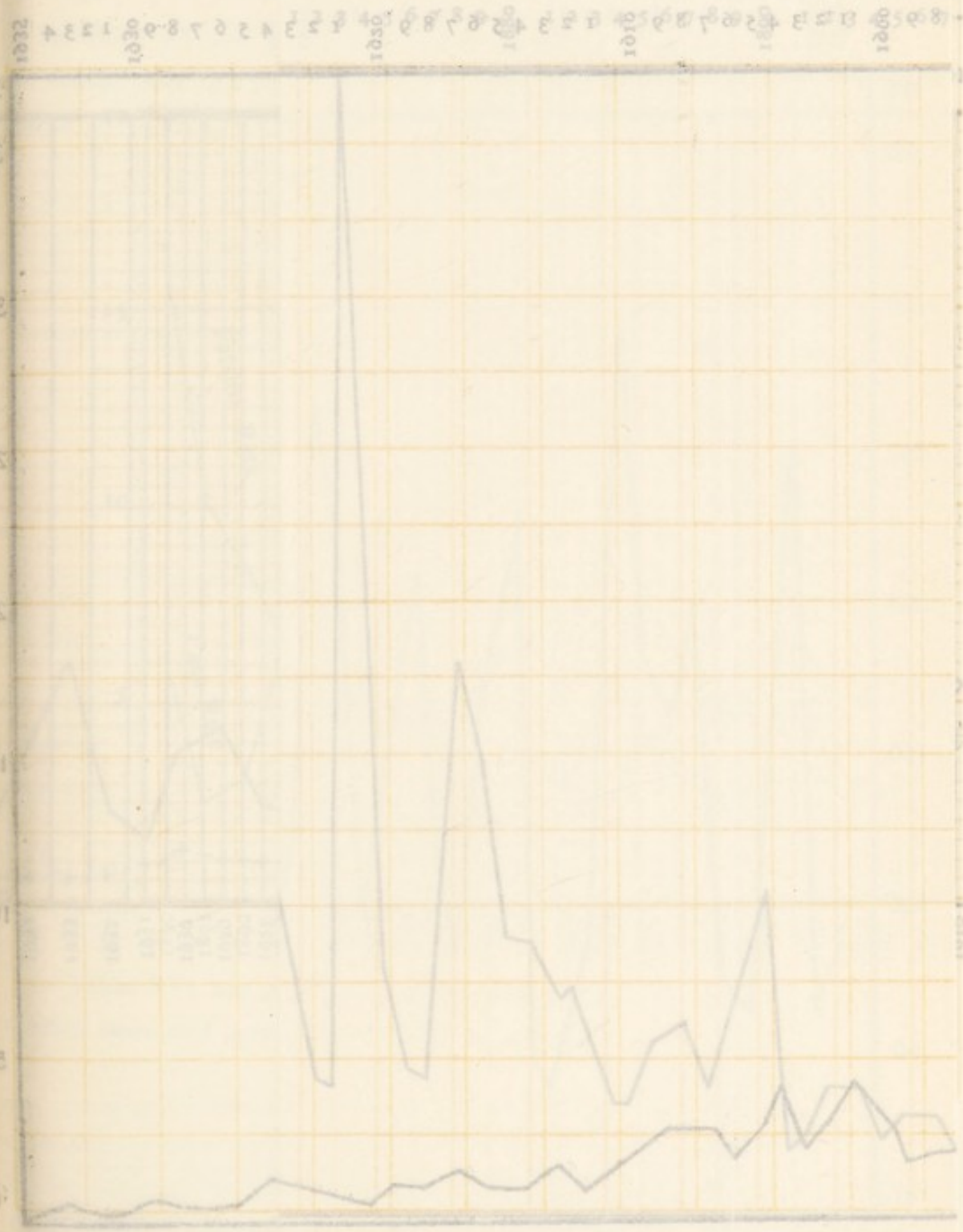
TABLE XIV.

SCARLET FEVER—CASES AND DEATHS DURING 1935.

District.	Estimated Population, 1935.	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	Percentage.		
							Proportion of Secondary to Primary Cases.	Proportion of Children under 2 years of age to Total Cases.	Proportion of Children under 5 years of age to Total Cases.
1. Exchange	50,383	122	—	2·4	—	—	3·4	9·0	44·3
2. Abercromby	23,321	51	—	2·2	—	—	4·1	5·9	19·6
3. St. Peter's	53,872	88	—	1·6	—	—	2·3	12·5	47·7
4. Everton	30,574	60	—	2·0	—	—	5·3	8·3	40.0
5. Netherfield	74,434	201	2	2·7	2·7	1·0	5·2	7·5	37·8
6. Kirkdale	61,767	133	—	2·1	—	—	4·7	9·8	47·4
7. Edge Hill & Sefton Park	115,993	189	—	1·6	—	—	2·2	4·8	29·6
8. Toxteth Park	91,133	138	—	1·5	—	—	3·8	6·5	28·3
9. Walton & Walton Park	90,496	212	—	2·3	—	—	3·4	3·3	24·5
10. West Derby	107,041	291	1	2·7	0·9	0·3	5·8	7·6	28·2
11. Wavertree	99,308	169	1	1·7	1·0	0·6	6·3	3·5	23·1
12. Fazakerley	68,788	246	2	3·6	3·0	0·8	3·4	2·4	28.5
Central Districts (1 to 3)	127,576	261	—	2·0	—	—	3·2	9·6	40·6
Middle Districts (4 to 9)	464,397	933	2	2·0	0·4	0·2	3·9	6.2	33·2
Outer Districts (10 to 12)	275,137	706	4	2·6	1·4	0·6	5·1	4·8	27·0
Whole City	867,110	1,900	6	2·2	0·7	0·3	4·2	6·2	31·9

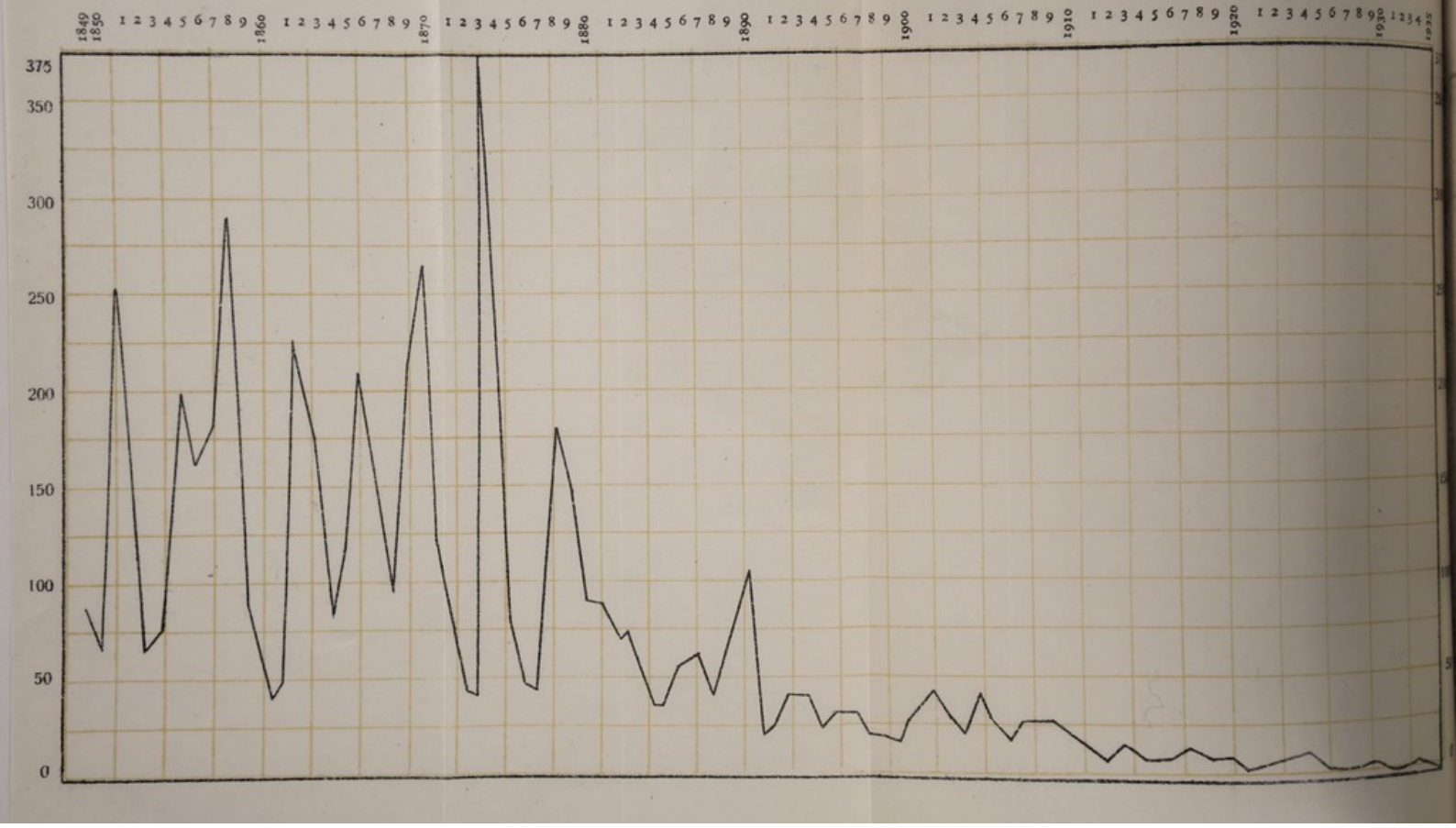
CITY OF LIVERPOOL

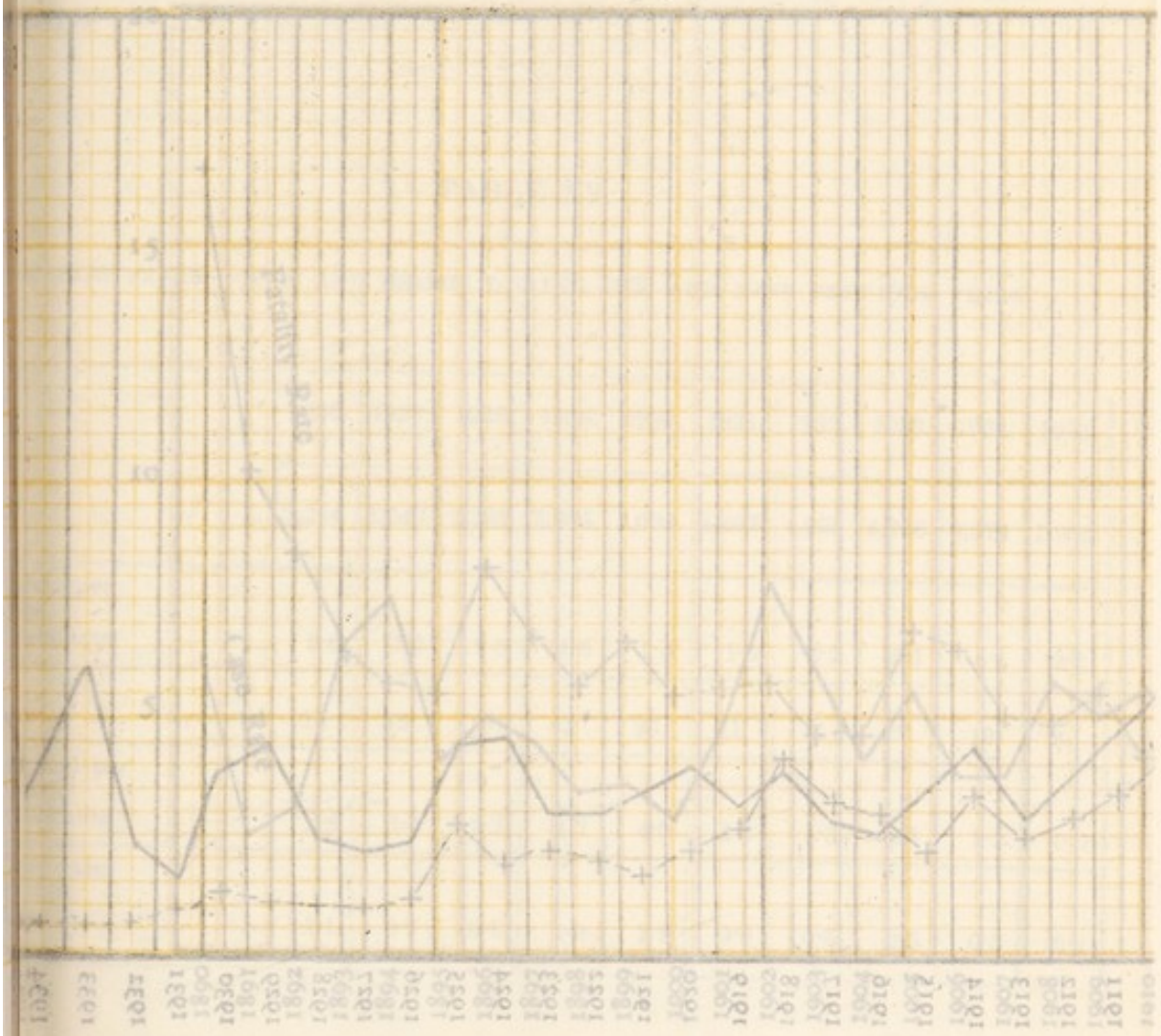
Scarlet Fever 1849-1935 Death Rate per 100,000 Population



CITY OF LIVERPOOL.

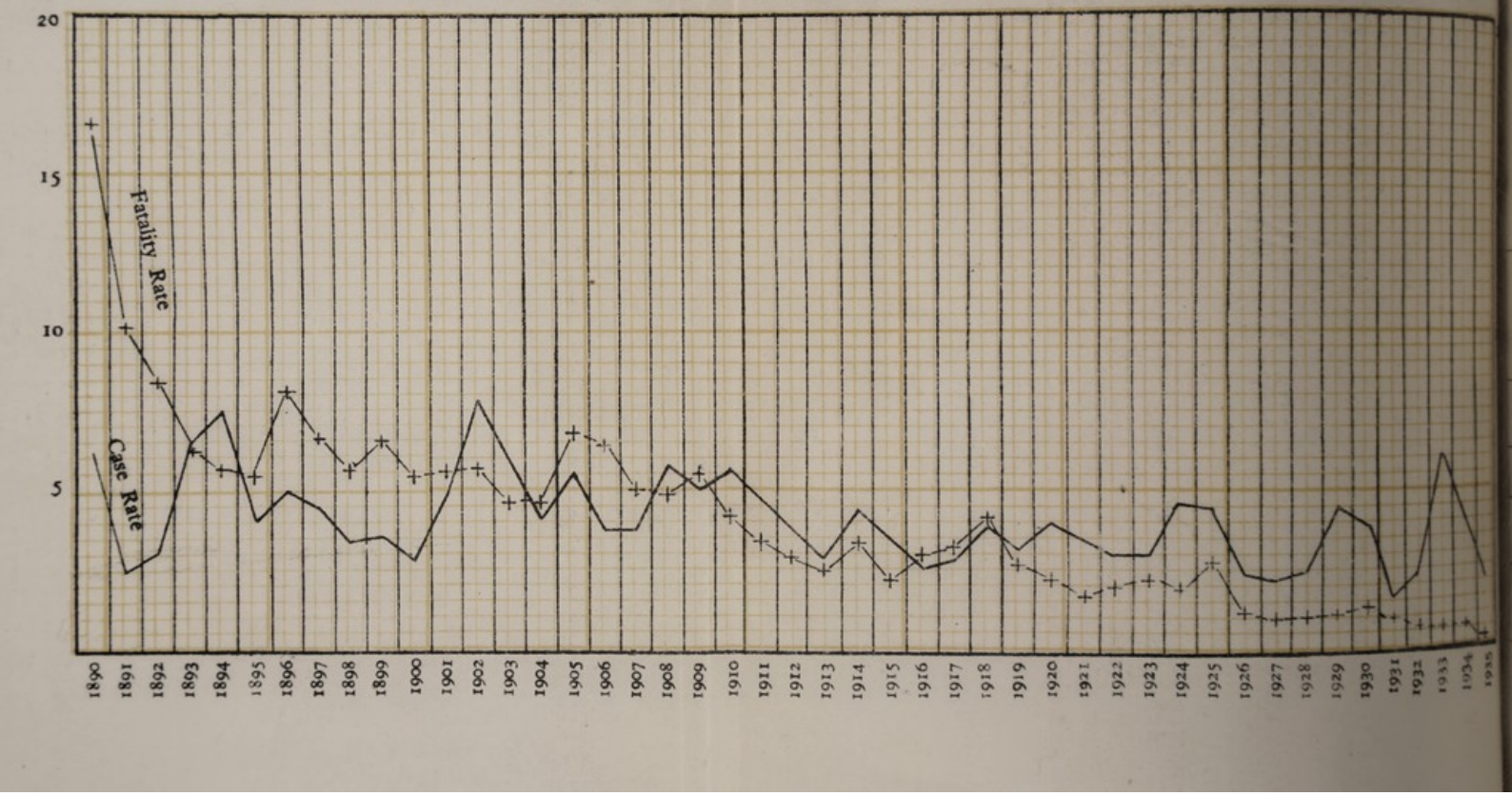
Scarlet Fever 1849-1935 Death Rates per 100,000 Population.





CITY OF LIVERPOOL.

Scarlet Fever 1890—1935 : Case Rates per 1000 Population, and Fatality Rates per 100 Cases.



In Table XV are given the numbers of cases of scarlet fever and of deaths from this disease during 1935 and also during nine previous years.

TABLE XV.

SCARLET FEVER—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
Cases	2,244	1,640	2,193	3,989	3,069	1,407	1,925	5,286	3,574	1,900
Case-rate per 1,000 inhabitants	2·6	1·9	2·5	4·6	3·5	1·6	2·2	6·1	4·1	2·2
Deaths	24	12	19	41	35	11	11	27	19	6
Death-rate per 100,000 inhabitants	2·8	1·4	2·2	4·7	4·0	1·2	1·3	3·1	2·2	0·7
Fatality rate per 100 cases	1·1	0·7	0·9	1·0	1·1	0·8	0·6	0·5	0·5	0·3

In Table XVI are given details relating to ages at death, ages of notified cases and percentage fatality at various ages, etc. :—

TABLE XVI.

DEATHS FROM SCARLET FEVER.

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.		1935.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Exchange	...	...	...	...	...	...	...	...	...	...	...
Abercromby	...	...	...	...	...	...	...	...	...	...	...
St. Peter's	...	...	...	...	...	...	...	...	...	...	...
Toxteth Park	...	...	...	...	..	...	...	...	...	...	...
Edge Hill & Sefton Park	...	...	...	...	...	...	...	...	...	...	...
Wavertree	1	...	...	...	...	...	...	...	1	...	1
Fazakerley	...	...	...	...	...	1	...	1	...	2	2
Walton & Walton Park	...	...	...	...	...	...	...	...	...	...	...
Kirkdale	...	...	...	...	...	...	...	...	...	...	...
Netherfield	2	...	...	...	...	...	...	...	2	...	2
Everton	...	...	...	...	...	...	...	...	...	...	...
West Derby	...	...	...	1	...	...	...	...	...	1	1
City	3	...	...	1	...	1	...	1	3	3	6

Ages at Death.

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

Ages of Notified Cases.

18	99	129	180	181	858	274	63	64	24	6	3	1	1,900
31·9%					45·2%	14·4%	8.5%						

Percentage Fatality at each age.

...	...	0·8	...	0·5	0·1	0·4	1·6	1·6	...	...	...	...	0·3

N.B.—Deaths in institutions are transferred to the districts from which the patients came.

The number of cases notified during the year, namely, 1,900, was considerably less than that of the previous year, when 3,574 cases were notified. The number admitted to hospital for treatment was 1,536, a figure which is 81% of the total number notified.

Immunization against Diphtheria and Scarlet Fever.

The development of the scheme for inoculation against diphtheria and scarlet fever during the years 1925 to 1932 was described in the annual report for 1932. During 1933 to 1935 the work has been continued on similar lines, with the results for 1935 described in the tables which follow. It will facilitate description if inoculation against diphtheria and inoculation against scarlet fever are dealt with separately.

Inoculation against Diphtheria.

In Table XVII is given a numerical summary of the number of completed inoculations against diphtheria since 1925.

TABLE XVII.

NUMBER OF COMPLETED DIPHTHERIA INOCULATIONS.

Where or by whom inoculated.	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
ULATION CLINICS :											
rnegie	...	...	...	...	...	68	366	572	333	422	405
wnsend Avenue ..	...	...	...	...	...	...	...	381	340	354	368
ild Welfare Centres ...	...	...	...	...	...	...	...	...	...	...	198
OLS :											
blic Elementary	...	...	...	...	...	...	153	3904	3895	4917	4001
sidential	...	231	49	22	59	76	123	264	681	433	323
CIPAL HOSPITALS :											
takerley	...	...	...	...	31	116	493	635	1264	434	239
ver Hospitals—North, outh and East	...	...	...	...	...	...	57	151	141	205	258
ler Hey	...	...	...	...	...	...	62	121	132	122	98
ve Mount	...	...	...	...	...	38	...	174	277	92	49
ier Municipal Hospitals	...	...	...	...	...	...	...	...	...	81	34
llaneous	16	98	55	90	93	171	190	272	173	38	15
al Practitioners ...	...	...	...	...	...	15	99	173	135	123	128
TOTALS	16	329	104	112	183	484	1543	6647	7371	7221	6116

GRAND TOTAL ... 30,126

In addition to the 6,116 persons, each of whom during 1935 received three injections of diphtheria prophylactic, there were 776 persons each of whom received two injections only and who failed to attend for the third dose. In all probability these persons received from this incomplete treatment some degree of protection.

On two occasions the medical practitioners of Liverpool have been asked to avail themselves of the offer of diphtheria prophylactic provided free of charge by the Health Department, but the response has been very disappointing. During the year the work of private practitioners accounted for 2·1 per cent. only of the total work accomplished, 128 persons treated out of a total of 6,116.

An analysis according to age of the persons who had completed a full immunization course is given in Table XVIII.

TABLE XVIII.

Age at date of inoculation.	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	
Under 1 year...	2	0	0	0	0	16	53	27	19	2	1	
1 year ...	3	0	1	0	0	35	150	183	187	213	211	
2 years ...	4	0	0	2	0	51	89	189	219	157	232	Total under 5 years of age at the end of 1935 : 2,379
3 years ...	2	0	1	8	1	60	82	189	246	164	222	
4 years ...	1	3	10	14	7	39	103	253	466	301	489	
5 years ...	0	16	12	20	13	26	112	1,224	1,375	1,637	1,541	
6 years ...	0	15	9	22	44	13	94	1,405	1,583	1,999	1,563	
7 years ...	0	7	6	11	44	15	99	1,048	1,357	1,222	872	Total 5-9 years of age at the end of 1935 : 18,968
8 years ...	1	23	9	11	14	18	81	585	519	489	216	
9 years ...	0	24	5	9	9	21	86	351	266	157	100	
10 years and over. ...	3	241	51	15	51	190	594	1,193	1,134	880	669	Total 10 years of age and over at the end of 1935: 8,779

It is the children under 10 years of age who are the more important, and the greater the number of persons of this age who are immunized the better. One of the practical difficulties in this work is that of securing the immunization of a high proportion of infants under 5 years of age. Clearly, it is more valuable to the community to protect very young children than it is to protect older ones, having regard to the fact that children, as they grow older, tend to become immune as the result of repeated sub-infections.

THE OCCURRENCE OF DIPHTHERIA IN INOCULATED PERSONS.

In Table XIX are given the comparative case-rates during the three years ending 1935 among inoculated and non-inoculated persons.

TABLE XIX.

Age in 1933, 1934 or 1935.	Not Inoculated.			Inoculated.								
				T.A.F.			M.T. Toxoid.			F.T.		
	Non-inoculated population at risk during 3 years.†	Cases of diphtheria during 1933/5.	Case-rate per 1,000.	Inoculated population at risk during 3 years.†	Cases of diphtheria during 1933/5.	Case-rate per 1,000.	Inoculated population at risk during 3 years.†	Cases of diphtheria during 1933/5.	Case-rate per 1,000.	Inoculated population at risk during 2 years.†	Cases of diphtheria during 1934/5.	Case-rate per 1,000
Under 1	51,676	79	1·5	10	0	Nil	—	—	—	2	0	Nil
1 +	49,767	267	5·4	307	0	Nil	3	0	Nil	210	0	Nil
2 +	48,185	507	10·5	686	0	Nil	106	0	Nil	272	0	Nil
3 +	47,351	657	13·9	985	1	1·0	305	2	6·6	278	0	Nil
4 +	46,223	754	16·3	1,426	1	0·7	434	2	4·6	451	0	Nil
5 +	42,941	957	22·3	4,166	1	0·2	473	3	6·5	999	0	Nil
6 +	39,410	847	21·5	8,523	9	1·0	513	1	1·9	167	1	6·0
7 +	39,110	602	15·3	9,570	28	2·9	610	2	3·3	0	0	—
8 +	43,072	461	10·7	6,889	19	2·9	690	2	2·9	0	0	—
9 +	48,839	439	9·0	3,521	11	3·1	695	1	1·4	0	0	—
Total under 10	456,574	5,570	12·2	36,083	70	1·9	3·829	13	3·4	2,379	1	0·4
10 +	2,067,861	2,876	1·4	10,352	14	1·3	5,534	8	1·5	0	—	—

* In compiling this table, children who were 1 year old in 1933 and 2 years old in 1934 are added to those who were 3 years old in 1935, and similarly for other age groups. A corresponding summation is made of cases of diphtheria occurring during those years, and case-rates per 1,000 are calculated accordingly.

† Calculated at May 31st in each year. It may be pointed out that the *average* annual population was one-third of the figures given in these columns except in the column headed F.T. where it was one-half.

It is noteworthy that—

(1) Of children not inoculated, 1 child in 8 under 10 years of age contracted diphtheria.

(2) Of children inoculated with M.T. Toxoid, 1 child in 29 under 10 years of age contracted diphtheria.

(3) Of children inoculated with T.A.F., 1 child in 55 under 10 years of age contracted diphtheria.

(4) Of children inoculated with F.T., 1 child in 250 under 10 years of age contracted diphtheria. The F.T. figures are too small for this ratio to be significant.

(5) There is no significant difference in the case-rates among inoculated and non-inoculated persons over 10 years of age. In view of the exceptional prevalence of diphtheria in Liverpool since 1928, this is considered to be due to the widespread immunisation of the population by subinfecting doses of diphtheria bacilli.

Schick tests performed during the year numbered 352, of which 87 were positive.

Inoculation against Scarlet Fever.

A numerical description of the number of persons inoculated against scarlet fever since 1927, the year in which this work commenced, is given in Table XX. below.

TABLE XX.

NUMBER OF COMPLETED SCARLET FEVER INOCULATIONS.

Where or by whom inoculated.	1927	1928	1929	1930	1931	1932	1933	1934	1935
INOCULATION CLINICS :									
Carnegie	—	—	—	60	352	508	303	366	332
Townsend Avenue	—	—	—	—	—	395	323	313	315
MUNICIPAL HOSPITALS :									
Fazakerley	—	—	—	—	165	197	121	120	99
Fever Hospitals—North, South and East	—	—	—	—	15	57	7	10	16
Alder Hey	—	—	—	—	36	111	132	143	98
Olive Mount	—	—	—	—	—	11	34	61	33
Other Hospitals	—	—	—	—	—	—	—	—	29
RESIDENTIAL SCHOOLS... ...	61	18	28	31	26	218	465	478	202
MISCELLANEOUS	—	65	195	9	178	191	74	45	—
MEDICAL PRACTITIONERS ...	—	—	—	15	75	129	105	94	93
TOTALS ...	61	83	223	115	847	1,817	1,564	1,630	1,217

GRAND TOTAL ... 7,557

The present scale of doses is 500, 2,000, 10,000 and 40,000 skin test doses at weekly or fortnightly intervals, usually combined with simultaneous inoculations against diphtheria.

During the year 31 Dick tests were carried out, of which 11 were positive.

Measles.

In Liverpool, measles is a disease notified on a voluntary basis. During 1935, 8,907 cases were reported, 7,860 by notification from medical practitioners and 1,047 from schools, etc. The total number represents a case rate of 10·27 per 1,000 of the population. The number of deaths was 154, making a fatality rate of 1·7 per 100 cases and a mortality-rate of 17·8 per 100,000 of the population.

In Table XXI are given the numbers of cases of measles and of deaths from this disease during 1935 and also during nine previous years.

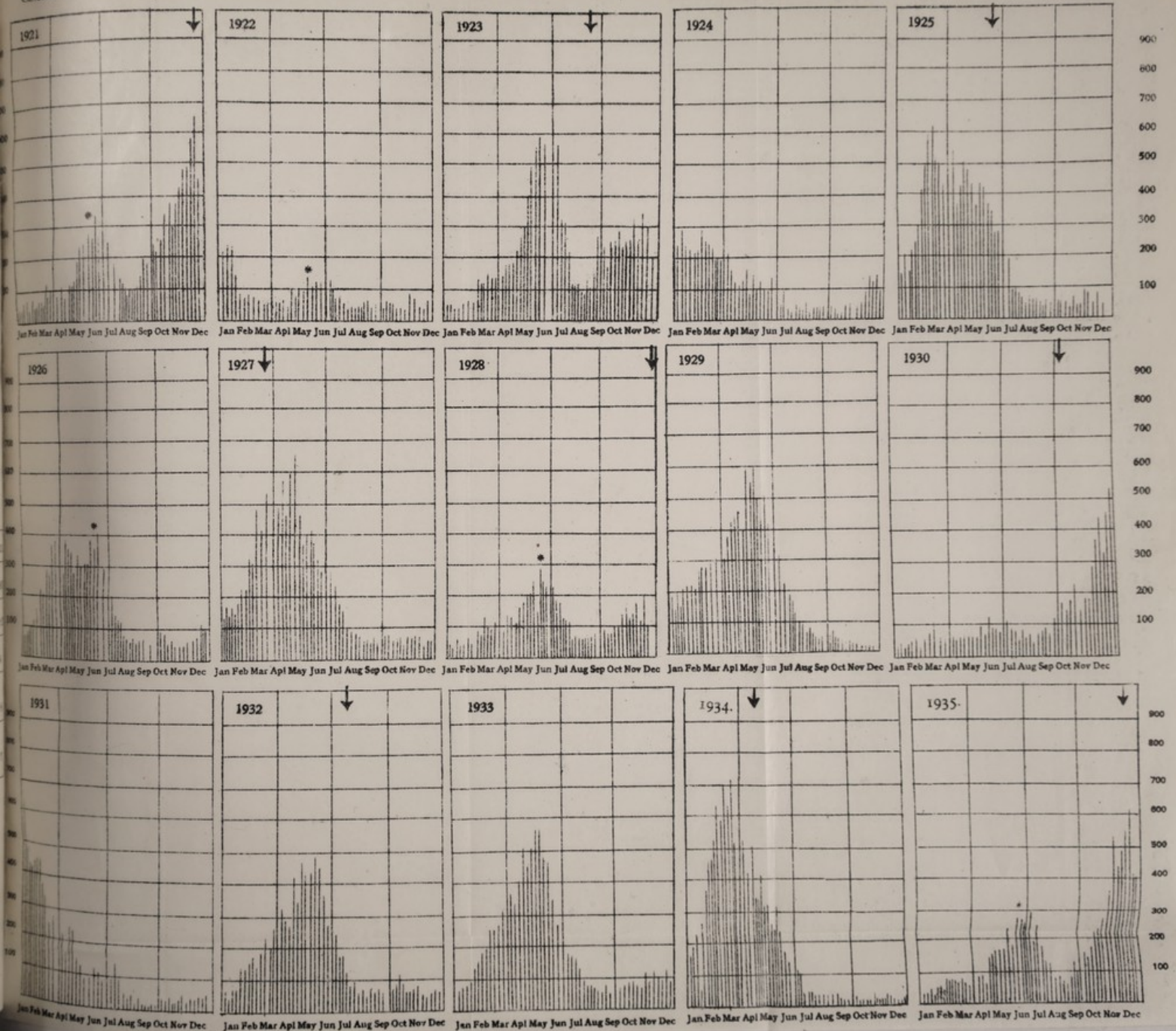
TABLE XXI.

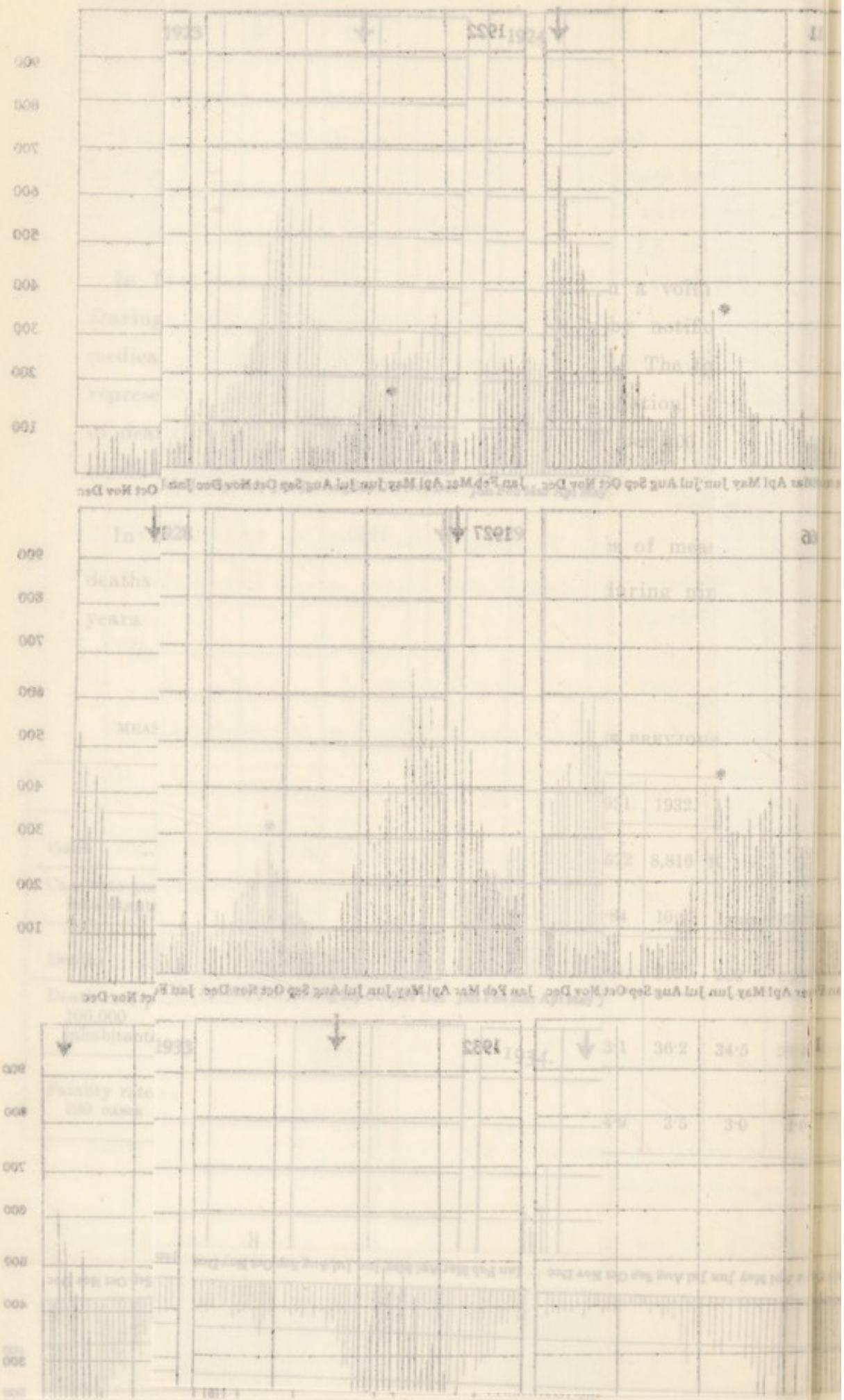
MEASLES—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1
Cases	8,694	10,606	6,025	10,546	5,966	7,572	8,816	10,004	11,055	
Case rate per 1,000 inhabitants	10·3	12·4	6·96	13·19	6·78	8·84	10·23	11·55	12·76	
Deaths	221	345	177	427	170	369	312	299	229	
Death rate per 100,000 inhabitants	26·0	40·3	20·4	50·1	19·3	43·1	36·2	34·5	26·4	
Fatality rate per 100 cases	2·5	3·2	2·9	4·0	2·8	4·9	3·5	3·0	2·0	

CITY OF LIVERPOOL.

Cases of Measles during the years 1921 to 1935. The arrows show recurring intervals of 92 weeks. The asterisks indicate the normal seasonal rise in the second quarter of the year.





In Table XXII are given details relating to ages at death, ages of cases and percentage fatality at various ages, etc.

TABLE XXII.

DEATHS FROM MEASLES.

DISTRICTS.	Quarters.								Year 1935.			Death Rates per 100,000 Population.
	March		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
Exchange	...	...	...	1	1	2	8	9	9	12	21	41·7
Abercromby	...	1	...	2	1	1	...	5	1	9	10	42·9
St. Peter's	1	...	2	2	5	6	5	9	13	17	30	55·7
Toxteth Park	...	...	1	...	1	2	3	5	5	7	12	13·2
Edge Hill & Sefton Park	...	1	2	...	2	1	5	3	9	5	14	12·1
Wavertree	...	...	...	...	...	1	2	...	2	1	3	3·0
Fazakerley	...	...	...	...	1	...	4	4	5	4	9	13·1
Walton & Walton Park	...	...	...	...	2	1	2	...	4	1	5	5·5
Kirkdale	...	...	2	2	1	4	5	2	8	8	16	25·9
Netherfield	...	...	4	5	1	3	1	1	6	9	15	20·2
Everton	...	1	2	5	...	2	1	...	3	8	11	36·0
West Derby	...	...	3	1	...	1	3	...	6	2	8	7·5
City	1	3	16	18	15	24	39	38	71	83	154	17·8

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
39	74	24	10	2	5	...	...	...	...	...	...	...	154

Ages of Cases.

680	1264	1074	1058	1179	3451	123	78	8907

Percentage Fatality at Each Age.

5·7	5·8	2·2	0·9	0·2	0·1	...	...	1·7

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

The mortality in measles depends mainly upon the age at which infection occurs. As shown in Table XXII, 137 out of 154 deaths were in children under 3 years of age. The fatality rate at each age was lower than at corresponding ages in 1934, and these again were lower in 1933. The cause of these changes in fatality are not well understood.

An Order of the Ministry of Health authorises local authorities to provide medical assistance including nursing for the poorer inhabitants of their district, and two nurses of the Health Visitors' Staff are engaged on this work, assisted by other members of the staff as occasion requires. 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 1935 were as follows:—

New cases visited during the year			...	8,389
Cases nursed	,,	,,	...	454
Re-visits to cases	,,	,,	...	3,912

During 1935, 996 patients were admitted to hospital out of the 8,907 which came to the notice of the Health Department, an admission rate of 11·2%.

Whooping Cough.

As whooping cough is not compulsorily notifiable, caution is necessary in drawing conclusions from the figures relating to cases and fatality-rates. During 1935, 1,044 cases came to the notice of the Health Department, a figure representing a case-rate of 1·20 per 1,000 of the population. Of these cases 62 proved fatal, corresponding to a death-rate of 7·1 per 100,000 of the population.

In Table XXIII are given the numbers of cases of whooping cough and deaths from this disease during 1935 and also during nine previous years.

TABLE XXIII.

WHOOPING COUGH—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

Years.	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
Cases	1971	1988	2313	1876	1147	2267	1596	987	2437	1044
Deaths	188	125	269	198	75	189	148	93	172	62
Death rate per 100,000 of the population ...	21·8	14·4	31·2	22·8	8.5	22·1	17·2	10·7	19.9	7.1
Percentage of deaths to cases ...	9.5	6.3	11.6	10.5	5.5	8.3	9.3	9·4	7.0	5·9

Whooping cough is extremely fatal in the first two or three years of life and it is of the greatest importance that children of tender years be protected from possible sources of infection.

The considerable decline in the mortality from whooping cough during the last 86 years is shown in Table XXIV.

TABLE XXIV.

WHOOPING COUGH—AVERAGE DEATH-RATE PER 100,000 INHABITANTS FROM 1850 TO 1935.

Year.	Average death-rate per 100,000.
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
1920-29	23·4
1930	8·5
1931	22·1
1932	17·2
1933	10·7
1934	19·9
1935	7·1

Table XXV shows the deaths divided by ages and by the districts of residence. It will be noted that the deaths are mainly in very young children, and that high rates of mortality from whooping cough are still experienced in the central districts of the city.

TABLE XXV.

DEATHS FROM WHOOPING COUGH, 1935.

Districts.	At Ages						All ages.	Death Rates per 100,000 population.
	Under 1 yr.	1+	2+	3+	4+	5+		
1. Exchange	7	5	3	2	—	—	17	33.3
2. Abercromby	—	—	—	1	—	—	1	4·3
3. St. Peter's	—	2	—	1	1	—	4	7·4
4. Everton	1	1	—	—	—	—	2	6·5
5. Netherfield	1	4	—	1	—	—	6	8·1
6. Kirkdale	3	2	—	—	—	1	6	8·1
7. Edge Hill & Sefton Park	4	3	1	—	—	—	8	6·9
8. Toxteth Park	1	—	—	2	—	—	3	3·3
9. Walton & Walton Park	1	1	—	—	—	—	2	2·2
10. West Derby	3	1	1	—	—	—	5	4·7
11. Wavertree	3	—	—	—	1	—	4	4·0
12. Fazakerley	3	—	1	—	—	—	4	5·8
Central Districts (1 to 3)	7	7	3	4	1	—	22	17·5
Middle Districts (4 to 9)	11	11	1	3	—	1	27	5·8
Outer Districts (10 to 12)	9	1	2	—	1	—	13	4·7
Whole City	27	19	6	7	2	1	62	7·1

From Table XXVI it will be observed that there had been a considerable variation in the age distribution of the deaths in the sixty-five years under review. In 1871 there was a high proportion—45 per cent. of the total in the first year of life, but there were no deaths at ages 5 years and upwards. For the next 20 years there was a higher proportion in the third year of life, but subsequently the proportion has tended to be higher in the first two years of life; in 1932, for example, 90 per cent. of the deaths occurred in these two years.

TABLE XXVI.

DEATHS FROM WHOOPING COUGH AT THE VARIOUS AGES FOR THE YEARS 1871, 1881, 1891, 1901 and 1911, and 1921-1935.

	Number of Deaths at the various Age Periods.							Total Deaths all ages.	Deaths expressed as a Percentage of Total Deaths.						
	under 1 year.	1+	2+	3+	4+	5+	10+		under 1 year.	1+	2+	3+	4+	5+	10+
1871	234	163	110	11	1	0	0	519	45	32	21	2	0	0	0
1881	135	130	120	17	0	0	0	402	34	32	30	4	0	0	0
1891	163	123	129	23	0	0	0	438	37	28	30	5	0	0	0
1901	63	58	20	15	2	8	0	166	38	35	12	9	1	5	0
1911	88	96	28	20	9	5	0	246	36	39	11	8	4	2	0
1921	68	98	19	15	3	7	0	210	32	47	9	7	2	3	0
1922	79	65	23	8	2	5	0	182	43	36	13	4	1	3	0
1923	68	56	15	8	6	3	0	156	44	36	9	5	4	2	0
1924	69	70	16	7	5	2	0	169	41	41	10	4	3	1	0
1925	82	88	21	22	8	6	0	227	36	39	9	9	4	3	0
1926	77	68	23	9	7	4	0	188	41	36	12	5	4	2	0
1927	47	43	18	8	6	3	0	125	38	35	14	6	5	2	0
1928	108	105	37	11	8	0	0	269	40	39	14	4	3	0	0
1929	78	72	22	9	7	9	1	198	39	37	11	5	3	5	0.5
1930	36	25	11	2	0	1	0	75	48	33	15	3	0	1	0
Five years, 1926/30 ...	71	69	20	11	5	4	0	180	40	38	12	5	3	2	0
1931	92	54	22	7	4	10	0	189	49	28	12	4	2	5	0
1932	73	61	7	5	1	1	0	148	49	41	5	3	1	1	0
1933	39	37	6	7	3	1	0	93	42	40	6	8	3	1	0
1934	59	67	29	10	3	4	0	172	34	39	17	6	2	2	0
1935	27	19	6	7	2	1	0	62	43	31	10	11	3	2	0
Five years, 1931/35 ...	58	48	14	7	3	3	0	133	44	36	10	6	2	2	0

Cerebro-Spinal Fever.

Sixty-nine cases of cerebro-spinal fever occurred during 1935, of which 33 (or 48 per cent.) proved fatal, making a death-rate of 3·8 per 100,000 of the population. Sixty-one (or 88 per cent.) of the cases were confirmed bacteriologically, and, in the remainder, there was clinical or post-mortem evidence of this disease. Of the cases bacteriologically confirmed, 20 were of Type I and 13 were of Type II.

In Table XXVII are given the numbers of cases of cerebro-spinal fever and of deaths from this disease during 1935 and also during nine previous years.

TABLE XXVII.

CEREBRO-SPINAL FEVER—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
Cases	16	25	21	23	21	57	76	64	69	69
Deaths...	12	21	16	21	17	47	47	45	37	33
Fatality-rate per 100 cases	75·0	84·0	76·2	91·3	81·0	82·4	61·8	70·3	53·6	48·1

Details of the results of treatment of cases of cerebro-spinal fever are given in the sectional report on hospital administration.

Encephalitis Lethargica.

During 1935, 25 cases of encephalitis lethargica were notified to the Health Department for the first time. Of these cases 2 were suffering from the disease in an acute stage and in 23 the illness had passed the acute stage and become chronic. There were certified 22 deaths from encephalitis lethargica, all of which occurred among the chronic cases.

In Table XXVIII are given the numbers of cases of encephalitis lethargica and of deaths from this disease during 1935 and also during nine previous years.

TABLE XXVIII.

ENCEPHALITIS LETHARGICA—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
CASES:										
Acute	114	69	54	28	27	35	4	4	7	2
Chronic							17	26	23	23
DEATHS in										
Acute cases	29	25	24	26	18	26	2	1	4	0
Chronic cases ...							13	20	9	22
Fatality-rate per 100 acute cases ...	—	—	—	—	—	—	50·0	25·0	57·1	—

Acute Anterior Poliomyelitis (Infantile Paralysis.)

During 1935, 3 cases of poliomyeltis were notified, none of which proved fatal. The cases were distributed through the year as follows: July 1 case, August 2 cases. The notification of cases of poliomyelitis is undoubtedly very incomplete owing to the difficulties in diagnosis in respect of cases which do not proceed to the paralytic stage.

In Table XXIX are given the numbers of cases of poliomyelitis and of deaths from this disease during 1935 and also during nine previous years.

TABLE XXIX.

ACUTE ANTERIOR POLIOMYELITIS—CASES AND DEATHS DURING 1935 AND NINE PREVIOUS YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
Cases	19	15	6	23	14	7	25	10	9	3
Deaths	5	2	5	10	6	4	11	3	3	0
Percentage of deaths to notified cases... ...	26·3	13·3	83·3	43·5	42·8	57·1	44·0	30·0	33·3	—

Influenza and other Respiratory Diseases.

The mortality from respiratory diseases varies greatly from year to year being influenced by weather conditions and also by the prevalence of such diseases as influenza, measles and whooping cough.

In Table XXX are given the average annual number of deaths due to respiratory diseases from 1871 to 1935, the percentage proportion of respiratory deaths to all deaths, the respiratory death-rate per 1,000 of the population and, finally, a comparison of the respiratory death-rate since 1880 with the average rate experienced in 1871-80 which has been called 100.

TABLE XXX.

DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

	Yearly average number of deaths.	Percentage proportion to all deaths.	Respiratory death-rate per 1,000 population.	Death-rates compared with the 1871-80 death-rate called 100.
1871-80 ...	2,976	20·2	5·7	100
1881-90 ...	3,251	23·2	5·9	104
1891-1900 ...	3,582	24·6	5·9	104
1901-10 ...	3,299	21·8	4·5	79
1911-20 ...	3,648	27·3	4·7	83
1921-30 ...	2,904	24·7	3·5	61·4
1931... ...	2,397	19·6	2·8	49·1
1932... ...	1,905	16·7	2·2	38·6
1933... ...	2,466	19·8	2·8	49·1
1934... ...	1,792	15·8	2·1	36·8
1935... ...	1,879	16·4	2·2	38·6

There has been a striking decline of the respiratory death-rate to a figure which is only 38·6 per cent. of the rate which prevailed during the years 1871-80.

In Table XXXI are shown the number of deaths from all causes, the number of deaths from influenza, pneumonia and bronchitis, and the total number of respiratory deaths which occurred week by week during 1935. These figures do not include the deaths of Liverpool residents which occurred outside the city.

TABLE XXXI

WEEKLY DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

1935. Week ended.	Total Deaths (all causes).	Weekly Death-rate per 1,000 of Estimated Population.	Number of Deaths from				Percentage proportion of Respiratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho-pneumonia.	Bronchitis.	Total Respiratory Deaths.	
Jan. 5	140	12·7	2	19	6	28	20·0
,, 12	235	14·1	2	23	7	31	13·2
,, 19	219	13·2	—	22	9	34	15·5
,, 26	199	12·0	2	22	8	31	15·5
Feb. 2	203	12·2	2	17	11	30	14·3
,, 9	203	12·2	—	17	9	27	13·3
,, 16	241	14·5	3	25	12	39	16·2
,, 23	221	13·3	4	27	7	36	16·3
Mar. 2	271	16·4	8	37	12	51	18·8
,, 9	307	18·5	16	50	22	78	25·4
,, 16	273	16·4	15	56	12	69	25·3
,, 23	331	19·9	17	41	22	69	20·8
,, 30	261	15·7	12	34	8	45	17·2
April 6	208	12·5	4	23	3	27	13·0
,, 13	210	12·6	5	17	5	22	10·5
,, 20	218	13·1	6	18	5	25	11·5
,, 27	225	13·5	2	21	7	30	13·3
May 4	214	12·9	3	15	7	24	11·2
,, 11	176	10·6	1	15	5	22	12·5
,, 18	193	11·6	1	21	3	25	13·0
,, 25	231	13·9	2	24	5	31	13·4
June 1	215	12·9	2	19	6	30	14·0
,, 8	188	11·3	2	19	3	24	12·7
,, 15	175	10·5	2	14	2	18	10·3
,, 22	182	10·9	—	15	7	26	14·3

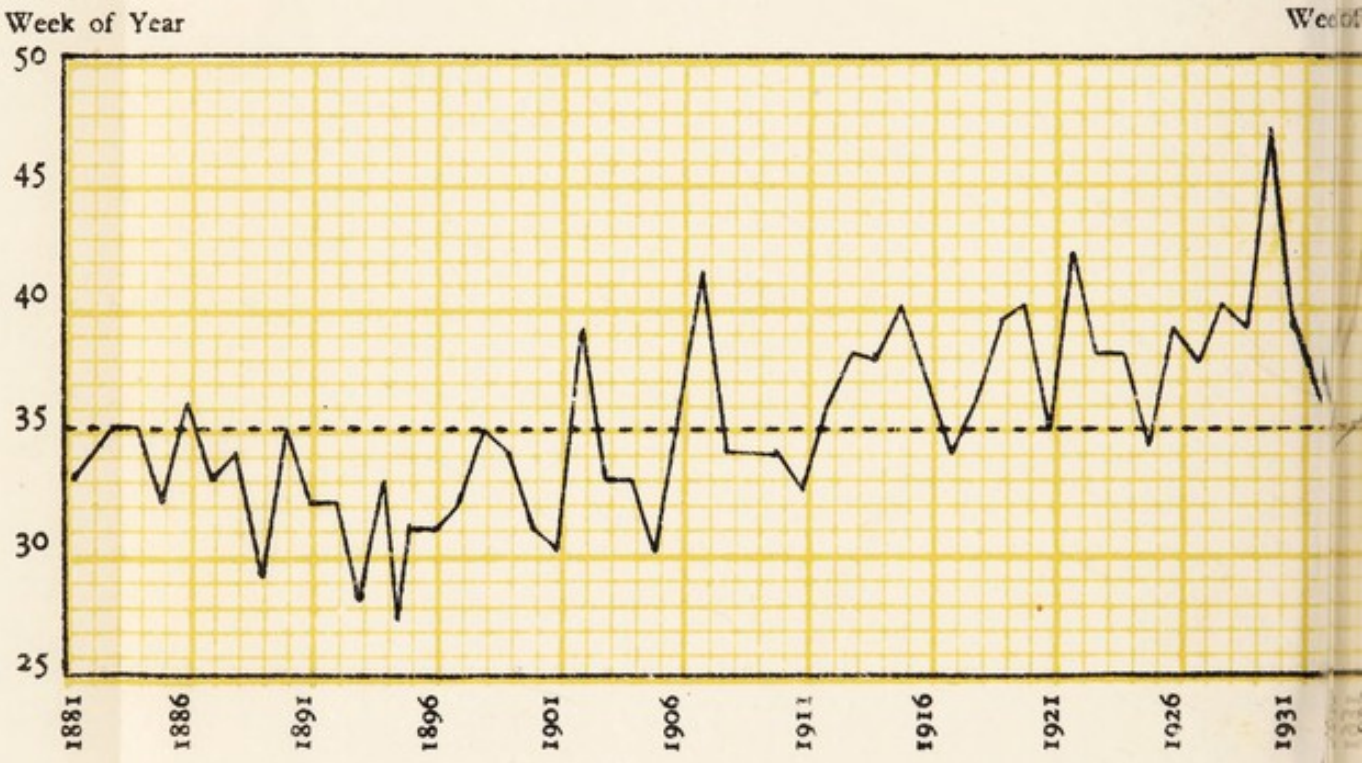
1935. Week ended.	Total Deaths (all causes).	Weekly Death-rate per 1,000 of Estimated Population.	Number of Deaths from				Percentage proportion of Respiratory Deaths to Total Deaths
			Influenza.	Pneumonia and Broncho-pneumonia.	Bronchitis.	Total Respiratory Deaths.	
June 29	177	10·6	2	15	4	21	11·8
July 6	159	9·6	—	16	2	23	14·5
,, 13	166	10·0	1	12	1	15	9·0
,, 20	165	9·9	—	11	4	16	9·7
,, 27	185	11·1	1	16	2	19	10·3
Aug. 3	173	10·4	—	16	—	17	9·8
,, 10	173	10·4	—	18	2	24	13·9
,, 17	171	10·3	—	15	5	21	12·3
,, 24	166	10·0	—	15	3	19	11·4
,, 31	180	10·8	—	11	4	17	9·4
Sept. 7	161	9·7	1	21	7	30	18·6
,, 14	179	10·8	—	10	4	15	8·4
,, 21	179	10·8	—	16	5	22	12·3
,, 28	178	10·7	1	10	3	15	8·4
Oct. 5	184	11·1	—	16	6	24	13·0
,, 12	172	10·3	—	12	9	23	13·4
,, 19	192	11·5	1	20	5	27	14·1
,, 26	190	11·4	1	30	7	39	20·5
Nov. 2	235	14·1	—	39	11	52	22·1
,, 9	217	13·1	2	29	6	37	17·0
,, 16	222	13·4	1	40	7	51	23.0
,, 23	246	14·8	—	37	8	46	18·7
,, 30	260	15·6	3	46	8	58	22·3
Dec. 7	258	15·5	3	33	9	45	17·5
,, 14	276	16·6	6	41	8	51	18·5
,, 21	277	16·7	4	33	10	50	18·0
,, 28	310	18·7	5	22	17	41	13·2

CITY OF LIVERPOOL.

Graph showing for each of the 55 years 1881-1935 the week in which the minimum number of deaths from Diarrhœal Diseases was recorded. This graph shows the progressive retardation of the height of the seasonal wave, a retardation which has occurred concurrently with the great decline and virtual extinction of Diarrhœa, as a cause of death.

CITY OF LIVERPOOL.

Graph showing for each of the 55 years 1881-1935 the week in which the maximum number of deaths from Diarrhœal Diseases was recorded. This Graph shows the progressive retardation of the height of the seasonal wave, a retardation which has occurred concurrently with the great decline and virtual extinction of Diarrhœa, as a cause of death.



Dysentery.

During 1935, three cases of dysentery were reported in the City, two were due to organisms of the Sonne type and one was not confirmed bacteriologically. In addition, one case of dysentery was brought into the Port of Liverpool from overseas. This case was not confirmed bacteriologically.

Diarrhœa and Enteritis.

During 1935, there were 238 deaths recorded from diarrhœa and enteritis at all ages, of which number 202 were in children under two years of age and 186 were in children under one year old. The deaths of 202 children under two years of age represent a mortality-rate of 5·8 per 1,000 births taking place in the city during the last two years. This figure represents an increase of 48 deaths compared with the previous year. Enquiries into these fatal cases have been carried out by the health visitors, and an account of their investigations will be found on page 113.

Formerly many deaths occurred from an acute infective disease or group of diseases of which the predominating symptoms were an acute onset with diarrhœa and vomiting, often preceded by convulsions, and terminating rapidly in children under two years of age. This disease assumed the form of an annually recurring summer epidemic, which had a well-marked maximum in August or September. This influence is still operative, though to a much lesser degree. (See chart facing this page.)

The importance of flies as carriers of this infection is referred to in a later paragraph on page 77, and a description of the steps taken to deal with the breeding places of flies occurs on page 197.

The mortality in the several districts of the city is shown in Table XXXII.

TABLE XXXII.

DIARRHOEA AND ENTERITIS.—MORTALITY-RATE IN CHILDREN UNDER 2 YEARS OF AGE.

	Registered births 1934-35.	Number of deaths in 1935.	Death-rate per 1,000 births registered during 1934 and 1935.
Exchange	3,210	37	11·5
Abercromby	768	18	23·4
St. Peter's	2,672	24	9.0
Toxteth Park	4,086	26	6·3
Edge Hill & Sefton Park ...	4,056	21	5·2
Wavertree	3,150	8	2·5
Fazakerley	2,770	8	2·9
Walton & Walton Park ...	2,664	8	3·0
Kirkdale	2,754	14	5·1
Netherfield	3,302	17	5.1
Everton	1,618	4	2·5
West Derby	3,890	17	4·4
	34,940	202	5·8

NOTE.—All deaths occurring in public institutions have been transferred to the districts from which the patients came.

A comparison of the mortality-rate during 1935 in children under 2 years of age with the mortality-rates during the previous nine years is given in Table XXXIII.

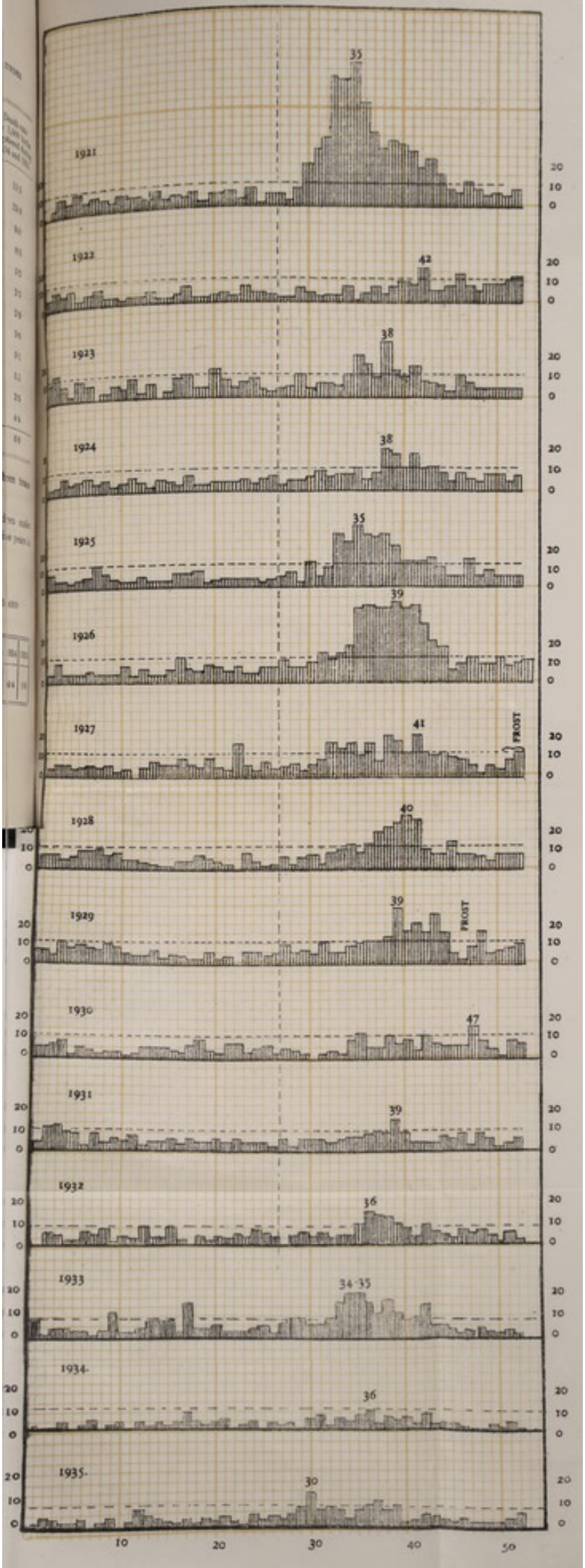
TABLE XXXIII.

DIARRHOEA AND ENTERITIS—MORTALITY RATES DURING 1935 AND NINE PREVIOUS YEARS.

Mortality-rate per 1,000 births in year of record and preceding year	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
	10·3	13·3	9·9	9·9	10·3	7·2	7·2	9·2	4·4	5·8

CITY OF LIVERPOOL.

DEATHS FROM DIARRHŒA & ENTERITIS (UNDER 2 YEARS OF AGE) DURING THE YEARS 1921— 1935.



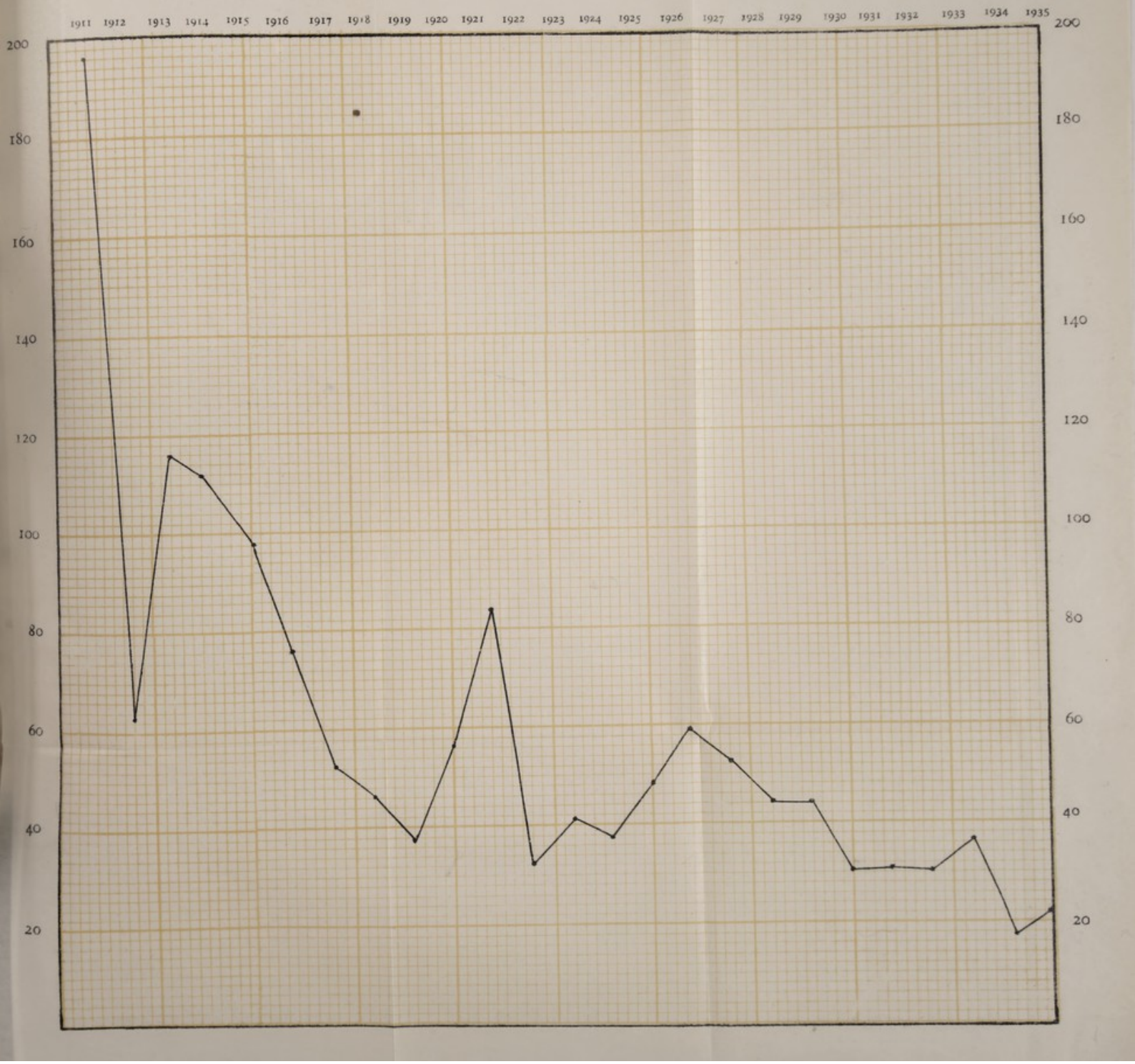
CITY OF LIVERPOOL.

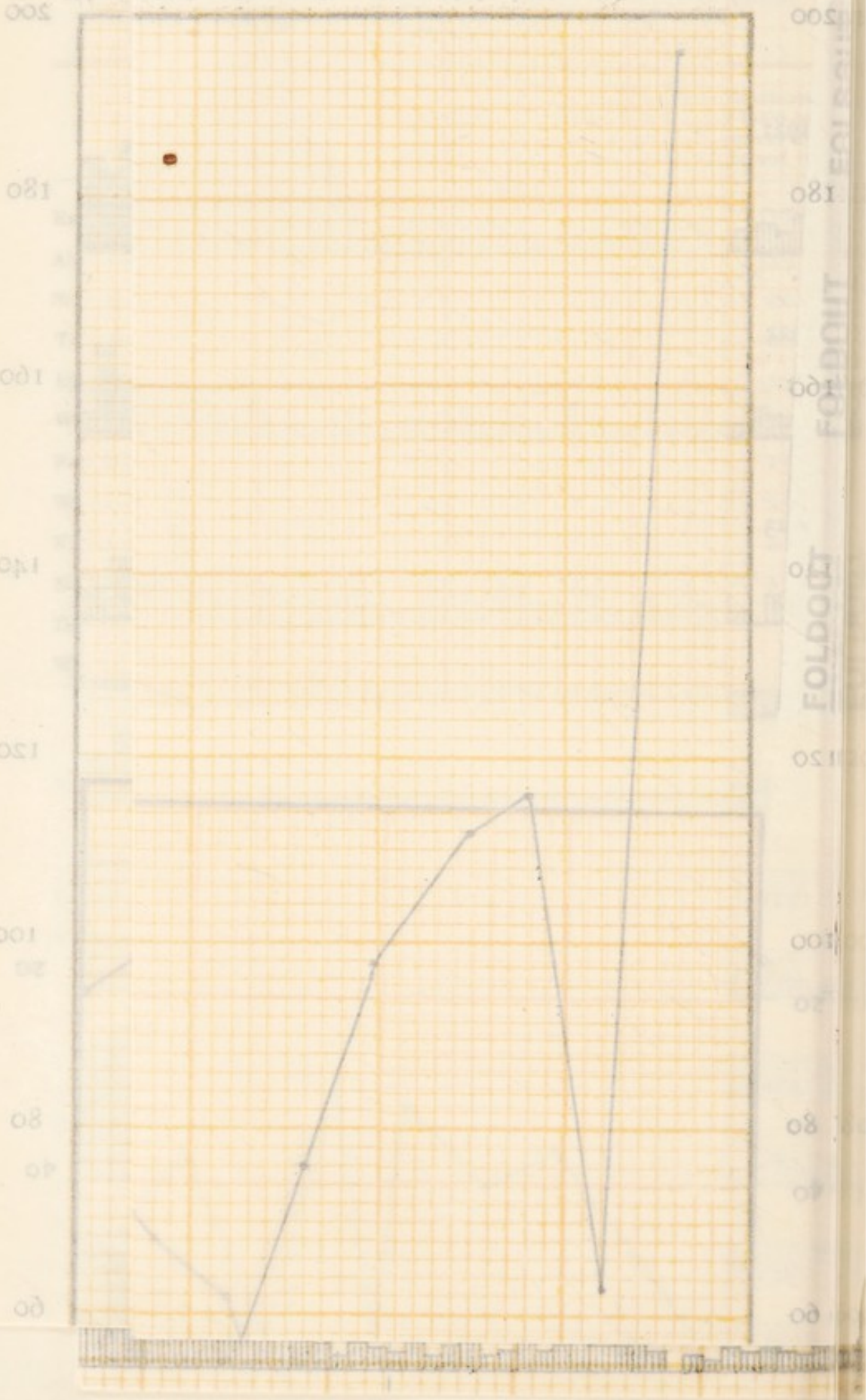
DEATHS FROM DIARRHŒA & ENTERITIS (UNDER 2 YEARS OF AGE).

YEARS 1921— 1935.

CITY OF LIVERPOOL.

DIARRHŒA AND ENTERITIS (UNDER 2 YEARS OF AGE) DEATH RATES PER 100,000 POPULATION, 1911-1935.




200
180
160
140
120
100
80
60

Of the 202 deaths under 2 years of age, 148 took place in public institutions as shown in Table XXXIV.

TABLE XXXIV.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER TWO YEARS OF AGE IN INSTITUTIONS DURING 1935.

Alder Hey Hospital	81
David Lewis Northern Hospital	11
Royal Liverpool Children's Hospital	36
Mill Road Infirmary	7
Carnegie Welfare Centre	1
Royal Southern Hospital	4
Walton Hospital	3
Royal Liverpool Babies Hospital	3
Olive Mount Children's Hospital	1
Royal Infirmary	1
	148

The reduction in the number of deaths at Alder Hey Hospital is most noticeable; in the year 1929 there were 218 deaths from diarrhœa in this hospital.

In Table XXXV are given details relating to the districts in which deaths from diarrhœa and enteritis took place, the ages at death and the distribution of the deaths over the four quarters of the year.

TABLE XXXV.

DEATHS FROM DIARRHOEA AND ENTERITIS (UNDER TWO YEARS).

DISTRICTS.	Quarters.								Year 1935.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	Total
Exchange	1	1	...	1	16	13	3	2	20	17	37
Abercromby	1	...	...	1	6	4	3	3	10	8	18
St. Peter's	2	1	4	...	7	6	2	2	15	9	24
Toxteth Park	3	...	3	1	10	5	3	1	19	7	26
Edge Hill & Sefton Park	...	2	2	1	6	7	2	1	10	11	21
Wavertree	3	1	...	...	...	2	1	1	4	4	8
Fazakerley	3	1	1	...	1	1	...	1	5	3	8
Walton & Walton Park	2	...	...	...	2	...	3	1	7	1	8
Kirkdale	1	1	1	1	2	4	3	1	7	7	14
Netherfield	...	2	1	1	3	5	2	3	6	11	17
Everton	...	...	...	...	2	1	...	1	2	2	4
West Derby	...	1	1	...	6	3	3	3	10	7	17
City	16	10	13	6	61	51	25	20	45	87	202

Ages at death.

Under 1 year	186
1 to 2 years	16
Total	202

Deaths from diarrhoea and enteritis separately.

	Quarters.				Year.
	1st.	2nd.	3rd.	4th.	
Diarrhœa	—	4	37	6	47
Enteritis	26	15	75	39	155
Total	26	19	112	45	202

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

The experience of many years points strongly to the importance of flies as carriers of infection. Collections of stable manure form the most important breeding places for these insects. Regular visits of inspection are paid to stables, and the occupiers are told of 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 frequent removal of manure :—

REMOVAL OF MANURE FROM STABLES.

The Health Committee is 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.

Public Health (Infectious Diseases) Regulations, 1927.

The following statement shows the number of notifications received under the regulations and the number of deaths during 1934 and 1935 :—

	1934.		1935.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	2,428	1,204	2,230	1,247
Malaria	18	2	15	4
Dysentery	7	2	3	4
	2,453	1,208	2,248	1,255

Enquiries were made into all these cases; 743 cases of influenzal pneumonia were visited and 12 received assistance from nurses appointed for the purposes, 9 revisits being made.

Infectious Diseases in Schools.

There was a diminution of over 3,000 in the number of cases of infectious diseases during the year, 10,485 being reported amongst children of school-age as against 9,876, 10,128, 11,800, 13,146 and 13,624 for the years 1930 to 1934 respectively.

Compared with last year, scarlet fever showed a reduction of 1,116 cases, measles a reduction of 1,715 cases and whooping cough a reduction of 789 cases, while chickenpox showed an increase of 108 cases and mumps an increase of 497 cases.

The number of cases of diphtheria occurring in school children was 1,567, being 124 less than in the previous year.

The arrangements introduced in 1932 for the inoculation of children attending the Infants' Departments of Public Elementary Schools were continued.

The following schools were visited and inoculation carried out :—

Ashfield Street Council.
Aspen Grove Council.
Beaufort Street Council.
Brae Street, Council.
Breckfield, Venice Street, Council.
Breckfield, Granton Road, Council.
Chatsworth Street Council.
Clint Road Council.
Daisy Street Council.
Earle Road Council, Bective Street.
Earle Road Council, Webster Road.
Emmanuel Council.
Fonthill Road Council.
Garston C.E.
Granby Street Council.
Gwladys Street Council.
Harrington Council.
Harrison Jones Council.
Heygreen Road Council.
Heyworth Street Council.
Holy Trinity, Anfield.
Kilrea Road Council.
Little Woolton and Childwall C.E.
Loraine Street Council.
Major Lester Council.
Morrison Council.
Much Woolton R.C.
Our Lady, Eldon Street.
Our Lady Immaculate.
Penrhyn Street Cou cil.
Pinehurst Avenue Council.
Pleasant Street Council.
Prince Edwin Street Council.
Queen's Road Council.
Rathbone Council.
Salisbury Council, Netherfield Road
Salisbury Council, William Henry Street.
Sheil Road Council.
St. Bridget's, Limekiln Lane.
St. George's Heyworth Street.
St. James' Council.
St. Margaret's, Princes Road.
St. Mary's, Lower Milk Street.
St. Mary's, Wavertree.
St. Nicholas R.C.
St. Sylvester's R.C.

St. Teresa's R.C.
Stanley Road Council.
Steers Street Council.
Tiber Street Council.
Trinity District, Wavertree.
Upper Park Street Council.
Walton Lane Council.
Walton R.C.
Wavertree R.C.
Wellington Road Council.
Westminster Road Council.
Whitefield Road Council.
Windsor Council.
Winstone Road Council.

The response varied considerably from one school to another, but taking the schools as a whole, approximately 27 per cent. of the infants attending were inoculated.

The total number of school children inoculated on school premises was 4,001. In addition, several hundred children of school age were inoculated at the two immunisation clinics held at the Carnegie Welfare Centre and the Norris Green Clinic, respectively. There were no untoward difficulties, and there was practically no interference with school attendance.

The infants' department of one elementary school was closed for ten days owing to the prevalence of measles. It was decided to take this course because, at the end of that time, the school closed for a holiday of five weeks' duration.

In Tables XXXVI and XXXVII are shewn the number of case of the common infectious diseases, with the ages of the children affected and the monthly distribution of the cases.

TABLE XXXVI.

SCHOOL CASES OF INFECTIOUS DISEASE OCCURRING DURING 1935.

AGE DISTRIBUTION.

Disease.	under 5 years	5 +	6 +	Total under 7 yrs.	7 +	8 +	9 +	10 +	11 +	12 +	13 +	14 +	Total above 7 yrs.	Grand Total.
Diphtheria	55	249	258	562	205	166	156	125	109	117	99	28	1,005	1,567
Scarlet Fever ...	37	238	177	452	132	105	97	75	49	51	39	8	556	1,008
Measles	261	1,788	1,163	3,212	302	98	62	47	31	17	13	7	577	3,789
Whooping Cough ...	32	292	164	488	52	19	9	6	2	4	5	—	97	585
Chickenpox ...	84	512	580	1,176	353	155	142	81	59	37	30	3	860	2,036
Mumps	34	371	433	838	248	116	93	71	64	34	24	12	662	1,500
Totals ...	503	3,450	2,775	6,728	1,292	659	559	405	314	260	210	58	3,757	10,485

TABLE XXXVII.

SCHOOL CASES OF INFECTIOUS DISEASE DURING 1935.

MONTHLY DISTRIBUTION.

Disease.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Diphtheria ...	203	183	131	107	108	97	87	137	129	146	136	103	1,567
Scarlet Fever ...	117	101	78	69	90	81	61	71	89	96	90	65	1,008
Measles	42	81	93	112	272	479	240	53	191	328	871	1,027	3,789
Whooping Cough	31	48	58	44	44	29	4	74	28	68	79	78	585
Chickenpox ...	214	242	247	201	234	304	109	43	64	101	143	134	2,036
Mumps	183	247	343	200	233	80	20	18	16	40	61	59	1,500
Totals ...	790	902	950	733	981	1,070	521	396	517	779	1,380	1,466	10,485

Co-operation between the Health and Education Departments.

Information is sent both to the Director of Education and also to the head teachers of the schools concerned when it is found that children from infected houses are attending school. During 1935 29,606 children who had been exposed to infection were reported in this way.

During the year, 4,287 visits to schools were paid by sanitary inspectors and 116 defects were found and subsequently remedied.

References from the Education Department to the Health Department concerning the occurrence of infectious or suspected infectious illness totalled 6,927 during the year.

MATERNITY AND CHILD WELFARE.

MATERNITY and CHILD WELFARE.

Summary of Vital Statistics for 1935 :—

Live births	...	**17,347**	**Live birth rate**	...	**20·00**
Still-births	...	**749**	**Still-birth rate**	...	**0·86**

Total births ... **18,096**

Infant Mortality rate	**83**
Neo-natal Mortality rate	**31**
Maternal Mortality rate	**3·26**

The maternity and child welfare work in this city is very comprehensive. The whole scheme is designed to reduce maternal and infantile mortality and morbidity, and entails not only the harmonious and co-ordinated action of all officially engaged in it, but also active co-operation with all voluntary agencies, medical and social, whose efforts are directed towards the improvement and maintenance of public health.

The maternity and child welfare scheme operative in this city is given in outline in the following pages.

THE MIDWIFERY DEPARTMENT.

In this are included :

i. The quarterly routine visiting of midwives in their own homes for inspection of registers, records and equipment, under the Central Midwives Board Rules.

ii. The investigation of all cases of :—

(*a*) Medical assistance sought by midwives (Central Midwives Board Rules).

(*b*) Puerperal Pyrexia and Puerperal Fever, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.

(*c*) Claims for fees in indigent cases, under Maternity and Child Welfare Act, 1918.

(*d*) Claims from midwives suspended so as to prevent the spread of infection (Midwives and Maternity Homes Act, 1926).

(*e*) Maternal deaths for the special report to the Ministry of Health.

(*f*) Ophthalmia Neonatorum, and the giving of treatment where required under Ophthalmia Neonatorum Regulations, 1926.

(*g*) Pemphigus.

iii. The visiting of Lying-in Homes registered under the Liverpool Corporation Act, 1921, and Midwives and Maternity Homes Act, 1926, also visiting of Nursing Homes under Nursing Homes Registration Act, 1927.

iv. Any other enquiries, investigations or advice relating to the practice of midwives in the city.

During the year, 295 midwives gave the required notice under section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city.

Notification of Live and Still-Births.

A total of 9,092 births (8,832 live births and 260 still-births) were attended by midwives during the year, which represented 49·07 per cent. of the total (live and still) births notified in the city. The total number of births which took place in institutions during the year was 8,139 (7,683 live births, 456 still-births).

Statement of Notifications of Live and Still Births received during the Years 1934 and 1935.

Notifications Received from	1934.				1935.			
	Live Births.	Still Births.	Total.	Percentage of births notified.	Live Births.	Still Births.	Total.	Percentage of births notified.
Certified Midwives	7,722	235	7,957	42·8	7,210	217	7,427	40·1
Medical Attendants	1,259	61	1,320	7·1	1,233	64	1,297	7·0
Transferred Institutions	4,717	242	4,959	26·7	5,194	297	5,491	29·6
Liverpool Maternity Hospital	1,783	109	1,892	10·2	1,696	129	1,825	9·8
"Rest Home," Chatham Street	266	7	273	1·5	262	7	269	1·5
District Homes	1,642	34	1,676	9·0	1,622	43	1,665	9·0
Royal Infirmary	451	18	469	2·5	503	22	525	2·8
Other Institutions	31	1	32	0·2	28	1	29	0·2
Parents	1	—	1	0·005	—	—	—	—
	17,872	707	18,579	100·0	17,748	780	18,528	100·0

The number of still-births notified during the year was 780*, of which number 260 were notified by midwives, being at the rate of 2·9 per cent. of the births attended by them. Enquiries were made into the circumstances of all still-births, and the number of visits paid was 734.

Routine Visits to Midwives.

Rule 25 laid down by the Central Midwives Board states :—

> "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."

During the year, 1,353 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

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 aid was advised by midwives, the total number of medical records being 2,738.

Mother—

Obstructed labour, uterine inertia or requiring instrumental assistance	504
Ruptured perinæum	492
Ante-partum hæmorrhage	215
Pyrexia	116
Ante-natal treatment	123
Abortion or miscarriage	123
Post-partum hæmorrhage	79
Carried forward ...	1,652

* The total number of still-births registered under the Births and Deaths Registration Act, 1926, during the year 1935 was 749 (see p. 5).

	Brought forward ...	1,652
Retained placenta or membranes		70
Varicose veins—inflamed legs, etc. (not A.N.)		37
Premature birth		4
Multiple births		4
Eclampsia		5
Deformed pelvis		1
Influenza		4
Abnormal presentation :		
Breech presentation		33
Occipito-posterior position		33
Cord presentation		5
Foot presentation		7
Brow or face presentation		11
Transverse presentation		8
Placenta prævia		9
Various		171
		2,054
Child—		
Feebleness and prematurity		196
Ophthalmia		257
Skin eruption		34
Malformations		46
Convulsions		14
Injury at birth		2
Other conditions in child		135
		684
	Total	2,738

Claims for Fees in Emergency Cases.

Payment may be made by Local Supervising Authorities to medical practitioners called in by midwives under section 14 of the Midwives Act, 1918. During the year, 2,915 visits and re-visits were paid in regard to these accounts. Applicants are assessed on a scale of income, due

consideration being given to cases where any special expenditure has been incurred in the interests of the mother or child. The whole or part of the doctor's fee is paid in almost all cases by the Maternity and Child Welfare Sub-Committee.

During the year the total number of occasions on which the services of a consultant obstetrician in connection with cases of puerperal fever, puerperal pyrexia or complications during pregnancy were requisitioned, was 15. The ability of the patient to pay was investigated, and in 14 of these cases, the whole fee was defrayed by the Maternity and Child Welfare Sub-Committee.

During the year, 977 claims from midwives for necessitous midwifery were investigated, 961 of which were paid.

Claims from Midwives who were suspended from Practice.

Section 2 (1) Midwives and Maternity Homes Act, 1926, gives a midwife who is suspended from practice (not herself being in default) in order to prevent the spread of infection, the right to recover reasonable compensation from the Local Authority. Four claims under this section were paid as follows during 1935:—

Contact with case of scarlet fever	1
Contact with case of pyrexia	1
Contact with cases of pemphigus	2

Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.

These regulations require the notification to the Medical Officer of Health of any febrile condition occurring in a woman within 21 days of childbirth or miscarriage, in which a temperature of 100·4° Fahrenheit or more has been sustained during a period of 24 hours or has recurred during that period. Puerperal fever was, and still continues to be, notifiable under the Infectious Disease (Notification) Act, 1889, to which the above regulations are supplementary.

With the object of securing adequate treatment in the early stages of this somewhat ill-defined condition, the prescribed notification form provides that the medical attendant can ask for (1) a second opinion on the case, (2) certain bacteriological examinations, (3) admission of

the patient to hospital or (4) the provision of trained nurses; or, alternatively, state that facilities for all necessary treatment exist.

The services of consultant obstetricians have been provided by the Maternity and Child Welfare Sub-Committee, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928, and Memo. 156/M.C.W. Hospital accommodation has for some years been provided, in Walton and Smithdown Road Hospitals, and Mill Road Infirmary. Arrangements have also been made by which the services of the nurses of the Queen Victoria District Nursing Association are available.

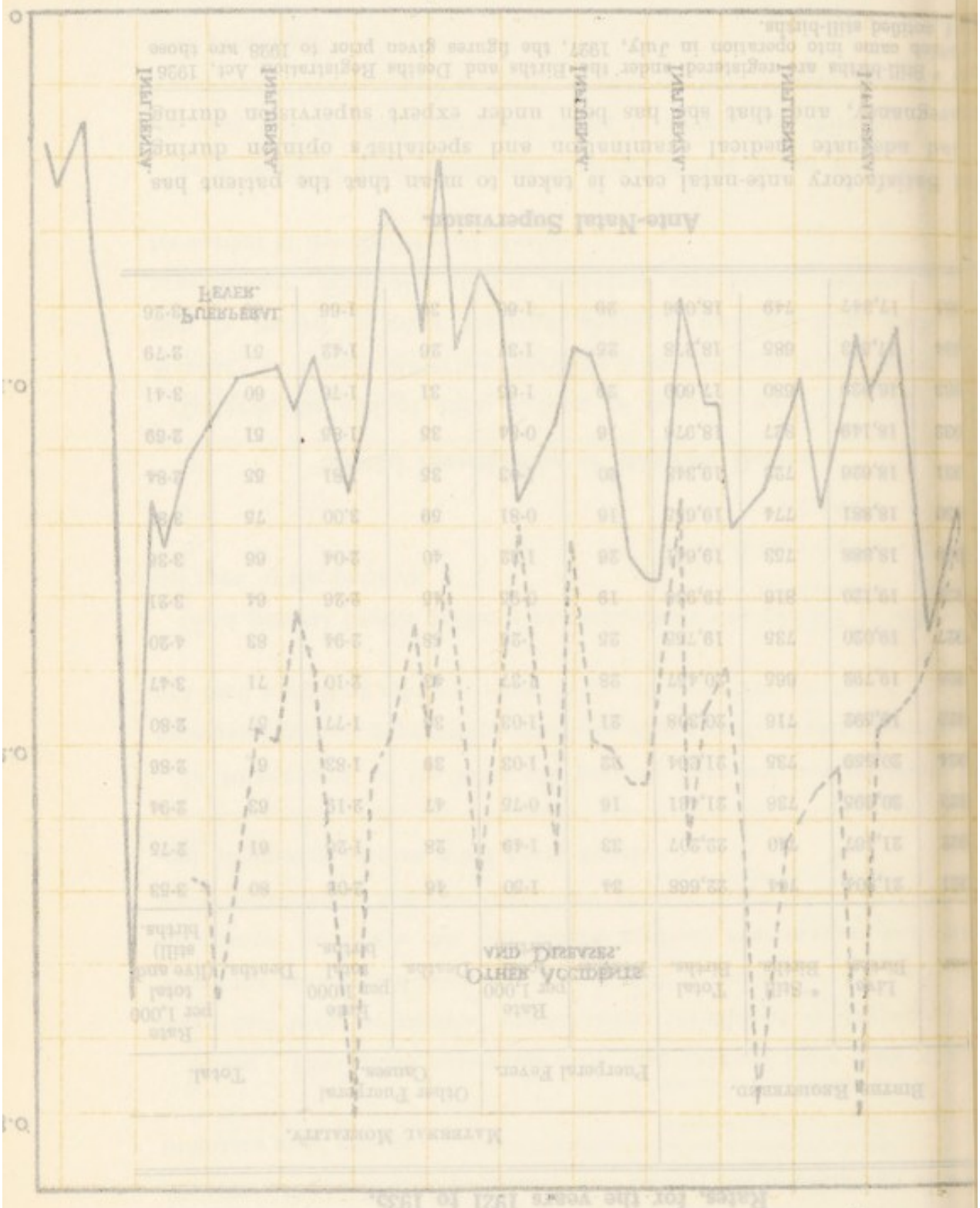
Puerperal Pyrexia.

The number of cases of puerperal pyrexia notified during the year was 383. Of these 13 were found to be puerperal septicæmia, and, therefore, fall within the definition of puerperal fever, 4 were cases of influenza, 4 were cases of pneumonia, 1 of pelvic cellulitis, 4 of bronchitis, 1 of diphtheria, and 3 of pyelitis. The remaining 353 were cases of pyrexia of puerperal origin of a lesser degree than is legally termed puerperal fever. Of these cases 331 were admitted to or occurred in hospitals, and 37 occurred in the practice of midwives. In four cases a consultant obstetrician was called in, and in 13 cases nurses were provided. The number of puerperal pyrexia cases notified from institutions where the patient resided outside the city was 23.

Puerperal Fever.

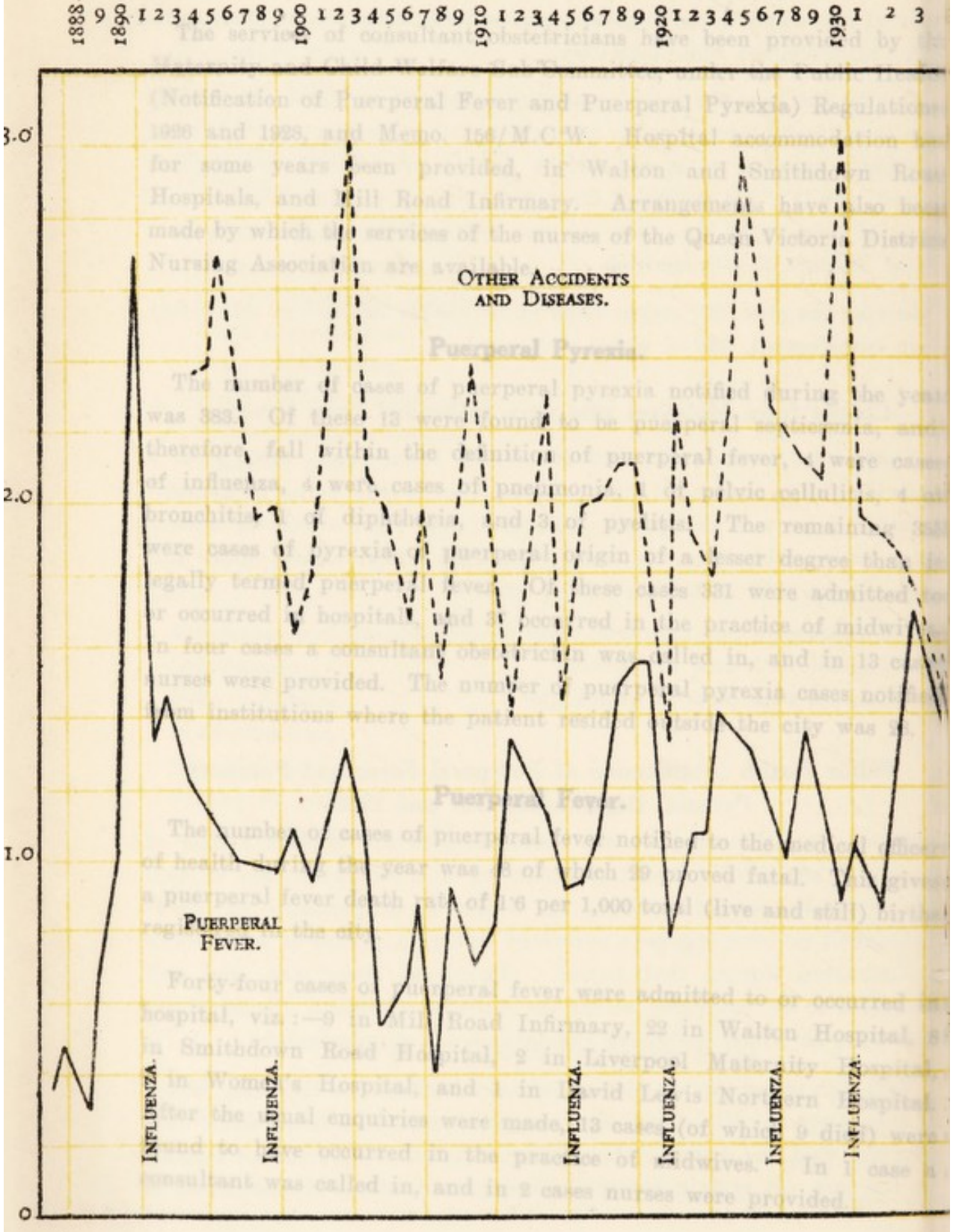
The number of cases of puerperal fever notified to the medical officer of health during the year was 48 of which 29 proved fatal. This gives a puerperal fever death rate of 1·6 per 1,000 total (live and still) births registered in the city.

Forty-four cases of puerperal fever were admitted to or occurred in hospital, viz.:—9 in Mill Road Infirmary, 22 in Walton Hospital, 8 in Smithdown Road Hospital, 2 in Liverpool Maternity Hospital, 2 in Women's Hospital, and 1 in David Lewis Northern Hospital. After the usual enquiries were made, 13 cases (of which 9 died) were found to have occurred in the practice of midwives. In 1 case a consultant was called in, and in 2 cases nurses were provided.


PUERPERAL FEVER.
OTHER ACCIDENTS AND DISEASES.

CITY OF LIVERPOOL.

MORTALITY PER 1000 BIRTHS FROM PUERPERAL FEVER AND OTHER ACCIDENTS AND DISEASES OF PREGNANCY, 1888-1935.



Maternal Mortality.

Table showing the number of Live and Still Births registered in the City, together with Maternal Deaths and Maternal Death Rates, for the years 1921 to 1935.

Births Registered.				Maternal Mortality.					
				Puerperal Fever.		Other Puerperal Causes.		Total.	
Year.	Live Births.	* Still Births.	Total Births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total (live and still) births.
1921	21,904	764	22,668	34	1·50	46	2·03	80	3·53
1922	21,467	740	22,207	33	1·49	28	1·26	61	2·75
1923	20,695	736	21,431	16	0·75	47	2·19	63	2·94
1924	20,559	735	21,294	22	1·03	39	1·83	61	2·86
1925	19,592	716	20,308	21	1·03	36	1·77	57	2·80
1926	19,792	665	20,457	28	1·37	43	2·10	71	3·47
1927	19,020	735	19,755	25	1·26	58	2·94	83	4·20
1928	19,120	816	19,936	19	0·95	45	2·26	64	3·21
1929	18,888	753	19,641	26	1·32	40	2·04	66	3·36
1930	18,881	774	19,655	16	0·81	59	3.00	75	3·81
1931	18,626	722	19,348	20	1·03	35	1·81	55	2·84
1932	18,149	827	18,976	16	0·84	35	1·85	51	2·69
1933	16,929	680	17,609	29	1·65	31	1·76	60	3·41
1934	17,593	685	18,278	25	1·37	26	1·42	51	2·79
1935	17,347	749	18,096	29	1·60	30	1·66	59	3·26

Ante-Natal Supervision.

Satisfactory ante-natal care is taken to mean that the patient has had adequate medical examination and specialist's opinion during pregnancy, and that she has been under expert supervision during

* Still-births are registered under the Births and Deaths Registration Act, 1926 which came into operation in July, 1927, the figures given prior to 1928 are those of notified still-births.

periods when abnormalities would be expected to develop. It will be noticed that in certain cases of death, when ante-natal care has left nothing to be desired, there has been existing disease, which, coupled with the added strain of pregnancy and labour, has combated all efforts to ensure good results.

Under "Inadequate ante-natal care" are grouped those cases where there had been no medical examination, insufficient supervision, or where the patient had attended a clinic once, or perhaps twice, early in pregnancy, or where she had sought medical examination and aid when preventable abnormalities were already irrevocably established and no amount of care could avert disaster.

In 60 per cent. of the cases, the patients have not had satisfactory ante-natal care or supervision, which in 40 per cent. of this group had not been sought at all.

Good general health previous to confinement was present in only 16 per cent. of the patients.

Special Investigation of Maternal Deaths.

Towards the end of 1928, a form of enquiry was issued by the Ministry of Health Maternal Mortality Committee, in which information in regard to every maternal death is collected from medical practitioners, hospitals, clinics, midwives and health visitors, and forwarded to the Ministry of Health.

As a result of these continued inquiries it was found that during the year 1935 87 deaths occurred owing to pregnancy, child birth or concurrent diseases, such as heart disease or lung disease associated with pregnancy.

CLASS I:—DEATHS DIRECTLY DUE TO CHILDBEARING.

1.	Puerperal Sepsis.		
	Sepsis following normal labour	13	
	Sepsis following forceps delivery	1	
	Sepsis following other abnormalities of labour	7	26
	Sepsis following abortion	5	
2.	Toxaemia (not eclampsia)		8
3.	Eclampsia		6
4.	Haemorrhage.		11
5.	Shock		1
6.	Embolism		4
7.	Ectopic gestation		3
			59

CLASS II:—DEATHS NOT PRIMARILY DUE TO PREGNANCY.

1.	Pneumonia	10
2.	Heart disease	6
3.	Chronic renal disease	6
4.	Unclassified	6
		28

Of the 87 mothers who died, 75 were treated or delivered in hospital, of whom 48 were admitted to hospital as emergency cases. Ante-natal care and supervision was satisfactory in only 35 cases, i.e., in 40 per cent. of the total number. It was inadequate in 24 cases and entirely absent in 28 cases.

Sepsis following Normal Labour.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
7	27	Married ...	2nd	Poor	Poor	Satisfactory	Emergency	Strep.	Oral sepsis, pyelitis, malnutrition, onset of pyrexia 3rd day, removed to hospital 4th day.
14	40	Married ...	6th	Poor	Fair	Satisfactory	Emergency	H. Strep.	Bronchitis, severe varicose veins, adequate nourishment, onset 9th day, removed to hospital 10th day.
16	38	Married ...	2nd	Fairly Comfortable	Good	Satisfactory	Booked		Albuminuria, normal labour, paralytic ileus, death 3 days after delivery.
21	34	Married ...	6th	Poor	Poor	Nil	Emergency	H. Strep.	Pyelitis 12th day after confinement at home, terminal broncho-pneumonia and endocarditis.
36	23	Married ...	2nd	Poor	Good	Satisfactory	Booked	H. Strep.	Confinement in hospital, well except for sore throat during pregnancy, onset of pyrexia 3rd day.
38	43	Married ...	11th	Poor	Fair	Inadequate	Emergency	H. Strep.	Malnourished, bronchitis, pyrexia before delivery, patient did not take the medical advice given.
39	43	Married ...	14th	Poor	Poor	Nil	Emergency	H. Strep.	Chronic bronchitis, severe umbilical hernia, onset of pyrexia 2nd day, patient obstructive to treatment, removed to hospital 4th day.
41	23	Married ...	1st	Poor	Fair	Satisfactory	Emergency	H. Strep.	Patient never robust, onset of pyrexia 3rd day, no response to treatment on removal to hospital 4th day.
57	29	Married ...	3rd	Poor	Fair	Satisfactory	Booked	H. Strep.	Patient confined at home, precipitate labour, onset of pyrexia day of delivery, found on admission to hospital.

59	23	Married ...	1st	Poor	Poor	Satisfactory	Booked	H. Strep.	Chronic endocarditis, previous nephrectomy, patient subject to fits, slight lacerations, delivery in hospital, onset of pyrexia 3rd day.
63	38	Married ...	9th	Poor	Poor	Nil	Emergency	H. Strep.	Fibrinous pleurisy, normal confinement at home, onset of pyrexia 4th day, removal to hospital 6th day.
68	21	Married ...	1st	Poor	Poor	Satisfactory	Emergency	Not examined	Patient had had two abdominal operations previously and scarlet fever in 1934, pyelitis, premature labour, hospital refused till too late.
82	24	Married ...	3rd	Poor	Poor	Satisfactory	Booked	H. Strep.	Anaemia and albuminuria during pregnancy, improvement after treatment in hospital, recurrence of illness 30 hours after normal labour in hospital, no response to treatment.

Sepsis following Forceps Delivery.

45	33	Single ...	1st	Poor	Fair	Satisfactory	Booked	Not examined	Onset of pyrexia on admission to hospital, patient in poor health owing to severe mental strain.

Sepsis following other Abnormalities of Labour.

Reg. No.	Age.		Number of Pregnancy	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
3	28	Married ...	3rd	Poor	Poor	Inadequate	Booked	Strep.	Patient admitted to hospital on account of haemorrhage, left against advice, returned later for treatment and induction, onset of pyrexia before delivery, general peritonitis.
5	24	Married ...	1st	Poor	Good	Satisfactory	Booked	H. Strep.	Protracted labour, onset of pyrexia 2nd day.
9	39	Married ...	11th	Poor	Poor	Inadequate	Emergency	Not examined	Patient had been ailing for years, refused medical supervision ante-natally, twin pregnancy, shock after delivery, onset of pyrexia 2nd day.
18	40	Married ...	3rd	Poor	Poor	Inadequate	Emergency	H. Strep.	Induction on account of albuminuria, broncho pneumonia and anaemia.
46	23	Married ...	2nd	Poor	Fair	Satisfactory	Booked	Strep.	Placenta praevia, ante-partum haemorrhage, caesarean section at 33rd week pyaemic abscesses, lungs and kidneys
47	21	Single ...	1st	Poor	Poor	Satisfactory	Booked	—	Chronic bronchitis, syphilis, albuminuria, prolonged labour.
62	19	Single ...	1st	Poor	Poor	Satisfactory	Booked	Diplococcal infection	Caesarean section, onset of pneumonia, and sepsis on following day, bacilluria.

Sepsis following Abortion.

4	24	Married ...	1st	Fairly Comfortable	Good	Nil	Emergency	—	Haemorrhage, 26 weeks abortion, Sepsis, paralytic ileus
19	37	Married ...	5th	Poor	Fairly Good	Nil	Emergency	Strep.	Broncho pneumonia, 8 weeks abortion, general pelvic peritonitis.
23	26	Married ...	2nd	Poor	Poor	Satisfactory	Emergency	—	Venereal disease, general peritonitis, 12 weeks abortion.
65	33	Married ...	3rd	Fairly	Fairly	Nil	Emergency	—	Chronic bronchitis, 8 weeks abortion.

Reg. No.	Age.		Number of Pregnancy	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
29	33	Married ...	2nd	Fairly Comfortable	Poor	Inadequate	Booked	Cortical necrosis of kidneys, accidental haemorrhage, premature labour, stillbirth.
31	36	Married ...	5th	Poor	Poor	Satisfactory	Emergency	Toxaemic vomiting, hysterotomy at 22 weeks.
42	29	Married ...	3rd	Poor	Poor	Satisfactory	Booked	Concealed accidental haemorrhage due to toxaemia, patient undelivered.
67	37	Married ...	1st	Fairly Comfortable	Fair	Satisfactory	Emergency	Necrosis of liver, post operative pulmonary oedema.
73	32	Married ...	2nd	Fairly Comfortable	Good	Satisfactory	Booked	Acute liver atrophy.
76	35	Married ...	9th	Poor	Poor	Nil	Emergency	Pontine haemorrhage.
81	25	Married ...	1st	Poor	Poor	Inadequate	Emergency	Acute liver atrophy, infant stillborn.
85	35	Married ...	5th	Poor	Poor	Nil	Emergency	Secondary anaemia.

Eclampsia.

2	30	Married ...	2nd	Poor	Poor	Nil	Emergency	Albuminuria, fits, undelivered.
13	37	Married ...	2nd	Comfortable	Good	Inadequate	Emergency	Sudden onset of symptoms, temporary improvement followed by fits, undelivered.
17	32	Married ...	9th	Poor	Poor	Satisfactory	Emergency	Adherent placenta, haemorrhage, fits, no response to treatment.
20	39	Married ...	11th	Poor	Poor	Inadequate	At Home	Influenza prior to confinement, premature labour, hospital treatment refused, fits.
34	26	Married ...	2nd	Poor	Poor	Satisfactory	Booked	History of kidney trouble, cerebral haemorrhage, post partum eclampsia.
64	32	Married ...	2nd	Fairly Comfortable	Good	Satisfactory	At home	Sudden onset, premature labour, no response to treatment.

Hæmorrhage,

Reg. No.	Age.		Number of Pregnancy	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
27	31	Married ...	4th	Poor	Poor	Inadequate	Emergency	Concealed accidental haemorrhage at 36 weeks, infant stillborn.
40	38	Married ...	5th	Poor	Good	Inadequate	Emergency	Uterine inertia, blood transfusion given.
48	36	Married ...	2nd	Poor	Fair	Satisfactory	Booked	Adherent placenta, blood transfusion, death before transfusion completed.
53	40	Married ...	9th	Poor	Poor	Satisfactory	Booked	Accidental concealed haemorrhage, shocked on admission to hospital, blood transfusion.
56	35	Married ...	4th	Poor	Poor	Nil	Emergency	Concealed and revealed accidental haemorrhage at 37 weeks, infant stillborn.
58	42	Married ...	1st	Fairly Comfortable	Good	Satisfactory	Booked	Uterine inertia after difficult labour, death before arrival of blood donor.
60	31	Married ...	1st	Poor	Fair	Satisfactory	Emergency	Adherent placenta, blood transfusion.
61	24	Married ...	1st	Fairly Comfortable	Good	Satisfactory	At home	Obstetric shock, retained membranes, blood transfusion, too collapsed for removal to hospital.
69	28	Married ...	5th	Poor	Fair	Satisfactory	Emergency	Accidental concealed haemorrhage, patient died undelivered.
77	39	Married ...	3rd	Comfortable	Fair	Satisfactory	Booked	Shock, repeat caesarean section, blood transfusion.
80	24	Married ...	2nd	Poor	Poor	Inadequate	Emergency	Shock, adherent placenta, blood transfusion.

Shock,

79	29	Married ...	5th	Poor	Good	Satisfactory	Booked	5th caesarean section.

Embolism.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
1	39	Married ...	3rd	Fairly Comfortable	Fair	Nil	Booked	Patient had been ailing for years, premature infant, thrombo-phlebitis.
11	33	Married ...	5th	Poor	Poor	Nil	Emergency	Pneumonia, pleurisy, infective endocarditis, marked anaemia.
54	36	Married ...	7th	Poor	Poor	Satisfactory	At home	Patient ailing at onset of labour, normal confinement, sudden death 3 days later.
70	27	Married ...	3rd	Fairly Comfortable	Poor	Nil	At home	Phlebitis, undelivered.

Ectopic.

30	42	Married ...	2nd	Poor	Poor	Nil	Emergency	Uterine haemorrhage due to ruptured tube at 12 weeks.
50	35	Married ...	1st	Poor	Good	Nil	Emergency	Uterine haemorrhage due to ruptured tube at 7 weeks.
66	40	Married ...	6th	Poor	Good	Nil	—	Uterine haemorrhage due to ruptured tube found at post-mortem examination.

Pneumonia.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances	General Health	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
17	39	Married ...	8th	Poor	Fair	Nil	Emergency	Pneumonia at 34 weeks, died undelivered.
22	37	Married ...	3rd	Poor	Fairly Good	Nil	Emergency	Pneumonia at 28 weeks, died undelivered.
28	25	Married ...	2nd	Poor	Fairly Good	Nil	Emergency	Normal delivery, onset of pneumonia on following day, gravely ill on admission to hospital.
33	38	Married ...	3rd	Poor	Poor	Inadequate	Emergency	Normal delivery, onset of pnemuonia on following day, no response to treatment.
43	26	Married ...	4th	Poor	Poor	Inadequate	Booked	Toxaemic symptoms early in pregnancy, patient obstructive to treatment, premature labour, onset of pneumonia 2 days later.
52	34	Married ...	6th	Poor	Poor	Inadequate	Emergency	Pneumonia at 28 weeks, died undelivered.
55	28	Single ...	4th	Poor	Poor	Inadequate	Emergency	Pneumonia at 20 weeks, miscarriage, pneumococcal peritonitis.
71	30	Married ...	3rd	Poor	Poor	Inadequate	Emergency	Pneumonia at 32 weeks, death day after premature delivery of twins.
84	32	Married ...	6th	Poor	Fairly Good	Nil	Emergency	Pneumonia at 28 weeks, premature confinement, death 3 days later.
87	27	Married ...	5th	Poor	Poor	Nil	Emergency	Pneumonia at 29 weeks, premature confinement, death 5 days later.

Cardiac Disease.

6	38	Married ...	5th	Poor	Good	Inadequate	Emergency	Chronic mitral and aortic valvular disease, premature labour, twins.
8	27	Married ...	4th	Poor	Poor	Inadequate	Emergency	Mitral stenosis, premature labour.
12	37	Married ...	1st	Poor	Very Poor	Nil	Booked	Induction, forceps delivery, mitral stenosis.
32	36	Single ...	8th	Poor	Poor	Inadequate	At home	Mitral stenosis, cerebral haemorrhage 9 days after delivery.
35	36	Married ...	9th	Poor	Poor	Satisfactory	Emergency	Ulcerative endocarditis.

Nephritis.

Reg. No.	Age.		Number of Pregnancy	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
25	33	Married ...	1st	Poor	Poor	Satisfactory	Booked	Chronic nephritis, old standing mitral stenosis, uraemia.
26	37	Married ...	8th	Poor	Poor	Nil	Emergency	Premature labour, purulent bronchitis, chronic nephritis, uraemia.
37	42	Married ...	1st	Poor	Poor	Satisfactory	Booked	Premature labour, chronic nephritis, acute myocardial failure.
44	29	Married ...	5th	Poor	Fairly Good	Nil	Emergency	Undelivered, chronic nephritis, uraemia.
49	37	Married ...	4th	Fairly Good	Poor	Inadequate	At home	Patient obstructive to treatment, uraemia.
51	25	Single ...	2nd	Poor	Poor	Nil	Emergency	Miscarriage at 20 weeks, uraemia.

Unclassified.

13	35	Married ...	2nd	Fairly Comfortable	Poor	Good	At home	Premature labour, chronic bronchitis, asthma and myocarditis.
24	32	Married ...	4th	Poor	Poor	Nil	At home	Miscarriage, bronchial asthma, myocarditis.
72	24	Married ...	1st	Poor	Fair	Inadequate	Nursing Home.	Cardiac failure associated with hyperthyroidism.
74	28	Married ...	2nd	Fairly Comfortable	Poor	Nil	At home	Miscarriage at 24 weeks, acute pyelitis.
78	22	Married ...	2nd	Poor	Poor	Inadequate	Booked	Miscarriage at 24 weeks, acute pyelonephritis, uraemia.
86	34	Married ...	1st	Poor	Poor	Satisfactory	Booked	Premature labour, chronic bronchitis, acute pyelitis and cystitis.

Ophthalmia Neonatorum

Inflammation in the eyes of the newly-born.—The definition adopted for the purpose 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." It is considered advisable, therefore, 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 number of cases brought to the notice of the department during the year was 670, which consisted of :—

Mild cases	540
Severe cases	130
Total ...	670

These cases were dealt with as follows :—

Number treated in their homes by special nurse ...	257
,, attended at hospital as out-patients and treated by special nurse	97
,, admitted to hospital	27
,, treated by medical attendants and special nurse	114
,, treated by medical attendants alone	133
,, treated and cured in hospital	42
	670
,, of cases brought forward from previous year..	24
Total ...	694

Number of cases cured	653
,, died under treatment	12
,, under treatment 31/12/35	29
Total ...	694

In addition to the above, 17 cases notified were not cases of ophthalmia neonatorum.

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 the City Bacteriologist and at St. Paul's Hospital.	No. of cases of positive Gonorrhoea.	Percentage to total cases examined.	Percentage to total notifications.
670	98	20	20·4	3·0

The total number of visits and re-visits paid in respect of the above cases was 4,994.

During the year there was one case of congenital blindness and one case in which the loss of sight occurred in both eyes.

A very important part of the scheme for dealing with this disease is the provision at St. Paul's Eye Hospital of five 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. During the year 23 babies were admitted with their mothers.

Nursing Homes.

Midwives and Maternity Homes Act, 1926. *Nursing Homes Registration Act*, 1927.—During the year four applications for registration were received by the Town Clerk. After careful investigation of the premises and practice of the applicants, these were approved by the Maternity and Child Welfare Sub-Committee and registered. Eight registrations were cancelled, in four cases owing to removal, and in four cases because the keeper of the nursing home desired to give up practice. Three were cancelled and re-registered—one at a new address and two because of a re-arrangement of the home. No further exemptions other than those already granted were applied for.

The Nursing Homes on the register at the end of the year numbered 52, the approximate number of beds being 271.

Babies born in Nursing Homes during the year numbered 559 (including 5 twin births).

Visits of the Staff of the Midwifery Department to Special Cases.

These cases are not classifiable in any of the sections so far considered and include visits to women suffering from venereal disease, visits paid to cases of puerperal pyrexia and puerperal sepsis, visits relating to deaths of infants under 11 days old, cases of weaning, maternal mortality, etc. Such visits during 1935 numbered 1,584.

THE HEALTH VISITORS' DEPARTMENT.

The work is carried out by a staff of trained health visitors.

The work of the health visitors comprises the following:—

(1) Ante-natal or pre-maternity clinics for expectant mothers.

(2) Clinics for children up to five years of age.

(3) Instruction classes at the above clinics in cutting out, sewing, knitting, etc.

(4) Visiting in the homes under the Notification of Births Acts, 1907 and 1915.

(5) Home-visiting in connection with the ante-natal and post-natal clinics.

(6) Home-visiting of children up to five years of age to advise generally on their care and feeding.

(7) Home-visiting of pre-school children in relation to defects, e.g., to arrange, in conjunction with the School Medical Department, for treatment of squint, otorrhœa, orthopædic defects, etc.

(8) Visiting under Children Act, 1908, and Children and Young Persons Act, 1932.

(9) School medical inspection (see page 109).

(10) School Clinics—minor ailments and special ailments.

(11) Home-visiting in connection with school medical work.

(12) Cleansing of school children.

(13) Special visits:—

(*a*) Phthisis in women and children.

(*b*) Measles, whooping cough and pneumonia.

(*c*) Infantile diarrhœa.

(*d*) "House to house" inspection.

(14) Other special visits in connection with:—

(*a*) Aged and infirm people.

(*b*) Prevention of cruelty to children.

(*c*) Provision of fireguards.

(*d*) Relieving officers.

(*e*) Admission to Day Nurseries.

(*f*) Certain areas in which infantile diarrhœa is likely to occur.

(*g*) After care of children under 1 year of age discharged from Alder Hey Hospital and Olive Mount Hospital.

(*h*) Supply of milk to expectant and nursing mothers and children.

(i) Voluntary agencies.

(*j*) Other special enquiries.

Ante-Natal Clinics.

Experience has shown that conditions productive of a high rate of mortality among mothers point also to a high rate of morbidity, which is, unfortunately, not calculable by available statistics. Among the arrangements for the care and supervision of expectant motherhood ante-natal clinics have a large place.

In Liverpool there are 24 centres at which 48 ante-natal clinics are held weekly. Of these clinics, 15 are under the auspices of the Liverpool Maternity Hospital, two are held at the Royal Infirmary, two at Walton Hospital, five at Mill Road Infirmary, three at Smithdown Road Hospital, three are administered by the Child

Welfare Association, and the remaining 18 by the Maternity and Child Welfare Sub-Committee. At the ante-natal clinics, specialised examination is provided, for the most part, by consultant obstetricians.

Classes for mothers are held at the ante-natal clinics in rotation. At these classes the mothers are advised on the preparation for their confinements, hygienic maternity clothes for themselves, and suitable cot, bedding and clothing for the coming infant.

The attendances at classes held by the health visitors at Corporation ante-natal clinics amounted to 5,635.

Treatment, except of a minor or preventive character, is not given. Patients in need of treatment are referred to private medical practitioners or, if necessary, to a suitable hospital. Milk is provided for expectant mothers on a doctor's order.

Expectant mothers come to the clinics from many sources, as will be seen by the following table which refers to the Municipal Clinics, Liverpool Transferred Hospital Clinics, Royal Infirmary Clinic, the Liverpool Maternity Hospital Clinics, Child Welfare Association and the Royal Liverpool Babies' Hospital, Woolton.

Voluntary attendances	5,313
Sent by midwives	3,525
Recommended by friends	1,239
Return cases	4,628
Sent by medical practitioners	1,041
,, health visitors	159
,, hospitals	118
,, relieving officers	22

All ante-natal clinics (including municipal and voluntary clinics).

Total new cases	16,045
Total attendances	84,321
Cases referred to all hospital clinics from the various ante-natal clinics, not included in the total new cases	1,284

It is interesting to note that approximately 80 per cent. of the mothers visited by the health visitors, under the Notification of Births Acts, attend the ante-natal clinics.

Mothers who stay at home for their confinements and have no women relations or friends to assist them in their housekeeping are very grateful for the provision of a home help. Home helps are women who can take the place of the housewife in the home, and cook, clean and attend to the children. They are provided by the Women's Service Bureau, Gambier Terrace. This organisation also provides maternity bags and sterilised accouchement sets, which are a great boon to very poor mothers and to those who unexpectedly bear twins. Midwives are encouraged to visit the homes of their patients and to investigate carefully the arrangements for confinement. Where these conditions are unsatisfactory, every effort is made to rectify them at once.

Post-natal examination of recently confined mothers.—Mothers are encouraged to attend the ante-natal clinics after the birth of the infant has taken place. This is for the purpose of examination to ascertain the existence of any morbid condition which might have occurred owing to the confinement. Such lesions, if left untreated, may give rise to much disability and suffering later.

Child Welfare Clinics (for Children up to five years of Age).

Child welfare clinics have a three-fold aim. First, to instruct mothers in the care and feeding of infants and young children; second, to supervise the progress of the young child and to prevent, as far as possible, unnecessary illness due to ignorance of mothers; and third, to assist in restoring the mother to health and in establishing natural feeding. Talks are given to mothers on hygiene, and classes are held at which instruction in knitting, cutting out and making children's clothes is given.

Attendances at Municipal Maternity and Child Welfare Clinic classes numbered 12,981 during the year.

It will be noted that these clinics do not in any sense take the place of a hospital, dispensary or private doctor's consultation. Accessory foods, such as cod liver oil, emulsion, and so forth, are given on a

doctor's order at cost price. In the case of infants whose mothers are unable to breast-feed them, Grade A (T.T.) milk or dried milk may be ordered by the clinic doctors. (A fuller account of this subject comes under the section dealing with milk depots.)

The sources of admission to the child welfare clinics are similar to those of the ante-natal clinics, but mothers having once attended an infant clinic frequently attend as a matter of course with each succeeding child.

The value of the mother's attendance at a clinic is increased by visits to her home which are paid by the health visitor, who has either registered or weighed her baby or taken notes of the doctor's advice at the clinic.

Children who have been seen by the doctor at a clinic are visited in order to ascertain if the doctor's instructions are understood and are being properly carried out.

The following figures give the numbers of children admitted to the various child welfare clinics in the city :—

Admissions during the year	11,476
Total attendances	183,390

There are 19 centres at which 46 sessions are held per week.

The percentage of attendances amount to 57·6 of the births.

The Health Visitors' Work carried out in the Homes.

Visiting in the homes under the Notification of Births Acts has been carried out since 1907 in Liverpool. This establishes contact with the mother and child as soon as the puerperium is over and follows on the attendance of the doctor or midwife or on the patient's discharge from hospital. At this time, advice is given and the mother (or child) referred to her own doctor or to an infant clinic.

Visits in this connection are continued periodically, whether the child attends a clinic or not. Notes are made on the general progress and children are referred for appropriate treatment for defects, when required.

Home visiting is a necessary adjunct to the ante-natal, post-natal and child welfare clinics. Frequently the directions and advice given in the clinic are not clearly understood by the mother and require further explanation. This is best given informally in the home. The home conditions are sometimes found to be inimical to the welfare of the child or even of the whole family, and it is only by a careful investigation of the circumstances that suitable corrections can be made.

It is noted elsewhere in this report that infantile diarrhœa is much less prevalent now than in former years. To a large extent this is due to the careful visiting in the early part of the year of homes and areas likely to be affected, so that householders may be warned of the danger of flies and advised as to methods adopted for their destruction.

All notified cases of measles, whooping cough and pneumonia nursed at home are also visited by members of the health visiting staff. Appropriate assistance is given, either in the actual nursing of the child or in arranging for its efficient isolation from other members of the family.

The health visitors' duties in connection with the School Medical Department are very extensive and include attendances at the schools during the routine school medical examinations, concentration visits to schools, attendance at all school clinics and clinics for the treatment of special defects, e.g., defective vision, aural troubles, enlarged tonsils and adenoids, and ringworm.

By arrangement with the School Medical Department, pre-school children—that is those under the age of school attendance—suffering from defects of eyes or ears or from orthopædic defects may receive treatment and advice at the School Medical Department's special clinics. During 1935, 419 children under five years of age were referred for special treatment to this department summarised as follows:—

Defective vision	227
Otorrhœa	94
Orthopædic defects	98

Home visits were paid in each case, and all the children were found to be unable to obtain the necessary treatment from private practitioners on account of poverty, or from hospital out-patient departments

on account of the already long waiting lists, necessitating loss of time and consequent risk of irremediable defects. (Further details of the work of the health visitors are given in the report of the School Medical Officer, which is separately printed.)

Statistics Relating to Home Visits.

Visits to expectant mothers by health visitors	4,082
Visits under the Notification of Births Acts, 1907-1915.	
Number of births visited during the year	17,053
Re-visits to births during the year	75,770
Re-visits to infants of 1 year to 5 years of age	81,772
Visits paid to homes of nurse children under Part I of the Children Act, 1908, *and Children and Young Persons Act*, 1932	934
After care visits to children under one year of age discharged from Municipal Hospitals :—	
Visits to 297 cases from Alder Hey Hospital	806
,, ,, 350 cases from Olive Mount Hospital	843
Visits to cases of infectious disease, etc.	
Visits to cases of measles (first visits, 8,773)	12,670
,, ,, whooping cough (first visits, 474) ...	494
,, ,, pneumonia	992
,, ,, infantile diarrhœa	834
Re-visits to phthisis cases amongst women and children...	2,665
Number of visits paid to schools	9,828
,, ,, hours spent in schools	17,806
,, ,, children inspected in schools	44,187
,, ,, re-inspections in schools	192,776
,, ,, dental inspections in schools	63,580
,, ,, home visits to cases of physical defects ...	8,177
,, ,, home visits to neglected and verminous school children	17,429
,, ,, home visits to school children suffering from infectious skin diseases, etc.	292

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

Number of visits to school clinics	10,010
,, ,, hours spent at school clinics	35,694
,, ,, attendances at school clinics	382,826

Rickets Enquiry.

So many cases of rickets coming to the notice of the Public Health Department suggested that a special enquiry might, with advantage, be made into the mode of living of the children affected. Consequently, all rachitic children who were sent to the Carnegie Welfare Centre for artificial sunlight or for admission to the wards, were the subject of careful enquiry. The total number of cases was 202.

This report deals with only a limited number of existing cases, but it serves to throw into prominence not only the established tenets as to the cause and prevention of rickets, but the fact that much closer supervision of early infancy is necessary and that much more attention should be paid to the education of mothers in matters concerned with the evil consequences of rickets and its prevention and cure.

In the severe type, regular attendance at the clinics is shown in only two cases. The tendency of severe cases of rickets to respiratory and infectious illness would account for a good deal of non-attendance, but it was also noted that very few of these children attended the clinic sufficiently early to allow of measures being taken to ensure a healthy infancy and childhood under conditions of home life which would tend to act adversely on the child's well being.

The lack of regular provision, from early infancy, of cod liver oil, which is one of the most convenient and successful methods of administering the anti-rachitic vitamin, is clearly shown to be a factor influencing the incidence of rickets.

Investigation has also brought to light the important point that, in the large majority of breast-fed infants, the mother's diet and health have been poor, facts which tend to react adversely on the nutrition of the child.

The following table illustrates these points:—

	Severe Type.	Moderate Type.	Early Type.
No. of Cases	11	54	137
Breast Feeding:—			
Nil or under three months...	36·3%	37·0%	37·2%
Over three months	45·3%	53·6%	54·7%
Artifically Fed	18·0%	9·2%	7·8%
Fresh Air and Good Conditions:—			
Satisfactory	9·0%	37·0%	42·3%
Unsatisfactory	90·9%	62·9%	57·6%
Illnesses:—			
Respiratory	27·2%	33·3%	19·7%
Infectious	36·3%	37·0%	22·6%
Attendance at a Child Welfare Clinic:—			
Regular	27·2%	37·0%	45·2%
Irregular	27·2%	29·6%	36·4%
Nil	45·4%	33·3%	18·2%
Provision of Cod Liver Oil:—	45·0%	60·8%	73·9%

Administration of Part I of the Children Act, 1908.

(*a*) Number of persons receiving children for reward on the Register at the end of the year 1935 154

(*b*) Number of children on the Register

(1) at the end of the year 209

(2) who died during the year (3 in homes).

(3) on whom inquests were held during the year ... 1

(c) Proceedings taken during the year ... ... Nil

Neo-natal Mortality.

During the year the number of deaths of children under 28 days old (Neo-natal Deaths) amounted to 531, equal to a rate of 31 per 1,000 live births registered.

Special enquiry was made into the deaths of all these newly-born children, i.e., those under 28 days old.

The causes of these deaths at ages under each week are set out in the Infant Mortality Table at the end of this Report (see Appendix D).

Premature birth is responsible for more than half the total number of deaths of infants during the neo-natal period. In the majority of cases, it has not been possible to assign definite causes of prematurity. Seasonal influence appears to have no bearing on the occurrence of deaths in any of the above-mentioned groups. It will be noted, however, how few of the total deaths occur at this early age from gastro-enteritis or diarrhœa.

Deaths from Diarrhœa and Enteritis.
Results of Enquiry.

Enquiries were made into 202 of the deaths recorded. In a few instances the parents could not be traced.

In 11 cases there was a predominant history of wasting or marasmus. In 9 cases the onset of enteritis had been preceded by an attack of pneumonia or bronchitis, and in 1 other case of measles. In 3 instances, where deaths were ascribed to enteritis, there was no diarrhœa, but vomiting only. Congenital conditions accounted for 2 deaths. In 19 cases the infant was known to have been premature; in 27 cases the infant was said to have been delicate from birth.

Eleven deaths were of infants under 28 days old (Neo-natal deaths), the ages being as follows:—

Under 7 days	nil
7 and under 14 days	2
14 ,, ,, 21 ,, ...	5
21 ,, ,, 28 ,, ...	4

Acute intestinal infections are uncommon at these early ages, when the child is almost invariably breast-fed.

Other Associated Diseases—Apart from the respiratory diseases, 9 in number, referred to above, the following conditions were present, and in most cases were the cause of the child's admission to hospital, enteritis being a terminal condition.

Prematurity	19 cases.
Infantile Dyspepsia	1 ,,
Convulsions	19 ,,
Infectious disease	1 ,,
Stomatitis	2 ,,
Mastoiditis	2 ,,
Skin diseases	5 ,,
Sinus thrombosis	1 ,,
Tetany	1 ,,

It seems almost certain that these various conditions played a large part in causing the deaths of the infants.

Maternal Illness or Death.—The care of the mother is so essential to the wellbeing of the newborn child that it is not surprising that in 14 cases the serious illness or death of the mother was followed by the death of the child (illness of mother, 13 cases; death of mother, 1 case).

Severe illness of the mother invariably involved the weaning of the child.

Social Conditions.—Sixteen, at least, of the children were illegitimate, and the babies having been admitted to some institution at an early age had necessarily been weaned for this reason. In the case of an infant who died in an institution, the parents could not be traced at the address given. The home conditions or storage of food were unsuitable in 47 cases.

Methods of Feeding.—The majority of the children were artificially fed in whole or in part. Artificial feeding if not carefully carried out not only predisposes the child to a fatal infection, by rendering it more susceptible, but provides the medium, usually milk, by which the infection is conveyed. Classified according to the method of feeding, the cases were:—

Entirely breast-fed	23
Mixed breast-fed and artificially ...	152
No history obtainable or inadequate information	8
Artificially fed entirely	19
Total	202

See also pages 73—77 for further details relating to diarrhœa and enteritis.

Carnegie Welfare Centre.

The Carnegie Welfare Centre has now completed 12 years as a most useful and educational welfare centre in the city.

During 1935 the work of former years has been carried on, but with an increased number of attendances in many departments.

Child welfare clinics are held on four afternoons per week. Two ante-natal clinics are held each week. The attendances at the clinics have shewn an increase each year on those of the year preceding. The classes for knitting, sewing, etc., have also been well attended.

Observation Wards.—The number of infants admitted during 1935 was 126, and the reasons for admissions were:—

1.	Failure to make normal progress	62
	43 improved.	
	6 taken home for medical treatment at home.	
	7 still under treatment.	
	1 poor progress.	
	3 died	
	2 transferred to isolation hospital.	
2.	Infantile Dyspepsia	21
	17 cured.	
	3 died.	
	1 still under treatment.	
3.	Rickets	33
	22 improved.	
	3 taken home for private medical attention.	
	5 still under treatment.	
	3 poor result.	
4.	Observation Cases	10
	10 sent home well.	
	Total ...	126

The average duration of stay in the wards has been 40·7 days, but the actual time has varied from a few days to several weeks.

Ultra-violet irradiation clinic.

Three sessions are held each week. During the summer months which were rather more than usually fine, the numbers attending were reduced, but on the onset of the colder weather, numbers rapidly increased.

Only those rachitic children definitely non-surgical are treated. Those admitted to the wards give better results on the whole than those attending as out-patients. (No inference of any value can be drawn from this fact, as cases are taken as they are sent from the clinics, and no control observations can conveniently be made).

The children who are classed under the heading of "Lack of normal progress" are those in whom no very definite cause for their failure to gain weight normally is apparent. Occasionally the condition is dated from some previous illness or even from weaning. It is frequently due to poverty, mismanagement, neglect, or overcrowding with resultant conditions of defective hygiene. Occasionally some latent infection is responsible, and more often than not a combination of adverse conditions is found.

New cases during 1935	473
Attendances	6,483
Still under treatment	84

Rickets 205

117 good results.

30 poor results.

58 discontinued treatment before the course was completed.

Failure to make normal progress 183

96 good results.

34 poor results.

53 discontinued treatment.

Dental Clinics.

Four Dental Clinics are held weekly for expectant mothers, nursing mothers and children up to five years of age. Three of these clinics are municipal and one is a voluntary clinic.

Attendances at all clinics :—

New cases	1,304
Ante-natal and post-natal mothers	1,091
Children	213
Number of extractions	6,813
,, fillings	39
Total attendances	2,394

Maternity and Rest Home.

"Quarry Bank," 162 Hawthorne Road.

The accommodation of the home consists of two wards, together with an emergency ward and two isolation wards, and a labour ward, containing 18 beds in all.

The statistics relating to the treatment of patients in the home during the year 1935 are as follows :—

Total number of cases admitted	320
Number of women confined in the home	276
,, pre-maternity cases	44
,, post-natal cases	Nil

The average duration of stay was 14·9 days.

Of the 276 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 247, and the cases of complicated labour were 29. Eight patients were transferred to the Liverpool Maternity Hospital for caesarean section. Of the total number of cases, 191 were primigravidæ. Former patients admitted for a second confinement at the home numbered 49, for a third time 13, for a fourth time 2, and for a fifth time 2.

Of the 277 babies born in the home, 265 were born alive and 12 were still-born. In the case of the still-births the causes of death were stated to be: 4 macerated fœtus, 1 intra uterine asphyxia, 1 prematurity, 3 instrumental cases, 2 complicated breech, 1 after induction.

Of the 265 babies born alive, none died within 10 days of birth.

The 44 pre-materity cases were admitted on account of various complications associated with pregnancy, such as albuminuria, pyuria, bacilluria, heart disease, varicose veins and contracted pelvis. Of these all remained in or returned to the home for confinement.

No case of ophthalmia neonatorum nor pemphigus occurred in the home during the year.

Source of Patients admitted to the Home.

Sent in by friends	193
,, ,, midwives	3
,, ,, medical practitioners	25
,, from clinics	19
Referred from hospital	14
Return cases	66

An ante-natal clinic is held at the home once per week, when the medical officer attends to see patients.

During the year 359 patients attended for the first time, and the total number of attendances was 1,504, the average attendance per week being 29.

DAY NURSERIES.

The Day Nurseries in Liverpool are 6 in number, 4 of which are under the control of the Maternity and Child Welfare Sub-Committee. Children from the age of one month to five years are admitted, and may remain from 7 a.m. to 7 p.m. on week-days and 7 a.m. to 1 p.m. on Saturdays.

A daily or weekly charge is made for each child, which is based on an income and expenditure figure. Only the children of mothers who

are obliged to work by reason of widowhood, unemployment or incapacity of their husbands, are admitted. The particulars given to the matron on admission of each child are investigated by a call made at the home by the health visitor for the district in which it is situated.

The two voluntary nurseries are administered on somewhat similar lines to those under the control of the Maternity and Child Welfare Sub-Committee.

The total accommodation in the Corporation Nurseries is 178 and in the Voluntary Nurseries 115.

Statistics relating to Corporation Nurseries.

NEW ADMISSIONS.

Age.	Westminster Road.	Smithdown Lane.	Gt. George Square.	Garston.
Under 1 year	15	40	17	33
1 year—2 years	30	27	20	15
Over 2 years	14	31	20	21
TOTAL	59	98	57	69
Total attendances	15,249	11,496	9,442	11,286

Condition on Admission.

Good	15	24	39	14
Fairly good	19	33	12	29
Poor	25	41	6	26
TOTAL	59	98	57	69

Number of Cases of Illness contracted during the year.

Infectious	23	25	14	8
Other illness	4	10	7	7
TOTAL	27	35	21	15

MILK DEPOTS.

The milk which is supplied from these centres and depots consists entirely of Grade A Tuberculin-tested milk.

There were 6,097 persons on the books at the beginning of the year, 15,387 admitted during the year, and 4,026 who had milk previously and had been re-admitted, making a total of 25,510. The supply of milk is given on the presentation by the applicant of a note from a doctor, and in a few instances it was allowed on production of written requests from midwives. The following is a statement of cases during the year :—

Centres.	Ante-Natal.	Nursing Mothers.	Infants.		Liverpool Child Welfare Association.	Totals.
			Under 1 year of age.	1 Year and under 2 Years of Age.		
Netherfield Road ...	947	1,157	586	110	484	3,284
Earle Road ...	171	489	388	91	113	1,252
Park Road ...	435	569	335	80	411	1,860
Boaler Street ...	274	602	409	74	224	1,583
Holly Street ...	485	703	349	135	365	2,037
Rathbone Road ...	70	330	237	15	43	695
Mill Street ...	90	183	131	39	102	545
Scarisbrick Road ...	326	438	165	39	273	1,241
Agents	70	6	426	364	2,024	2,890
	2,868	4,477	3,026	947	4,069	15,387

The total quantity of milk supplied during the year was 147,680½ gallons, and 339,912 bottles were filled. The amount of dried milk supplied was 254,882 lbs.

Total cases on books, January 1st, 1935	6,097
,, ,, admitted during the year	15,387
,, ,, re-admitted during the year	4,026
Total supplied during 1935	25,510
Remaining on the books at the end of the year ...	6,775

Quarterly Average—January, February, March ...	6,326
,, ,, April, May, June	6,379
,, ,, July, August, September ...	6,184
,, ,, October, November, December ...	6,726

The highest number supplied with milk at one time was 6,946 during the week ended December 20th.

Since the initiation of the scheme in 1901 down to the end of the year 1935, the number of persons supplied with milk has reached a total of 207,211.

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 continued at the same price, unless the circumstances are improved, when the charge is increased, or if the circumstances are worse than when last reviewed, the charge is lowered.

The number of attendances of persons at the centres during the year for advice, and payment for milk, etc., was 44,331.

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 the milk properly used, was 4,585. From time to time information concerning cases is received from the district health visitors and from clinics.

TUBERCULOSIS

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD FROM 1ST JANUARY, 1935, TO 31ST DECEMBER, 1935:—

TABLE I.

Age periods.	Notifications on Schedule A. Number of Primary Notifications of New Cases of Tuberculosis. 0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	Total Primary Notifications.	Total Notifications on Form A (including duplicates.)
Pulmonary—													
Males	1	16	45	39	67	112	198	154	151	87	24	894	1,130
Females	1	18	42	41	115	163	181	98	71	54	19	803	1,009
Non Pulmonary—													
Males	4	50	58	40	38	17	27	18	9	2	4	267	340
Females	5	34	43	37	37	24	27	15	5	4	4	235	318

Out of a total of 1,697 primary notifications of pulmonary tuberculosis 1,356 were received from private and 341 from hospital practitioners, whilst in the case of non-pulmonary tuberculosis these figures are 217 and 285 respectively, forming a total of 502.

Practically all cases notified under the above regulations are examined by the Tuberculosis Officer, the only exceptions being those cases in which, for some specific reason, exemption from examination is requested either by the patient or the medical practitioner concerned.

The Notification and Dispensary Registers.

In Table II is shown the number of cases on the notification and dispensary registers at the end of the year, the difference (3,952) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment under this authority before reaching the "cured" stage. A few notified cases are also included in which the patients have refused to make use of the treatment facilities which are available.

TABLE II

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Totals.
	Males.	Females.	Males.	Females.	
Number of cases on the Notification Register ...	3,536	2,815	1,433	1,477	9,261
Number of established cases on the Dispensary Register	2,126	1,582	824	777	5,309
Difference	1,410	1,233	609	700	3,952

In Table III is given an analysis of the 3,952 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III

	Pulmonary Tuberculosis.						Non-Pulmonary Tuberculosis.						Totals.
	Males.			Females.			Males.			Females.			
	State of the Disease.						State of the Disease.						
Whereabouts Known.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	
Totals	195	526	689	192	474	567	136	251	222	156	319	225	3,952

Tuberculosis Clinics and Dispensary System.

During 1935 the Tuberculosis Officers have conducted 3,909 consultations, either at the Tuberculosis Clinics or in the patients' homes, in addition to which 2,397 other reports on cases have been rendered to medical practitioners.

A statistical summary of the work of the Tuberculosis Clinics, so far as all cases on the dispensary registers are concerned, is given in Table IV, and in addition there are included a few statistics of a general nature.

TABLE IV.

Diagnosis.	Pulmonary.				Non-Pulmonary				Total.			
	Adults.		Children		Adults.		Children		Adults.		Children.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A.—New Cases examined during the year (excluding contacts):												
(*a*) Definitely tuberculous ...	578	472	43	59	84	99	116	101	662	571	159	160
(*b*) Diagnosis not completed ...	—	—	—	—	—	—	—	—	10	20	10	11
(*c*) Non-tuberculous	—	—	—	—	—	—	—	—	451	487	305	296
B.—Contacts examined during the year :—												
(*a*) Definitely tuberculous ...	4	2	5	1	—	—	3	2	4	2	8	3
(*b*) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Non-tuberculous	—	—	—	—	—	—	—	—	54	135	301	286
C.—Cases written off the Dispensary Register as :—												
(*a*) Recovered	59	64	15	14	20	25	35	22	79	89	50	36
(*b*) Non-tuberculous (including any such cases previously diagnosed and entered on the Dispensary Register as tuberculous)	—	—	—	—	—	—	—	—	505	622	606	582
D.—Number of Cases on Dispensary Register on Dec. 31 :												
(*a*) Definitely tuberculous ...	1,780	1,287	346	295	284	355	540	422	2,064	1,642	886	717
(*b*) Diagnosis not completed ...	—	—	—	—	—	—	—	—	10	20	10	11

1. Number of cases on Dispensary Register on January 1st	5,646	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...	
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of"	1,027	4. Cases written off during the year as Dead (all causes)	
5. Number of attendances at the Dispensary (including Contacts)	18,629	6. Number of Insured Persons under Domiciliary Treatment on the 31st December	
7. Number of consultations with medical practitioners :—		8. Number of visits by Tuberculosis Officers to homes (including personal consultations)	
(*a*) Personal	55		
(*b*) Other	3,854		
9. Number of visits by Nurses or Health Visitors to homes of patients	30,845	10. Number of :—	
		(*a*) Specimens of sputum, etc., examined	
		(*b*) X-ray examinations made in connexion with Dispensary work.	
11. Number of "Recovered" cases restored to Dispensary Register, and included in A (*a*) and A (*b*) above...	6	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...	

General Remarks.

The city death rates for the year 1935 for pulmonary and non-pulmonary tuberculosis are 0·93 and 0·14 per 1,000, respectively, making a total of 1·07 per 1,000 for all forms of the disease.

These figures show a slight decrease as compared with the previous year and are the lowest yet recorded for the city but, unfortunately, the rate of decline is slow despite the influence of many factors having a favourable effect upon the incidence and progress of tuberculosis.

Notification by medical practitioners, both in private or other spheres of practice, still constitutes the main channel through which cases reach the notice of the Tuberculosis Officers and it is very satisfactory to note that medical men in Liverpool co-operate so willingly with the tuberculosis department that the number of unnotified cases is exceedingly small. (See Table XVII.)

It is very desirable, however, that the public should learn to make greater individual use of the facilities for examination afforded by the Tuberculosis Scheme, and to this end it is essential that the public mind should be disabused of that old-fashioned belief that tubercle is an hereditary disease. It is this fallacy that creates that fatalistic attitude which is the outcome of a patient believing that because some near relative has died of tuberculosis the same fate necessarily awaits him also. He thus assumes that nothing is to be gained by seeking early advice and so hangs on until troublesome symptoms at last compel him to seek medical attention, by which time he has, as a rule, passed beyond the stage when it is possible to expect any arrest of the disease.

It is, therefore, very essential that propaganda should be directed towards correcting this attitude of mind and encouraging public confidence in the medical facilities available.

Radiology. Very considerable use is being made of the X-ray plant in connection with the diagnosis and treatment of tuberculosis at the clinics, 1,080 cases having been radiographed during the year. This work is, of course, additional to that carried out by the radiologist in connection with the treatment and investigation of cases in the sanatoria which has entailed the taking of 4,365 radiographs in addition to 4,621 " screenings ".

LIGHT THERAPY. In accordance with arrangements previously described, 1,649 treatments by Ultra Violet Rays were carried out at Belmont Road Hospital in addition to a total of 7,148 such treatments at the Sanatoria.

MANTOUX REACTION. This intradermal test has been applied in about 550 cases at the Tuberculosis Clincs, and where negative, has been of considerable assistance in diagnosis. Out of a total of 138 children subjected to the test by the tuberculosis officer at the South Tuberculosis Clinic, it was found that 72·6 per cent. of those who gave positive reactions had previously been in contact with other cases which had tubercle bacilli in the sputum. This compares with a figure of 48·4 per cent. of positive reactions in those cases which apparently had not been exposed to such contact.

CONTACTS. During the year the tuberculosis officers examined 793 persons who are known to have been in contact with infectious cases of pulmonary tuberculosis and found evidence of disease in 17, or 2·1 per cent.

It is now generally recognised that contact examination to be of any value must be carried out at intervals and over a considerable period, and it is here that the main problem in this work arises, as it is extremely difficult to persuade apparently healthy persons, who suffer neither pain nor ache, to attend at a clinic for the necessary examinations. They tend to drift away from the supervision of the tuberculosis officer until, in many cases, the onset of severe symptoms at a later date forces them back again to seek belated advice.

As the importance of early diagnosis cannot be overstressed it is possible that a system which provided for the routine examination by X-ray and intra-dermal tests of all children, at several periods during their school years, might help to quench many kindling infections.

The Condition of Patients known to the Tuberculosis Officers.

A statistical return showing in summary form the condition of all patients whose case records are in the possession of the tuberculosis clinics 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 the two tables, Table V relating to pulmonary cases, and Table VI to non-pulmonary cases.

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TABLE V—PULMONARY TUBERCULOSIS.

(*a*) The condition at the end of 1935 of all patients remaining on the Dispensary Register; and (*b*) the reasons for the removal of all cases written off the Register. The Table is arranged according to the years in which the patients were first entered on the Dispensary Register as definite cases of pulmonary tuberculosis, and their classification at that time.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1926.					1926.					1927.					1928.					1929.					1930.					1931.					1932.					1933.					1934.					1935				
			Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	Class T.B. Plus.				Class T.B. Mixed.	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.		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.		Group 1	Group 2	Group 3	Total Class T.B. Plus.
(*a*) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults M.	44	25	16	...	41	9	1	2	...	3	11	...	3	...	3	13	3	2	...	5	19	4	5	...	9	19	2	4	...	6	20	1	6	1	8	19	2	1	...	3	17	...	2	...	2	...	...	...	...	...	...	...	...	...	...
		F.	45	4	3	...	7	9	...	...	...	...	11	1	1	...	2	8	2	1	...	3	20	1	1	...	2	17	1	...	...	1	27	...	4	...	4	19	4	2	...	6	13	...	...	...	...	...	...	...	...	...	...	...	...
		Children	35	1	...	...	1	10	...	...	...	...	12	...	...	...	...	20	...	...	...	...	34	...	...	...	...	36	...	...	...	...	34	...	...	...	...	27	...	...	...	...	18	...	...	...	...	...	...	...	...	...	...	...
	Disease not Arrested.	Adults M.	29	46	45	8	99	4	5	19	2	26	4	3	11	2	16	16	6	18	3	27	10	6	22	3	31	6	5	41	3	49	14	10	47	7	64	21	11	59	3	73	44	19	91	...	110	75	20	125	4	149	148	25	209	13	247
		F.	33	13	23	1	37	2	3	8	...	11	10	4	10	...	14	2	3	17	2	22	12	...	16	5	21	2	7	25	5	37	7	9	27	1	37	22	6	42	...	48	31	10	64	2	76	62	10	78	2	90	145	26	169	9	204
		Children	14	2	10	...	12	3	...	1	...	1	9	...	...	...	...	10	...	1	...	1	8	...	3	1	4	15	1	...	...	1	20	3	4	1	8	40	1	2	...	3	54	...	5	...	5	74	1	1	...	2	73	1	6	...	7
	Condition not ascertained during the year		24	14	28	...	42	7	...	3	1	4	15	1	3	1	5	9	2	7	2	11	14	3	11	...	14	14	1	10	...	11	21	3	19	2	24	25	9	23	1	33	28	5	39	1	45	50	3	68	2	73	...	...	...	...	...
	Total on Dispensary Register at 31st December		225	105	125	9	239	44	9	33	3	45	72	9	28	3	40	72	16	46	7	69	117	14	58	9	81	108	17	80	8	105	163	26	107	12	145	173	33	129	4	166	205	34	201	3	238	261	34	272	8	314	368	52	394	22	458
(*b*) Removed from Dispensary Register.	Discharged as Recovered.	Adults M.	329	51	12	1	64	18	3	1	...	4	25	1	...	...	1	16	1	2	...	3	10	1	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		F.	324	19	8	...	27	23	...	4	...	4	18	...	...	...	...	17	3	3	...	6	12	1	...	...	1	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Children	395	3	1	1	5	42	...	...	...	...	34	...	...	...	...	29	...	...	...	...	15	...	...	1	1	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lost sight of, or otherwise removed from Dispensary Register.		3,988	347	200	38	585	315	21	47	4	72	291	15	49	8	72	312	9	42	9	60	297	15	39	6	60	230	16	48	6	70	238	10	51	6	67	157	22	63	1	86	144	12	73	8	93	64	5	43	4	52	60	2	24	1	27
	Dead	Adults M.	696	563	854	709	2,126	95	36	180	109	325	82	23	150	125	298	93	19	151	144	314	92	21	144	139	304	62	14	166	140	320	55	13	169	144	326	58	23	168	102	293	44	3	158	121	282	27	2	127	110	239	27	...	48	77	125
		F.	474	290	519	485	1,303	58	10	113	81	204	71	11	98	104	213	79	12	98	106	216	76	8	119	91	218	75	13	121	91	225	51	9	117	111	237	40	21	125	77	223	31	4	120	83	207	24	1	102	69	172	30	1	35	36	72
		Children	242	29	49	63	141	42	2	9	11	22	29	1	9	13	23	29	1	6	8	15	42	...	5	7	12	21	1	7	12	20	15	...	7	12	19	30	...	4	9	13	21	...	6	7	13	19	...	2	6	8	11	...	2	6	8
	Total written off Dispensary Register		6,438	1311	1643	1297	4,251	593	72	354	205	631	550	51	396	250	697	557	45	392	267	614	544	46	367	244	597	491	44	342	249	635	359	32	344	273	649	285	66	360	189	615	240	19	357	219	595	134	8	274	189	471	308	3	109	120	232
GRAND TOTALS			6,663	1416	1768	1306	4,490	637	81	387	208	676	622	60	334	253	647	629	61	348	274	683	661	59	365	253	678	509	61	422	257	740	522	58	451	285	794	458	99	489	193	781	445	53	558	222	833	395	42	346	197	785	476	55	493	142	690

the Register.

1933.					1934.					1935.				
Peripheral Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdnominal	Other Organs	Peripheral Glands	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total
3	1	1	5	10	1	2	...	3	6	...	1	...	...	1
7	6	1	8	22	2	...	...	5	7	...	1	1	...	2
6	22	1	36	65	6	14	...	33	53	...	...	...	2	2
1	...	4	2	7	7	1	6	7	21	26	12	14	14	66
8	3	4	4	19	7	3	1	17	28	22	13	15	26	76
19	16	2	24	61	16	16	3	52	87	60	29	2	77	168
19	12	2	18	51	28	16	3	19	66	...	...	...	...	...
63	60	15	97	235	67	52	13	136	268	108	56	32	119	315
3	7	...	4	14	...	4	2	1	7	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1 31	26	14	83	154	18	7	10	72	107	6	2	6	23	37
3	2	3	2	10	4	3	2	...	9	2	...	5	...	7
6	4	1	1	12	1	...	4	1	6	3	1	2	1	7
5	10	51	2	68	1	2	38	...	41	4	3	32	1	40
1 45	42	69	88	244	24	12	54	73	163	15	6	45	25	91
1 108	102	84	185	479	91	64	67	209	431	123	62	77	144	406

It is noteworthy that of 1,166 new pulmonary cases whose names were entered on the dispensary register during the year, 690 (59·1 per cent.) were in a very advanced stage of disease, and by the end of the year, 273 (23·4 per cent.) of the new cases arising during that year were deceased.

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

TABLE VII.

PATIENTS UNDER DISPENSARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	5	—	5	8
	Females	3	—	3	
Non-Insured Persons	Male Adults	15	7	22	202
	Female Adults ...	28	23	51	
	Male Children* ...	19	50	69	
	Female Children* ...	24	36	60	
Totals ...	... ...	94	116	210	

* Under 15 years of age.

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

TABLE VIII.

PATIENTS NOT NEEDING TREATMENT WHO WERE UNDER DISPENSARY SUPERVISION AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	360	92	452	667
	Females	123	92	215	
Non-Insured Persons	Male Adults	202	74	276	1812
	Female Adults ...	299	134	433	
	Male Children* ...	247	377	624	
	Female Children* ...	205	274	479	
Totals ...	... ...	1436	1043	2479	

* Under 15 years of age.

Home Nursing.

The domiciliary nursing of both pulmonary and non-pulmonary cases continues to be carried out by the Liverpool Queen Victoria District Nursing Association in accordance with the existing agreement. During the year, 148 pulmonary and 101 non-pulmonary cases were nursed in their homes, and to these cases 9,931 visits were paid. Extremely valuable work has also been performed by such voluntary organizations as the Garston and Grassendale and the Woolton Nursing Associations, which have dealt with cases outside the area supplied by the District Nursing Association.

Domiciliary Treatment.

This form of treatment is arranged where indicated and close co-operation obtains between the medical practitioners and the tuberculosis officers. At the end of the year, 1,559 patients remained under domiciliary treatment of whom 897 were persons insured under the National Health Insurance Act, and in receipt of treatment from their panel doctors and 662 were not insured and were under the treatment of doctors of their own choice. The domiciliary reports received relating to insured persons numbered 3,913, and those relating to non-insured persons numbered 2,902. Table IX shows the position at the end of the year.

TABLE IX.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	599	32	631	897
	Females	235	31	266	
Non Insured Persons	Male Adults ...	194	24	218	662
	Female Adults ...	340	36	376	
	Male Children*	17	15	32	
	Female Children*	14	22	36	
Totals ...	... ...	1399	160	1559	

* Under 15 years of age.

Co-operation and Co-ordination.

Close co-operation continues between the Tuberculosis Officers and the School Medical and Maternity and Child Welfare Departments with a view to securing early diagnosis and treatment for the tuberculous child whilst such voluntary social services as the Child Welfare Association, Personal Service Society and the Roll of Honour Fund also render considerable help in this and other directions.

Arrangements also obtain whereby valuable assistance is available at the ante-natal clinics in the case of the tuberculous woman whose lesion is complicated by a co-existing pregnancy.

During the year, 3,264 reports were rendered by the Tuberculosis Officers in respect of school children, and as a result of co-operation with the School Medical Department, a number of non-pulmonary cases were referred for treatment at the special orthopaedic clinics.

A large number of cases continue to be referred to the Tuberculosis Officer by the Divisional Medical Officer (Ministry of Health), the Deputy-Commissioner of Medical Service (Ministry of Pensions), and the Chief Medical Officer (Silicosis Scheme 1931) to whom appropriate reports are rendered.

Sanatoria.

TABLE X.

FAZAKERLEY SANATORIUM. Beds, 313.

NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	44	60	45	15	166
Adult Females ...	1	20	58	30	10	119
Children under 15...	1	—	—	20	7	28
TOTAL ...	4	64	118	95	32	313

TABLE XI.

BROADGREEN SANATORIUM. Beds, 340.

NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	94	80	—	—	176
Adult Females ...	2	72	70	—	—	174
Children under 15...	—	15	5	—	—	20
TOTAL ...	4	181	155	—	—	340

Dental Treatment.

There is a very considerable increase in the amount of dental work carried out at the Sanatoria, the following operations having been performed during 1935.

Extractions under anæsthesia	1,410
Fillings and scalings	177
Miscellaneous	334

Special Treatment.

Summary of other special forms of treatment carried out at the Sanatoria during the year :—

Artificial Pneumothorax (New inductions)...	223
Artificial Pneumothorax Refills	5,936
Cases treated by Gold Injections	257
Thoracic Operations, including Phrenicectomy Intra-pleural Pneumolysis, Bronchography, etc.	98
Laryngological Operations	49

A considerable number of cases in the tuberculous wards at Walton Hospital have also received treatment by modern surgical methods and gold injections, and one of the tuberculosis officers now visits this hospital regularly for the purpose of consulting with the medical superintendent regarding the requirements of tuberculous patients.

TABLE XII.

ALDER HEY HOSPITAL. Tuberculosis Beds, 100.

This table shows the cases dealt with during the period from 1st January, 1935, to 31st December, 1935 :—

	In Alder Hey, 31.12.34.	Subsequent Admissions.	Discharged.	Deaths.	Remaining, 31.12.35.
Pulmonary	4	33	31	4	2
Non-Pulmonary ...	53	226	175	42	59
TOTALS ...	57	259	206	46	61

The total accommodation in approved institutions made use of for patients suffering from tuberculosis was 1,088 beds, allocated in the following manner :—

TABLE XIII.

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	4	160	280	40	15	499
Adult Females ...	3	100	165	25	20	313
Children under 15 ...	3	90	10	143	30	276
TOTAL ...	10	350	455	208	65	1,088

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

TABLE XIV.

		In Institutions on Jan. 1st. (1)	Admitted during the year. (2)	Discharged during the year. (3)	Died in the Institutions. (4)	In Institutions on Dec. 31st. (5)
Number of doubtfully tuberculous cases admitted for observation	Adult males	2	25	26	—	1
	Adult females	—	22	22	—	—
	Children	2	20	18	—	4
	Total	4	67	66	—	5
Number of patients suffering from pulmonary tuberculosis	Adult males	345	817	506	251	405
	Adult females	202	527	344	126	259
	Children	55	187	110	17	115
	Total	602	1,531	960	394	779
Number of patients suffering from non-pulmonary tuberculosis	Adult males	46	115	96	10	55
	Adult females	40	112	100	13	39
	Children	96	430	294	44	188
	Total	182	657	490	67	282
GRAND TOTALS		788	2,255	1,516	461	1,066

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

TABLE XV.

Admission to the Institution.	Condition at time of Discharge.	DURATION OF RESIDENTIAL TREATMENT												Totals.			Grand 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.	M.	F.	Ch.	
Class A.	Quiescent ...	8	13	6	14	12	9	8	3	18	13	4	32	43	32	65	140
	Not Quiescent ...	10	9	15	12	9	—	5	2	1	3	—	4	30	20	20	70
	Died in Institution	9	2	2	1	2	1	3	—	1	3	—	—	16	4	4	24
Class B. Group 1.	Quiescent ...	1	1	—	3	1	—	5	2	—	4	2	—	13	6	—	19
	Not Quiescent ...	6	3	1	1	2	—	—	3	—	2	—	—	9	8	1	18
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Class B. Group 2.	Quiescent ...	4	4	1	16	3	—	15	8	—	12	8	—	47	23	1	71
	Not Quiescent ...	73	33	1	53	33	—	66	41	2	30	24	—	222	131	3	356
	Died in Institution	5	—	—	3	1	—	1	1	—	2	1	—	11	3	—	14
Class B. Group 3.	Quiescent ...	1	1	—	1	1	—	—	1	—	1	1	—	3	4	—	7
	Not Quiescent ...	18	17	—	15	13	—	4	7	—	9	8	—	46	45	—	91
	Died in Institution	65	39	2	30	20	2	24	17	2	23	12	2	142	88	8	238
Totals (Pulmonary)...		200	122	28	149	97	12	131	85	24	102	60	38	582	364	102	1048
Bones and Joints.	Quiescent ...	4	1	2	3	—	13	1	7	12	9	7	22	17	15	59	91
	Not Quiescent ...	2	5	9	1	1	5	1	1	1	4	—	4	8	7	19	34
	Died in Institution	1	—	3	—	1	1	1	1	1	5	2	1	7	4	6	17
Abdominal.	Quiescent ...	—	1	7	1	2	9	1	3	1	—	1	2	2	7	19	28
	Not Quiescent ...	1	1	4	—	—	2	—	—	1	1	—	—	2	1	7	10
	Died in Institution	1	1	—	—	—	—	—	—	—	—	—	—	1	1	—	2
Other Organs.	Quiescent ...	6	5	2	1	—	—	2	—	—	1	1	1	10	6	3	19
	Not Quiescent ...	2	1	2	—	1	—	1	1	—	—	1	—	3	4	2	9
	Died in Institution	—	—	2	—	—	—	—	—	—	—	—	—	—	—	2	2
Peripheral Glands.	Quiescent ...	2	1	28	1	—	5	—	2	3	1	1	13	4	4	49	57
	Not Quiescent ...	—	2	3	—	—	—	—	1	1	—	—	—	—	3	4	7
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals (Non-Pulmonary)		19	18	72	7	5	35	7	16	20	21	13	43	54	52	170	276

NOTE:—Patients whose stay in residential institutions has not exceeded 28 days are no longer to be included in this table.

TABLE XV.—*continued.*

		Pulmonary Tuberculosis						Non-Pulm. Tuberculosis						Totals		
		Under 4 wks.			Over 4 wks.			Under 4 wks.			Over 4 wks.					
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Observation for purpose of Diagnosis.	Tuberculosis ...	1	3	—	1	—	—	—	1	1	—	—	—	2	4	1
	Non-Tuberculosis	14	7	3	5	2	2	1	8	6	—	—	4	20	17	15
	Doubtful... ...	2	—	1	2	—	—	—	1	1	—	—	—	4	1	2
		17	10	4	8	2	2	1	10	8	—	—	4	26	22	18

Extent of Residential Treatment provided during the year 1935 in Appropriated Institutions not yet approved by the Ministry of Health and Public Assistance Hospitals.

		In Institution on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institution.	In Institution on Dec. 31
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment.	Adult Males.	86	98	157	23	4
	Adult Females	18	55	64	7	2
	Children*	80	—	80	—	—
	Total	184	153	301	30	6
Number of patients suffering from Non-Pulmonary Tuberculosis admitted for treatment	Adult Males	12	26	33	5	—
	Adult Females	3	21	18	6	—
	Children*	71	20	91	—	—
	Total	86	67	142	11	—
Grand Total		270	220	443	41	6

*Under 15 years of Age.

CLEAVER SANATORIUM. Beds, 200.

Considerable use is now being made of this Sanatorium where, in addition to the visiting physician, there is now a resident medical officer, and admission is no longer confined to the more or less convalescent type of case.

	In Institution on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institution	In Institution on Dec. 31st.
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment. Children	81	53	45	—	88
Number of patients suffering from Non-Pulmonary Tuberculosis admitted for treatment. Children	71	63	45	—	89
Grand Total	152	116	91	—	177

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 Clinics, 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, etc.

(5) When vacancies occur, suitable patients are employed in the continuation treatment sections at the sanatoria.

During the year tuberculosis nurses attached to the clinics and the health visitors and sanitary inspectors made 20,914 such visits. All these visits are the subject of report to the Tuberculosis Officer concerned. The domiciliary visits of the nurses of the Queen Victoria District Nursing Association, to the number of 9,931, have already been referred to.

Non-Pulmonary Tuberculosis.

Table XVI gives an analysis of the 123 cases in which death was due to non-pulmonary tuberculosis.

TABLE XVI.

Non-Pulmonary Tuberculosis Deaths.

1935.	Tuberculous Meningitis.	Bones and Joints.	Abdominal.	Peripheral glands.	Other Organs.	Totals.
Males.....	8	9	3	1	11	32
Females	5	12	6	2	6	31
Children	37	5	8	1	9	60
Totals.....	50	26	17	4	26	123

Notification and Deaths.

During the year 71 persons within the city died from tuberculosis without notification having been effected prior to death. The result of enquiry into the reasons for such failure to notify are summarized in Table XVII, and it is satisfactory to note that in the case of pulmonary disease, where notification is of greatest importance, only 0·12 per cent. of cases were overloaded by medical practitioners. This indicates a high degree of co-operation on the part of the local doctors.

TABLE XVII.

Disease.	Number of persons who died within the city.	Number of city deaths not notified before death.	Reasons for Non-notification.			
			Diagnosis made at a post-mortem examination. *	Diagnosis delayed owing to clinical difficulties.	The doctor thought that the case had been notified previously by another medical practitioner.	Notification forgotten.
Pulmonary tuberculosis	807	32 3·9%	17 2·1%	4	10	1 0·12%
Non-pulmonary tuberculosis	123	39 32%	16 13%	17	3	3 2·4%

* Includes Coroner's cases.

Every endeavour is made to encourage early notification of cases of tuberculosis, and it is satisfactory to note the decrease in the number of such as have not been notified prior to death as compared with the average figure for previous years (Table XVIII).

TABLE XVIII.

Year.	Total Number of Deaths Investigated. *	Number of Deaths in Cases not Notified or otherwise referred. *	Notifications or other References prior to Death within the periods indicated in each column.					
			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
rage for 7 years (923-1929) ...	1,202	233	91	69	163	120	123	400
2...	1,137	121	132	52	144	117	109	427
3...	1,157	115	127	55	109	95	126	494
4...	991	99	100	60	131	96	116	389
5...	942	83	92	33	95	97	103	422

* Includes inward Transferable Deaths returned by the Registrar General, but such deaths are not included in the other columns of the table, which only refer to notifications by doctors in the Liverpool area.

Additional to the deaths which took place within the city boundary, there were 26 deaths from pulmonary tuberculosis taking place outside Liverpool but transferred to Liverpool by the Registrar General. Of these cases 10 had not been notified in Liverpool, but may have been notified elsewhere. Similarly, 3 deaths from non-pulmonary tuberculosis were transferred by the Registrar General, none of which had been previously notified in Liverpool.

Deaths from Tuberculosis.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1935, together with the number of new cases notified and the death rates which prevailed in England and Wales are given in Table XIX.

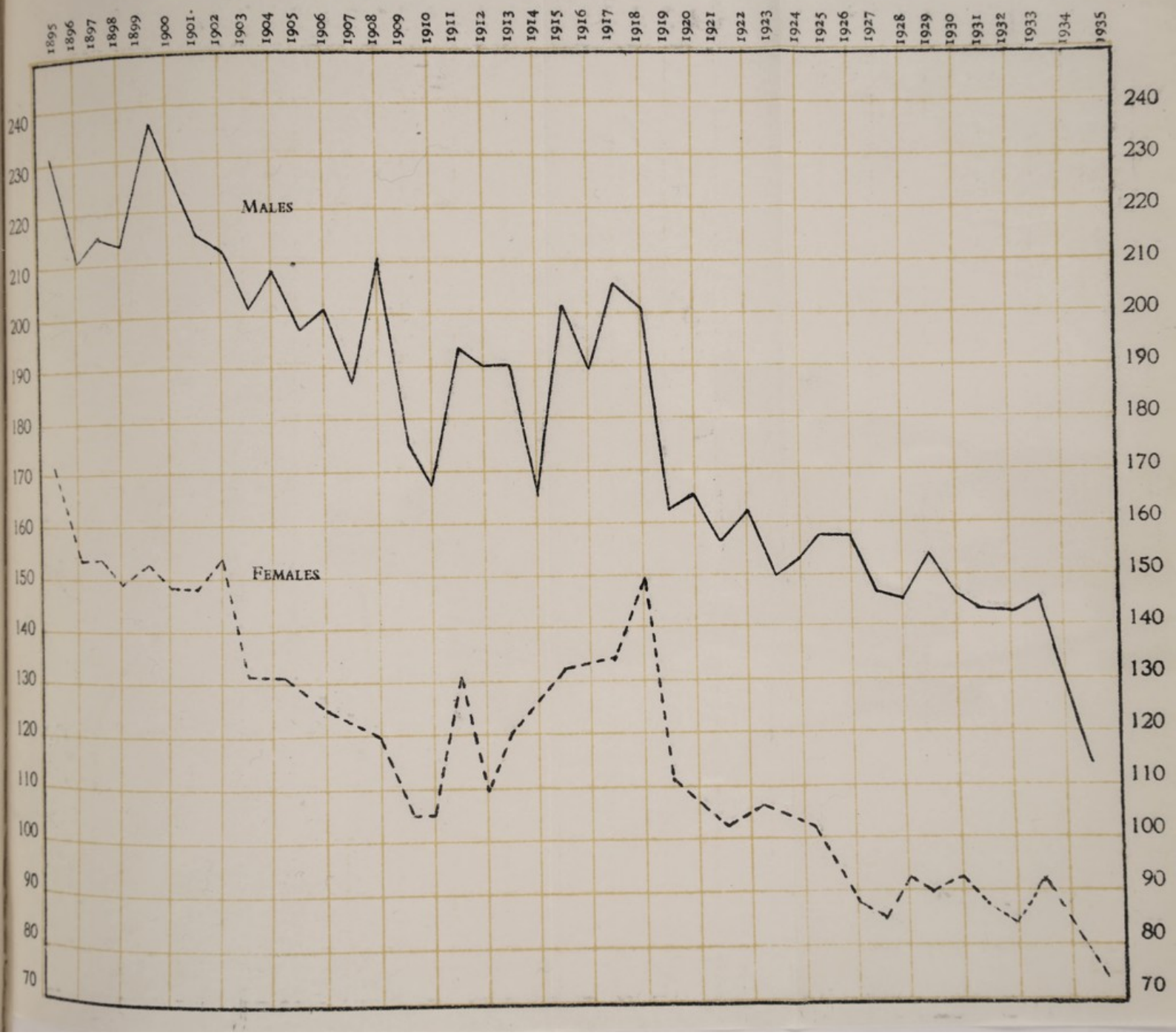
TABLE XIX.

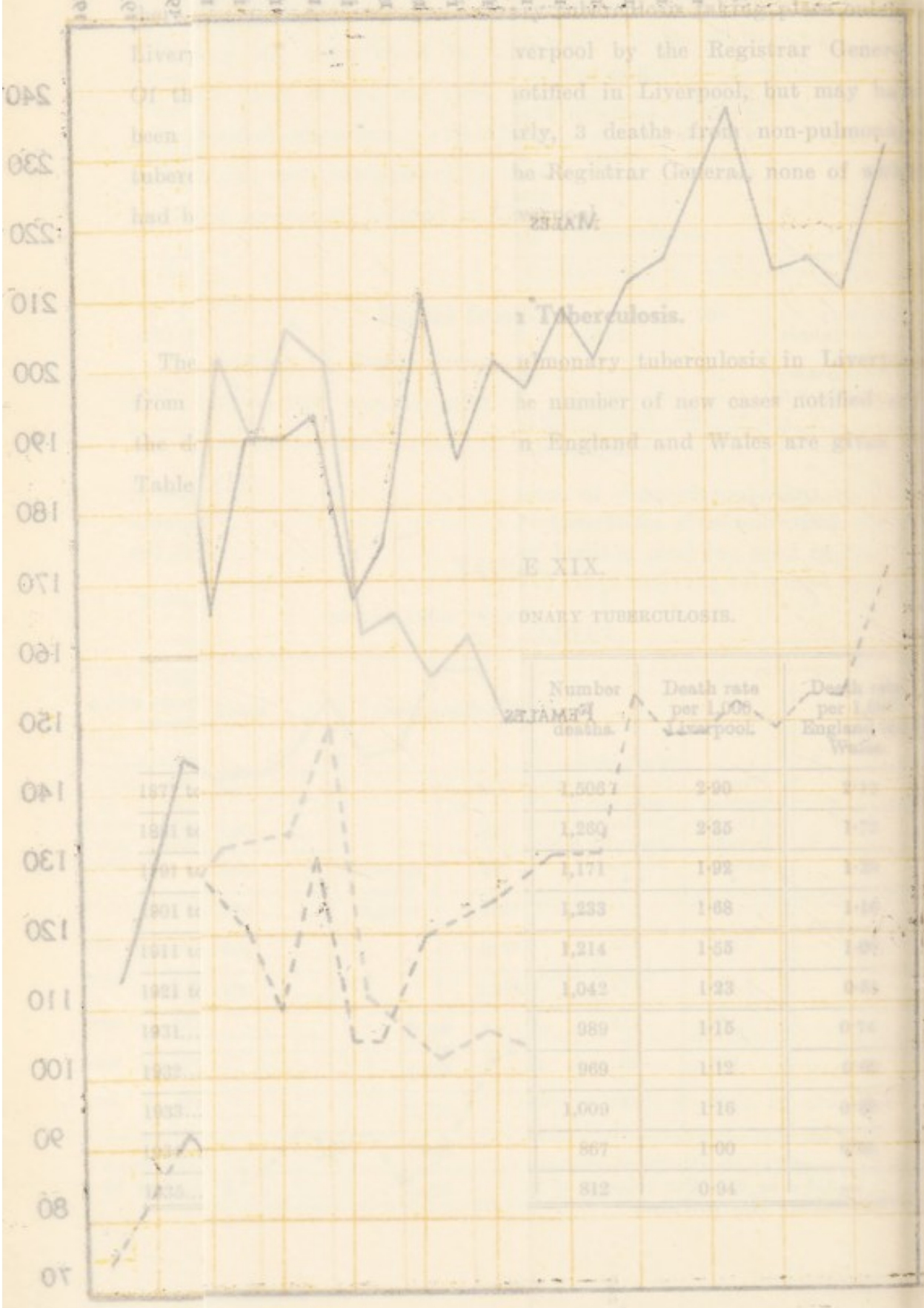
DEATHS FROM PULMONARY TUBERCULOSIS.

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	2·13
1881 to 1890		Nil	1,260	2·35	1·73
1891 to 1900		Nil	1,171	1·92	1·39
1901 to 1910		2,216*	1,233	1·68	1·16
1911 to 1920		2,812*	1,214	1·55	1·08
1921 to 1930		2,356	1,042	1·23	0·81
1931.....	2,358		989	1·15	0·74
1932.....	2,005		969	1·12	0·69
1933.....	2,279		1,009	1·16	0·69
1934.....	1,903		867	1·00	0·63
1935.....	1,697		812	0·94	—

CITY OF LIVERPOOL.

PULMONARY TUBERCULOSIS DEATH RATES PER 100,000 POPULATION




240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70

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

TABLE XX.

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	·75
1881 to 1890		Nil	527	·98	·70
1891 to 1900		Nil	500	·82	·63
1901 to 1910		100*	416	·56	·50
1911 to 1920		716*	349	·45	·35
1921 to 1930		640	234	·27	·20
1931	719		164	·19	·15
1932	672		170	·19	·15
1933	654		148	·17	·13
1934	585		129	·15	·13
1935	502		123	·14	—

* Voluntary notification from 1901 to 1911.

The age and sex distribution of deaths from both pulmonary and non-pulmonary tuberculosis are given in Table XXI.

TABLE XXI.

AGE PERIODS OF DEATHS FROM TUBERCULOSIS DURING 1935.

Age Periods.	Pulmonary.		Non-Pulmonary.	
	Males.	Females.	Males.	Females.
0—	1	0	5	2
1—	2	2	24	12
5—	1	2	7	8
10—	4	10	4	1
15—	23	48	5	8
20—	53	70	8	2
25—	77	90	7	6
35—	98	38	2	7
45—	108	39	4	2
55—	72	22	1	1
65—	31	21	2	5
Totals ...	470	342	69	54

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 XXII.

TABLE XXII.

DEATHS FROM PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.	Quarters.								Year 1935 Totals.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	21	7	18	14	9	10	10	5	58	36	94
Abercromby	3	4	5	1	6	1	1	5	15	11	26
St. Peters	9	10	14	6	5	1	13	3	41	20	61
Toxteth Park	9	8	10	9	5	5	11	8	35	30	65
Edge Hill & Sefton Park ...	19	7	11	11	11	15	14	9	55	42	97
Wavertree	12	5	14	4	4	4	5	9	35	22	57
Fazakerley	5	8	8	8	9	5	5	4	27	25	52
Walton & Walton Park ...	15	9	12	7	9	8	10	10	46	34	80
Kirkdale	18	10	13	11	4	10	14	4	49	35	84
Netherfield	13	11	14	13	3	4	8	7	38	35	73
Everton...	9	5	7	5	4	2	11	3	31	15	46
West Derby...	10	11	11	8	12	6	7	12	40	37	77
City	143	95	137	97	81	71	109	79	470	342	812
	238 29·3%		234 28·8%		152 18·7%		188 23·2%		57·9 %	42·1 %	

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

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

TABLE XXIII.

DEATHS FROM NON-PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.	Tuberculous Peritonitis.		Tuberculous Meningitis.		Other forms of Tuberculosis		Year 1935. Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	—	—	4	2	—	—	4	2	6
Abercromby	—	—	—	—	1	1	1	1	2
St. Peters	—	—	2	1	4	1	6	2	8
Toxteth Park	—	2	2	2	4	3	6	7	13
Edge Hill & Sefton Park	1	2	4	2	2	3	7	7	14
Wavertree	—	—	2	2	2	4	4	6	10
Fazakerley	1	1	2	3	1	2	4	6	10
Walton & Walton Park	—	—	1	3	4	5	5	8	13
Kirkdale	—	—	4	2	5	4	9	6	15
Netherfield	1	—	7	—	—	2	8	2	10
Everton...	—	—	3	1	1	1	4	2	6
West Derby	1	1	3	2	7	2	11	5	16
City	4	6	34	20	31	28	69	54	123
	10		54		59				

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

VENEREAL DISEASES

VENEREAL DISEASES.

Veneral diseases are of great importance to the community owing to the severity of the complications and after-effects in later life. As a result of the Report of the Royal Commission, the Public Health (Venereal Diseases) Regulations were passed in 1916, and came into force in Liverpool in 1917. The object of the regulations was to ensure that the treatment of affected persons should be carried out so as to effect their cure and to prevent the further spread of infection. The various county and borough councils were required to prepare schemes for free treatment at or in hospitals or institutions of persons suffering from these diseases and for the free distribution of suitable drugs to properly qualified medical practitioners. By a scheme of educational propaganda the public generally were to be informed of the dangers of these diseases and also of the facilities for free treatment which were available. The Government originally paid 75 per cent. of the expenditure, but this payment is now included in the Block Grant and is subject to revision from time to time.

The scheme has had an extensive trial and very good results may be claimed for it. The free facilities and supply of special drugs have been fully taken advantage of by many classes of patients and their medical advisers. The accompanying graph shows the total number of new cases of the two principal venereal diseases year by year. The Central Clinic at Mill Road Infirmary is now well established. The total attendances of all patients during the year was 27,270, which represents an increase of more than 7,000 over the previous year. There are two clinics daily for both males and females.

The Clinics operated by the Corporation during 1935 were as follows:

Seamen's Dispensary—Males only.

Mill Road Infirmary (Special Clinic)—Males and Females.

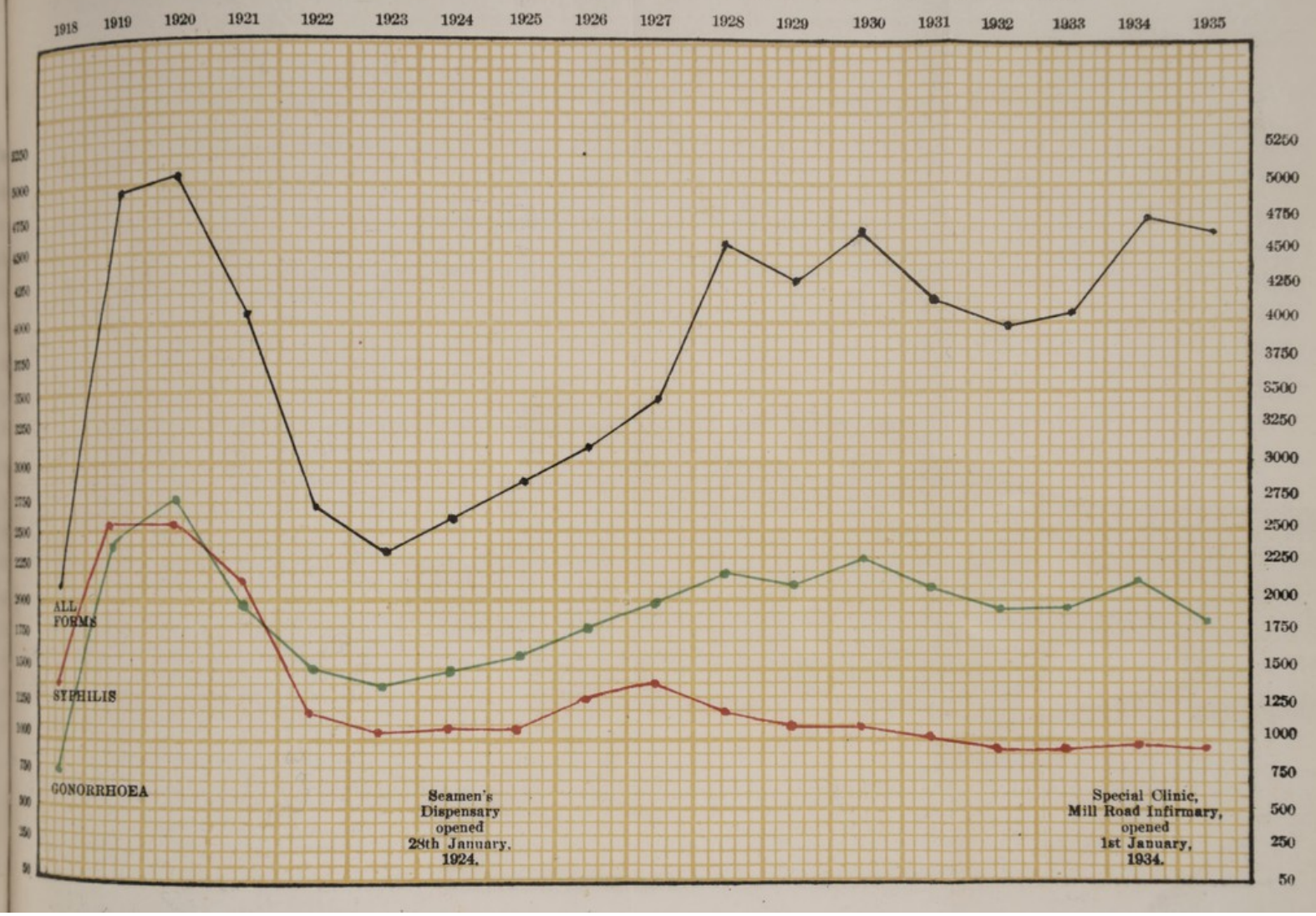
Royal Infirmary—Males and Females.

Edge Lane Hospital—Females only.

The following summarises the work of the treatment centres for the year 1935:—

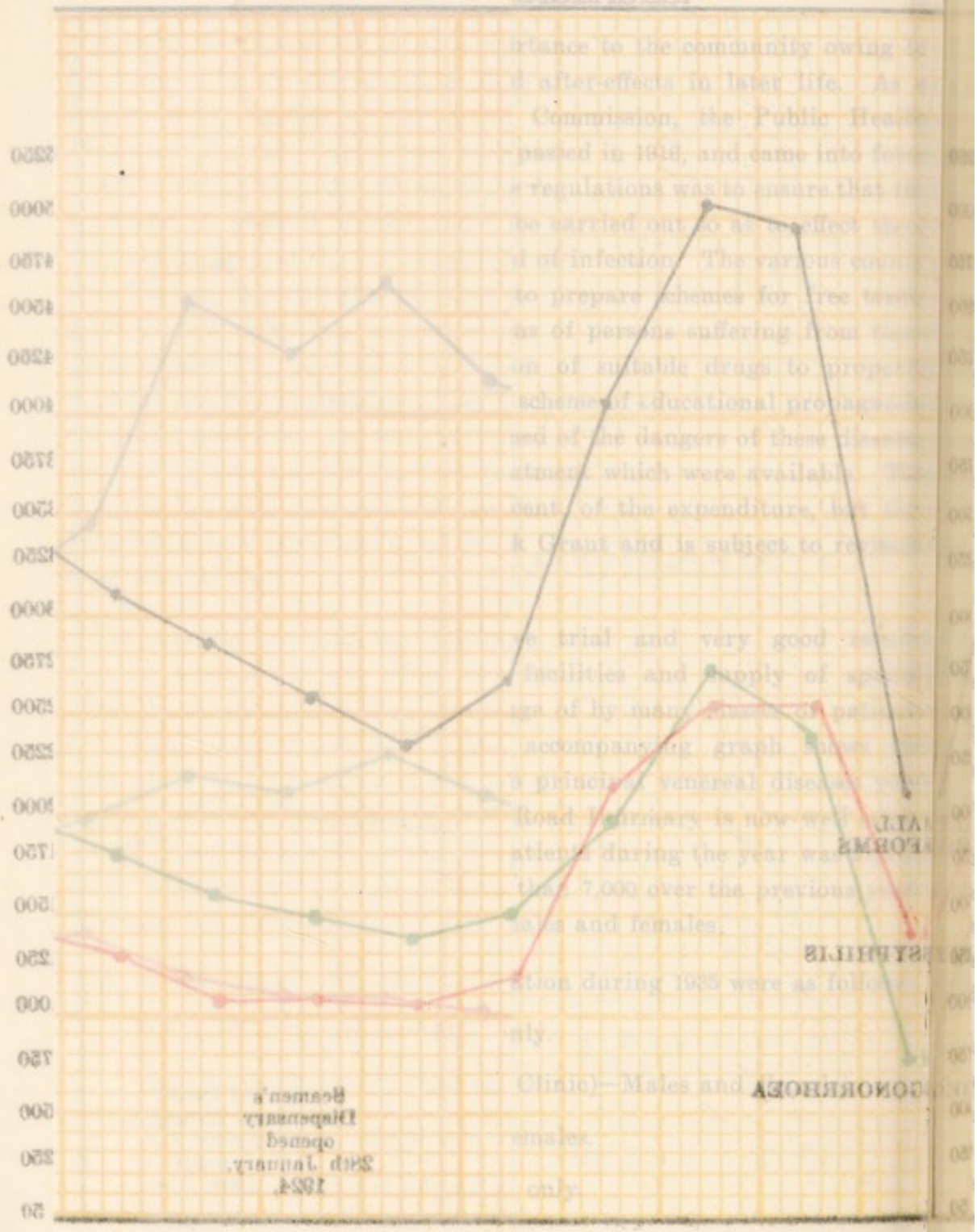
CITY OF LIVERPOOL.

VENEREAL DISEASES. Chart shewing number of New Cases from 1918 to 1935.



CITY OF VI

VENEREAL DISEASES. Chart showing



	Seamen's Dispensary. Males only.	†Royal Infirmary. Males and Females.	*Royal Southern Hospital. Males and Females.	†Mill Road Infirmary Spl. Clinic. Males and Females.	†Edge Lane Medical Home. Females.	Total. Males and Females.
New cases ...	2,259	1,242	8	1,035	90	4,634
Old and new patients						
Total attendances	52,804	63,820	361	27,270	—	144,255
In-patient days	—	75	4	7,104	5,475	12,658

The Seamen's Dispensary, Mill Road Special Clinic and the Royal Infirmary are open all day for treatment of these diseases in the male, while Mill Road Special Clinic is also open afternoon and evening for females; at the Royal Infirmary treatment for females is provided each day at hours convenient to the greatest number of patients.

Laboratory services for the diagnosis and control of treatment are provided at the City Laboratories, the Thompson Yates Laboratory of the University and the Mill Road Infirmary Laboratory.

At the city laboratory, Wassermann reaction tests are done three times weekly, rapid diagnosis obviating delay in treatment.

Wherever possible an effort is made to ascertain the person responsible for the patient's infection, with a view to bringing him or her under observation and treatment.

Experience has shown that it is the close personal touch with the patient and the interest in his case which helps to stimulate the sufferer to continue treatment, but the absence of any feeling of ill-health or discomfort may cause the development of a sense of indifference and the desire to avoid the irksome routine of attendance.

Many patients who are suffering from gonorrhœa unfortunately do not report for treatment until a few weeks have elapsed and the disease has extended considerably from the original point of infection, in many cases having complications, and involving important organs. This neglect or inability to seek medical advice may be attributed to the nature of employment or absence on ship at sea, but those who reside

* Closed as from 31st January, 1935.
† Beds for In-patients are reserved at these Institutions.

locally frequently can and do come for treatment at an earlier stage; the disease, however, is well established in the majority before they present themselves for treatment.

An analysis of the various types of the total actual number of new venereal disease cases met with at the clinics is as follows :—

Syphilis	32·1%
Soft chancre	5·0%
Gonorrhœa	62·9%

The figures for Liverpool correspond to those for the country generally.

Seamen's Dispensary.

The primary function of this clinic is to provide free and expert treatment for seamen of all nations, to act in an advisory capacity to medical officers of ships, ships' captains, and foreign consulates, and to provide a laboratory service for rapid diagnosis. Although the majority of the patients are seamen, other classes of occupation are also dealt with.

The staff consists of four part-time medical officers and four highly trained orderlies.

Excellent results have been recorded both in the treatment of gonorrhœa and of syphilis, and special schemes of treatment particularly suited to the needs of the seafaring population have proved efficient.

During the year under review, 3,248 cases have been advised and treated, of whom 2,259 reported for the first time. Of these, 780 were found not to be suffering from venereal disease.

The classification of the cases dealt with at the Seamen's Dispensary for the first time during the year, and also for the five previous years, was as under :—

	1930	1931	1932	1933	1934	1935
Syphilis	419	346	293	304	354	380
Soft chancre ...	141	92	106	136	128	131
Gonorrhœa	1,113	970	834	918	1,019	968
Non-Venereal Cases...	589	563	440	586	698	780
	2,262	1,971	1,673	1,944	2,199	2,259

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Services rendered at the Venereal Diseases Treatment Centres during the Year, 1935.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals.
1. Number of cases on 1st January under treatment or observation	692	230	20	...	728	252	16	4	1,456	486	1,942
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	161	16	8	...	207	8	...	...	376	24	400
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	115	7	...	...	...	...	...	...	115	7	122
,, secondary	48	21	...	...	...	...	...	...	48	21	69
,, latent in 1st year of infection	16	13	...	...	...	...	...	...	16	13	29
,, all later stages	191	129	...	...	...	...	...	...	191	129	320
,, congenital	34	49	...	...	...	...	...	...	34	49	83
Soft Chancre	...	...	130	...	...	...	...	...	130	...	130
Gonorrhœa, 1st year of infection ...	...	...	...	...	1,231	104	...	...	1,231	104	1,375
,, later	...	...	...	...	105	47	...	...	105	47	152
Conditions other than venereal ...	...	...	...	...	...	...	1,338	254	1,338	254	1,592
Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	261	61	19	...	271	52	...	...	551	113	664
	1,518	526	177	...	2,542	503	1,354	258	5,591	1,287	6,878
5. Number of cases discharged after completion of treatment and final tests of cure	73	11	65	...	619	70	1,331	244	2,088	325	2,413
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	70	9	...	...	...	...	...	...	70	9	79
,, secondary	30	25	...	...	...	...	...	...	30	25	55
,, latent in 1st year of infection	5	8	...	...	...	...	...	...	5	8	13
,, all later stages	138	61	...	...	...	...	...	...	138	61	199
,, congenital	12	14	...	...	...	...	...	...	12	14	26
Soft Chancre	...	...	23	...	...	...	...	...	23	...	23
Gonorrhœa, 1st year of infection ...	...	...	...	...	470	92	...	...	470	92	562
,, later	...	...	...	...	69	11	...	...	69	11	80
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	39	1	8	...	106	20	...	...	153	21	174
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	211	37	30	...	352	36	...	...	593	73	666
9. Number of cases remaining under treatment or observation on 31st December ...	940	360	51	...	926	274	23	14	1,940	648	2,588
	1,518	526	177	...	2,542	503	1,354	258	5,591	1,287	6,878
10. Number of cases in the following stages of syphilis *(included in Item 6)* which failed to complete one course of treatment :—											
Syphilis, primary	9	6	...	...	...	...	...	...	9	6	15
,, secondary	3	4	...	...	...	...	...	...	3	4	7
,, latent in 1st year of infection	1	3	...	...	...	...	...	...	1	3	4
,, all later stages	33	26	...	...	...	...	...	...	33	26	59
,, congenital	6	7	...	...	...	...	...	...	6	7	13
11. Number of attendances :—											
(a) for individual attention of the medical officers	14,742	7,563	874	...	28,973	5,540	2,576	678	47,165	13,781	60,946
(b) for intermediate treatment, e.g., irrigation, dressing	526	69	1,184	...	66,919	14,223	18	9	68,647	14,301	82,948
TOTAL ATTENDANCES ...	15,268	7,632	2,058	...	95,892	19,763	2,594	687	115,812	28,082	143,894
12. In-patients :—											
(a) Total number of persons admitted for treatment during the year ...	78	35	6	...	56	12	11	...	151	47	198
(b) Aggregate number of "in-patient days" of treatment given	3,491	862	191	...	1,958	529	148	...	5,788	1,391	7,179

	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 years and over.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	3	4	...	6	9	13	22	26	34	49

	Approved Arsenobenzene Compounds.	Mercury.	Bismuth.
14. Total number of injections given (out-patients and in-patients) ...	8,272	1,241	11,505

	Microscopical		Serum Tests		
	for spirochetes.	for gonococci.	Wassermann.	Others for Syphilis.	for Gonorrhœa.
15. Pathological Work :—					
(a) Number of specimens examined at, and by the medical officer of, the Treatment centre	237	2,633	...	...	...
(b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory ...	182	8,671	5,425	1,030	1,506

Venereal Diseases.—Time Table of Treatment Centres

		NEW PATIENTS. Males.	NEW PATIENTS. Females.	CONTINUATION TREATMENT. Males.	CONTINUATION TREATMENT. Females.
MONDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
TUESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m.	5.30 to 6.30 p.m.	9.30 a.m. to 4.30 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m., 6 to 8 p m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m., 6 to 8 p.m.
WEDNESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p m.	2 to 4 p.m. 6 to 8 p.m.
THURSDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	5 to 6 p.m.	12 noon to 1 p.m.	9.30 to 11.30 a.m. and 2 to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
FRIDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. and 7 to 8 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
SATURDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m.	...	9.30 a.m. to 1 p.m.	...
	Royal Infirmary ...	By arrangement	...	9.30 a.m. to 1 p.m.	By arrangement.
	Mill Road Infirmary ...	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.

Clinics in other Merseyside Areas.

	Males	Females
BIRKENHEAD General Hospital	Mon., Wed., and Fri., 5-30 p.m.	Tues., 5-30 p.m. Fri., 2 p.m.
BOOTLE General Hospital	Mon., 5 p.m. Tues., Wed., and Fri., 6-0 p.m.	Wed., 12 noon. Thurs., 5 p.m.
WALLASEY Mill Lane Clinic	Wed., 7-45 to 8-30 p.m.	Mon., 5-30 to 6-30 p.m.

HOSPITAL AND HEALTH SERVICES.

INFECTIOUS HOSPITALS and SANATORIA.

During the year 1935 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	187 beds.
,,	South	101 ,,
,,	East	174 ,,
,,	Fazakerley	300 ,,
,,	Fazakerley Annexe	150 ,,
,,	Sparrow Hall	160 ,,
Fazakerley Sanatorium		265 ,,
Broadgreen Sanatorium		336 ,,
*Cleaver Sanatorium		200 ,,
		1,873 ,,

At the City Hospital, Fazakerley, 38 beds are set aside for the treatment of tuberculous patients, in addition to the beds at the Fazakerley Sanatorium.

At the beginning of the year the City Infectious Hospitals were well occupied, the majority of the beds being filled with cases of diphtheria. There were 476 cases in the various hospitals at the beginning of the year and by February this number had increased to 526. This figure gradually decreased to 254 by July, slightly increasing to 300 by September, with an upward tendency towards the close of the year. At the end of December the figure was 382.

The cases of scarlet fever accommodated in hospital during the year have been below normal. At the beginning of the year 183 beds were occupied with scarlet fever cases. In March this figure had increased to 215, gradually diminishing to 97 in August, after which there was a slight increase during September and October. At the end of December the number of cases in hospital was 133.

At the beginning of the year none of the hospital beds were occupied with measles patients. A number of cases, however, were reported in February, and 12 beds were allocated to this disease. The number

* Sanction of the Ministry of Health was obtained for the appropriation of Cleaver Sanatorium from April 1st, 1935.

increased month by month to 140 in July followed by a diminution in August, September and October. In November an increase again took place, 126 beds being occupied, and by the end of the year this figure had increased to 219. A large number of cases were treated in their own homes, and received daily visits from the measles nurses on the Corporation staff. This staff was specially augmented to deal with the large number of cases notified. Where the home conditions were unsatisfactory or at the request of the medical practitioners concerned, the patients were removed to hospital.

There were 23 whooping cough patients in hospital at the beginning of the year, and this number remained steady with slight variations throughout the year. There was an increase, however, in November and December, and at the close of the year there were 61 cases of whooping cough in the City Hospitals.

Some of the beds at the Walton Hospital and at the Olive Mount Hospital were utilised for the treatment of so-called "minor infectious cases" and this assistance proved very useful in dealing with the large number of cases reported for hospital treatment.

Beds were provided at the various hospitals during the year for patients suffering from the following diseases, viz.:—scarlet fever, diphtheria, measles, whooping cough, enteric fever, erysipelas, cerebro-spinal fever, encephalitis lethargica, anthrax, influenzal pneumonia and chickenpox.

The value of the hospitals, and the immense amount of useful work performed, is shown by the fact that no less than 7,707 patients were admitted 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, Waterloo and Seaforth, Great Crosby, Leasowe Hospital, the Children's Convalescent Home, West Kirby, and the Royal Liverpool Children's Hospital, Heswall.

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.

Outside Areas and Smallpox.

The question of smallpox cases in neighbouring areas was specially considered by the Port Sanitary and Hospitals Committee in 1928. Arrangements have been in force for some years with most of the local

authorities in the district for any cases of smallpox occurring in their areas to be accommodated in Liverpool hospitals.

It has always been recognised that the presence of smallpox in areas adjoining or close to Liverpool is a matter in which the city is vitally interested, as an outbreak of this disease, unless promptly dealt with, might result in the spread of the infection to the Liverpool area, and also do considerable harm to the trading interests of the city and port.

A number of the adjoining local authorities have entered into an agreement to pay a retaining fee each year towards the upkeep of a smallpox hospital, the payment being based on census population. A further charge is made for the maintenance of each patient sent into the hospital for treatment.

The following tables, prepared by the medical staff of each of the city hospitals, show the number of patients admitted, the nature of the illness in each case and the results of treatment, during the year 1935 :—

Diseases.	Remaining Dec. 31st, 1934.	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.
City Hospital North, Netherfield Road.									
Scarlet Fever	65	559	11	635	1	9	608	17	—
Diphtheria	39	308	6	353	—	2	296	41	9
Measles	—	132	3	135	—	1	95	28	8
Observation cases... ...	4	111	—	115	—	—	99	15	—
Totals	108	1,110	20	1,238	1	12	1,098	101	17
City Hospital South, Grafton Street.									
Scarlet fever	23	224	—	247	—	2	222	23	—
Measles	1	238	1	240	—	2	199	24	1
Diphtheria	28	363	2	393	—	—	330	49	5
Observation cases... ...	9	24	—	33	—	—	22	11	—
Totals	61	849	3	913	—	4	773	107	6

Diseases.	Remaining Dec. 31st, 1934.	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.
City Hospital East, Mill Lane, Old Swan.										
iphtheria	158	1,035	—	1,193	—	6	998	141	18	48
bservation Cases ...	1	201	—	202	—	—	179	21	—	2
Totals	159	1,236	—	1,395	—	6	1,177	162	18	50
City Hospitals, Fazakerley.										
arlet fever	93	682	96	871	—	70	710	86	—	5
teric fever group ...	4	20	—	24	—	—	22	—	—	2
phtheria	265	1,025	57	1,347	—	11	1,127	146	15	63
asles	1	653	21	675	—	18	515	91	6	51
ooping Cough	—	58	—	58	—	1	22	28	—	7
her diseases	102	1,232	46	1,380	—	16	1,172	136	13	56
Totals	465	3,670	220	4,355	—	116	3,568	487	34	184
Fazakerley Sanatorium.										
berculosis	298	351	—	649	—	—	268	299	1	82
Broadgreen Sanatorium.										
berculosis	328	426	80	834	—	14	344	336	—	140
Cleaver Sanatorium.										
berculosis	161	65	51	277	—	9	84	184	—	—

Infectious Disease Hospitals and Sanatoria.

Statement of Admissions, Discharges, Deaths, and Transfers.

Hospital or Sanatorium.	Remaining Dec. 31st, 1934.	Admitted	Transferred to	Discharged	Transferred from	Died.	Remaining Dec. 31st, 1935.
City Hospitals, Fazakerley	465	3,670	220	3,568	116	184	487
City Hospital North	108	1,110	20	1,098	13	26	101
City Hospital East	159	1,236	—	1,177	6	50	162
City Hospital South	61	849	3	773	4	29	107
Broadgreen Sanatorium	328	426	80	344	14	140	336
Fazakerley Sanatorium	298	351	—	268	—	82	299
Cleaver Sanatorium	161	65	51	84	9	—	184
TOTAL	1,580	7,707	374	7,312	162	511	1,676

General and Children's Hospitals and other Institutions.

Statement of Admissions, Discharges, Births, Deaths, and Transfers.

Hospital or Establishment	Remaining Dec. 29th, 1934	Admitted.	Transferred to	Born.	Discharged.	Transferred from	Died.	Remaining Dec. 28th, 1935.
Administered under the Poor Law Acts :—								
Belmont Road Institution ...	1,215	4,179	660	...	4,117	420	357	1,160
Smithdown Road Hospital ...	909	9,417	167	1,482	9,013	800	1,294	868
Kirkdale Homes	1,286	170	387	...	261	110	227	1,245
Olive Mount Children's Hospital ...	217	1,540	1,262	...	2,237	366	43	373
Cottage Homes, Fazakerley ...	388	45	137	...	130	112	...	328
Shaw Street Boys' Home	55	30	32	...	57	7	...	53
Seafield House	234	23	3	...	23	5	...	232
Administered under the Public Health Acts :—								
Walton Hospital	1,254	15,809	224	2,169	15,711	458	1,903	1,384
Mill Road Infirmary	482	9,107	127	1,549	9,685	262	830	488
Alder Hey Hospital	656	9,870	429	...	8,149	1,247	756	803
TOTAL	6,696	50,190	3,428	5,200	49,383	3,787	5,410	6,934
CASUAL WARDS— Belmont Road...	23	4,182	...	...	4,196	...	...	9

FAZAKERLEY HOSPITALS.

REPORT OF THE MEDICAL SUPERINTENDENT.

During the year, 3,670 patients were admitted to the Fazakerley Hospitals (excluding Fazakerley Sanatorium), a decrease of 10 as compared with the previous year. These admissions were as follows :—

Fazakerley Isolation Hospital	1,867
Fazakerley Annexe Hospital	925
Sparrow Hall Hospital	878

Anthrax.

Two cases of anthrax infection came under treatment at the city hospital, Fazakerley, during 1935. Both patients were Liverpool residents working in the city, one being employed as a warehouseman by a firm of wool brokers and the other as a wool sorter by a local wool merchant. The first of these, that of an elderly man, was moderately severe, but the second was of marked severity and required an exceptionally large amount of anti-anthrax serum (2355 ccs.) to effect recovery.

In the course of the year eighteen persons attended at the hospital for investigation under anthrax suspicion. These were mainly employees at the docks or local tanneries, etc. One man was found to be suffering from that disease and was detained for treatment. The others were cases of local septic infection, boils, carbuncles, etc.

Cases of Anthrax treated at Liverpool City Hospital, Fazakerley, during 1935.

Age	Sex	Occupation	Days ill on admission	Site of Infection	Clinical Notes	Serum injected daily. Each dose expressed in ccs	Complications.	Result
59	M.	Wool broker's warehouseman	4	Side of neck behind ear	Incipient dysphagia much induration	300 150 300 300 300	Tardy response to treatment	Recovery.
19	F.	Wool sorter	2	Side of throat below angle of jaw	Very extensive swelling from ear to nipple line; toxæmia marked	270 250 } 325 } 250 } 300 } 310 } 90 } 300 260 (90 ccs. hæm. streptococcus serum also given.)	Swelling from above ear to lower costal margin, dyspnœa, dysphagia, delirium	Recovery.

serum was given intravenously except the 90 ccs. on the fourth day in case 62 which was ted intramuscularly owing to the delirious state of the patient. In addition to serum, each nt was given 0·3 mgm. and 0·45 mgm. neokharsivan intravenously on the first and third days ctively.

ections of serum bracketed were given in the one day.

MUNICIPAL HOSPITALS and INSTITUTIONS.

The Hospitals and Institutions under the management of the Port Sanitary and Hospitals Committee number twenty, in addition to the Port Sanitary Hospital at New Ferry. They may be classified as follows :—

(*a*) Isolation Hospitals and Sanatoria, the property of the Liverpool Corporation prior to 1930	8
(*b*) Hospitals transferred under the Local Government Act, 1929, and subsequently appropriated	4
(*c*) Hospitals and other Institutions transferred under the Local Government Act, 1929, and not appropriated ...	8
Total	20

A description of these Institutions is appended in the accompanying table.

GENERAL REVIEW.

During 1935 there were included in the Annual Estimates capital sums for the extension of the hospital buildings as varied subsequently in certain cases by the City Council. The following statement shows the allocation of funds and the progress that has been made.

Nurses' Homes.	£.	Position, March 31st, 1936.
Smithdown Road Hospital.	17,680	Work nearly completed.
Walton Hospital.	46,250	Work in progress.
Alder Hey Children's Hospital.	19,000	Work in progress.
Cleaver Sanatorium.	1,950	Completed.
Fazakerley Isolation Hospital.	19,000	Plans approved.
Mill Road Infirmary.	11,000	Negotiations for site.
Mill Lane Hospital.	2,500	Plans in preparation.
Continuation Departments.		
Smithdown Road Hospital.	5,088	Completed.
Mill Road Infirmary.	5,000	Plans approved.
Walton Hospital.		Plans in preparation.

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HOSPITALS, SANATORIA, AND INSTITUTIONS UNDER THE CONTROL OF THE PORT SANITARY AND HOSPITALS COMMITTEE.

Name of Institution.	Built by	Date of Foundation.	No. of Beds Dec. 31st, 1935.	Original User.	Present User.
Walton Hospital ...	West Derby Union	1864	1,804	General Mixed Institution	Mainly a General Hospital, but some male and female healthy and infirm adults. (*a*) acute and subacute medical, surgical, gynaecological and special. (*b*) Adult pulmonary tuberculosis unsuitable for sanatorium treatment. (*c*) Maternity. (*d*) Female Venereal Disease. (*e*) Isolation for minor infectious diseases in children. (*f*) Nursery for newly born and illegitimate children.
Belmont Road Institution	West Derby Union	1890	1,603	General Mixed Institution	Healthy adults including casuals, aged, infirm, and bedridden men and women. Skin diseases. Casual Wayfarers.
Smithdown Road Hospital	Township of Toxteth Park	1858	1,203	General Mixed Institution	General Hospital. (*a*) Acute and subacute Medical, Surgical and Gynaecological and special cases. (*b*) Acute mental disease. (*c*) Chronic senile dementia (females). (*d*) Low grade mentally defective children. (*e*) Female epileptics. (*f*) Maternity. (*g*) A few healthy adults.
Kirkdale Homes ...	Liverpool Select Vestry	1843	1,502	School for Destitute Boys	Homes for aged and infirm men and women. Chronic and senile mental diseases (males). Chronic Encephalitis Lethargica (Males). Male Epileptics.
Mill Road Infirmary ...	West Derby Union	1838	762	General Mixed Institution, but present buildings intended only for Hospital use.	General Hospital for acute disease, Medical, Surgical, Gynaecological, Maternity and Special, Male and Female Venereal Diseases.
Alder Hey Children's Hospital	West Derby Union	1914	952	Infirm and Aged	General Children's Hospital. Medical, Surgical, Orthopaedic (including Surgical Tuberculosis).
Olive Mount Children's Hospital	Liverpool Select Vestry	1903	475	Receiving Home for Children, Cottage Homes for Children.	Receiving Home for Children. Nursery for destitute children, 4 years. Acute infectious diseases (Measles, Whooping Cough, and Chicken Pox). Convalescent Children.
Cottage Homes, Fazakerley	West Derby Union	1887	571	Homes for Resident Children	Homes for Resident Children up to 14 years.
Shaw Street Home for Boys	Purchased by West Derby Union	Opened 1913	79	Private House	Home for working boys over 14 years.
Seafield House	Leased from Mersey Docks & Harbour Board by West Derby Union	Leased 1912 Renewed 1932	235	Hydropathic adapted for present use	Mentally defective children (mainly imbecile and ineducable of higher grade).
Cleaver Sanatorium ...	West Derby, L'pool, and Toxteth Park Joint Hospital Committee.	1903	200	Pulmonary Tuberculosis	Pulmonary Tuberculosis in Children.
Deysbrook House ...	Purchased by West Derby Union	1911	—	Private Home for Children	Not in use.
Broadgreen Sanatorium	Liverpool Select Vestry	1906	336	Infirm and aged	Sanatorium for Tuberculosis. Male and Female, Adult and Children. Pulmonary.
Fazakerley Sanatorium	Liverpool City Council	1920	265	Pulmonary Tuberculosis in Adults	Original use.
Fazakerley Isolation ...	Liverpool City Council	1906	300	All Types of Infectious Disease except Small Pox	Original use, and Tuberculosis, both Pulmonary and mixed Pulmonary and Surgical.
Fazakerley Annexe ...	Liverpool City Council	1901	150	All Types of Infectious Diseases.	Original use.
Sparrow Hall	Liverpool City Council	1917	160	Small Pox Hospital	Available for Small Pox, but mainly used for Infectious Diseases.
City Hospital North ...	Dr. Gee	1866	187	Infectious Disease	Scarlet Fever, Diphtheria and Measles.
City Hospital East ...	Wavertree Urban District Council	1888	174	Infectious Disease	Diphtheria.
City Hospital South ...	Liverpool City Council	1884	101	Infectious Disease	Scarlet Fever, Diphtheria, and Measles.
			11,059		

Laundry Extensions.	£.	Position, March 31st, 1936.
Smithdown Road Hospital.	11,530	Work in progress.
Fazakerley Isolation Hospital.	4,300	Work completed.
Broadgreen Sanatorium.	1,640	New machinery.
Boiler House Extensions, etc.		
Walton Hospital.	3,700	Completed.
Mill Road Infirmary.	7,094	Completed.
Broadgreen Sanatorium.	2,950	Completed.
Alder Hey Hospital.		
Lay out of land.		Work in progress.
Conversion of Ward to Cubicles.	1,170	Completed.
Broadgreen Sanatorium.		
Patients' Dining Room.	1,965	Completed.
Fazakerley Sanatorium.		
Porters' Lodge.	930	Completed.
Replacement of Recreation Rooms, etc.	5,000	Plans prepared.
Fazakerley Isolation Hospital.		
Four blocks of cubicles.	20,000	Plans approved.
Treatment block.	7,500	Plans sent to Ministry of Health.
Belmont Road Institution.		
Mortuary.	2,370	Completed.
Chapels.	4,570	Completed.

The major portion of this projected expenditure relates to the provision of accommodation for nurses and for continuation departments. The necessity for these extensions has been discussed in previous reports and in the special report to the Co-ordination (Special) Committee on the development of hospital services. This need arises from the greatly-increased resort to the general, children's and skin hospital on the part of the working class population. It is of interest to review the figures relating to the alterations in the work of the Transferred Hospitals in the six years that have elapsed since the Local Government Act of 1929 came into operation. Thus in 1930, the year after the transfer of the Municipal Hospitals from the West Derby Board of Guardians, the admissions to the institutions under their control numbered 38,595 whereas during 1935 they numbered 50,190, an increase in those admitted of 11,595, or 30 per cent. during the period in question.

Increase of Hospital Services:

The number of persons admitted to the hospitals bears a direct relationship to the prevalence of infectious diseases and influenza which varies from year to year. Epidemics of influenza and measles recur at intervals of approximately two years as a rule, and measles was prevalent during 1935. During 1935 there was a moderate prevalence of scarlet fever and influenza, and the numbers admitted to hospital were correspondingly reduced, there being a reduction in the cases of infectious diseases admitted to the transferred hospitals of 729 and an increase in influenza of 102 patients. Persons suffering from pneumonia or other complications of influenza are admitted to all the hospitals.

Despite the slight reduction of infectious cases, there was an increase in the admissions to the transferred institutions of 3,709 patients in 1935 as compared with the previous year. The main part of the increase in admissions was on the medical side, diseases of the digestive organs increasing by 1,055, diseases of the nervous system increasing by 447, diseases of skin by 419, accidents and diseases of pregnancy by 393, and diseases of circulatory system by 346. The proper investigation by modern methods of such cases makes large calls upon the time of the physicians and also upon the laboratories and the X-ray Departments. There was an increase in the number of mothers and babies amounting to 812. There are indications, therefore, that the rapidly-increasing resort to the hospitals has, apart from maternity admissions, again been resumed. The increase was especially marked in relation to children, and the pressure upon Alder Hey Hospital was only relieved by extensive transfers to Olive Mount Children's Hospital.

These figures are shown in detail for the four principal hospitals in the accompanying tables. Six years have now elapsed since the transfer of the general hospitals to the City, and in this period there was an increase in the admissions to the four hospitals of 12,174 patients, or 38 per cent. The character of the work carried out has also greatly altered, methods of examination and treatment having been considerably extended. Thus X-ray examinations have advanced from 13,899 to 51,584, an increase of 37,685 or 271 per cent. Pathological examinations have similarly increased from 29,603 to 78,590, an increase of 48,987 or 165 per cent; the increase is actually greater, both in numbers and character, than is indicated by this figure because at Walton Hospital many

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DETAILS OF ADMISSIONS, DISCHARGES, ETC., AND WORK UNDERTAKEN AT THE FOUR MUNICIPAL HOSPITALS FOR PERIOD 1931 to 1935.

	Walton Hospital					Smithdown Road Hospital.					Mill Road Infirmary.					Alder Hey Hospital.				
	1931	1932	1933	1934	1935	1931	1932	1933	1934	1935	1931	1932	1933	1934	1935	1931	1932	1933	1934	1935
*Admissions	13,662	14,958	15,638	15,245	15,809	6,400	7,365	8,559	8,979	9,417	7,840	7,200	8,025	8,200	9,107	6,071	7,129	8,525	7,966	9,870
*Transferred to	303	301	229	222	224	465	403	230	194	167	380	230	95	65	127	344	408	530	637	429
*Born	1,410	1,827	1,927	1,976	2,169	1,015	1,127	1,159	1,397	1,482	896	990	1,061	1,322	1,549	—	—	—	—	—
*Discharged	13,069	14,651	15,584	15,209	15,711	6,090	6,872	7,893	8,440	9,013	7,463	7,479	8,224	8,558	9,685	4,812	6,027	6,959	7,102	8,149
*Transferred from	770	669	555	571	458	682	1,122	926	955	800	985	344	215	293	262	861	852	1,371	808	1,247
*Died	1,689	1,690	1,897	1,782	1,903	1,046	1,015	1,204	1,183	1,294	749	609	745	702	830	781	712	810	719	756
Surgical Operations	2,287	2,868	2,993	3,607	3,897	664	800	1,077	922	839	1,552	1,927	2,209	2,416	2,787	1,264	1,496	2,242	2,266	2,715
Out-Patient Attendances ...	12,845	26,563	29,592	33,708	49,017	NoR'd	9,352	12,016	19,633	27,871	5,744	12,635	32,184	51,341	82,917	14,691	20,048	24,005	32,213	43,748
Pathological Examinations ...	25,603	22,147	20,630	24,506	29,018	3,200	4,463	5,745	9,160	10,843	4,634	5,425	8,640	17,071	26,145	2,115	2,718	5,611	6,838	12,584
Post-mortems	417	978	1,033	1,109	1,344	No Record		101	98	84	108	141	176	227	295	135	210	216	92	90
X-Ray Examinations... ...	3,575	3,685	7,913	17,292	20,181	1,892	2,335	4,457	5,531	8,091	5,395	7,472	8,288	11,008	13,329	4,176	6,204	8,182	8,081	9,983

* These figures correspond with the returns to the Ministry of Health and are made up to the last week-end of each year. This accounts for the slight variation between the figures returned by the respective Hospitals which are for the actual Calendar year.

examinations formerly carried out in the laboratory are now made in the clinic rooms attached to each division. Further, the appointment of two medical pathologists at Walton and Mill Road group laboratories has radically altered the nature of the examinations made. Surgical operations have advanced from 5,147 to 10,238, an increase of 5,091, or 98 per cent. In comparison with the previous year there was an increase of 1,027 operations. There has been an alteration in the character of the work, many more acute cases, such as road accidents and other surgical emergencies, being admitted. It is beyond question that such an expansion of the work of the hospitals has made and will make increasing demands upon the medical, nursing and technical staffs of the hospitals. The extensions of staff which have been made have been barely adequate to cope with the increased numbers of patients, and further increases of staff will inevitably be called for in the near future.

Maternity Departments.

The number of births has increased since 1930 from 2,858 to 5,200, an increase of 2,342 births or 82 per cent. The maternity wards were, for the most part, not specially built for this purpose, although certain essential adaptations have been made; many of the ward units are too large. The ante-natal clinics are quite inadequate and are much overcrowded. The character of these units is now under review. Provision is made for an ante-natal clinic in the Continuation Department at Mill Road Institution, and at Smithdown Road Hospital a new building is proposed. Despite these defects admirable work has been done in the maternity units and a very low maternal mortality has to be recorded for the year 1935. The number of deaths of mothers confined throughout in the City Hospitals was 18 or 3·4 per thousand compared with a figure of 3·26 per thousand for the whole city. The figures for the hospitals is heavily loaded by the deaths of 9 patients who were admitted on account of illness.

The Minnett gas and air apparatus was used in 2,431 cases with immense relief of suffering..

Continuation Department.

The number of persons treated in the Continuation Out-patient Departments has again markedly increased. Figures of attendances at

these departments are not available for all the hospitals for the whole period of six years but they have increased from 89,828 in 1932 to 224,549 in 1935, an increase of 134,721 or 150 per cent. in the short period of three years. The transferred hospitals contained no buildings erected or adoptable for this purpose. The new admission and continuation block at Alder Hey Hospital was completed in 1932.

The continuation department for medical and surgical cases at Smithdown Road Hospital was completed during the year and came into use. The site available was restricted and it has been fully occupied at once. No provision was made for ante-natal or post-natal clinics which will require separate provision. The need for this expansion has been shown by an increase of 8,236 attendances in 1935 over 1934.

The increased work of the massage and electro-therapeutic section of this hospital led to an alteration of the block, the ground floor of which is used for this purpose. By the removal of an unnecessary staircase, the space available will be doubled, and the two small wards on the first floor will be joined and utilised for a children's ward which is necessary to meet the requirements of the General Nursing Council. This work is now in progress.

Plans are in preparation by the Land Steward and Surveyor for a similar unit at Mill Road Infirmary which will also provide for the ante-natal clinic. A site is available which is occupied by the former steward's house and certain insanitary cottage property which has now been demolished. Since 1931, the continuation attendances have increased from 5,744 to 82,917. The need for a similar department at Walton Hospital is almost equally pressing, the continuation attendances having increased from 12,845 to 49,017 in the same period; the ante-natal clinic in the maternity unit is quite inadequate for the increasing numbers attending and an ante-natal clinic should be provided in a new building.

There has been a marked increase in the number of eye cases and of dental patients, a considerable and increasing proportion of whom are referred from the Public Assistance Committee. Whilst the provision of a dental panel may reduce the number of dental patients the increasing number of eye patients will call for an extension of this service in the near future.

Infectious Diseases.

The amount of infectious disease fluctuates considerably from year to year. The principal feature of this branch of the hospital services has been the high prevalence of diphtheria in the City since 1930. For the last few years there has been a moderate but steady diminution in the number of cases admitted, and this was continued during 1935. Diphtheria continues to be of the severe type associated with *gravis* and *intermedius* types of the diphtheria bacillus and requiring prolonged treatment in hospital averaging about seven weeks.

The number of patients admitted to the Isolation Hospitals during 1935 was 6,865, a decrease of 296 compared with 1934. Wards for measles, whooping cough, etc., are attached to Walton and Olive Mount Hospitals, and this reduction in the prevalence of infectious disease generally led to a reduction of 729 in the numbers of children suffering from these diseases who were admitted to the transferred hospitals during 1935.

Cases of measles, which recurs in epidemics at intervals approximating two years, rose rapidly in the end of the year and reached a maximum about Christmas and the New Year and placed heavy demands upon the isolation hospital accommodation at that time.

The reduction in the numbers of fever cases permitted some relief to the general and children's hospitals. A ward was occupied at Fazakerley Hospital for the reception of cases of erysipelas. Two of the four ward-blocks at Olive Mount Children's Hospital, formerly occupied by fever cases, were released for the reception of convalescent cases from Alder Hey.

During the prevalence of measles, whooping cough and chicken pox it frequently occurs that children who have diphtheria or scarlet fever and are also suffering from, or have been exposed to, one of these three diseases, are notified to the Health Department for removal. Such cases cannot be admitted into the ordinary wards nor into those used for " bed isolation ". The only suitable accommodation for such cases is in separate individual wards or cubicles, failing which the patient must be left at home. The need for additional cubicles for such cases has been felt for some years. During 1934 plans were drawn up and

submitted to the Ministry of Health for four blocks of cubicles at Fazakerley Isolation Hospital, each block to contain 64 cubicles, and the Council has now sanctioned this work.

The use of the 92 cubicles at Alder Hey Children's Hospital was again an unqualified success, and 2,522 children were admitted into them during the year. In view of the frequency of recurrence of cases of infectious diseases in the Children's Skin Hospital at Belmont Road Hospital there is a real need for a similar conversion of wards into cubicles there. The number of young and delicate children admitted there who are especially liable both to import and to contract infection there makes this an urgent matter; provision is made for this conversion during 1936.

Medical Services.

In previous reports it was indicated that, in order to make the maximum use of the available hospital beds, increases in the medical, nursing and technical staffs were necessary. The advances in medicine and surgery made during the present century have been very great. These advances not only have provided cures for many diseases formerly incurable, but have greatly facilitated the earlier and more accurate diagnosis of many conditions, thus permitting an earlier or more rapid alleviation. Work of this character requires a greater number of resident medical officers and nurses, and calls for the services of specialists in all branches of medicine and surgery and also in the laboratories and X-Ray rooms.

During the year the following appointments were made :—

At the end of 1935 Dr. H. Carter, Medical Superintendent of Mill Road Infirmary, resigned his post on his appointment to a similar position with the Middlesex County Council. He has been replaced by Dr. L. Findlay, formerly Deputy Medical Superintendent of Alder Hey Children's Hospital and then Deputy Medical Superintendent at Mill Road Infirmary.

N. B. Capon, M.D., F.R.C.P. Visiting Physician. Alder Hey Hospital.

E. Whymark, M.B., Ch.B. Visiting Anaesthetist, Walton Hospital.

J. Brodrick, M.R.C.S., L.R.C.P. Ophthalmic Surgeon. Smithdown Road Hospital.

Margaret Mulvein, M.B., Ch.B. R.A.M.O. Cleaver Sanatorium.

One additional R.A.M.O., Alder Hospital.

The Medical Officer records with great regret the death of Mr. C. O. Davies, F.R.C.S., Visiting Surgeon to Mill Road Infirmary. He has been replaced by Mr. S. V. Unsworth, F.R.C.S.

Diagnostic Services and Equipment.

The number of radiological examinations has again shown a marked rise from 41,912 in 1934 to 56,584 in 1935. Portable X-Ray plants have been installed at Smithdown Road Hospital, and all three general hospitals are now so provided. Such apparatus permits bedside examinations in cases such as pneumonia or severe injuries where the condition of the patient does not allow transference to the X-Ray room. They will also serve as a relief to the fixed plant which at times tends to be overloaded.

Considerable increases in the work of the X-Ray departments at Mill Road Infirmary and Walton Hospital, recorded elsewhere in this report, have led to considerable extensions of the plant at a cost of approximately £2,000 and £2,500 respectively. This new plant is now being installed.

The pathological laboratory examinations have risen to 78,590, an increase of 21,015 over the examinations made in the previous year. The increased calls upon the services of the staff at Mill Road Infirmary will call for an additional pathologist at an early date.

The electro-cardiographs at Walton and Smithdown Road Hospitals continue to give invaluable assistance in the diagnosis and control of cases of heart disease, pneumonia and other conditions. During 1935 a portable electro-cardiograph was purchased for Mill Road Infirmary, and the Medical Staff there report that it has proved most valuable in the diagnosis and control of treatment of heart cases.

Nursing Services.

The increases in the number of operations and in the work of the continuation departments referred to above make additional calls upon the nurses in the hospitals, as do advances in various other departments. In the four principal hospitals, nurses have had to be accommodated in makeshift quarters of varying degrees of unsuitability, and even these annexes do not provide for the requisite number of nurses.

Extensions of the existing nurses' homes are accordingly required at each hospital, and provision was made in the year's estimates for new buildings. The most urgently needed was at Smithdown Road, where a new block which will unite the Nurses' Home to the Administrative Block is now completed. The existing accommodation for probationers in the Administrative Block is in progress of being remodelled, and dormitories are being converted into separate rooms. When finished there will be room for 167 nurses and sisters.

The extensions to the Nurses' Homes at Walton Hospital and Alder Hey Children's Hospital to provide 166 and 76 additional beds respectively, are in progress. Plans have also been drawn up and approved by the Council for a new nurses' home at Fazakerley for the night staff in the Isolation Hospitals and Sanatorium to accommodate 75 nurses, where, also, the nurses are accommodated in various rooms not intended for the purpose.

At Cleaver Sanatorium an extension to the Nurses' Home, providing additional bedrooms for twelve nurses, and an extension of the recreation room, has been completed. Small extensions to the Nurses' Homes at Broadgreen Sanatorium and Mill Lane Hospital are needed.

At Mill Road Infirmary any extension of the Nurses' Home is dependent upon acquiring a site for building. The site of an adjacent school, which is not up to modern standards, is eminently suitable for this purpose, but the Education Department will require to find a site for the construction of an equivalent building before the existing school can be vacated. It is hoped that a suitable site will shortly become available.

The increase in the number of maternity cases and of the attendances at the ante-natal clinics necessitates corresponding additions to the

number of pupil midwives. A considerable proportion of the nurses training in the three general hospitals take the Certificate of the Central Midwives Board.

The number of nurses and pupil midwives who have completed their training and passed their final examinations at the several hospitals during the year was as follows :—

	General Nursing Certificates	Children's Nurse's Certificates.	C.M.B. Certificates.	Fever and Tuberculosis Certificates.	R.M.P.A. Certificates.
alton Hospital	47	—	26	—	—
ill Road Infirmary	25	—	23	—	—
nithdown Road Hospital	26	—	32	—	10
lder Hey Children's Hospital ...	—	43	—	—	—
roup I	—	—	—	40	—
roup II	—	—	—	31	—

Almoners in Municipal Hospitals.

The transfer of the former Poor Law Hospitals to the management of the Port Sanitary and Hospitals Committee and the subsequent appropriation of Alder Hey Children's Hospital, Mill Road Infirmary and Walton Hospital under the Public Health Acts placed the position of the assessment and collection of the costs of maintenance on a new and different basis. It had been apparent for a number of years that the number of persons admitted to the Municipal Hospitals and Institutions through the Relieving Officers was diminishing, whilst the numbers admitted at the request of the patient's medical attendants was increasing steadily and now formed a considerable majority of the patients admitted to hospital.

It was also felt that many of the persons admitted to hospital were in need of various forms of assistance, after-care, convalescent treatment or the benefit of social assistance which the manifold charitable agencies of the City were able, in suitable cases, to provide.

The time appeared opportune for the appointment of lady almoners who would be capable of carrying out the twofold duties just outlined, and the sanction of the Council was given to the commencement of an Almoner Service to operate from November 1st, 1935. The service was restricted to the General Hospitals and to Belmont Road Institution where a large number of skin patients attending the clinic called for such assistance. Provision was also made for the collection of small payments for out-patient treatment from persons whose means were adequate. The existing system of receptionists was incorporated in the scheme, and collectors were transferred from the Public Assistance Department to the hospitals and to a Central Collecting Office under the City Treasurer.

The following staffs were appointed :—

	Walton Hospital.	Mill Road Infirmary.	Smithdown Road Hospital.	Alder Hey Hospital.	Belmont Road Institution.
Almoners	1	1	1	1	—
Assistant Almoners	2	1	1	1	1
Collectors	1	1	1	1	—
Receptionists and Clerks ...	2	4	3	2	—
TOTAL ...	6	7	6	5	1

The scheme was definitely an experiment, but is parallel to the manner in which the work is being carried out by the London County Council and other progressive local authorities. It is believed that the work is being successfully performed by the staffs both on the financial and the social sides and it is hoped that the service will be continued and made permanent next autumn.

Buildings and Equipment.

The programme of construction for the next few years was outlined in the report of 1933, and considerable progress has to be recorded for 1935.

At Smithdown Road Hospital the building of the Nurses' Home is now nearly completed. Progress has been made with the reorganisation of the laundry, which it is hoped will be completed during 1936.

The reconditioning of Blocks " F " and " G " at Mill Road Infirmary for the reception of Venereal patients was finished in 1935. The additional wards thus provided has permitted the reception of about 40 patients of either sex in close proximity to the clinic, thus increasing the efficiency of both units. The relief afforded by transfer of patients from Belmont Road Institution has enabled certain rearrangements to be made there, and early in 1936 the much-needed clinic for lupus cases, a distressing and deforming disease for which there is no adequate means of treatment in the city, was opened. It is provided with Finsen-Lamholt and Kromayer lamps for local treatment, and Mercury-vapour and arc lamps for general irradiation.

At Belmont Road Institution the mortuary and post-mortem room were completed during the year. The two chapels were also completed during 1935, the Church of England chapel being consecrated by the Bishop of Liverpool on 15th November, 1935, and the Roman Catholic chapel by the Archbishop of Liverpool on 11th December, 1935.

A further house-block was converted for ward use for old and bed-ridden patients, and opened early in 1936.

At Walton Hospital the new Nurses' Home Block was commenced and is now well advanced. It is expected that it will be available for use in the autumn of 1936. This building will permit the nurses, who are at present occupying a number of rooms constructed for other purposes, to be properly housed, and will also liberate a house-block for occupation by infirm or chronic patients.

The appropriation of Walton Hospital under the Public Health Acts released some house rooms which were converted to other purposes, such as Almoner's Office, bedrooms for Resident Medical Officers and Isolation Cubicles. Further conversions to cubicles are provided for in the current year.

Provision is made in the current year's estimates for a waiting-room for visitors at the entrance lodge. This will provide shelter for visitors waiting to enter the hospital and also for those waiting for trams. This work is well in hand.

Provision is also made for a new passenger lift and for service lifts at Walton.

The Nurses' Home at Alder Hey Hospital has also been begun, but progress has been somewhat slower than at Walton, and this building will not be available for use till the end of 1936.

At Mill Road Infirmary the condition of the boilers necessitated their replacement. The whole instalment has now been overhauled, the boiler-house enlarged and a new chimney constructed. Cubicles were constructed for nurses in a basement ward as a temporary measure pending the acquisition of a site for the extension of the Nurses' Home.

At Fazakerley Sanatorium the new Porters' Lodge has been vacated and will permit the use of the entrance to the Sanatorium from Lower Lane, thus detaching the Sanatorium from the Annexe Hospital. The building formerly used by resident porters has been vacated and is in progress of conversion for the use of the Medical Superintendent.

The new central dining room at Broadgreen Sanatorium is now constructed and it is believed will lead to economy. The porters' quarters vacated owing to the porters becoming non-resident has been converted into a lecture room for the nurses, Broadgreen serving as an instructional centre for the nurses of the Group II hospitals (fever and tuberculosis).

At Cleaver Sanatorium an extension of 12 beds in the Nurses' Home, together with an enlargement of the Nurses' recreation room is now completed. Quarters were provided in the Administrative Section for a Resident Medical Officer and occupied in August.

At Kirkdale Homes a dining room has been built in the West Block which will permit a very desirable classification of the epileptic patients confined there.

Laundries.

The greater resort to the hospitals leads to greater demands upon the laundries. A more rapid turnover of the patients leads to an increase in the washing of bed linen even without any increase in the number of beds occupied. There is also an increase in the staff laundry owing to increases in the nursing and clinic staffs, and the greater use of overalls for bed-isolation and cubicle nursing has a similar effect. Increased admissions of bed-ridden and incontinent old people follow upon the increasing longevity of the population. All these influences have affected the work of the laundries, and for certain purposes special plant is required.

An efficient laundry must be of adequate size to justify the complete equipment of machines. The flow should be continuous and unidirectional from the point of entry of the soiled linen to the sorting room. The calenders should be adequate in size and drying power to dry the clothing in one passage without any reversal of the flow. Some classification of the laundries in relation to the articles washed is desirable.

During 1934 it was decided that the laundry from Mill Road Infirmary should go to Walton Hospital and that from Kirkdale Homes to Belmont Road Institution in order that materials of comparable nature should be washed together. This alteration is not, however, possible without some rearrangement at Belmont Road Institution laundry, which is, in any case, required.

The efficiency of the several laundries is, other things being equal, reflected in the prices per 1,000 articles washed. The character of the washing, however, such as the size and nature of the articles washed, varies considerably from one laundry to another. The retention of out-of-date machinery in the laundries probably accounts for much of the differences in cost and is very uneconomical. Walton Hospital laundry is probably the best equipped and as the number of articles washed approaches five million per annum, this is reflected in the cost per 1,000 articles. The laundry at Broad Green Sanatorium is structurally adequate for a much larger turnover than is actually dealt with; much of the machinery is, however, antiquated, but with further replacements it should become a very efficient unit.

Considerable progress has been made with the reorganisation of the laundry at Smithdown Road which will cost about £11,530. The mess-room for workers is completed, as is the *foul* laundry. The washing machines have been placed in position and the staff laundry section is now completed. The placing in position of the calenders, dryers, presses and belt-conveyor will complete the reorganisation of the laundry, which will then be equipped throughout with modern machinery with a continuous and unidirectional flow from entrance to exit thus establishing an efficient unit. The output should be considerably increased, and this laundry should then be capable of dealing with the washing from one of the smaller isolation hospitals.

During the reorganisation at Smithdown Road Hospital a portion of the wash was sent to Walton. This is now no longer necessary and Walton Hospital is now taking a section of the Mill Road Infirmary washing with consequent relief to Belmont Road Institution laundry. The reorganisation of the Belmont Road Laundry is becoming increasingly necessary, but this cannot be put in hand until the re-equipment of the Smithdown Road Hospital laundry is completed.

Provision is made for laundry machinery at Walton Hospital in replacement of machinery now out of date.

At the Fazakerley Isolation Hospital the laundry machinery has now been brought up to a modern standard after considerable replacement. The laundry as modernised is now able to receive the washing from the Sanatorium and also from Sparrow Hall Hospital; the laundry at Sparrow Hall will accordingly be closed early in 1936.

With the completion of the alterations now in progress it should be possible to close some, or all, of the laundries at the three smaller isolation hospitals should the Committee desire to take this course.

Tuberculosis.

There was a considerable reduction in the number of cases of tuberculosis admitted into the Sanatoria and hospitals during 1935 compared with the preceding year. The number of cases of tuberculosis admitted to the Transferred Hospitals shows a reduction of 166 compared with 1934, and there was a reduction of 8 in the number of cases admitted

to the Sanatoria. This reduction in admissions corresponds to a genuine reduction in the numbers of cases and of deaths. The reduction in non-pulmonary tuberculosis, especially in children, is particularly marked and has permitted a concentration of these cases at Alder Hey Hospital; a certain number of glandular and abdominal cases have been received into the Cleaver Sanatorium. Any further reduction in surgical tuberculosis in children will enable the children's block at Fazakerley to be freed for the reception of severe pulmonary cases. One of the two wards at Broadgreen Sanatorium, formerly occupied by children, has been released for the use of adults.

The number of pulmonary cases in adults also shows some reduction in admissions in recent years corresponding with the reduction in numbers of notified cases. The diminution in numbers received has been offset by an increase in the average length of stay. Contrary to what holds good in the General Hospitals this increased duration of stay points to greater efficiency in the methods of treatment available and given. The greater use of collapse therapy methods such as the induction of artificial pneumothorax, has alleviated cases formerly intractable; the prolongation of stay is an indication of prolongation of life in many cases. The direction of progress on these lines is towards the greater use of surgical methods. Accordingly provision is made in the ensuing year's estimates for a treatment block at Fazakerley Sanatorium where a new operating theatre and two small wards adjacent to the X-Ray building will enable these methods to be used under the most favourable conditions.

One of the most distressing conditions is the form of tuberculosis of the skin known as lupus. The opening of the Lupus Clinic at Belmont Road Institution provides adequate and efficient treatment available for the patients suffering from this condition. Early cases of lupus can now be cured without deformity, and the progress of old-standing cases completely arrested in a considerable number of cases. The treatment is prolonged in old-standing cases.

Cleaver Sanatorium was appropriated during the year and a resident medical officer appointed there. There is urgent need for the provision

of a rest-room where the children can lie down during the middle of the day. Such a rest-room is regarded as an essential provision in an open-air school and is even more requisite in a sanatorium for the treatment of tuberculosis.

CLASSIFICATION OF IN-PATIENTS WHO WERE DISCHARGED FROM OR WHO DIED IN TRANSFERRED INSTITUTIONS DURING THE YEAR ENDED 31st DECEMBER, 1935.

Disease Groups.	Smithdown Road.		Walton.		Mill Road.		Alder Hey.		Olive Mount.		Kirkdale Homes.		Belmont Road.		Seafield.		Cleaver Sanatorium.		1935			1934.		
																			Total		Grand Total	Total.		Grand Total
	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died		Discharged	Died	
Acute Infectious Disease	27	9	438	48	52	12	334	44	405	26	—	—	44	2	—	—	3	—	1,303	141	1,444	1,974	199	2,173
Influenza	64	—	153	—	61	1	84	—	—	—	2	17	3	—	—	—	—	—	367	18	385	260	7	267
Tuberculosis—																								
Pulmonary	50	9	365	233	79	17	32	4	—	—	—	—	10	—	4	—	45	—	585	263	848	673	260	933
Non-Pulmonary	12	11	60	22	30	4	185	49	—	—	—	—	6	1	—	—	45	—	338	87	425	432	71	503
Malignant Disease	104	170	362	346	193	98	1	3	—	—	—	1	6	5	—	—	—	—	666	623	1,289	606	594	1,200
Rheumatism—																								
(1) Acute Rheumatism (Rheumatic Fever) together with sub-acute Rheumatism and Chorea	148	—	185	5	108	1	706	5	—	—	—	—	5	—	—	—	—	—	1152	11	1,163	1,070	7	1,077
(2) Non-articular manifestations of so-called "Rheumatism" (muscular rheumatism, fibositis, lumbago and sciatica)	94	2	101	—	34	—	—	—	1	—	1	—	9	—	—	—	—	—	240	2	242	277	—	277
(3) Chronic Arthritis	87	—	234	1	140	3	2	1	—	—	—	—	6	—	—	—	—	—	469	5	474	415	4	419
Venereal Disease	41	1	163	3	180	6	11	3	1	—	—	—	123	6	—	—	—	—	519	19	538	471	26	497
Puerperal Pyrexia	—	—	113	—	32	—	—	—	—	—	—	—	—	—	—	—	—	—	145	—	145	158	—	158
Puerperal Fever—																								
(a) Women confined in hospital	—	1	3	4	—	2	—	—	—	—	—	—	—	—	—	—	—	—	3	7	10	—	1	1
(b) Admitted from outside	2	1	4	7	2	1	—	—	—	—	—	—	—	—	—	—	—	—	8	9	17	13	20	33
Other diseases and accidents connected with Pregnancy and Childbirth	530	5	985	3	701	4	—	—	—	—	—	—	—	—	—	—	—	—	2,216	12	2,228	1,781	54	1,835
Mental Diseases—																								
(a) Senile Dementia	50	1	11	—	2	1	—	—	—	—	33	75	63	14	—	—	—	—	159	91	250	170	103	273
(b) Other	859	8	41	—	31	—	9	1	1	—	72	12	23	—	23	—	—	—	1,058	21	1,079	1,303	27	1,330
Senile Decay	135	45	73	14	37	2	—	—	—	—	5	41	55	25	—	—	—	—	305	127	432	290	92	382
Accidental Injury and Violence	557	44	901	43	739	38	843	13	2	—	—	1	22	1	—	—	—	—	3,064	140	3,204	2,953	141	3,094
In respect of cases not included above :—																								
Disease of the Nervous System and Sense Organs	446	111	675	169	362	99	870	70	3	—	17	6	76	33	—	—	—	—	2,449	479	2,928	2,197	364	2,561
" " Respiratory System	831	210	1,280	371	752	163	1,924	273	16	4	17	17	45	22	—	—	—	—	4,865	1,060	5,925	4,981	969	5,950
" " Circulatory "	443	465	1,049	398	378	153	314	30	—	2	15	4	69	228	—	—	—	—	2,268	1,190	3,458	2,051	1,067	3,118
" " Digestive "	1,080	63	2,033	87	1,471	74	2,039	117	3	—	—	1	19	8	—	—	—	—	6,645	350	6,995	5,551	394	5,945
" " Genito-urinary "	544	77	1,057	114	730	58	442	14	—	—	—	—	11	2	—	—	—	—	2,784	265	3,049	2,549	246	2,795
" " Skin	195	2	593	13	296	1	458	2	2	—	—	—	2,740	4	2	—	—	—	4,286	22	4,308	3,863	31	3,894
Other Diseases	483	66	591	138	498	93	1,160	136	1	10	2	—	16	3	—	—	—	—	2,741	446	3,187	2,305	302	2,607
Mothers and Infants discharged from Maternity Wards and not included in above figures—																								
Mothers	1,563	—	2,279	—	1,604	—	—	—	—	—	—	—	—	—	—	—	—	—	5,446	—	5,446	5,081	—	5,081
Infants	1,468	—	2,055	—	1,458	—	—	—	—	—	—	—	—	—	—	—	—	—	4,981	—	4,981	4,534	—	4,534
Any persons not falling under any of the above headings	6	—	414	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	424	—	424	476	2	478
Totals	9,819	1,301	16,218	1,920	9,974	831	9,404	765	435	42	164	175	3,350	354	29	—	93	—	49,486	5,388	54,874	46,434	4,981	51,415

SANITATION.

SANITARY ADMINISTRATION.

During the year the district sanitary inspectors have made 135,501 inspections and visits for the investigation and suppression of nuisances.

Complaints in many cases were made at the department, only after repeated requests addressed to the persons causing or permitting the nuisance, or to the owner or agents of property, had been ignored. A great deal of the time of the inspectors is taken up by these special investigations.

Requests to examine important public buildings, offices, as well as dwelling-houses of high rateable value are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system.

During the year, 15,775 complaints as to nuisances were received, as against 16,246 the previous year.

The number of notices served for the abatement of nuisances was 26,729 informal, and 13,358 statutory, 256 notices were served for the abolition of ashpits, and 920 for the provision of dust bins.

In 33 cases legal proceedings were instituted at the City Court for failing to comply with notices served for the department under the Public Health Acts.

Departmental References.

The co-operation which the Public Health Department receives from other departments of the Corporation is fully appreciated, and as a result many sanitary defects are brought to notice, and at once dealt with by the 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 the City Engineer	530
,, ,, Water Engineer	3,356
,, ,, Education Department (suspected infection in school children)	6,927

The officers of the Health Department co-operate with other departments by referring to them matters which are outside the scope of the Health Department, such as waste of water, choked street gullies, defective street and passage pavings, dangerous walls, floors and roofs.

References to other Departments.

To the City Engineer	1,889
,, ,, Building Surveyor	2,361
,, ,, Water Engineer	2,073
,, ,, Education Department	15
,, ,, Food Inspectors	1
,, ,, Smoke Inspectors	3
,, other departments	222

Infected Houses.

The following table shows the number of houses visited where notifiable infectious diseases have occurred, with the number of visits made by sanitary inspectors to these houses, and to houses where cases of non-notifiable infectious diseases have been reported to the Health Department by the Education Department :—

Number of cases of infectious diseases investigated ...	14,538
,, ,, visits to infected houses	19,048
,, ,, ,, ,, phthisis cases	3,091
,, ,, enquiries re suspected smallpox contacts ...	3

Closet Accommodation.

There are still 224 privies and 143 pails on farms and outlying houses in the City mainly where sewers are not reasonably available.

Wards.	No. of Houses.	No. of Farms.	No. of Factories, Workshops, Schools, etc.	No. of Privies.	No. of Pails.	Drainage of Premises.		
						Into Cess-pools.	Into Becks, etc.	Into Sewer.
Allerton	4	—	1	5	—	4	1	—
Broadgreen	—	—	2	—	2	—	—	2
Childwall	8	1	1	—	10	9	1	—
Croxteth	41	4	2	52	2	20	11	16
Exchange	1	—	—	—	1	—	1	—
Fazakerley	41	3	2	36	41	42	2	2
Garston	1	—	—	1	—	—	1	—
Knotty Ash	3	—	—	3	—	3	—	—
Sefton Park W. ...	1	—	—	—	1	—	1	—
Speke...	73	16	2	41	38	30	30	31
Walton	—	—	1	1	—	—	—	1
Wavertree	3		2	1	5	1	—	4
West Derby	53	3	2	54	3	19	30	9
Woolton	50	5	3	30	40	22	32	4
Totals ...	279	32	18	224	143	150	110	69

Occupation of Cellars.

At the end of 1935, it was found that of the 1,614 cellars occupied as separate dwellings at 31st December, 1912, only 74 cellar dwellings proper were still separately occupied.

During the immediate post-war years there was a tendency in houses which were provided with a cellar, for the occupier to sub-let the cellar

Summary of Cellars occupied as Separate Dwellings.

To face page 181.

WARD.	Total cellars occupied.		Persons occupying.			Floor depths below adjoining ground.			Clearance Areas.	Number occupied by Caretakers.		Weekly rentals.						Number let by—	
	Tenancies.	Rooms.	A.	C.	TOTAL.	2 ft.	3 ft.	More than 3 ft.		Rent free 12	Pay rent 9	None paid.	4/–	4/– to 6/–	6/– to 7/–	8/– to 10/–	Over 10/–	Owner.	Chief tenant.
ABERCROMBY	65	89	128	30	158	...	...	65	...			1 (owner occupier)	...	14	10	16	3	50	14
BRUNSWICK	11	29	32	9	41	...	...	11	...	...	...	...	1	...	8	2	...	11	...
DINGLE	15	30	37	18	55	...	1	14	1	...	...	...	2	9	3	1	...	12	3
EDGE HILL	2	7	5	...	5	...	...	2	...	...	1	...	...	...	...	...	1	1	1
EXCHANGE	2	5	3	7	10	...	...	2	...	...	...	...	...	1	1	...	...	1	1
FAIRFIELD	1	2	4	4	8	...	...	1	...	...	...	...	...	...	...	1	...	...	1
GRANBY	14	27	29	4	33	...	...	14	...	4	...	...	...	3	3	4	...	13	1
GT. GEORGE	4	5	5	6	11	...	1	3	1	...	...	...	1	3	...	...	...	...	4
KENSINGTON	2	4	3	2	5	...	...	2	...	...	...	...	...	...	...	2	...	1	1
KIRKDALE	5	9	12	12	24	...	1	4	...	...	...	2	1	1	1	...	...	5	...
NETHERFIELD... ...	7	15	20	9	29	...	...	7	...	...	...	...	1	6	...	...	...	7	...
NORTH SCOTLAND ...	42	65	101	34	135	...	...	42	20	...	...	4	11	26	1	...	...	33	9
OLD SWAN	1	2	2	1	3	...	...	1	...	...	...	...	...	...	1	...	...	...	1
PRINCES PARK ...	69	180	169	31	200	...	3	66	...	35	16	...	...	...	2	6	10	65	4
ST. DOMINGO	1	1	2	3	5	...	1	...	1	...	...	...	1	...	...	...	...	...	1
SEFTON PARK EAST...	11	30	21	2	23	...	...	11	...	7	3	...	...	...	...	...	1	11	...
SEFTON PARK WEST	52	128	122	16	138	...	1	51	...	25	4	...	...	2	9	12	...	49	3
SOUTH SCOTLAND ...	3	3	5	4	9	...	...	3	...	...	...	...	2	1	...	...	...	...	3
WAVERTREE	4	7	8	...	8	...	1	3	...	...	...	...	2	...	...	...	2	2	2
WAVERTREE WEST ...	1	1	2	...	2	...	...	1	...	...	...	...	...	1	...	...	...	...	1
WEST DERBY	3	6	5	4	9	...	...	3	...	...	...	...	...	...	1	2	...	2	1
TOTALS	315	645	715	196	911	...	9	306	23	83	33	*7	22	67	40	46	17	263	51

*—Including 1 owner occupier.

There are no cellars occupied as separate dwellinge in the following Wards :—

Aigburth.
Allerton.
Anfield.
Breckfield.
Castle Street.
Croxteth.
Childwall.
Everton.
Fazakerley.
Garston.
Little Woolton.
Low Hill.
Much Woolton.
St. Annes.
St. Peters.
Sandhills.
Vauxhall.
Walton.
Warbreck.

as a separate dwelling, but this practice in the past two or three years has greatly diminished.

In the Princes Park and Sefton Park Wards the cellar dwellings indicated in the Summary attached, are basement rooms of residential houses of a larger type. Owing to the difficulty of re-letting houses of this type as one-family houses, alterations have been carried out in accordance with plans submitted and approved by the Health Committee, sub-dividing the houses into a series of flats, the cellars of these houses in some cases being occupied as basement flats. In the majority of these cases, the occupants are caretakers who are living rent free, or at a reduced rent in return for services rendered. In some instances the adjoining ground has been ramped to a distance of 9 feet. A survey was carried out in December, 1935, and the information obtained is indicated on the summary facing this page.

In certain cases it has come to the notice of the Department that the contravention is the result of sub-letting by the tenant and if the tenant agrees to the use of a bedroom for sleeping purposes in addition to the cellar, Section 469 of the Liverpool Corporation Act, 1921, becomes inoperative.

During the quinquennial period ending December, 1935, 374 notices to "cease to occupy" were served under Section 469 of the Liverpool Corporation Act, 1921; of these 114 were complied with, and only in 8 cases have the cellars become re-occupied by caretakers.

The Local Authority is now empowered under Section 84 of the Housing Act, 1935, to make a Closing Order prohibiting the use of the part of the building or of the room for any purpose other than a purpose approved by the Local Authority. This provision may be applied to all cellars which are unfit and used as separate dwellings, or those used for living purposes only.

The closing of cellars will have an important bearing upon the work of the Housing Committee in providing houses for the people who will be dispossessed.

An annual inspection is made of all cellars, and if any are found re-occupied a notice is served under Section 469 of the Liverpool Corporation Act, 1921.

Factories, Workshops and Shops Inspectors, etc.

Factory and Workshop Act, 1901.

FACTORIES, WORKSHOPS AND WORKPLACES.—All factories, workshops and workplaces are 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.

Visits, Ordinary—Factories	2,410
Workshops	3,239
Workplaces	1,273
Re-visits	930
Visits, Special —Factories	527
Workshops	280
Workplaces	127
Re-visits	638
Number of notices, informal	491
,, ,, statutory	130
Visits, Outworkers	9
,, ,, incorrect	—
Number of workshops measured	871

	DEFECTS.	
	Reported.	Remedied.
Want of cleanliness	53	43
,, ventilation	14	14
,, light, by day	—	—
,, light, by night	—	—
Overcrowding	—	—
Want of drainage to floors	—	—
Referred to H.M.I.F. No Abstract exhibited	16	16
,, ,, Other matters	48	48
Other Nuisances	361	356
Factories discontinued and removed from Register	—	—
Workshops ,, ,, ,,	—	—
Number found infested with rats	14	14
,, ,, ,, cockroaches	—	—
Sanitary Accommodation insufficient	41	30
Want of separate sanitary accommodation	37	28
,, screens, doors, etc.	90	76
,, light	54	25
Dirty floors, w.c. basins, seats, walls, etc.	215	201
Want of separate approaches for sexes	33	31
,, intervening air space	98	88
Number of urinals incorrect	1	1

Administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Workplaces and 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	Occupiers Prosecuted.
Factories ... ... (Including Factory Laundries.)	3,290	402	—
Workshops ... ... (Including Workshop Laundries).	3,872	165	—
Workplaces ... ... (Other than Outworkers' premises).	1,751	54	—
TOTAL	8,913	621	—

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

Particulars.	Number of Defects.			Number of offences in respect to which Prosecutions were instituted.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :**				
Want of cleanliness	53	43	—	—
Want of ventilation	14	14	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	361	356	—	—
Sanitary accommodation—				
Insufficient	41	30	—	—
Unsuitable or defective	491	422	—	—
Not separate for sexes	37	28	—	—
Offences under the Factory and Workshop Acts :—				
Illegal occupation of underground bakehouse (s. 101)...	—	—	—	—
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)	—	—	—	—
TOTAL	997	893	—	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

3.—*Administration of Factories, Workshops and Workplaces, Registered Workshops, etc.*

Workshops on the Register at the end of the year.	Number.
Workshops	3,114
Workshop Bakehouses	327
Factory Bakehouses	191
TOTAL ...	3,632

4. *Other matters.*

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failing to affix Abstract of the Factory and Workshop Act, 1901 (S.133)	16
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Act, but not under the Factory and Workshop Act (S.5), 1901. (Notified by H.M. Inspectors. Reports (of action taken) sent to H.M. Inspector)	80
Other Reports to H.M. Inspectors	48
Underground Bakehouses (S.101) :—	
Workshop Bakehouses in use at the end of the year	24
Factory Bakehouses in use at the end of the year	39
Homework—Secs. 107 to 110 :—	
Employers failing to keep list of outworkers (Form 44)...	Nil
Notices served on employers for failing to keep or send in lists ...	Nil
List of outworkers not received	Nil
Cases of outwork in infected and unwholesome premises	Nil
Outworkers visited	62
Prosecutions for failing to send in list of outworkers	Nil
Limewashing and painting of Bakehouses (S.99):—	
Occupiers requested to limewash or cleanse walls and ceilings of bakehouses	48

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 the sanitary condition of the premises, and if the premises are used as a " workshop "

or "domestic workshop". The following statement shows the work undertaken during the year, viz. :—

Number of outworkers' returns received	143
,, ,, visits to premises	62
,, ,, premises incorrect	—

Bakehouses.

The number of bakehouses in use at the end of the year was 518, of which 327 were workshop bakehouses, 24 of them being underground, and 191 factory bakehouses, 39 being underground. Since the passing of the Factory and Workshops Act, 1901, 343 underground bakehouses have been closed.

During the year, 2,173 visits were paid to bakehouses.

Number of occasions on which bakehouses were found incorrect ...	63
Number of notices (informal)	63
,, ,, (statutory)	30

Limewashing and painting of bakehouses (Section 99).	Defects.	
	Reported.	Remedied.
Walls and ceiling require cleansing	12	11
,, ,, ,, limewashing	48	48
Number found infested with rats	—	—
,, ,, ,, cockroaches	2	1
Storage of refuse incorrect	1	1
Other nuisances	43	43

Restaurants and Café Kitchens.—All kitchens in connection with cafés and restaurants are regularly visited, particular attention being paid to the cleanliness of the premises and of the workers employed in the kitchen. There were 337 in use at the end of the year.

Number visited	323
,, of re-visits	223
,, of notices, informal	21
,, ,, statutory	10

Sec. 72 P.H.A., 1925.	Defects.	
	Reported.	Remedied
(*a*) Sanitary conveniences incorrect	2	2
(*b*) Cistern water supply incorrect	—	—
(*c*) Ventilation of drain incorrect	—	—
(*d*) Room used as sleeping place...	—	—
(*e*) Ventilation of room incorrect	—	—
Walls and ceiling require cleansing	6	6
,, ,, ,, limewashing	6	6
Accumulations or deposit of refuse in room	1	1
Unclean condition of articles, apparatus and utensils... ...	1	1
Number of other nuisances	22	19

Shops Acts, 1912-1934.

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 has made 16 half-holiday orders, and 10 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 Wednesdays.

An Order has been made by the City Council suspending the closing hour on the Thursday preceding Good Friday each year, for the retail

sale of fish, game and vegetables, also the retail business of bread and flour dealers.

A 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 235) with reference to "prohibition of the employment of women after childbirth", and in this connection 218 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 the visit and explanation, it may be anticipated that every precaution will be taken to see that the provisions of the order are carried out.

Shops Act, 1934.

The Shops Act, 1934, which came into operation on the 30th day of December, 1934, contains provisions which are intended to regulate the hours of employment of *young persons* between the age of 14 and 18 years, and to secure improved arrangements for the health and comfort of shop workers, adults and young persons alike.

The normal maximum working hours for *young persons* are 52 hours per week at the present time, but these hours will be reduced to 48 hours per week after the 27th December, 1936. In addition a limited amount of overtime may be worked by *young persons* between 16 and 18 years of age.

Records must be kept in all cases, of the hours of employment of *young persons* and of any overtime worked beyond the normal maximum working hours.

Shopkeepers generally are conforming readily to the requirements of the Act, and in many cases the total weekly hours of employment of young persons fall below the maximum allowed.

The provisions of Section 10, which deals with (1) Ventilation, (2) Temperature, (3) Sanitary Conveniences, (4) Lighting, (5) Washing Facilities, and (6) Facilities for the Taking of Meals, are being administered in accordance with the Act, having regard to the nature of the trade or business carried on, and the number and sex of the assistants employed.

Contraventions of this Section are dealt with in the first case by a notice served upon the owner or occupier of the shop, requesting compliance with its provisions. In most cases the necessary work is carried out expeditiously, and it has not been found necessary so far, to request the advice of the Court regarding the enforcement of welfare arrangements.

Exemption from providing sanitary conveniences or washing facilities in certain shops, in accordance with the provisions of the Act, has been granted by the City Council in respect of a number of kiosks and small lock-up shops, where by reason of restricted space or other special circumstances it is unreasonable to require such provision in the shop itself. The number of applications for exemption dealt with up to the end of the year was 124.

In all these cases, strict investigation has been made in order to ensure that the alternative accommodation is suitable and sufficient, conveniently situated, and that it is free and available to the assistants in the applicant's shop, during the whole period of their employment.

Particulars of visits and Inspections.

Special Complaints.

Excessive hours for young persons ...	157
Closing and Half-Holiday Orders ...	299
Assistants' Half-Holiday	51
Meal times	12
Seats for Females	3
Shops Act, 1934, Sec. 10.	
Welfare Clauses.	
Ventilation	7
Heating...	12
Sanitary accommodation	55
Lighting	8
Washing facilities	13
Provision for Meals	2

Registration.

Retail Shops.	
Shops visited	4,743
Assistants employed.	
Young persons—Males	1,170
Females	2,034
Adults—Males	4,003
Females	7,919
Wholesale Shops.	
Shops visited	173
Young persons employed.	
Males...	84
Females	41

Contraventions.

Young persons' hours incorrect ...	38
Shop seats incorrect	12
Assistants' Half-Holiday incorrect ...	72
Meal times incorrect	14
Notices incorrect.	
Assistants' Half-Holiday	344
Closing notices...	12
1934 Act. Forms not exhibited.	
Form A.	12
„ B.1	—
„ B.2	—
„ C.1	—
„ C.2	—
„ D.1	—
„ D.2	—
„ E.	2
„ F.	486
„ G.	422
„ H.	436
„ J.	66
„ K.	485

Contraventions—continued.

Welfare Clauses, Section 10.	
Ventilation	3
Heating...	54
Sanitary accommodation	71
Lighting	4
Washing facilities	56
Provision for Meals	14

Re-Visits.

Re-Visits re Forms 1934 Act ...	1,519
re Welfare Clauses	1,223
Young Persons' hours incorrect ...	24
Shops seats incorrect	7
Assistants' Half-Holiday incorrect ...	18
Meal Times incorrect	4
Assistants' Half-Holiday Notice incorrect	376
Closing Notice incorrect	17

Visits re Half-Holiday Orders.

No. of shops visited after 1 p.m. ...	93,620
No. closing incorrect	157
No. of Notices incorrect	553
No. of Street Traders incorrect ...	17
No. of Caution Letters	33
No. of Informations	3

Evening Closing Orders.

No. of shops visited after 7 p.m. ...	43,835
No. closing incorrect	288
No. of notices incorrect	356
No. of Informations	41
No. of shops visited after 8 p.m. ...	71,405
No. closing incorrect	243
No. of notices incorrect	297
No. of shops visited after 9 p.m. ...	23,844
No. closing incorrect	29
No. of shops visited after 9.30 p.m....	8,953
No. closing incorrect	92
No. of shops visited after 10 p.m. ...	1,284
No. closing incorrect	24
No. of Street Traders incorrect ...	19
No. of Caution Letters	31
No. of Informations	31

Sunday Closing Order.

No. of visits to Hairdressing Saloons	446
No. closing incorrect	8
No. of Notices incorrect	—
No. of Caution Letters	1
No. of Informations	4

Administration of Shops Acts 1912-1934. Summary of Inspections and Offences.

No. of shops on register	22,000
No. of young persons employed in the shops visited	3,329
No. of assistants over 18 years employed in the shops visited	11,922
Total number of inspections (Registration)	8,104
Total number of visits under Closing Orders	149,321
Total number of visits under half holiday Orders	93,620
Total number of Sunday visits to hairdressers' and barbers' shops	446
Total number of special complaints	619
Total number of visits...	252,051

Nature of Offence.	No. of Contraventions.	No. of Warnings.	Prosecutions.					Amount of	
			No. of Informations.	No. withdrawn	Discharged. Cautioned.	Dismissed.	Fined.	Fines.	Costs.
SHOPS ACT, 1912.									
Prescribed form relating to half holiday of assistants not displayed	344	344	—	—	—	—	—	—	—
Correct meal times not allowed to assistants	14	14	—	—	—	—	—	—	—
Half holiday not allowed to assistants	72	68	4	—	—	3	1	0 5 0	—
Seats not provided for female assistants	12	12	—	—	—	—	—	—	—
Notices of day of weekly half holiday not fixed	553	553	—	—	—	—	—	—	—
Shop open after closing hour on weekly half holiday ...	157	110	47	1	20	—	26	£6 17 6	3 4 0

Hawking on weekly half holiday after hour fixed by Order	17	15	2	—	—	—	2	0	7	0	—	
Shop open after closing hour fixed by closing order ...	288	140	148	1	63	2	82	27	2	6	9	16 0
Hawking after hour fixed by closing order	—	—	—	—	—	—	—		—		—	
Notices not displayed in mixed shops after closing hour ...	653	653	—	—	—	—	—		—		—	
SHOPS (HOURS OF CLOSING) ACT, 1928.												
Shop open after Closing hour ...	388	284	104	2	35	10	57	16	7	6	4	16 0
Hawking after Closing hour ...	19	—	5	—	3	1	1	0	5	0	0	4 0
HAIRDRESSERS' AND BARBERS' SHOP (SUNDAY CLOSING) ACT, 1930.												
Hairdresser carrying on business on Sunday	4	—	4	1	2	1	—		—		0	8 0
SHOPS ACT, 1934.												
Employment of young persons working more than 52 hours	38	36	2	—	—	—	2	3	0	0		—
Hours of employment not recorded	4	—	4	—	2	—	2	1	5	0	0	8 0
Not given 11 consecutive hours rest in 24 hours	2	—	2	1	—	—	1	0	10	0		—
Correct intervals for meals and rest not allowed ...	2	—	2	—	—	1	1	0	10	0		—
Young persons employed in shop after being employed in factory for permitted hours	—	—	—	—	—	—	—		—			—
	2,567	2,229	324	6	125	18	175	£56	9	6	£18	16 0

In addition to the above it was found necessary to caution 180 persons by letter for minor infringements of the Act.

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.

Premises, etc., controlled by Byelaws and Regulations.

Common Lodging Houses.

At the end of the year 1934 there were on the register (including one emigration house), 91 lodging houses. During the year 1935, 10 houses were given up and removed from the register, and 8 new houses added, leaving, at the end of 1935, 89, providing accommodation for 4,727 lodgers.

Under Part 5 of the Public Health Acts Amendment Act, 1907, Sections 69 to 72 (adopted in 1912), 71 keepers were re-registered and 38 deputy-keepers registered.

One written notice was served on a registered keeper, also 105 verbal notices, for infringements of the byelaws.

Infringements of the byelaws had reference to: defects in sanitary fittings and paving, windows requiring cleansing or re-glazing, insufficient bedding and bath accommodation, verminous bedding, rooms overcrowded, no hot water supply, choked wastepipes, gullies and w.c. basins, floors not swept or washed, slops not emptied, etc.

No informations were laid against keepers during the year.

Inspection of Lodging Houses.

Visits by day	2,348
,, ,, night	183
,, to houses not on the register	73

Women's Lodging Houses.

There are 10 houses providing accommodation for 432 women lodgers.

Inspection of Houses let in Lodgings.

Houses on register, January 1st, 1935	15,565
,, removed from register during 1935	Nil.
,, added to register during 1935	Nil.
,, on register, December 31st, 1935	15,565

Day Visits:—

Total day visits for the purpose of registration ...	48,700

Overcrowding :—

Infringements found	424
Re-inspections	225
Infringements abated	47

Non-separation of Sexes :—

Infringements found	117
Re-inspections	64
Infringements abated	11

Floors, Stairs, etc., found dirty	174
Cleansed on re-visit	159

No informations were laid during the year.

Cleansing of Walls and Ceilings.

The following notices were served on landlords of houses let in lodgings during the year under Section 7 of the 1911 byelaws:—

Preliminary notices to cleanse walls and ceilings ...	1
Statutory ,, ,, ,, ,, ...	Nil.
Houses cleansed	1
Rooms ,, ...	6

Canal Boats Acts, 1877 and 1884, and Canal Boats Orders, 1878, 1922 and 1925.

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the city, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 3,424, and the condition of the boats and their occupants as regards matters dealt with in the acts and regulations is indicated in the following table:—

Boats on register, 1st January, 1935	424
New Boats registered	13
Boats removed from register	27
*Boats on register, 31st December, 1935	410

Two copies of registration certificates were issued owing to the original certificates being worn out.

Contraventions occurred on 90 boats, of which number, 29 were registered by other authorities.

Nature of Contraventions:—

Unregistered boats used as dwellings	2
No certificate on board or certificate not legible ...	10
Leaky decks	18
Defective stoves or stove-pipes	24
Cabins requiring re-painting	10
Registration authority and number not painted on boat	9
Dirty cabins	5
Registered number not legible	11
Defective skylights	14
Defective water tanks	8
Defective scuttle covers	5
Verminous cabin	1
Defective cabin floors	2
Defective cabin fittings	3
	122

Written notices were issued to owners in 72 instances, and verbal notices were given to owners and masters in 18 instancs. Of these notices 73 have been complied with. No informations were laid during the year against owners or masters for infringement of the Acts or regulations. No case of infectious sickness was reported as having

*Of the 27 boats removed from the register 3 have been broken up, 3 converted to motor propelled boats, 11 have been sold outside the district, 8 not to be used as dwellings, and 2 were re-registered owing to structural alterations.

occurred during the year on any canal boat visiting the district. Fifty-eight motor-propelled boats and 58 steam-propelled boats are registered by this Authority.

The inspectors of the Port Sanitary Authority made 646 inspections during the year and 39 contraventions were discovered, which were subsequently dealt with. These figures are included in the foregoing table.

Details of Visits to Boats Plying on the Canal.

299 boats were visited, which were registered as follows:—181 at Liverpool, 45 Runcorn, 5 Leigh, 2 Wigan, 28 Manchester, 10 Chester. Twenty-eight boats were not registered (not used as dwellings).

All were "wide" boats, 2 being propelled by steam, 151 steam-towed, 45 motor-driven, 69 motor-towed, and 32 horse-drawn.

The number of inspections of these 299 boats was 2,778, and the population comprised:—Men, 553; women, 26; children, 12; a total of 591 persons, the sexes and ages being as follows:—

Males over 14 years of age	553
,, ,, 5 and under 14	8
,, under 5 years of age	Nil.
Females over 12 years of age	26
,, ,, 5 and under 12	4
,, under 5 years of age	Nil.
	591

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above table (made under Reg. 111, Sec. 2, Canal Boats Act, 1877).

Twelve children of school age were found on canal boats during the year, who were on trips with their parents during the school holidays. Two families were found on a boat on the canal who had not a home ashore in addition to that on board.

Employment Agencies.

These premises are controlled by Byelaws made under the Liverpool Corporation Act, 1927, and visits are made from time to time to ascertain that the requirements of the Byelaws are being carried out. There are at present 33 licensed Employment Agencies on the Register.

Liverpool Corporation (General Powers) Act, 1930, Section 27.

The above Section provides for the adequate lighting of common staircases in tenement buildings.

All staircases in tenement buildings have been inspected, and, it was found that in every instance the staircases were adequately lighted.

Rag Flock Acts, 1911 and 1928.

There are two factories in which rag flock is manufactured in this district. Five visits have been made and two samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations. One hundred and twenty-two visits have been made to premises where rag flock was used and 61 samples were taken, and with the exception of 2, were in accordance with the regulations.

Inspection of Stables and Removal of Manure.

Stables within the city are systematically visited by the district inspectors, constant attention being paid to the frequent removal of the manure and to general sanitation.

The total number of visits to stables during the year was 10,691, and the following summary indicates the position at the end of the year :—

Number of visits to stables	10,691
,, ,, ,, ,, ,, found occupied	946
,, ,, ,, ,, ,, ,, disused	1,487
,, ,, middens inspected	3,945
,, ,, ,, found fly infested	23
,, ,, ,, ,, incorrect	208
,, ,, visits to manure depots	58
,, ,, manure pits repaired	17
,, ,, ,, ,, emptied	191

The number of stables in use at 31st December, 1935, was 946, against 1,066 at the end of the preceding year.

The manure depots are situated in close proximity to the North Corporation Destructor, and visits are made to them 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 breeding places for flies.

During the year 58 visits have been made to manure depots.

Offensive Trades.

There were on the register of offensive trades in the city at 31st December, 1935, 69 businesses coming under this category, which is two more than the number at the end of the preceding year.

Nature of business.	1934	1935
Bone boilers...	3	3
Bone stores	—	2
Dripping factories	7	7
Fat and tallow melters	10	10
Fell monger	1	1
Fertilizer works	2	2
Gut scrapers...	5	4
Hide and skin works	8	8
Knackers' yards	2	2
Lard refiners	2	2
Paint and resin works	2	2
Palm oil works	1	1
Soap boilers...	13	14
Tanneries	5	5
Tripe boilers...	5	5
Tar naphtha works...	1	1

When permission is granted to carry on an offensive trade, 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.

During the year the number of inspections was, 1,927.

Number of special visits	15
,, ,, ordinary visits	1,564
,, ,, re-visits re nuisances	348
,, ,, nuisances abated	164
,, ,, applications to establish	4
,, ,, ,, granted	3
,, ,, ,, for renewal	2
,, ,, ,, granted	2
,, ,, offensive trades discontinued and removed from the register	—
,, ,, nuisances found	164
,, ,, notices issued (informal)	34
,, ,, ,, ,, (statutory)	14
,, ,, premises rat infested	2
,, ,, ,, fly infested	2

Fish Friers' Premises.

At the end of the year there were 666 fish friers businesses within the city, all of which are visited systematically to see that the requirements of the Byelaws are carried out.

Fish Friers' Premises.	Totals.
Number of special visits...	118
,, of ordinary visits	2,649
,, of re-visits	982
,, found incorrect	556
,, of nuisances found	954
,, of contraventions of Byelaws	65
,, found rat-infested	2
,, found fly-infested	—
,, of incidental calls	48
,, of notices issued (informal)	432
,, of notices issued (statutory)	124
,, of nuisances abated	954
,, of contraventions of Byelaws remedied ...	65

DISTRICT SANITARY INSPECTORS.

PARTICULARS OF WORK DONE DURING 1935.

To face page 195.

District Inspected, etc.	Rural District	1 Hampstead Wards	2 Cantelupe	3 South Scotland	4 South Bridlington	5 Victoria (Bridlington Quay)	6 St. Peter's, St. George	7 Brunswick	8 Chale	9 Falcon Park	10 Granby	11 Hennessey	12 St. Anne's	13 Schofield	14 Belvidere	15 St. Christoph	16 Swinford	17 Trevine	18 Low Hill	19 Bonnington	20 Bay View	21 Carfield	22 Ashford	23 Wilton	24 Bedford	25 Pembroke	26 Cricketh	27 West Derby South	28 West Derby North	29 Old Swan	30 Prescot West	31 Knowsley	32 Bebbington Park West	33 Aghurst - Bebbington	34 Lower Spital	35 Bromborough - Clatterbridge	Totals.
Drainage and Sanitary Arrangements.																																					
Defective drains cleansed		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Drains unstopped		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drains reconstructed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extra drains provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yards repaved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drains underneath houses abolished		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drainage systems interrupted from street		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waste pipes disconnected		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waste pipes reconnected		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rainwater pipes disconnected		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rainwater pipes reconnected		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rainwater installations repaired or renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Soil pipes repaired		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
New soil pipes provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No. of Rooms supplied for provision of Water Closets		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No. of Water Closets provided in lieu of Privies		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water closet pedestals repaired		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water closets and flushing apparatus repaired		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water closet apparatus renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water closet apparatus cleaned and intermediate		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W.C. apartments properly lighted and ventilated		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Disused pumps to Water Closets		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Additional W.C. accommodation provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water supply to cisterns renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead soil pipes abolished		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Privy apartments cleaned and lime-washed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Privies ordered to be abolished		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Deposits of dogs in cellars prohibited		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cellars abolished		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cellars repaired or renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Floors provided with new dust bins		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Unsafe dustbins removed, or restored		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Closets reconstructed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
New Closets provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drinking Rooms, etc.																																					
Drinking Rooms (Public)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bowls repaired		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bowls or parts cleaned and intermediate		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ventilation improved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window cords repaired or renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lighting improved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lavatory repairs carried out		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Lavatory basins repaired or renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waiting rooms provided or renewed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Benches provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water supply provided and contained		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Water supply improved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rooms supplied with water		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drinking fountains fixed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Overcrowding abated		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-opening of sewer abated		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other items remedied		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Courts, Back Yards, Stable Yards, etc.																																					
Yard and passage paving repaired		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Yards repaved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yards and passages newly paved		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yards cleaned		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yards cleaned and intermediate		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manure pits repaired		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manure pits provided		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manure pits emptied		11	16	14	6	11	6	11	7	11	8	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Keeping of Animals, etc.																																					
Improper keeping of cows prohibited		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Improper keeping of pigs, etc., prohibited		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Accumulations of offensive matter, etc., removed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Miscellaneous.																																					
Various land cleansed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Various land enclosed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Caravans removed		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Improper keeping of animals		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Prosecutions		No. of Informations laid		10		No. of Magistrates' Orders		10		No. fined		10		No. dismissed		0		No. withdrawn		1		Amount of fines and costs		£10 17s. 0d.	

Drain Testing.																																					
No. of visible tests	positive	6																																			
	negative	6																																			
No. of colour tests	positive	1																																			
	negative	1																																			
No. of smoke tests made	positive	—																																			
	negative	—																																			
No. of smoke tests applied	positive	—																																			
	negative	—																																			

Picturedromes.

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 in use, 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. A female inspector also makes systematic visits to inspect the sanitary conveniences used by females.

During the year, 639 night visits were paid. A day inspection is also made, so that closer attention may be given to the examination of the sanitary conveniences. In 18 cases minor defects were observed and these were remedied on the attention of the managers being called thereto.

Special Visits.

Complaints are occasionally received from passengers directing attention to the dirty condition of railway carriages. These 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.

Number of visits to railway carriages	209
,, ,, ,, platforms (fish arrivals) ...	56
,, ,, poultry depots	536
,, ,, marine stores	826

Furniture Removers.

Premises visited	35
,, re-visited	—
Vans inspected	27
,, found dirty	—
,, re-inspected	—
Observations *re* swill removal	120

Removal of Remains.

Under the terms of licences issued from the Home Office the district sanitary inspectors supervised the exhumation and re-interment of 20 bodies during the year.

The Licensing of Places for Keeping Cattle.

(Liverpool Corporation Act, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a licence from the Corporation both in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In the following table is a summary of the register of licences in respect of pigs.

REGISTRATION OF PREMISES ON WHICH PIGS ARE KEPT.

	End of 1934.	End of 1935.
Number of licensed piggeries	106	97
Number of pigs specified on the licences	4,311	4,204
Approximate average number of pigs kept	2,300	2,238

During the year, one new licence to keep pigs was applied for involving the keeping of two pigs. This application was granted. One application was made for transfer of licence to keep 20 pigs. This application was withdrawn. No licences were transferred from one person to another.

During the year, 460 visits of inspection to piggeries were made. Six piggeries visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921, and in every case the notice was complied with.

A comparison of the numbers of licensed piggeries during the years 1931-1935, together with the numbers of pigs to which the licences referred, is given in the following table:—

A COMPARISON OF THE NUMBERS OF PIGGERIES AND PIGS LICENSED DURING THE YEARS 1931-1935.

Year.	Number of licensed piggeries.	Number of pigs approved.
1931	131	4,543
1932	133	4,777
1933	130	4,532
1934	106	4,311
1935	97	4,204

In farms situated in the outer districts of the city, premises registered for the keeping of milch cows, may be used also for keeping store cattle. At the end of 1935, 434 store cattle were kept on registered premises.

Rats and Mice (Destruction) Act, 1919.

Active measures have been taken within the city throughout the year to ensure the destruction of rats, and to bring to the notice of the

public the necessity of reducing the rat population to the lowest possible dimensions. There are special reasons for a constant campaign against rats in Liverpool. One reason is the possibility of the spread of plague, a disease which may be brought into the port on ships arriving from foreign countries. 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 employed, four being engaged in warehouses, which are visited every three months, in accordance with arrangements made with the Ministry of Health, and six rat-catchers systematically visit cafés, fried fish shops, grocery shops, foodstores, bread shops, and other places where rats are likely to be found.

The assistance given by the rat-catchers is appreciated by occupiers and owners of premises, who are always willing and anxious to forward the extermination of rats. To provide for the destruction of the rats as quickly as possible, each rat-catcher is met at a certain place every morning, the rats being collected and labelled, and a proportion taken the same day for examination by the City Bacteriologist.

The City Engineer's Department has also done valuable work in catching rats in public sewers, the rats being collected and dealt with in the same way.

It has not been found necessary to take any proceedings for non-compliance with the provisions of the Rats and Mice (Destruction) Act, 1919.

Number and Species of Rats caught in the City and Port of Liverpool, during the year 1935.

1935.	Warehouses.		Sewers.		Other Places		Total.		Ships.		Quays.		Other Sources.		Total.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	63	130	—	859	19	298	82	1,287	264	1	127	8	54	65	445	74
February ...	61	95	—	753	19	273	80	1,121	120	1	154	12	38	33	312	46
March	78	116	—	810	6	279	84	1,205	266	—	162	12	60	13	488	25
April	44	113	—	774	5	356	49	1,243	249	—	197	24	90	51	536	75
May	64	138	—	845	10	512	74	1,495	230	9	154	13	96	78	480	100
June	28	106	—	795	3	442	31	1,343	145	—	128	13	106	52	379	65
July	86	93	—	987	62	362	148	1,442	145	1	208	1	78	32	431	34
August ...	12	89	—	769	38	320	50	1,178	112	—	113	14	99	34	324	48
September ...	27	48	—	901	41	372	68	1,321	297	—	97	21	156	47	550	68
October . .	82	86	—	927	95	403	177	1,416	147	—	186	9	170	30	503	39
November ...	41	114	—	862	38	265	79	1,241	169	—	143	2	155	24	467	26
December ...	32	42	—	739	16	119	48	900	176	—	172	4	131	57	479	61
TOTAL ...	618	1,170	—	10,021	352	4,001	970	15,192	2,320	12	1,841	133	1,233	516	5,394	661

Number and Species of Rats examined or destroyed in the City and Port of Liverpool during the year 1935.

1935.	Examined (City).		Destroyed (City)		Examined (Port).		Destroyed (Port).		Total Caught. City and Port.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black and Brown.
January	3	215	79	1,072	263	63	182	11	1,888
February	15	220	65	901	245	46	67	—	1,559
March	18	257	66	948	269	25	219	—	1,802
April	13	273	36	970	325	64	211	11	1,903
May	17	318	57	1,177	263	82	217	18	2,149
June	7	291	24	1,052	240	60	139	5	1,818
July	26	308	122	1,134	272	33	159	1	2,055
August	9	228	41	950	201	41	123	7	1,600
September	20	283	48	1,038	292	67	258	1	2,007
October	39	301	138	1,115	339	37	164	2	2,135
November	20	278	59	963	322	26	145	—	1,813
December	26	216	22	684	335	57	144	4	1,488
TOTAL	213	3,188	757	12,004	3,366	601	2,028	60	22,217

Ambulance and Disinfecting Department.

The staff of the Ambulance and Disinfecting Department is engaged in (1) the removal of cases of infectious disease to hospital by ambulance, (2) the disinfection of premises and articles exposed to infection, (3) the disinfestation of verminous houses and articles, (4) charge of the mortuaries.

A reference was made in last year's Report to the arrangements made for the disinfection of Corporation houses, and also the furniture and bedding of tenants or prospective tenants. This work has been continued on an expanding scale. Two courses of action are being taken, namely: (*a*) The disinfestation of Corporation houses which are occupied or which are awaiting a new tenant after a change of tenancy; and (*b*) the treatment of furniture and other household effects of those leaving condemned houses for new Corporation houses. In the former case the routine treatment is the use of a blow-lamp and liquid insecticide, and in the latter case articles other than bedding are treated with hydrogen cyanide, and bedding is treated in a steam disinfector.

A numerical summary of the work of this department is as follows :—

Cases of infectious disease removed to hospital	7,358
Number of houses disinfected after infectious disease ...	12,363
Number of articles of bedding, clothing, etc., disinfected by steam	112,451
Number of houses inspected for vermin	3,250
Number of houses treated for vermin	1,569
Number of houses from which furniture was removed to be dealt with by hydrogen cyanide	1,619(1)
Number of re-inspections to ascertain whether the work had been effective	4,305
Number of houses found still to be infested	14
Number of houses awaiting treatment at the end of the year	199

(1) This involved the treatment of 1731 van loads of furniture.

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, 16, and from the city, 268.

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 Ford Street mortuary is provided for the reception of bodies which cannot be kept at the homes in which death has taken place, without possible injury to the health of the inmates, and it is also used for the reception of stillbirths. The number of bodies received during the year was 261.

Cremation.

The Liverpool Crematorium, which is situated in Anfield Cemetery, was opened by the Liverpool Crematorium Company in the year 1896. The administration of the Crematorium was taken over in October, 1908, when the Corporation became the Burial Authority for the city.

That cremation is steadily becoming more popular is shown by the fact that in 1885 there was one crematorium, whereas now there are 32 crematoria in this country; the total number of cremations during 1935 being 9,614.

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

Years.	No. of Cremations.
1896-1905	306
1906-1915	465
1916-1925	707
1926-1934	1,384
1935	207
TOTAL	3,069

Smoke Abatement.

The control of smoke emission from industrial chimneys has been well maintained during 1935. With few exceptions, prolonged, excessive or black smoke has become a rare occurrence in the city, and from observations recorded, the industrial chimneys are smokeless for 54·6 minutes per hour, black smoke issues for 0·95 minutes per hour, and smoke of any density or colour for 5·4 minutes per hour.

Boiler Installations.—The smoke produced by boiler furnaces constitutes practically the whole of the industrial smoke problem in this area. An analysis of the causes of 205 examples of unnecessary smoke production revealed that 168 were due to bad or irregular firing, 37 to insufficient draught, 5 to structural defects, 15 to poor fuel and boilers being overloaded, and 10 were due to the firemen having other duties to perform.

One of the largest factories in the city is now being supplied with a large proportion of its steam requirements from Clarence Dock Power Station. Although this system of supplying steam from a large centralised steam generating plant has been in use in other countries for some time, this is the first application of its kind on a large scale in this area.

Complaints.—During the year 64 complaints were received in respect of smoke nuisance from factory chimneys. In 18 cases the nuisance was abated by increasing the chimney height, and in 4 other cases by

structural alterations to the plant. A change of fuel was made in 10 cases with satisfactory results. In the remaining 32 cases, an abatement of the nuisance was brought about by systematic observation and advice as to firing methods, etc. These complaints necessitated 619 visits and periodical observations.

Smoke Nuisance from Steamers.—The noticeable improvement regarding smoke emission from steamers in recent years has been well maintained. It is common for observations to be taken throughout the peak period of the river traffic without a single case of excessive smoke being reported. The practice of taking regular smoke observations has become realised by the crews of steamers using the river, and has resulted in great care being taken in the firing and control of the boiler furnaces in most vessels.

During the year there were 47 reports of excessive smoke emission from steamers in dock and on the river, 22 of which related to foreign-going steamers. No proceedings were taken in regard to these vessels, but the owners were communicated with in respect of the nuisance. The number of summonses in regard to the other vessels was 25. In 23 cases convictions were obtained, the other 2 cases were dismissed. The existing legislation has proved increasingly difficult to deal with smoke nuisance from all the steamers on the river. At present sixty per cent. of the river traffic is exempt from the smoke abatement legislation and enlarged powers are being sought to control smoke emission from some of the exempted vessels.

Domestic Smoke.—The electric and gas industries show once again in their returns that considerable progress is being made in heating and cooking by these smokeless mediums.

In Liverpool, approximately 250,000 open domestic fires are in use during the winter months. These fires consume 19,000 tons of bituminous coal per week of which five per cent. is passed into the atmosphere in

the form of soot. The open domestic fire is a national requirement and therefore an essential part of the work of smoke abatement is to increase the use of solid smokeless fuels. Such fuels must all involve the use of coal as a base, and so can cause no unfavourable reaction on the important coal industry, but will avoid the waste of the valuable constituents of the coal. Much has been done in this matter locally as well as nationally, and there are available a number of satisfactory solid smokeless fuels. At the present time domestic coke from vertical retorts is the only solid smokeless fuel which can compete with coal as regards cost, although all solid smokeless fuels can compare in heating value very favourably with a good class house coal.

Coke is difficult to burn in an ordinary open grate, but can be readily burnt in one designed for the purpose. Coke can also serve to reduce materially smoke production in ordinary grates by mixing it in equal proportion with coal. This mixture is cheaper than ordinary coal and much more efficient in heat radiation. Arrangements are being made to supply domestic coke in small quantities as readily as coal. There appears to be no satisfactory alternative to the open fire for the living room according to public demand, and throughout the year progress has been made in domestic smoke abatement on the following lines :—

(1) The installation in new dwellings of grates suitable for burning coke, together with inducements to use electricity or gas for cooking and heating purposes in rooms where a regular fire is not required. (2) The conversion, where economically practical, of ordinary open grates to a design suitable for burning any solid smokeless fuel. This is particularly applicable to public buildings, large offices, etc. (3) The promotion of facilities for the sale of coke in small quantities either for use alone, or mixed with bituminous coal.

The firing of domestic chimney flues.—This year the number of convictions for this form of offence was 2,337 as against 2,283 the previous year, which shows an increase of 54 convictions. It is deplorable that

certain householders wilfully fire their chimney flues or allow them to become so dirty that they inadvertently fire and clear themselves, to the detriment of the surrounding neighbourhood. House flues should be swept and cleaned at least twice per year where coal is used as fuel.

Prosecutions for this class of offence are carried out by the police, who are thus assisting greatly in the prevention of atmospheric pollution.

Lectures on Smoke Abatement and Fuel Economy.—These lectures, which are designed to be useful to works managers, engineers, boiler attendants and others interested in the efficient and economical use of fuel, have again been most successful. Sixty students enrolled for the 1935 winter course. Experience has shown that the majority of the firms in this area are co-operating, and the course is proving a very successful one. It is appreciated that in regard to Smoke Abatement, manufacturers are giving support, and are willing to follow suitable suggestions for efficient and smokeless working of their industrial furnaces.

Action Taken in respect of Smoke Nuisances.

Proceedings for abatement of nuisances by the emission of excessive smoke from factories, steamers, etc., were taken under the Liverpool Corporation Act, 1921, Sections 472 and 473, and the Public Health (Smoke Abatement) Act, 1926.

Action under the Liverpool Corporation Act, 1921, Section 472:—

Number of reports on steamers in dock	3
,, ,, ,, ,, ,, ,, river	44
	47

Twenty-two steamship owners were communicated with in respect of nuisances caused by the emission of excessive smoke, and 205 manufacturers and 60 steamship owners were cautioned for unnecessary smoke.

In addition, 25 informations were laid with results as follows :—

	Dismissed.	Fined.	Amount of Fines.
Informations	2	23	£ s. d. 14 0 0

Action under the Public Health (Smoke Abatement) Act, 1926 :—

Number of chimney observations recorded	3,888
,, ,, minutes black smoke emitted	1,853
Average minutes black smoke per hour recorded ...	0·95
,, ,, all ,, ,, ,, ,, ...	5·4
Number of reports for black smoke emission	33
,, ,, statutory notices issued	28
,, ,, advisory visits	471

Proceedings were taken in two cases to obtain a magistrate's order for the abatement of the nuisance. In one case the action was in respect of a large firm in the vicinity of the Speke Airport emitting dense black smoke, and regarding which complaints had been received from aircraft pilots. Extensive reconstruction of the existing boiler plant resulted in the abatement of the nuisance and the complaints ceased.

West Lancashire and Cheshire Regional Smoke Abatement Committee.

This Committee has continued to act in an advisory capacity during the past year on problems connected with smoke abatement.

The 19 constituent authorities of which the Committee is formed met at an annual conference in June when interesting and instructive

papers were read on "The Powers and Duties of Local Authorities in the matter of Air Pollution" and "Atmospheric Pollution—The Case for Regional Control."

The Executive Committee, consisting of 14 members, met as required during the year. Replies to a comprehensive questionnaire on subjects including byelaws, standard deposit gauge, grit emission, substitution of electricity for steam were considered, resolutions formulated and forwarded to constituent authorities for submission to their respective Councils with a view to uniform action being taken.

The local authorities comprising this Committee are:—Liverpool, Birkenhead, Bootle, Wallasey, Chester, St. Helens, Widnes, Preston, Lancashire C.C., the Urban District Councils of Bebington, Great Crosby, Huyton-with-Roby, Litherland, Neston, Ormskirk, Prescot, Waterloo-with-Seaforth, and the Rural District Councils of West Lancashire and Whiston.

Additional local authorities are being invited to become members of this Committee and contribute to the effort of reducing the smoke problem in West Lancashire and Cheshire.

Atmospheric Pollution.

There are now in use in Liverpool four standard deposit gauges, one situated in Netherfield Road since 1921, another situated in the grounds of the Carnegie Welfare Centre, Mount Pleasant, since March, 1929, and two others situated on the roof of St. George's Hall and on the roof of the Aigburth Vale High School for Girls respectively, both coming into use at the beginning of 1934.

The Netherfield Road gauge indicates the conditions which apply to a thickly-populated area in which there are also works and factories; the gauge at St. George's Hall is in a district in which there are many offices and hotels but not a very large population; the gauge at the Carnegie Centre is in a fairly thickly populated residential district with practically no works; while the gauge at Aigburth Vale is in a residential district with large open spaces.

The principal figures are as follows, expressed in tons per square mile :—

	Netherfield Road Gauge.	Carnegie Gauge.	St. George's Hall Gauge.	Aigburth Vale Gauge.
Undissolved matter ...	471·27	186·15	171·85	75·85
Dissolved matter	245·56	119·80	146·69	81·74
Total solids	716·83	305·95	318·54	157·59
Acidity as H_2SO_4	8·17	10·58	17·48	7·75
Chlorine as Cl.	45·37	36·11	50·78	28·92
Ammonia as NH_3	4·85	1·69	1·16	0·80
Sulphate as SO_3	64·63	25·38	27·72	14·59
Lime as CaO	35·23	18·62	18·04	12·43
Rainfall in inches	36·08	35·39	29·47	35·46

During the year the rainfall was from 20 per cent. to 25 per cent. greater than that of 1934.

The total amount of impurities washed out by the rain at Netherfield Road was 181 tons greater than in 1934. Similarly, at the Carnegie Infant Welfare Centre the excess was 10 tons; and at Aigburth Vale 24 tons. However, at St. George's Hall it was 2 tons less than in 1934.

A great part of the increase in the solid matters was due to mineral matter.

With the exception of the collection for May at Netherfield Road, all the rainwater at every station was acid during the year, but on the whole the total acidity was slightly less than in 1934.

While the results are interesting and instructive, the new station which it is proposed to establish near Lake Vyrnwy, where the air is as pure as one can get in this country, will supply valuable data for comparison, and perhaps bring home to the general public the magnitude of the pollution of the atmosphere in large cities.

Details of the analyses month by month at the four stations are given in the following tables :—

RESULTS OF ANALYSES BY THE CITY ANALYST (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	58·04	49·85	74·38	46·80	98·20	49·19	38·00	33·53	50·44	64·28	38·76	115·36	716·83
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·59	0·43	0·28	0·49	0·13	0·38	0·41	0·31	0·51	0·51	0·48	0·85	5·37
Other Organic Matter	9·07	6·71	11·17	8·29	17·01	7·16	7·24	6·17	7·42	9·10	6·53	24·30	120·17
Mineral Matter	23·13	18·97	47·63	19·74	66·38	24·79	16·60	13·46	15·99	22·11	14·23	62·70	345·73
Total Undissolved Matter ...	32·79	26·11	59·08	28·52	83·52	32·33	24·25	19·94	23·92	31·72	21·24	87·85	471·27
DISSOLVED MATTER—													
Organic Matter by Ignition	12·12	10·38	5·46	7·44	5·61	6·86	5·51	6·79	13·26	13·79	5·84	14·30	107·36
Mineral Matter	13·13	13·36	9·84	10·84	9·07	10·00	8·24	6·80	13·26	18·77	11·68	13·21	138·20
Total Dissolved Matter	25·25	23·74	15·30	18·28	14·68	16·86	13·75	13·59	26·52	32·56	17·52	27·51	245·56
Acidity as H_2SO_4	0·77	0·87	0·15	1·12	—	0·05	0·23	0·21	0·97	2·04	1·07	0·69	8·17
Chlorine as Cl	5·56	3·90	1·84	3·21	1·73	2·04	1·84	2·22	4·64	8·29	2·93	7·17	45·37
Ammonia as NH_3	0·56	0·74	0·28	0·51	0·33	0·38	0·36	0·08	0·41	0·28	0·44	0·48	4·85
Sulphate as SO_3.....	5·97	6·73	5·15	5·28	4·39	4·82	4·23	3·62	5·69	6·81	5·51	6·43	64·63
Lime as CaO	2·52	2·22	3·70	2·37	4·34	3·14	1·84	2·37	3·32	2·75	1·71	4·95	35·23
RAINFALL { Millimetres ...	49·51	72·73	26·80	66·35	42·36	61·25	89·83	66·60	129·90	108·20	95·44	107·95	916·92
RAINFALL { Inches	1·95	2·86	1·06	2·61	1·67	2·41	3·54	2·62	5·09	4·26	3·76	4·25	36·08
PH. Value	3·9	4·1	5·1	3·9	6·3	5·5	5·1	5·1	4·6	3·7	3·9	4·9	—

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	January	Feb.	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Total for 12 months
Sum Total Solids	26·01	24·79	18·67	21·93	27·67	19·47	20·48	28·89	27·41	28·74	34·91	26·98	305·95
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·33	0·39	0·31	0·15	0·23	0·15	0·25	0·25	0·43	0·26	0·66	0·36	3·77
Other Organic Matter	4·24	4·48	4·44	4·61	6·03	4·72	4·67	6·56	4·31	5·58	9·36	5·38	64·38
Mineral Matter	9·46	9·87	8·67	9·44	12·67	8·62	8·52	12·16	6·71	7·96	12·93	10·99	118·00
Total Undissolved Matter	14·03	14·74	13·42	14·20	18·93	13·49	13·44	18·97	11·45	13·80	22·95	16·73	186·15
DISSOLVED MATTER—													
Organic Matter by Ignition	6·91	4·69	1·83	3·86	4·86	2·55	3·52	5·35	10·15	7·21	4·13	5·12	60·18
Mineral Matter	5·07	5·36	3·42	3·87	3·88	3·43	3·52	4·57	5·81	7·73	7·83	5·13	59·62
Total Dissolved Matter	11·98	10·05	5·25	7·73	8·74	5·98	7·04	9·92	15·96	14·94	11·96	10·25	119·80
Acidity as H_2SO_4	0·89	0·89	0·46	1·02	0·33	1·10	0·54	0·23	1·68	1·48	0·38	1·58	10·58
Chlorine as Cl.	4·51	2·70	1·25	2·58	1·35	1·51	1·05	2·12	4·00	6·22	4·13	4·69	36·11
Ammonia as NH_3	0·15	0·13	0·07	0·03	0·02	0·03	0·03	0·17	0·08	0·03	0·82	0·13	1·69
Sulphate as SO_3	2·35	1·96	1·40	1·71	1·58	1·48	2·30	1·71	3·37	2·27	2·98	2·27	25·38
Lime as CaO	1·38	1·35	1·05	1·28	1·33	1·71	1·05	1·91	2·17	1·66	1·15	2·58	18·62
RAINFALL — Millimetres	45·12	65·74	25·78	63·16	47·69	83·79	68·96	74·76	142·43	108·28	90·23	83·79	899·73
RAINFALL — Inches	1·78	2·59	1·01	2·49	1·87	3·30	2·71	2·93	5·61	4·26	3·55	3·29	35·39
PH. Value	3·8	3·9	3·9	3·9	4·7	3·7	3·9	5·2	4.0	3·8	5·1	3·7	—

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	32·57	28·60	21·70	23·65	22·88	21·60	28·54	22·64	30·35	30·25	25·74	30·02	318·54
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·17	0·34	0·17	0·13	0·07	0·13	0·34	0·14	0·40	0·17	0·34	0·17	2·57
Other Organic Matter	4·41	4·78	3·57	3·07	3·46	4·46	5·73	4·21	4·12	4·51	3.63	4·65	50·60
Mineral Matter	10·34	11·89	10·51	9·67	11·32	9·16	13·98	9·80	7·24	6·91	8·19	9·67	118·68
Total Undissolved Matter	14·92	17·01	14·25	12·87	14·85	13·75	20.05	14·15	11·76	11·59	12·16	14·49	171·85
DISSOLVED MATTER—													
Organic Matter by Ignition	10·20	4·95	2·60	4·85	4·02	3·57	3·54	4·25	8·68	10·64	4·25	8·42	69·97
Mineral Matter	7·45	6·64	4·85	5·93	4.01	4·28	4·95	4·24	9·91	8·02	9·33	7·11	76·72
Total Dissolved Matter	17·65	11·59	7·45	10·78	8·03	7·85	8·49	8·49	18·59	18·66	13·58	15·53	146·69
Acidity as H_2SO_4	1·42	1·48	0·57	1·25	0·54	1·58	0·57	0·77	2·59	2·06	2·56	2·09	17·48
Chlorine as Cl.	6·97	4·28	1·99	3·64	1·65	2·32	1·79	2·43	5·90	8·02	5·32	6·47	50·78
Ammonia as NH_3.....	0·17	0·10	0·10	0·20	0·17	0·03	0·03	0·03	0·07	0·03	0·13	0·10	1·16
Sulphate as SO_3.....	2·86	2·09	1·62	2·49	1·68	1·58	2·43	1·65	3·30	2·76	2·26	3·00	27·72
Lime as CaO	1·55	1·65	1·08	1·35	1·65	1·42	0·71	1·52	1·85	1·79	1·68	1·79	18·04
RAINFALL { Millimetres.....	30.41	54·20	21·15	52·88	35·69	70·07	69·41	59·49	121·62	87·25	83·29	63·46	748·92
RAINFALL { Inches	1·20	2·13	0·83	2·08	1·41	2·75	2·73	2·34	4·79	3·43	3·28	2·50	29·47
PH. VALUE.....	3·5	3·6	3·7	3·7	3·8	3·5	3·9	3·9	3·7	3·6	3·5	3·5	—

RESULTS OF ANALYSES BY THE CITY ANALYST, (CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	15·50	11·52	8·52	11·19	10·51	17·01	10·81	12·80	16·07	17·25	12·80	13·61	157·59
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·24	0·17	0·07	0·07	0·07	0·17	0·20	0·07	0·10	0·13	0·17	0·13	1·59
Other Organic Matter	1·88	1·78	1·68	1·79	2·26	3·94	2·39	2·46	1·62	2·29	2·53	2·23	26·85
Mineral Matter	4·08	4·25	3·37	3·94	4·95	5.19	4·08	4·51	2·73	3·81	3·13	3·37	47·41
Total Undissolved Matter	6·20	6·20	5·12	5·80	7·28	9·30	6·67	7·04	4·45	6·23	5·83	5·73	75·85
DISSOLVED MATTER—													
Organic Matter by Ignition	5·66	1·99	1·18	2·86	1·62	3·87	1·78	2·46	6·16	5·80	1·98	4·38	39·74
Mineral Matter	3·64	3·33	2·22	2·53	1·61	3·84	2·36	3·30	5·46	5·22	4·99	3·50	42·00
Total Dissolved Matter	9·30	5·32	3·40	5·39	3·23	7·71	4·14	5·76	11·62	11·02	6·97	7·88	81·74
Acidity as H_2SO_4	0·61	0·54	0·34	0·57	0·27	0·24	0·40	0·30	1·25	0·98	1·14	1·11	7·75
Chlorine as Cl.	3·54	2·16	0·81	1·89	0·88	1·45	0·88	2·06	3·23	5·22	2·86	3·94	28·92
Ammonia as NH_3.....	0·07	0·10	0·01	0·03	0·01	0·34	0·01	0·02	0·03	0·03	0·05	0·10	0·80
Sulphate as SO_3.....	1·28	1·15	0·71	1·08	0·91	1·15	1·21	1·21	1·89	1·38	1·21	1·41	14·59
Lime as CaO	1·01	0·84	0·74	0·94	1·31	1·45	0·74	1·25	1·38	1·15	0·74	0·88	12·43
RAINFALL — Millimetres	39·66	65·44	29·08	62·13	39·66	94·52	58·17	80·64	134·18	113·69	97·83	85·93	900·93
RAINFALL — Inches	1·56	2·58	1·14	2·44	1·56	3·72	2·29	3·18	5·28	4·48	3·85	3·38	35·46
PH. Value	3·9	4·5	4·0	4·3	4·6	5·2	3·9	5·0	4·3	4·0	3·8	3·8	—

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 695 miles of streets within the city, together with their back passages, the periodical emptying of ashbins, street gullies, street and court bins and ashpits, and the disposal of the refuse collected therefrom, etc. During 1935, the quantity of domestic and trade refuse collected was 347.823 tons, and the quantity disposed of was 369,408 tons. The quantity dealt with per working day was 1,207 tons.

The whole of the 695 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, but during 1935 this work had still to be considerably curtailed owing to water shortage on account of the abnormal drought in 1934.

Seven sweeping machines are employed regularly, five on night work (two of which collect as well as sweep), covering approximately 100 brush miles of roadway nightly, and two on day work, brushing the roadway and picking up the sweepings in side streets.

On Sunday mornings a number of the principal streets and streets in congested areas are cleansed, and all street and court bins emptied.

During 1935, 28,974 tons of street sweepings were collected and disposed of as manure and top dressing.

Three mechanical gully emptiers are now in use, which perform the work in a very satisfactory and sanitary manner.

In connection with street watering, 2,074,070 gallons of water were distributed during the season.

425,420 square yards of carriageway were treated with dust-laying compositions, of which 69,808 square yards were in various 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 at 31st December, 1935, was 465.

There were 31 underground urinals with 283 stalls and 130 overground urinals with 590 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 regularly 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 1935, the number of bins in use of this type was 91,203, the number of ashpits being reduced from 65,000 to 1,258. In addition, more than 107,000 loose bins have 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 860, these are emptied daily. Ashbins and ashpits on 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. Horse middens are emptied weekly, and more often if required.

Ashpits.—To assist in the abolition of ashpits within the city, the Health Committee applied for and obtained special powers under the Liverpool Corporation Act, 1927, Section 157, which is as follows :—

> " Section 467 (Regulation Dustbins) of the Act of 1921 is hereby " repealed and the Corporation may by notice in writing require " the owner or occupier of any dwelling-house, warehouse or shop " to provide and maintain in proper order and condition " galvanised iron dust-bins in lieu of ash-pits or ash-tubs or other

"portable receptacles for refuse, and such bins shall be of such "size and construction as may be approved by the Corporation, "and any owner or occupier who fails within fourteen days after "notice given to him to comply with the requirements of the Cor- "poration shall for every such offence be subject to a penalty not "exceeding five shillings. Provided that in any case where the "Corporation under this Section require a galvanized iron dust- "bin to be provided in lieu of any ash-pit or ash-tub or other "portable receptacle for refuse in use on the 4th day of August, "1905, which at the time such requirement is made is of suitable "size and construction and in good order and condition, the "Corporation shall pay the cost of providing such galvanized iron "dust-bin."

Numerous applications have been received by owners who desire to take advantage of this section of the provisions. Up to 31st December, 1935, approximately 3,350 ashpits have been abolished under these powers.

All ashpit 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 three destructors, by disposing at sea, by sale to farmers, and by controlled tipping for reclamation of land, operations being carried out in accordance with suggested regulations of the Minister of Health, to comply with which 63,001 tons of soil, etc., were used for covering the refuse disposed of at tips during the year.

During the year 76,615 tons were burned at the destructors, 67,883 tons of refuse and 13,008 tons of heavy covering material were deposited at sea by hopper barge, 9,685 tons were sold to farmers, etc., and 214,116 tons were otherwise disposed of at tips and for agricultural purposes, etc. In addition, approximately 9,700 tons of clinker residence from

destructors were used almost entirely in the construction and maintenance of roads and tramways and in the manufacture of mortar and concrete slabs, etc.

A new system of street cleansing, known as the *beat system*, is now applied to all districts of the city. Under this system the performance of the work of sweeping by gangs is, with very few exceptions, discontinued, and instead the work is divided among the men, who may be termed barrow men, each of whom is provided with a trolley containing two galvanised bins. By this method the sweepings are not allowed to remain in heaps, but are shovelled up and deposited at once into bins. Specially adapted motor vehicles, each fitted with platforms large enough to accommodate about 40 bins, visit each man three or four times daily, collecting the full bins and replacing them with clean empty bins. The full bins are transported to the depot, where they are emptied, washed, and sent out again

This system is more hygienic, and by its operation the necessity for tipping the contents of barrows and handcarts on to the street surface and the subsequent loading into the transporting vehicle, is entirely removed.

The bye-law against street littering has now been in operation for three years, and experience shows that the public are displaying a tendency to co-operate with the Corporation in keeping the streets clean. A number of cases have occurred, however, in which the Corporation have felt compelled to institute proceedings against persons contravening the bye-law, and there is room for greater public effort to maintain the streets in a tidy condition.

Liverpool Corporation Swimming Baths.

The following information concerning the Liverpool Corporation swimming baths has been kindly supplied by the Baths Manager.

	Name of Bath.	No. of Plunges.	Capacity in Gallons.	Nature of Water Supply.	Frequency of Renewal.	Filtration.	Chlorination.	Frequency of Chemical Check.
Covered Baths.	Steble Street ...	2	110,100	City water mains	Continuous filtration	Filtration with coagulant	Continuous Chlorination	Four times a day.
	Lodge Lane ...	2	121,300					
	Margaret Street ...	2	129,100					
	Lister Drive ...	2	122,800					
	Picton Road ...	2	110,200					
	Speke Road ...	2	122,300					
	Queen's Drive ...	2	128,400					
	*Cornwallis Street	3	127,500	River water, filtered and sterilised	Daily or every other day as required	Filtration without coagulant	Chlorination once daily	Once daily.
	*Westminster Road	2	146,706					
	*Burroughs Gardens	2	55,119					
	*Woolton	1	43,875	City water mains	Every two or three days as required	No filtration	Chlorination at time of filling.	When filled.
Open-air Baths.	†Stanley Park ...	2	188,131					
	†Queens' Drive ...	1	45,706					
	†Burlington Street	1	94,500					
	†Mansfield Street ...	1	45,706					
	†Gore Street ...	1	70,333					
	†Green Lane ...	1	73,456					

*To be equipped with modern filtration plants during 1936. †To be equipped with modern filtration plants during winter of 1936-37.

FOOD INSPECTION

including the supervision of dairies, the cleanliness of milk and ice-cream, tuberculous milk, diseases of cattle, and adulteration of food and drugs.

INSPECTION OF FOOD.

The duties in connection with the supervision of food supplies imposed upon the officers of the Health Department by various Acts and Orders are carried out by a fully qualified staff of food inspectors. They entail the examination of the carcases of animals slaughtered for food at the abattoir and private slaughter-houses; the inspection of meat, fish and fruit at the various wholesale and retail markets and cold stores; and the inspection of shops, factories, etc., where foodstuffs are sold, prepared or stored for human food. A number of inspections are also made of food purchased under contract by the Port Sanitary and Hospitals Committee and the Education Committee. In some instances goods supplied were consequently not according to contract and were returned to the contractor.

A numerical summary of the visits paid to premises by the food inspectors is given in Table I.

TABLE I.

VISITS PAID TO PREMISES BY THE FOOD INSPECTORS.

Slaughter houses.	Butchers' shops.	Fruit shops.	Fish & Fruit shops.	Food Hawkers' premises.	Jam factories.	Pickle factories.	Ice Cream premises	Food factories	Knackers' yards.	T v p
612	20,564	26,260	24,834	1,361	39	78	4,738	721	31	79

Knackers' Yards.

A "knackers' yard" means a building or place used for the slaughter of horses, asses, mules and cattle, the flesh of which is not intended for use as human food. There are two such knackers' yards in Liverpool.

Private Slaughter-houses.

There are nine private slaughter-houses in the city at which, during 1935, 2,032 animals were slaughtered. All the carcases are inspected before being taken from the premises. One of these slaughter-houses is used solely for the slaughter of horses for export abroad as human food.

The Public Slaughter-house or Abattoir.

Slaughtering may take place at the Abattoir at any time during the day or night. It is continuous during one night per week, and sometimes during two, Sunday being a very busy day. The work of inspection of animals and meat, therefore, is almost continuous.

During the slaughter of calves a close watch is kept for evidence of tuberculosis, and several instances have occurred of marked infection in very young animals. Where the origin of the animal is known inquiries are made as to the source of the infection. It may have been from the milk which has been used as food or congenital infection from the mother. In the latter event the mother is slaughtered under the Tuberculosis Order of 1925.

The carcases of 11,306 animals showed abnormal conditions, and a detailed examination was made in each case.

During the year, 3,279 carcases were rejected as being unfit for human food. Of these, 2,309 were destroyed at the Abattoir and 970 were destroyed at knackers' yards.

During 1935, 521,699 animals of different kinds were slaughtered in Liverpool for human food. An analysis of this figure is given in Table II.

TABLE II.

NUMBER OF ANIMALS SLAUGHTERED IN LIVERPOOL FOR HUMAN FOOD.

	Bulls	Bullocks	Cows	Heifers	Calves	Sheep and Lambs	Swine	Horses
Public Abattoir	1,730	33,747	14,091	6,051	26,927	380,396	56,725	—
Private Slaughter-houses	—	37	—	45	17	37	1,651	245
Totals	1,730	33,784	14,091	6,096	26,944	380,433	58,376	245

Many carcases of home-killed animals are brought into Liverpool from other districts. A summary is given in Table III.

TABLE III.

CARCASES OF ANIMALS (HOME-KILLED) BROUGHT INTO LIVERPOOL FROM OTHER DISTRICTS.

Brought into the—	Beef.	Veal.	Mutton.	Lamb.	Pork.
Meat Market	2,003	745	510	5,649	11,219
Factories, Shops, etc. ...	40	180	23	466	694
TOTALS	2,043	925	533	6,115	11,913

In addition to the above, 3,576 boxes or packages of home-killed offal were dealt with in the meat market.

A large number of carcases of imported meat, both frozen and chilled, pass through the meat market. The figures for 1935 are given in Table IV.

TABLE IV.

CARCASES OF IMPORTED (FROZEN AND CHILLED) MEAT PASSING THROUGH THE MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.
63,876	107	124,491	649,208	8,319

In addition to the above, 17,962 cuts of beef and 153,869 boxes and packages of imported meat and offal were dealt with in the meat market.

Diseased Conditions.

A description of the diseased conditions found during 1935 which led to the total or partial destruction of carcases is given in Table V.

TABLE V.

DISEASES FOR WHICH CARCASES WERE TOTALLY OR PARTIALLY DESTROYED AS INDICATED IN THE TABLE.

Disease.	No.	Disease.	No.
Abscess (partial)	119	Neoplasms, Malignant	3
Arthritis, Septic (total)	69	Joint Ill	19
,, Simple (partial)	66	Nephritis	7
Asphyxia	199	Pyæmia	15
Contamination (partial)	83	Peritonitis Septic	36
Decomposition (total)	49	Pneumonia	24
,, (partial)	312	Pleurisy	20
Distomatosis	216	Pleurisy (partial)	1
Dropsy	246	Septicæmia	2
Echinococcus Cysts	1	Septic Mastitis	9
Enteritis	358	,, Metritis	11
Immaturity	39	,, Pericarditis	7
Injury (total)	34	Swine Fever	284
,, (partial)	1202	Swine Erysipelas	18
Jaundice	27	Tuberculosis (total)	594
Johnes Disease	13	,, (partial)	530
Melanosis	2		

In addition to the number of carcases totally destroyed because diseased conditions made them unfit for human food, a number of organs with localised disease were condemned. A summary is given in Table VI.

TABLE VI.

NUMBER OF ORGANS DESTROYED ON ACCOUNT OF DISEASE, EXCLUSIVE OF ORGANS DESTROYED IN CARCASES TOTALLY CONDEMNED.

Disease.	No.	Disease.	No.
HEADS AND TONGUES :—		SPLEENS :—	
Abscess	151	Decomposition	19
Actinomycosis	169	Tuberculosis	1,959
Congestion	25		
Contamination	1		
Decomposition	1,385	STOMACHS :—	
Injury	11	Abscess	13
Tuberculosis	5,366	Decomposition	17
		Peritonitis	1
LUNGS :—		Tuberculosis	1,937
Abscess	190		
Congestion	20,690		
Decomposition	916	KIDNEYS :—	
Emphysema	161	Abscess...	6
Melanosis	24	Cysts	141
Parasitic	265	Cirrhosis	375
Pneumonia	175	Decomposition	691
Pleurisy	621	Nephritis	70
Tuberculosis	6,616	Tuberculosis	1,993
Unclassified Cystic Conditions...	2,711		
LIVERS :—			
Abscess	593	UDDERS :—	
Cavernous Angioma	1,181	Abscess	174
Cirrhosis	1,650	Decomposition	19
Congestion	2,436	Mammitis	2,255
Decomposition	3,574	Tuberculosis	23
Distomatosis	14,325		
Parasitic	601		
Tuberculosis	4,809		
Unclassified Cystic Conditions...	2,912	INTESTINES :—	
		Abscess	3
HEARTS :—		Enteritis	5
Abscess	4	Johnes Disease...	50
Decomposition	647	Necrosis	2
Pericarditis	26	Peritonitis	1
Tuberculosis	3,908	Tuberculosis	3,816

Incidence of Tuberculosis in Bovine Animals.

During 1935, 55,619 bulls, bullocks, heifers and cows were killed. Of these 5,848 (10·51 per cent.) were affected with tuberculosis and rejected accordingly.

An analysis of these rejections is given in Table VII.

TABLE VII.

ANALYSIS OF REJECTIONS ON ACCOUNT OF TUBERCULOSIS.

	Total number slaughtered.	Carcase and Organs completely rejected.		Carcase and Organs partially rejected.		Rejection of Organs only.		Totals.	
		Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.
BULLS	1,730	6	0·34	89	5·14	189	10·92	284	16·41
BULLOCKS	33,747	23	0·06	50	0·15	667	1·97	740	2·19
HEIFERS	6,051	23	0·38	26	0·43	122	2·01	171	2·82
COWS	14,091	458	3·25	365	2·59	3,830	27·18	4,653	33·02
TOTALS	55,619	510	0·92	530	0·95	4,808	8·64	5,848	10·51

It is interesting to record that 83 of the 1,730 bulls slaughtered were found to be affected with tuberculosis confined to the superficial inguinal glands.

When a bovine animal is infected with tuberculosis, the lungs and associated lymph glands are the organs most commonly diseased. This is shown in Table VIII, wherein is an analysis of the tuberculous organs found in bovine animals, expressed as a percentage of the total bovine animals infected.

TABLE VIII.

ANALYSIS OF TUBERCULOUS ORGANS IN BOVINE ANIMALS.

Organs infected with tuberculosis.	Number of organs.	Expressed as a percentage of total tuberculous bovine animals.
Lungs and associated lymph glands	4,629	86%
Liver	2,903	54%
Intestines	2,468	46%
Head and associated lymph glands	2,726	51%
Stomach	1,901	35%
Spleen	1,930	36%
Kidneys and genital organs	1,952	36%

(Table VIII does not include the diseased organs from 510 animals totally rejected.)

Cows with Tuberculous Disease of the Udder.

During the year, 57 cows slaughtered in the ordinary course of trade were found to be suffering from tuberculous disease of the udder. This figure is 0·40 per cent. of the total cows killed.

Calves with Tuberculosis.

During the year, 26,927 calves were slaughtered. Twenty carcases were totally rejected on account of tuberculosis, and in 10 cases the carcases were passed after rejection of infected organs.

Quantities of Food Materials Condemmed.

The quantities of food material condemned as being unfit for human food are given in Table IX.

TABLE IX.

FOOD MATERIALS CONDEMNED AS BEING UNFIT FOR HUMAN FOOD.

Beef, Veal, Mutton, Pork.	Offal.	Fish.		Crabs, Lobsters, Oysters, Crayfish, Shrimps, Prawns, Scallops, Cockles.	Mussels, and Winkles.	Poultry.	Game.	Rabbits and Hares.	Fruit.	Vegetables.	Nuts, Cokernuts, Almonds, etc.	Eggs.	Canned Food-stuffs.
		Wet.	Dry.			Fowls, Ducks, Geese, Turkeys, etc.	Partridges, Grouse, etc.		Apples, Pears, Bananas Oranges, Lemons, etc.	Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.			
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Number.	Tins.
527,717	1,132,762	165624	45584	2,708	134	2,884	321	7,605	438,682	141,880	11,400	1,420	1,903

A few samples of food materials were submitted for bacteriological or chemical examination as follows:—

TABLE X.

SAMPLES OF FOOD MATERIALS SUBMITTED FOR BACTERIOLOGICAL OR CHEMICAL EXAMINATION.

Fresh Meats and Offals.	Canned Foodstuffs.	Shell-Fish.	Fresh Fish.	Sweets.	Miscellaneous.
18	2	14	—	1	10

Fruit, Vegetable and Fish Markets.

In Table XI are given the quantities of fish, rabbits, poultry and game which passed through the Wholesale Market during the year.

TABLE XI.

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE MARKET.

Fish				Rabbits.	Poultry.	Game.
Wet Fish.	Dry Fish.	Shell-Fish.	Salmon.			
16,023 tons	3,982 tons	640 tons	90 tons	13,077 packages	6,273 packages	41 packages

The figures in Table XI include only the quantities of these food materials dealt with by firms associated with markets controlled by the Markets Committee.

The wholesale depôt in Queen Square and the Wholesale Fruit Market are two of the principal distributing centres in the country for imported fruit. During the year, 101,143 tons of vegetables passed through the Vegetable Markets.

Public Health (Meat) Regulations, 1924.

These Regulations are based on the recommendations of the Departmental Committee on Meat Inspection. They are designed to secure more adequate inspection of animals slaughtered in this country as

well as improvements in the handling, transport and distribution of meat.

The objectionable practice of exposing meat in open shop fronts has ceased. However, carcases and meats brought to Liverpool for sale from other places by road, rail or steamer are sometimes insufficiently protected from contamination.

The use of a thin transparent wrapping or covering for foodstuffs exposed for sale in shop windows on counters or in show-cases is becoming more frequent and is a great help in the protection of food from dust, flies and handling.

The Tuberculosis Order, 1925.

This Order aims at the destruction of cows suffering from tuberculosis in a form that is a source of danger to human beings and to other animals. During 1935, 66 cows were slaughtered under this Order (1).

Merchandise Marks Act, 1926.

This Act requires an indication of origin to be given in the case of imported foodstuffs. From time to time an Order in Council names a food material which, on importation from abroad, must be labelled "Foreign" or "Empire", or must bear a description of the actual country of origin. The food materials so far named are honey and fresh apples; currants, sultanas and raisins; eggs in shell, both hen and duck, and dried eggs; oat products; raw tomatoes; frozen or chilled salmon or sea trout; butter, poultry; bacon, ham and imported meat.

The marking of imported foodstuffs in this way enables the buying public to distinguish between home-produced food and that which has come from abroad.

During 1935 it was found necessary to prosecute in 20 cases for offences under this Act, and 13 convictions were obtained.

Agricultural Produce (Grading and Marking) Acts, 1928 and 1931.

These Acts provide for the grading and marking of agricultural and fishery produce of England and Wales, so that the purchaser shall be

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(1).—See page 254.

in the position to know what is the standard of quality of the food that he is buying.

From time to time the Ministry of Agriculture and Fisheries make regulations prescribing "grade designations" for particular commodities and defining the quality indicated by these grade names. For example, the words "Select", "Prime" and "Good" have been chosen to describe three qualities of home-killed beef.

In order that the public may be able to recognise readily a graded food material, it is marked with a prescribed "grade designation mark", consisting of a silhouette map of England and Wales bearing a circular representation of the Union Jack in the centre, around which are the words "Produce of England and Wales". This design has come to be known as "The National Mark". Associated with the National Mark is the grade name descriptive of the quality of the article.

Buyers now realise that the National Mark is a reliable indication of quality, and it is essential that the high standard associated with this mark be maintained.

Slaughter of Animals Act, 1933.

The Slaughter of Animals Act, 1933, came into force on January 1st, 1934. The principal provisions of this Act are two in number, firstly that all animals, except those which are named as exceptions, must be killed or stunned before slaughter by means of a mechanically-operated instrument, and secondly, that all slaughtermen shall be licensed for a period of not exceeding three years, each expiring licence being the subject of renewal on application.

Sheep are exempt from the provisions of this Act unless by resolution of the local authority they are included. The Health Committee has decided to postpone their inclusion until the completion of additional accommodation at the Abattoir towards the end of 1936.

During the year, 228 applications for licences as slaughtermen were received, and 228 licences were granted.

THE SUPERVISION OF DAIRIES, COWSHEDS AND MILKSHOPS.

Under the Milk and Dairies Order, 1926, dairies and dairymen must be registered. The expression "dairy" includes any farm, cowshed or milk-store from which milk is supplied on, or for, sale; and the expression "dairyman" includes any occupier of a dairy, any cow-keeper or any purveyor of milk.

TABLE XII.

Registration of Dairies.

(*Milk and Dairies Order*, 1926.)

Number of registered dairies at the end of 1934.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1935.
801	26	3	35	789

During the year, 75 dairies were transferred from one owner to another. These opportunities were taken advantage of to effect improvements both in structure and apparatus.

The numbers of registered dairies during the five years 1931-1935 were : 791, 818, 815, 801 and 789 respectively.

Inspection of Dairies.

During the year, 8,060 visits of inspection were paid to dairies. In 30 instances infringements of the Milk and Dairies Order, 1926, were found. In every case the notice of requirements was complied with at once.

The corresponding visits for 1934 were 7,763.

Registration of Dairymen.

The number of registered dairymen is described in Table XIII.

TABLE XIII.

REGISTERED DAIRYMEN.

Number of registered dairymen on Jan. 1st, 1935.	Applications for registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1935.
906	131	7	161	869

Of the 869 dairymen on the register at the end of the year, 80 were milk-hawkers who, having no premises of their own, are registered at the dairy from which they obtain their supplies and where they store their utensils.

Conveyance and Distribution of Milk Churns.

Observations were made at railway stations and other distributing centres to ensure that Sections 28 and 29 of the Milk and Dairies Order, 1926, relating to the marking, construction and cleanliness of milk churns, were complied with. During the year 16 notices were sent to farmers outside the city drawing their attention to defects in milk churns. In every case the defects were remedied.

The Licensing of Places for Keeping Cattle.

(*Liverpool Corporation Act*, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a licence from the Corporation both in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In Table XIV is a summary of the register of licences in respect of milch cows.

TABLE XIV.

REGISTRATION OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1934.	End of 1935.
Number of licensed cowsheds...	254	246
Number of cows specified on the licences	4,790	4,615
Approximate average number of cows kept ...	3,440	3,300

During the year one new licence to keep cows was applied for, involving the keeping of 10 cows. This application was granted. Fourteen licences were transferred from one person to another. Applications from 5 licensees to keep additional stock, amounting in all to 26 cows, were granted.

A comparison of the numbers of licensed cowsheds during the years 1931-1935, together with the numbers of cows to which the licences referred, is given in Table XV.

TABLE XV.

A COMPARISON OF THE NUMBERS OF COWSHEDS AND COWS LICENSED DURING THE YEARS 1931-1935.

Year.	Number of licensed cowsheds.	Number of cows approved.
1931	276	4,878
1932	275	5,134
1933	272	5,036
1934	254	4,790
1935	246	4,615

During the year, 1,905 visits of inspection were paid to cowsheds. Thirty-seven of the cowsheds visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921. All the notices were complied with, and no

prosecutions were necessary nor was any licence forfeited because premises were not properly kept.

A summary of the register of licences in respect of the keeping of pigs and cattle other than milch cows is given on page 200.

The Daily Supply of Milk to Liverpool.

The quantity of milk consumed in Liverpool daily is as follows:—

TABLE XVI.

DAILY CONSUMPTION OF MILK DURING 1935.

Kind of Milk.	Quantity in Gallons.
Certified	74
Grade A (Tuberculin-tested)	1,361
Grade A	1,597
Accredited	2,209
Raw ungraded	16,496
Pasteurised under licence	10,661
Heat-treated to pasteurisation standard	8,572
Sterilized	5,330
Total ...	46,300

The relative quantities of milk produced within the city or brought into the city by rail or by road are as follows:—

TABLE XVII.

DAILY SOURCE OF MILK DURING 1935.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
9,900 gallons	33,415 gallons	2,985 gallons

Total, 46,300 gallons.

The growth of road transport during recent years has led to increased difficulties in sampling.

Graded Milk.

The daily quantity of graded milk consumed is given in Table XVI above. The number of producers and dealers in Liverpool who are licensed in accordance with the Milk (Special Designations) Order, 1923, either by the Ministry of Health or by the Local Authority, to produce or sell a graded milk, are given in Table XVIII.

TABLE XVIII.

PRODUCERS AND VENDORS OF GRADED MILK IN LIVERPOOL.

Nature of licence or licences.	Certified Milk.	Grade A (TT) Milk.	Grade A Milk.	Pasteurised Milk.
Producer only	0	0	14	1
Producer and retail vendor ...	1	1	31	2
Retail vendor only	10	7	24	0

During the year the following changes in licence holders took place, namely, 1 holder of licence to produce Grade A (TT) milk had to cease owing to farm being required for other purposes; 10 new licences were issued to producer-retailers of Grade A milk; 13 new licences were issued to producers only of Grade A milk; and 19 vendors' licences were surrendered.

The Provision of Milk for School Children.

Since January 1st, 1935, pasteurised milk only has been supplied under the Milk Marketing Board's scheme to children in school. At the end of the year, seventeen firms were approved as sources of milk.

The following table gives the numbers of bottles of milk, each containing a third of a pint, supplied to school children daily in March, 1934, before the inception of the Milk Marketing Board's Scheme, and on three occasions since that time:—

TABLE XIX.

BOTTLES OF MILK SUPPLIED TO SCHOOL CHILDREN DAILY.

Date.	Pasteurised Milk.	Raw Milk.	Total.
March, 1934	9,216	4,735	13,951
November, 1934	54,756	18,627	73,382
March 31st, 1935	70,343	Nil	70,343
October 1st, 1935	68,969	Nil	68,969

The total number of scholars on roll on October 1st, 1935, was 139,177 so that approximately half the children were in receipt of milk daily.

The Supervision of Milk supplied to School Children.

The sources of milk supplied to school children are supervised by (1) regular inspection of pasteurising plant and methods, and (2) frequent examination of milk samples.

INSPECTION OF PLANT.

The seventeen firms supplying milk have been visited regularly by a medical officer of the Health Department as well as by the dairies inspectors. Enquiries have related to (1) the character of the source of the raw milk to be treated; (2) the cleansing and sterilisation of the apparatus after each day's work; (3) the methods of temperature control and the regulation of the holding time; (4) the possibility of a portion of the milk lying outside the holding zone during heat treatment; (5) the possibility of forward leakage in the plant; (6) the cooling and bottling arrangements; and (7) the efficiency of the bottle cleansing and sterilisation equipment.

It is noteworthy that there has been a marked improvement in the efficiency of pasteurisation as the result of this inspection. At the outset, two firms possessed laboratories which enabled them to control the milk bacteriologically both before and after treatment. Now five firms are similarly staffed. In addition, several firms have installed modern plant or effected improvements in existing plant. Experience

has shown that modern equipment is useless without an efficient staff and that laboratory control is essential in the maintenance of high quality.

SAMPLING.

It was decided at the outset to sample milk supplied to school children as frequently as possible, in order to determine the presence or absence of tubercle bacilli, as well as the total bacterial count and the presence or absence of coliform organisms in 1 cubic centimetre and $\frac{1}{10}$ cubic centimetre. In addition, a chemical analysis is performed to determine the proportion of fat and other solids. Recently the phosphatase test has been added to the list.

Between October 1st, 1934, and December 31st, 1935, 309 samples were submitted for bacteriological examination. In every case two guinea pigs were inoculated. In no case were tubercle bacilli found. Whereas at first it was common to find a total count above 30,000 bacteria per c.c. and coliform organisms in $\frac{1}{10}$ c.c., during the last six months it has been uncommon to find a total count exceeding 10,000 bacteria per c.c. and, with few exceptions, coliform organisms are absent in 1 c.c. There are no insuperable difficulties in producing a pasteurised milk with a total count of less than 10,000 organisms per c.c., and an absence of coliform organisms. Experience seems to show that when a pasteurising plant of proper design is being used and the milk is held at a temperature between 145° F. and 150° F. for half an hour, a high total count indicates an unsatisfactory raw milk supply and the presence of coliform organisms is an indication of post-pasteurisation contamination. The fact that it is not possible by pasteurisation to produce a low count milk from milk which has been produced in a dirty way or has become contaminated in other ways prior to pasteurisation is leading to the careful supervision of the farms on the part of dairymen by whom pasteurisation is carried out, greatly to the advantage of the production of clean milk. The fear that the spread of pasteurisation would lead to carelessness in production has proved to be groundless.

During the same period (October 1st, 1934—December 31st, 1935) 175 samples were submitted for chemical examination. Only one of these

samples contained less than 3 per cent of milk fat and 129 (73 per cent.) contained 3½ per cent. of fat or more.

The checking of the temperature recorders was done on 48 occasions during the last six months of the year. On two occasions only were the holding temperatures found to be too low, in one case the temperature being 143·0° F. and remaining so for 30 minutes, and in the other case being 144° F. falling to 142° F. in 30 minutes. As already mentioned, the phosphatase test has now been added to the other methods of control and, in due course, the results of this test will be reported.

It is noteworthy that no tuberculous sample has been discovered. There is no doubt that pasteurisation, when properly performed, is a complete safeguard to human beings from bovine tuberculosis conveyed by milk as well as from other organisms harmful to man.

THE CLEANLINESS OF MILK.

The bacterial content of milk is a measure of the cleanliness of production, handling and storage. During 1935, 178 samples of graded milk and 371 samples of ungraded milk produced in Liverpool were submitted to the City Bacteriologist for bacterial counts. The results are given in Tables XX, XXI and XXII, below.

TABLE XX.

BACTERIAL COUNTS IN SAMPLES OF CERTIFIED MILK.

Supplied by	No. of samples	Where taken	Number of bacteria per c.c.		Presence or absence of coliform bacilli		
			Under 30,000	Over 30,000	Absent in in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.
A	11	Wholesale Milk Depot...	11	0	8	1	2
B	6	Milkshop in City... ...	6	0	6	0	0
C	4	Milkshop in City... ...	4	0	3	1	0
Totals ...	21		21	0	17	2	2

The bacterial standard for certified milk laid down in the Milk (Special Designations) Order, 1923, is that the bacteria per c.c. shall not exceed 30,000, and that coliform bacilli must be absent in $\frac{1}{10}$ c.c. It will be observed that all the samples complied with the bacterial standard in respect of total count, but that 2 samples showed an excessive number of coliform bacilli.

TABLE XXI.

BACTERIAL COUNTS IN SAMPLES OF GRADE "A" (TUBERCULIN TESTED) MILK.

Number of samples.	Where taken	No. of bacteria per c.c.		Presence or absence of coliform bacilli.			
		Under 200,000	Over 200,000	Absent in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.	Present in $\frac{1}{100}$ c.c.
21	Hospitals and Institutions	21	0	9	3	3	6
24	Infant Welfare Centres ...	24	0	15	5	2	2
12	do.	12	0	11	1	0	0
12	do.	12	0	7	3	1	1
24	Hospitals and Institutions	24	0	7	8	6	3
11	do.	11	0	6	4	1	0
16	do.	16	0	9	5	2	0
14	do.	12	2	5	4	3	2
1	do.	1	0	1	0	0	0
11	Wholesale Milk Depot ...	10	1	3	5	2	1
11	Farm in City	11	0	11	0	0	0
157		154	3	84	38	20	15

The bacterial standard of Grade "A" (Tuberculin Tested) milk laid down in the Milk (Special Designations) Order, 1923, is that the bacteria per c.c. shall not exceed 200,000, and that coliform bacilli must be absent in $\frac{1}{100}$ c.c. It will be observed that 154 samples out of the 157 complied with the bacterial standard in respect of the total count, but that 15 samples showed an excessive number of coliform bacilli.

TABLE XXII.

BACTERIAL COUNTS IN SAMPLES OF UNGRADED AND UNTREATED MILK PRODUCED IN LIVERPOOL.

Month.	Number of samples	No. of bacteria per c.c.			Presence or absence of coliform bacilli.				
		Under 30,000	30,000 to 200,000	200,000 and over	Absent in 1 c.c.	Present in			
						1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.
January ...	21	12	9	0	5	5	5	5	1
February...	27	13	11	3	4	9	9	3	2
March ...	37	19	17	1	5	11	10	9	2
April ...	34	24	7	3	7	4	10	8	5
May ...	34	16	15	3	8	8	10	3	5
June ...	26	13	6	7	1	5	9	3	8
July ...	32	6	14	12	1	8	5	7	11
August ...	25	17	5	3	0	10	7	3	5
September	36	21	13	2	7	10	10	7	2
October ...	36	24	11	1	4	7	15	5	5
November	32	24	8	0	7	8	10	6	1
December	31	25	6	0	10	8	10	3	0
TOTAL...	371	214	122	35	59	93	110	62	47
Percentage of total samples	—	57·6	32·9	9·5	15·9	25·0	29·7	16·8	12·6

The samples of ungraded and untreated milk tabulated in Table XXII were taken from milk produced in Liverpool by 169 cowkeepers. The milk is from cows milked at 6 a.m., and may have been kept on the counter of the milkshop for several hours before the sample is taken. During this time the milk measure may have been dipped into the milk a number of times as sales have taken place. In these circumstances the results described in Table XXII create a very favourable impression as to the cleanliness of the milk produced within the city. It will be observed that of the total of 371 samples, 214 contained under

30,000 bacteria per c.c., the recognised bacterial standard for Certified Milk, and that 336 contained less than 200,000 bacteria per c.c., the standard for Grade "A" (Tuberculin Tested) Milk. Furthermore, 93 showed an absence of coliform bacilli in 1 c.c., and a further 93 exhibited this organism only in so large a quantity of milk as 1 c.c., indicating a remarkable freedom from manurial contamination. A very great improvement has been effected in clean milk production in Liverpool.

Ice Cream.

During the year, 3,864 visits of inspection were paid to the premises of 850 makers of ice-cream.

In April, 1933, a memorandum on sanitary and other requirements was issued to all makers and vendors of ice-cream. This memorandum is published in full in the Report for 1932.

During the year, 85 samples of ice-cream were submitted to the City Bacteriologist for bacteriological examination. The results are given in Table XXIII. It is noteworthy that in many cases the bacterial counts were very high.

TABLE XXIII.

BACTERIAL COUNTS IN ICE CREAM.

1935 Month	Number of bacteria per c.c.					Coliform Bacilli						
	Over 10,000,000	Between 1,000,000 and 10,000,000	Between 100,000 and 1,000,000	Between 10,000 and 100,000	Under 10,000	Absent in 1 c.c.	Present in					
							1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.	$\frac{1}{10000}$ c.c.	$\frac{1}{100000}$ c.c.
April	—	—	—	—	1	1	—	—	—	—	—	—
May	1	1	9	9	13	13	4	8	6	2	—	—
June	—	—	7	1	2	1	1	—	3	5	—	—
July	—	—	13	3	3	2	2	3	3	9	—	—
August	—	—	12	2	8	5	5	6	1	5	—	—
Total	1 (1·1%)	1 (1·1%)	41 (49·4%)	15 (17·6%)	27 (31·8%)	22	12	17	13	21	—	—

TUBERCULOUS MILK.

The following propositions on the subject of bovine tuberculosis are well-authenticated and deserve to be widely known:—

(1) Raw milk, as at present distributed for human consumption, shows on an average the presence of living tubercle bacilli in some 6 to 7 per cent. of the specimens examined;

(2) About 2,000 children die annually from tuberculous infection of bovine origin, while many others suffer disabling and deforming illnesses;

(3) These disasters are due mainly, if not entirely, to the infection of the children through the milk supply;

(4) Pasteurisation, properly performed. or failing this, the boiling of the milk, reduces the risk of tuberculosis and other milk-borne infections to the vanishing point.

It is evident, therefore, that the examination of milk for the presence of tubercle bacilli is a very important part of the work of a Health Department.

The Examination for Tuberculosis, of Milk produced within the City.

During the year, 528 samples of milk produced within the city were submitted for bacteriological examination for tubercle bacilli with the following results:

TABLE XXIV.

THE EXAMINATION FOR TUBERCULOSIS, OF MILK PRODUCED WITHIN THE CITY.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	42	4	9·5
Ungraded raw milk ...	486	34	7·0

The percentage of samples of ungraded raw milk which proved to be tuberculous, namely, 7 per cent., is similar to the accepted figure for the country as a whole, namely, 6 to 7 per cent., and is considerably less than the percentage of tuberculous samples of milk produced in areas outside the city, namely, 14·6 per cent. (see below). The corresponding figure for last year was 4·2 per cent.

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

During the year, 651 samples of milk produced in areas outside the city were submitted for bacteriological examination for tubercle bacilli with the following results :—

TABLE XXV.

THE EXAMINATION FOR TUBERCULOSIS OF MILK PRODUCED IN AREAS OUTSIDE THE CITY.

Kind of Milk.	Number of samples	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	227	2	0·9
Ungraded raw milk ...	424	62	14·6

The percentage of samples of raw milk on sale to the public which proved to be tuberculous, namely, 14·6 per cent., is about the average for the country as a whole and is considerably higher than the percentage for milk produced within the city, namely, 7 per cent. The corresponding figure for last year was 6·1 per cent.

The following table shows the situation of the areas outside the city from which tuberculous milk was received :—

TABLE XXVI.

THE SITUATION OF AREAS WITHOUT THE CITY FROM WHICH TUBERCULOUS MILK WAS DERIVED.

County.	Description of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Lancashire	Raw ungraded ...	151	21	13·9%
Cheshire	,, ...	195	32	16·4%
Denbighshire ...	,, ...	34	5	14·7%
Flintshire	,, ...	24	2	8·3%
Shropshire	,, ...	16	1	6·2%
Staffordshire ...	,, ...	2	1	—
Westmorland ...	,, ...	2	0	—
		424	62	14·6%

DISEASES OF CATTLE AND THE MILK SUPPLY.

The statistical information and observations in the paragraphs that follow have been kindly supplied by the Chief Veterinary Officer.

Anthrax and Foot-and-Mouth Disease.

One case of anthrax but no case of foot-and-mouth disease occurred within the city during 1935.

Tuberculosis occurring in Cows within the City.

There are in Liverpool approximately 3,300 cows in milk. Details of the veterinary examinations of these cows, together with similar figures for the previous five years, are given in Table XXVII.

TABLE XXVII.

THE VETERINARY EXAMINATION OF COWS IN LIVERPOOL COWSHEDS.

Year.	Visits to cases notified by owners.	Routine and other visits.	Total visits.	Samples of milk from suspected town cows examined microscopically.	Cows examined.	Cows with tuberculosis of the udder, or giving tuberculous milk.
1930	34	879	913	123	11,463	20
1931	52	779	831	131	10,201	35
1932	83	484	567	134	7,636	27
1933	54	526	580	169	7,718	28
1934	55	405	460	143	6,419	32
1935	27	752	779	411	10,285	37

Of the 37 cows with tuberculous disease of the udder or giving tuberculous milk, 16 were discovered during routine clinical examinations, 3 as the result of reports from owners and 18 were traced by reason of the tuberculous milk which they yielded.

The 10,285 veterinary examinations mentioned in Table XXVII represent approximately three examinations per cow per annum. It would be an additional safeguard against undiscovered tuberculosis if each cow were examined 4 times a year.

The number of routine Sanitary Inspectors' visits paid to cowsheds was 1,255, of which 73 were special visits to supervise the disinfection of premises from which diseased cattle had been removed.

Tuberculosis occurring in Cows outside the City.

Tuberculous milk coming into Liverpool from an outside area is reported to the Medical Officer of Health of the place of origin, whose duty it is to arrange for a suitable investigation. It is the practice of the Chief Veterinary Officer to be present at the first examinations of the suspected herds. During 1935, 59 such visits of inspection were made.

During the year, tuberculous milk was sent into Liverpool from Cheshire, Denbighshire, Flintshire, Lancashire, Shropshire and Staffordshire. In Table XXVIII is given a description of the action taken as the result of the discovery of tuberculous milk coming from these areas. In those cases where no cow was detected with a tuberculous udder, the contamination had either ceased or the affected cow had been sold for slaughter.

TABLE XXVIII.

TUBERCULOUS MILK SENT INTO LIVERPOOL.

County of origin	Number of farms to which tuberculous milk was traced	Number of cows examined and re-examined	Number of cows destroyed with tuberculous disease of the udder *	Instances in which no tuberculous udder was discovered
Cheshire	35	1,637	23	14
Denbighshire	4	121	3	1
Flintshire ...	2	59	3	—
Lancashire ...	21	957	19	7
Shropshire ...	3	163	2	1
Staffordshire	1	32	1	—
TOTALS ...	66	2,969	51	23

* In some cases more than one diseased animal was discovered on a farm.

The Milk Supply of Corporation Institutions.

The Port Sanitary and Hospitals Committee purchases approximately 911 gallons of Grade "A" (Tuberculin Tested) milk and 1,109 gallons of ordinary milk per day. The former is used for drinking and the latter for culinary purposes.

The Grade "A" (Tuberculin Tested) Milk supplied was found to be tuberculous on two occasions, and in each the offending animal was detected. Subsequent samples were negative. Both herds were

tuberculin-tested at the owners' expense and the reacting cattle were removed.

The non-graded milk supply was found to be tuberculous on 16 occasions. Thirteen cows suffering from tuberculous disease of the udder were detected, and two cows with other forms of tuberculosis.

When the milk contracts are made, each firm tendering is required to submit the addresses of the farms from which it is intended to draw supplies. The twenty-one firms tendering during 1935 submitted a list of 74 farms situated in Lancashire, Cheshire, Denbighshire, Shropshire, and Montgomeryshire. Examinations were mainly confined to proposed fresh sources of supply, the majority of the premises submitted being already well known to the department. Twenty-six premises and 1,030 cows were examined. Of the 74 farms concerned, 35 were satisfactory, 24 unsatisfactory and 15 were not inspected owing to distance and other factors.

The farms which supply successful contractors are visited about once a quarter. The 31 farms supplying milk were visited thus on 116 occasions, and 6,390 examinations of cows were carried out. In addition to these routine visits, 117 visits were paid to farms for the purpose of testing 849 animals with tuberculin.

The Tuberculosis Order of 1925.

Under the Tuberculosis Order of 1925 certain forms of bovine tuberculosis are notifiable by owners and by veterinary surgeons.

This Order aims at the destruction of cows suffering from tuberculosis in a form that is a source of danger to human beings and to other animals.

Owners are compensated for cattle which are slaughtered, the scale being three-quarters of the market value when the disease on *post-mortem* examination is found to be "not advanced," and one-quarter when the disease is "advanced," as defined in the Order.

The Ministry of Agriculture and Fisheries bears the cost of 75 per cent. of the compensation payments and the Local Authority pays the remainder. In most cases the payment by the Local Authority is counter-balanced by the amount received for salvage, so much so that, except in 1932, there has been a yearly credit balance to the city since the introduction of the Order.

In Table XXIX are given the number of animals dealt with during 1934 and 1935 and the nature and degree of disease from which they suffered.

TABLE XXIX.

SLAUGHTER OF CATTLE SUFFERING FROM TUBERCULOSIS.

Year.	Total number of animals examined.	Number slaughtered.	Classification of the Disease.				Result of Post-mortem examination.	
			Tuberculous disease of the udder.	Giving tuberculous milk.	Tuberculous emaciation.	Chronic cough and definite signs of tuberculosis.	Advanced disease.	Disease not advanced.
1934	1,223	50	31	1	2	16	40	10
1935	1,205	66	34	3	1	28	52	14

The total market value of the animals slaughtered was £622 10s. 0d.

The amount paid in compensation and recovered from the Ministry of Agriculture and Fisheries as well as from the sale of carcases is given below:—

	£ s. d.		£ s. d.
Compensation refunded by the Ministry of Agriculture	198 11 3	Compensation paid to owners	266 2 8
Amount recovered by sale of carcases	105 10 11	Credit balance	37 19 6
	£304 2 2		£304 2 2

THE ADULTERATION OF FOOD AND DRUGS.

The adulteration of food (including milk) and drugs is discovered by sampling followed by chemical analysis. The procedure adopted is that described in the Food and Drugs (Adulteration) Act, 1928. The addition of preservatives to food is now forbidden except in the case of foods mentioned and in respect of the preservatives specified in the Public Health (Preservatives, etc., in Food) Regulations.

During the year a total of 8,326 samples of food and drugs was purchased or taken and submitted for examination. Of these samples 5,257 were formal samples and 3,069 were informal samples.* The results are summarised in Table XXX.

* An " informal " sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to sources of fraud may sometimes be obtained in this way. Prosecution for adulteration cannot be undertaken, however, until a " formal" sample has been taken subsequently in accordance with the procedure described in The Food and Drugs (Adulteration) Act 1928.

TABLE XXX.

SUMMARY OF OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, DURING THE YEAR 1935.

Informal Samples.				Nature of Sample.	Formal Samples.					
Number of samples taken.	Number found genuine.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.		Number of vendors cautioned.	Informations laid.
		Seriously.	Slightly.				Seriously.	Slightly.		
—	—	—	—	Arrowroot...	4	4	—	—	—	—
7	5	2	—	Baking Powder	4	4	—	—	2	—
6	6	—	—	Barley	174	170	4	—	4	—
48	48	—	—	Beer and Stout	—	—	—	—	—	—
22	22	—	—	Bread	—	—	—	—	—	—
151	150	1	—	Butter	322	322	—	—	—	—
15	14	1	—	Cake Flour and Mixtures ...	—	—	—	—	—	—
16	16	—	—	Cheese and Wrapped Cheese ...	2	2	—	—	—	—
3	3	—	—	Cocoa and Mixtures	45	45	—	—	—	—
36	33	3	—	Condensed Milk	—	—	—	—	2	—
5	5	—	—	Coffee and Mixtures	62	62	—	—	—	—
28	28	—	—	Confectionery	5	5	—	—	—	—
4	4	—	—	Cake and Biscuits	—	—	—	—	—	—
61	58	2	1	Condiments and Spices	165	161	2	2	2	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number of Samples taken.	Number found genuine.	Number adulterated.			Number of Samples taken.	Number found genuine.	Number adulterated.		Number of Vendors cautioned.	Informations laid.
		Seriously.	Slightly.				Seriously.	Slightly.		
1	1	—	—	Cream of Tartar	9	9	—	—	—	—
42	42	—	—	Cream and Tinned Cream ...	—	—	—	—	—	—
40	40	—	—	Custard Powder	2	2	—	—	—	—
13	13	—	—	Dripping and Compounds ...	—	—	—	—	—	—
33	33	—	—	Dried Fruits	81	81	—	—	—	—
112	111	1	—	Drugs	1	1	—	—	1	—
5	5	—	—	Egg Substitute Powder	—	—	—	—	—	—
4	4	—	—	Flour	126	126	—	—	—	—
5	5	—	—	Ground Almonds	30	30	—	—	—	—
7	7	—	—	Honey	—	—	—	—	—	—
116	114	2	—	Jams, Jellies and Marmalade ...	1	1	—	—	—	—
37	36	1	—	Lard and Compounds	117	117	—	—	—	—
20	20	—	—	Lemon Cheese and Curd ...	—	—	—	—	—	—
71	71	—	—	Margarine	59	59	—	—	—	—
1795	1766	25	4	Milk	3030	2864	119	47	42	54
1	1	—	—	Oatmeal and Preparations ...	75	75	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number of Samples taken.	Number found genuine.	Number adulterated.			Number of Samples taken.	Number found genuine.	Number adulterated.		Number of Vendors cautioned.	Informations laid.
		Seriously.	Slightly.				Seriously.	Slightly.		
7	7	—	—	Olive Oil	—	—	—	—	—	—
5	5	—	—	Rice and Ground Rice	257	221	—	36	—	—
6	6	—	—	Self Raising Flour	106	106	—	—	—	—
1	1	—	—	Sugar	124	124	—	—	—	—
1	—	1	—	Sausage	3	2	1	—	1	—
13	13	—	—	Syrup and Treacle	—	—	—	—	—	—
—	—	—	—	Tapioca	106	103	—	3	—	—
15	15	—	—	Temperance Beverages	30	30	—	—	—	—
36	35	—	1	Tinned and Potted Meats ...	—	—	—	—	—	—
54	43	7	4	Tinned and Potted Fish... ...	1	1	—	—	—	—
23	20	1	2	Tinned Fruits	—	—	—	—	—	—
21	21	—	—	Vinegar	—	—	—	—	—	—
9	9	—	—	Wines and Spirits	—	—	—	—	—	—
172	159	10	3	Miscellaneous	307	304	1	2	26	—
3069	2997	57	15		5257	5040	127	90	80	54

Milk was the food material which accounted for the greatest number of samples, namely, 4,825. All the milk samples were examined for added water, fat deficiency, added colouring matter and added preservative. The results of the legal proceedings taken are given in Table XXXII below. In no milk sample was any added preservative found.

In Table XXXI is an analysis of where and when milk samples were taken, together with the number of subsequent prosecutions.

TABLE XXXI.

MILK SAMPLES.

Where the samples were taken or purchased.	NUMBER OF SAMPLES TAKEN ON			
	Weekdays.	Subsequent Prosecutions.	Sundays.	Subsequent Prosecutions.
City Milkshops	1,872	43	280	4
Wholesale Milk Depots	834	—	2	—
Railway Stations	209	7	8	—
Hospitals and Public Assistance Institutions	1,246	—	—	—
Other Hospitals and Institutions ...	25	—	—	—
Infant Welfare Centres and Day Nurseries	349	—	—	—

In the course of the collection of samples enumerated in Table XXX, 4,165 visits were paid to shops, 105 visits to premises of wholesale dealers in margarine, and 2,230 visits to other places.

In Table XXXII is a summary of the prosecutions during 1935 for offences under the Food and Drugs (Adulteration) Act, 1928, together with the fines inflicted and the costs recovered.

TABLE XXXII.

OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928.

No. of informations laid.	Nature of Sample.	Nature of Offence.	Result of Legal Proceedings.				
			No. of convictions.	Withdrawn on payment of costs.	Withdrawn and dismissed without costs.	Fines.	Costs.
						£ s. d.	£ s. d.
21	Milk	Adulterated with Water	20	—	1	25 0 0	24 13 6
32	,,	Deprived of Milk Fat...	29	—	3	28 10 0	30 9 0
1	,,	Coloured with Annatto	1	—	—	1 0 0	1 1 0
54			50	—	4	54 10 0	56 3 6

Food Poisoning.

Two examples of food poisoning came to notice during the year.

In the first one, in July, nine children out of twenty-two housed in a cottage of the Cottage Homes, Fazakerley, became ill within a few hours of one another. The illness was characterised by vomiting, diarrhœa and abdominal pain, and was accompanied by an intense thirst. Recovery was rapid, except in the case of one patient who was ill for a few days. In all probability the illness was caused by minced boiled ham. Bacteriological examination of the food, however, failed to reveal any organisms of the food poisoning group, and consequently, it was assumed that the poisoning was due to toxin. An attempt to recover a causal organism from the patient who was ill for a few days was not successful.

The second example, in October, involved five members of one family of whom one, a baby of 8 months, died. The family lived in conditions of poverty and squalor in a poor quarter of Liverpool. From the faeces of the baby was recovered *B. aertrycke* and this organism was subsequently isolated from the contents of the stomach, jejunum, ileum, ascending colon, and rectum, as well as from the spleen and heart blood. The father, mother and two sisters of the dead child had had diarrhœa but the attacks were mild, lasting in one case for one day and in the others for three days. Specimens of faeces from all four cases yielded cultures of *B. aertrycke*. Sera collected from three of these cases agglutinated standard suspensions of *B. aertrycke*(1).

An examination was made of six mice trapped in the house in November, and from the intestinal contents of one of them *B. aertrycke* was isolated. A partly-used tin of a dried milk preparation with which the baby who died had been fed was found to contain several pellets of mouse faeces of which four were examined, and from one of which *B. aertrycke* was isolated. It seems reasonable to suppose that the infant was infected via the milk which had been infected by mice. The other members of the family may have been infected by the baby.

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(1) A full description of this outbreak of food poisoning attributable to B. aertrycke was given by E. R. Jones and H. D. Wright in "The Lancet," January 4th, 1936, page 22.

There was no evidence as to how the mice became infected. No rat or mouse virus had been used in the house or in neighbouring houses and shops.

Fertilizers and Feeding Stuffs.

During 1935, 140 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take legal proceedings.

Poisons and Pharmacy Act, 1908, Section 2.

Section 2 of this Act regulates the sale of certain poisonous substances, for example, sheep-dips and weed-killers, used for agricultural and horticultural purposes. Vendors of these materials must be licensed by the Local Authority.

During 1935 the number of licences issued was 24.

REPORT OF THE CITY BACTERIOLOGIST, 1935.

1. *Staff.* In May, 1935, two new appointments were made to the staff of this department, Dr. E. R. Jones and Dr. V. Glass being selected to occupy the new posts of Junior Assistant Bacteriologists. This has been of great assistance as it has made possible the fuller examination of some of the many problems which have presented themselves in association with the routine work.

2. *General.* The department has also greatly benefited as a result of the structural alterations sanctioned during the past year and the provision of much-needed apparatus and equipment. Work which could previously be done only under great difficulty can now be carried out expeditiously and in comfort.

3. *Technique.* The past year has been one of thorough revision and reconsideration of the technical methods employed in the department. This has involved a good deal of extra work on the part of all the staff who have all responded to the demands upon them in a gratifying way. The results of some of these investigations have been embodied in publications in various scientific journals and have added greatly to the efficiency of the routine work.

4. The *volume of work* has increased considerably during the year under review, as shown by a rise in the number of specimens submitted for examination from 55,740 to 72,721. But in addition the claims of an adequate technique have demanded a large extension of the actual work done upon the individual specimens which is not reflected in a table of examinations made such as is to be found on pages 267—269.

5. *Milk examinations.* The whole technique of milk examination has been revised in the light of experimental work done in this and other laboratories. The demands of the Ministry of Health in regard to this are at present under review and, in preparation for this, all local specimens are being examined by the methylene blue technique which, it is expected, will be adopted by the Ministry, with a view to comparing it with the current methods. The examination of milk for tubercle bacilli has also been modified to the extent that henceforward each sample will be inoculated into two guinea-pigs instead of one as heretofore.

During the year, 100 veterinary samples were examined and 19 found to be tuberculous. Among the general milk samples from the City, 133 out of 1,285 contained tubercle bacilli. By way of contrast, 218-heat treated samples of milk supplied to school children yielded no tubercle bacilli. At the same time, and by the same technique, 86 samples of "school milk" from another authority were examined which had not been heat treated and of these 14 contained tubercle bacilli. Similarly 7 specimens of Grade A Milk from tuberculin-tested herds were found to be tuberculous. These were not all from different herds.

6. *Water.* The routine bacteriological examples of the water supply have revealed no departure from a satisfactory standard. In reporting upon these samples the standards and methods of the Ministry of Health have been adopted except in minor particulars suggested by a research by Dr. Barritt.

7. *Plague.* During the year, 7,623 rats have been examined from the Port and the City of Liverpool. None from the city have been infected but in two found on one of the docks plague bacilli were discovered. In the first case a rat was found dead and the infection would certainly have been overlooked if a microscopical examination had not been made. It is evident that the Ministry of Health's instruction regarding the examination of plague rats could with advantage be extended to require a microscopic examination of the organs of rats found dead. Both these infected rats were examined in the same week and no further case has since been found.

8. *Diphtheria.* There has been a considerable increase in the work done upon diphtheria owing to the receipt of all swabs from the City Hospital, Fazakerley, in addition to those from other hospitals. The routine method of examination has been altered by the introduction of the newer methods of cultivation. As the disease is a very important contributor to illness in Liverpool, an extensive study of the incidence of various types of bacilli in the City has been initiated. This has been made possible by the co-operation of Dr. Hodgson and the staff of the Fazakerley Hospitals. 1,240 strains have been investigated from this point of view, and it has been established that the "gravis" and "intermediate" types are responsible for at least two-thirds of all cases and, as found elsewhere, so also in Liverpool these two types

account for almost all the severe cases of diphtheria in the City. It has also been determined that it is unnecessary to test organisms of these two types for virulence, and that an animal test is necessary only in the case of the third type (mitis) which includes practically all the non-virulent strains encountered. This finding is of considerable value in connection with contact cases and carriers. Dr. Glass is still engaged on the study of suitable media for the cultivation of diphtheria bacilli and on problems associated with the question of carriers and convalescents in hospital.

9. *Enteric diseases.* There has been an apparent increase in the number of specimens received from cases of enteric fever (Faeces 199, Urine 53) as compared with 1934 (Faeces and Urine 142) and in the number of positive results (71 as against 17). This is probably entirely due to the fact that the technical methods introduced as the result of a research by Dr. Jones have very greatly increased the chance of finding the organisms in the urine and faeces, and consequently cases have remained much longer under observation and each case has required examination more frequently before discharge. The value of the bacteriological examination has been greatly enhanced. Of the organisms isolated from the faeces 40 were *B. typhosus* and 26 *B. paratyphosus B.*

One small food poisoning outbreak during the year provided an unusual opportunity for emphasising the importance of mice as a source of this infection. (See Food Poisoning Section, page 261.)

10. *Cerebro-spinal meningitis.* It has become very evident that a great deal of the difficulty experienced in this and other laboratories in the cultivation and type determination of meningococci in the cerebro spinal fluid is due to the unsatisfactory state of the specimens on arrival. Too big an interval is allowed to elapse between removal of the fluid and receipt at the laboratory, and little or no attempt is made to keep it warm in the interval.

11. *Tuberculosis.* The only item of interest under this head has been the examination of a number of specimens obtained by stomach lavage from young children. In several cases it has been possible to establish a diagnosis of tuberculosis which could not be done by other means.

12. *Anthrax.* Only three specimens of anthrax-infected material from man have been obtained during the year. On the other hand, there has been a very large increase in the number of specimens of wool and hair from the wool disinfecting station. Altogether 336 specimens have been examined, 168 after disinfection and a similar number untreated. On only two occasions have any spore-bearing organisms been obtained from the treated material. These were both received on the same day and contained few bacteria. No treated specimen yielded anthrax bacilli. The large increase in the number of specimens is due to the much greater use of the disinfecting station as a result of the Home Office order requiring the disinfection of all goat hair entering Great Britain. In view of the recent criticisms of this order it is of interest to record that 77 of the 168 untreated samples were proved to contain anthrax bacilli. Of these raw samples 146 were goat hair, and anthrax bacilli were obtained from 73, or 50 per cent., of these. The findings in relation to the origin of the goat hair are as follow :—

Origin	Anthrax +	Anthrax -
Persia	1	0
Balkan countries	4	5
Russia	4	13
South America	2	0
China	3	16
North Africa	8	7
East Indian	45	15
Sundry sources	6	17

It is evident that a large proportion of the samples of goat hair received at the station are infected with anthrax bacilli, especially samples of East Indian origin. The percentage of positive results this year is remarkably high as compared with those of previous years, as may be seen from the following figures :—

Period.	Anthrax +	Anthrax -	Total
1929-1934 (6 years) ...	26	184	210
1935	77	91	168

It may be stated that isolation is effected by animal inoculation after a preliminary short heating. It is not yet clear whether the technique employed is the best available, but experiments to determine this are

at present being made. The value of the disinfection process is remarkably exemplified in the bacteriological results obtained.

13. *Venereal Diseases.* In this section there has also been some increase in the number of specimens submitted. In addition, the gonococcus complement fixation test has been made available to the clinics for selected cases, and the Kahn test has been done as an adjunct to the Wassermann reaction in a certain number of cases of syphilis.

14. *Work for authorities outside the Liverpool Area.* As will be seen from the table of specimens examined some 8,000 requests have been made by outside authorities for the services of the department, an activity which has not previously been recorded in these reports and which contributes considerably towards the cost of maintenance.

Examinations made in the Bacteriological Department for the City of Liverpool during the year 1935.

Milk (fresh-liquid)—Coli estimation, bacterial count and examination for tubercle bacilli ...	1,206	
,, ,, —Coli estimation and examination for tubercle bacilli	297	
,, ,, —Examination for tubercle bacilli only (Veterinary samples)	100	
,, ,, —For food poisoning bacilli	2	
,, (tinned)	19	
	——	1,624
Foodstuffs:		
Tinned and potted meats for bacterial contamination ...	10	
Shell-fish for bacterial contamination	14	
Ice cream for bacterial content and coli estimation	87	
Miscellaneous foodstuffs	3	
	——	114
Water—bacterial counts and coli estimation:		
Daily samples from City supply	550	
Monthly samples	32	
Miscellaneous samples	4	
	——	586
Rats for plague bacilli		3,415
Swabs for organisms of Vincent's angina		126
Carried forward ...		5865

Brought forward ...	5865
Swabs for diphtheria bacilli	33,875
Diphtheria cultures—virulence tests	605
,, ,, —type determination	1,240
Agglutination tests	75
Blood cultures	9
Faeces for organisms of enteric group	226
Urine for organisms of enteric group	58
Cerebrospinal fluid for pathogenic organisms	47
Sputum, etc., for tubercle bacilli	1,817
Exudates for anthrax bacilli	46
Vaccines	2
Miscellaneous examinations of tissues, secretions, etc.	413
Tissues from animals for tubercle bacilli	10
Shaving brushes for anthrax bacilli	3
	44,291

Venereal Diseases:

Wassermann tests	13,304
Kahn tests	189
Meinicke test	1
Films for gonococci	857
Gonococcus complement fixation tests	975
Exudates for spirochaetes	11
Tissues for spirochaetes	81
	15,418

Port Sanitary Authority:

Wool and Hair for anthrax bacilli and spore bearing organisms ...	336
Rats for plague bacilli	4,208
Miscellaneous	3
	4,547

SUMMARY.

Specimens of Water, Milk, Foodstuffs, and Infectious material	44,291	
Venereal Diseases	15,418	
Port Sanitary Authority	4,547	
		64,256

Examinations made in the Bacteriological Department for authorities and Private Practitioners, etc., outside Liverpool.

Milk (fresh-liquid)—Coli estimation and bacterial count ...	124	
,, ,, —Coli estimation, bacterial count and examination for tubercle bacilli ...	403	
,, ,, —Coli estimation and examination for tubercle bacilli	18	
,, ,, —Examination for tubercle bacilli only ...	608	
,, ,, —Miscellaneous examination	10	
		1,163
Water and sewage effluents		272
Swabs for organisms of Vincent's Angina		17
Swabs for diphtheria bacilli		2,275
Diphtheria cultures—virulence tests		42
,, ,, —type determination		14
Agglutination tests		78
Faeces and Urine for organisms of the enteric group		77
Cerebrospinal fluid for pathogenic organisms		13
Sputum, etc., for tubercle bacilli		292
Vaccines		9
Miscellaneous secretions		223
Miscellaneous samples of foodstuff		79
		4,554

Venereal Diseases:

Wassermann tests	3,441
Films for gonococci	457
Gonococcus complement fixation tests	10
Exudates for spirochaetes	2
Culture for gonococci	1
	3,911

SUMMARY.

Bacteriological examinations	4,554
Venereal disease examinations	3,911
	8,465

HOUSING

HOUSING.

The following summary indicates the number of dwelling-houses in clearance areas which had been dealt with up to the end of 1934:—

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be displaced.
60	40	2,757	13,043

Clearance Areas.

The following table refers to dwelling-houses represented by the Medical Officer of Health during the year 1935 as being unfit for human habitation within the meaning of Section 1 of the Housing Act, 1930:—

Number of dwelling-houses represented during the year...	2,967
,, ,, persons occupying the dwelling-houses	15,060
,, ,, clearance areas officially represented	107
,, ,, areas declared compulsory purchase orders ...	57
,, ,, ,, ,, clearance orders	43
,, ,, ,, ,, in abeyance	7
,, ,, dwelling-houses included in these areas ...	2,905
,, ,, persons occupying the dwelling-houses	14,623
,, ,, dwelling-houses represented, not included in clearance areas, but purchased by Council ...	62

Public Enquiries.

During the year under review six Public Inquiries were held in connection with 126 Areas, further details of which are set out in the following table:—

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be displaced.
85	41	2,186	12,114

During the year 86 confirmation orders were received in connection with 1,853 dwelling-houses, these orders confirmed the inclusion of 98·8 per cent. of dwelling-houses in the areas.

COMPULSORY PURCHASE ORDERS (1935).

Clearance Area.	Dwelling-houses.	Population.
Ben Jonson Street	16	99
Birkett Street	26	127
Cazneau Street, No. 3	5	32
Chaucer Street	3	14
Christian Street, No. 2	3	10
,, No. 3	16	112
,, No. 4	2	13
Clare Street, No. 1	126	722
,, No. 2	7	62
Comus Street	223	1,230
Dale Street, No. 7	10	45
Date Street, No. 1	39	173
,, No. 2	3	6
Downe Street	14	104
Feather Street	3	15
Gt. Crosshall Street, No. 3	14	77
,, No. 4	2	5
,, No. 5	5	33
,, No. 6	13	77
Grosvenor Street	44	225
Hubert Street	4	21
Hunter Street, No. 6	4	44
Hyslop Street	171	909
Leeds Street, No. 1	77	468
,, No. 2	32	161
,, No. 3	8	33
,, No. 4	4	20
,, No. 5	6	15
,, No. 6	5	26
,, No. 16	6	33
,, No. 17	23	142
Meadow Street	2	2
Mill Lane, No. 1	3	11
,, No. 2	6	2
Mill Street, No. 1	2	16
,, No. 2	4	21
Myrtle View	10	50
Park Place	72	318
Richmond Row, No. 1	8	64
,, No. 2	7	56
,, No. 3	19	151
,, No. 4	6	42
,, No. 5	2	19
,, No. 6	7	26
Rock Street	6	20
Rock View	61	250
Rose Hill	16	86
Salisbury Street, No. 2...	12	70
Scotland Road, No. 1	9	81
,, No. 2	2	5
Sussex Street	283	1,576
Thurlow Street, No. 1	12	63
,, No. 2	8	48
,, No. 3	2	24
,, No. 4	2	12
,, No. 5	23	141
Victoria Place	15	70
TOTALS	1,513	8,277

CLEARANCE ORDERS (1935).

Clearance Area.	Dwelling-houses.	Population.	Date of confirming Order.
Back Mona Street	3	15	—
Brickfield Cottages	12	45	—
Brown's Buildings...	31	121	—
Chapel Lane, No. 1	5	14	—
,, No. 2	11	36	—
Childwall Street	14	46	—
Dale Street, No. 1	8	25	—
,, No. 2	2	9	—
,, No. 3	6	28	—
,, No. 4	8	44	—
,, No. 5	5	25	—
,, No. 6	4	14	—
,, No. 8	21	73	—
,, No. 9	5	22	—
,, No. 10	2	9	—
,, No. 11	3	13	—
Elm Grove	53	260	—
Epworth Street	35	164	—
Everton Terrace	42	168	—
Hampton Street	110	474	—
Holden Street	32	167	—
Gleave Street	2	6	—
Gt. Crosshall Street, No. 1	13	50	—
,, No. 2	4	15	—
,, No. 7	3	19	—
Leeds Street, No. 7	62	376	21.11.1935
,, No. 8	9	23	21.11.1935
,, No. 9	11	51	21.11.1935
,, No. 10	2	11	—
,, No. 11	4	9	21.11.1935
,, No. 12	8	7	21.11.1935
,, No. 13	3	10	21.11.1935
,, No. 14	2	5	21.11.1935
,, No. 15	2	12	21.11.1935
Low Wood Street	35	168	—
Mill Road, No. 1	7	38	—
,, No. 2	7	25	—
Prince Rupert Street	27	74	—
Priory Mount	22	65	—
Roscoe Lane, No. 1	100	471	—
,, No. 2	6	38	—
,, No. 3	4	21	—
Yew Tree Cottages	5	18	—
TOTALS	750	3,284	—

AREAS STILL IN ABEYANCE.

Clearance Area.	Dwelling-houses.	Population.
Arlington Street	62	309
Boundary Street —	83	455
Byles Street	45	195
Hawkestone Street	98	448
Leyden Street	324	1540
Miles Street	15	80
Providence Buildings	15	35
	642	3062

The following confirmation orders have been received during the year :—

COMPULSORY PURCHASE ORDERS.

Clearance Area.	Date of confirming Order.
Benledi Street, No. 1	30.1.35
,, No. 2	30.1.35
Burlington Street, No. 1	31.1.35
,, No. 2	31.1.35
,, No. 3	30.1.35
Fox Street, No. 1	19.9.35
,, No. 2	19.9.35
Great Richmond Street	19.9.35
Horatio and Lawrence Streets	12.6.35
Johnson Street	11.9.35
Latimer Street	30.1.35
Limekiln Lane	30.1.35
Mason Street	15.3.35
Paddington	15.3.35
Portland Street, No. 1	31.5.35
,, No. 2	31.5.35
Upper Frederick Street, No. 1	5.1.35
,, No. 2	5.1.35
Vauxhall Road	31.1.35

CLEARANCE ORDERS.

Clearance Area.	Date of Confirming Order.
Albion Terrace	21.11.35
Back Highgate Street	21.11.35
Back Sandstone Road	21.11.35
Bancroft Street	15.3.35
Beau Street	19.11.35
Bevington Hill	21.11.35
Browside	21.11.35
Burgess Street, No. 1	21.11.35
,, No. 2	21.11.35
Cazneau Street	19.11.35
Clifford Street	2.10.35
Constance Street	2.10.35
Craven Street	21.11.35
East Prescot Road (Lord Nelson Cotts.)	4.2.35
,, No. 1...	4.1.35
,, No. 2...	15.3.35
Etna Street	21.11.35
Everton Place	2.10.35
Falkland Street	2.10.35
Georges Terrace	2.10.35
Gildart Street	2.10.35
Gregson Street, No. 1	21.11.35
,, No. 2	2.10.35
Hardwick Street	21.11.35
Highgate Street	21.11.35
Hodson Street, No. 1	2.10.35
,, No. 2	2.10.35
Hop Street...	15.3.35
Hygeia Street, No. 1	2.10.35
,, No. 2	2.10.35
Jasper Street, No. 1	21.11.35
,, No. 2	21.11.35
,, No. 3	21.11.35
Jubilee Street	21.11.35
Juvenal Place	19.11.35
Lambert Street	2.10.35
Leeds Street, No. 7	21.11.35
,, No. 8	21.11.35
,, No. 9	21.11.35
,, No. 11	21.11.35
,, No. 12	21.11.35
,, No. 13	21.11.35
,, No. 14	21.11.35
,, No. 15	21.11.35
Maddox Street	2.10.35
Mount Vernon Street, No. 2	21.11.35
Mount Vernon View	31.5.35
Myers Street, No. 1	21.11.35
,, No. 2	21.11.35
Naylor Street	2.10.35
Oakes Street	2.10.35
Prospect Street	21.11.35

Clearance Area.	Date of Confirming Order.
Pye Street	15.3.35
Quarry Street (part of), No. 2	31.5.35
Shepherd Street	21.11.35
Smithy Yard	15.3.35
The Barracks, West Derby	15.3.35
Thistle Terrace	19.11.35
Tichbourne Terrace	2.10.35
Village Street	21.11.35
Vine Street	21.11.35
Walnut Street	21.11.35
Waterloo Street	15.3.35
Wellington Street	21.11.35
Whitefield Terrace	21.11.35
Wilde Street, No. 1	2.10.35
Wilmott Street	21.11.35

Individual Unfit Houses.

Since operations were commenced under Section 19, Housing Act, 1930, the Medical Officer of Health has submitted representations in connection with 488 individual houses to the Housing Committee which, in his opinion, were unfit for human habitation, and the position in respect to these houses is as follows :—

	No. of Houses
Demolition Orders made	250
Undertaking given not to use for human habitation	61
Plans submitted in respect of re-construction ...	176
Number adjourned	1

Replacement of Insanitary Houses.

St. Andrew's Gardens Flats, Trowbridge Street.—These flats erected on the old abattoir site in Trowbridge Street were completed and opened by the Minister of Health, Sir Kingsley Wood, on the 21st June, 1935. The 316 flats in this scheme provide accommodation for tenants displaced from the Gerard Street Clearance Areas.

In addition, during 1935, the following flats were completed and occupied :—

St. James Street.—A block of 54 tenement flats, for the accommodation of persons dispossessed from individual insanitary houses in the district. A second block is now in course of construction.

FONTENOY STREET.—63 Flats, comprising 6 one-bedroom, 27 two-bedroom, and 30 three-bedroom types.

HIGH STREET, WAVERTREE.—72 Flats, comprising 5 one-bedroom, 16 two-bedroom, and 51 three-bedroom types.

CHAUCER STREET.—35 Flats, comprising 10 one-bedroom, 10 two-bedroom, 10 three-bedroom, and 5 four-bedroom types.

WILBRAHAM STREET.—The complete scheme is for 60 flats, comprising 6 one-bedroom, 15 two-bedroom, and 39 three-bedroom types. One block of 30 flats is completed and occupied.

Building operations now proceeding include the following Schemes of new Flats:—

CARYL STREET and GRAFTON STREET.—A block of 88 flats was almost completed by the end of the year, and others will shortly follow. The complete scheme is for 312 Flats, comprising 12 bed-living rooms, 38 one-bedroom, 112 two-bedroom, 116 three-bedroom, and 34 four-bedroom types.

HIGHFIELD STREET.—66 Flats, comprising 25 two-bedroom, 33 three-bedroom and 8 four-bedroom types.

MYRTLE STREET.—180 Flats, comprising 33 one-bedroom, 49 two-bedroom, and 98 three-bedroom types. The complete scheme comprises a total of 344 flats and 2 shops, and one block of 80 flats is nearing completion.

GERARD STREET.—138 Flats, comprising 10 one-bedroom, 23 two-bedroom, 95 three-bedroom and 10 four-bedroom types.

NELSON STREET.—25 Flats, comprising 10 two-bedroom and 15 three-bedroom flats were practically completed by the end of the year.

New Dwellings in Suburbs.

In the year 1919 the Housing Committee commenced to erect houses in the suburbs, and up to the end of 1935 25,922 houses and 415 flats have been completed.

Building operations were also proceeding at the end of 1935 on two estates on the outskirts, 421 houses being in course of construction on Finch House Estate and 828 houses on Longview Farm Estate.

The following table gives details relating to the districts where these houses have been erected, and the accommodation provided.

	"A" (Non-parlour)	"B" (Parlour.)	Total.
Elms House Estate	252	—	252
Larkhill Estate	476	1,823	2,304
Fazakerley Estate	1,030	410	1,440
Edge Lane Drive Estate	560	311	871
Walton-Clubmoor Estate	1,525	1,671	3,196
Springwood Estate	250	1,249	1,499
Partly developed Estates...	—	554	554
Woolton	115	—	115
Knotty Ash Estate	389	263	652
Highfield Estate	—	618	618
Pinehurst Road Estate	287	395	682
King Street, etc., Garston	76	—	76
Ronald Street	78	—	78
Norris Green Estate	4,724	2,965	7,689
Dovecot Estate	2,331	686	3,017
Speke Estate	286	—	286
Huyton Farm Estate	937	79	1,016
Knowsley Estate ... (Finch House)	1,577	—	1,577
	14,893	11,029	25,922

All these houses are completed and occupied.

At Larkhill and Springwood Estates 120 and 49 flats, respectively, have also been erected, as well as 246 flats at Speke Road Gardens, Garston. A further 36 flats and 6 houses are being erected at Larkhill Estate.

During the same period (1919-1935), 20,468 houses have been erected by private enterprise, and of these 4,294 were eligible for subsidy under the Housing Acts of 1923 and 1924.

Re-housing in Old City Area.

The number of dwellings provided by the Corporation up to the present is 5,095, 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
Pitt Street	1928	48
South Hill Road	1928	198
Melrose Road	1929	260
Rankin Street	1929	46
Hopwood Street	1930	30
Holly Street	1931	34
Burlington Street	1931/5	191
Great Richmond Street	1931	21
Beloe Street	1931	69
Burnet Street	1932	16
Dingle Mount	1932	118
Kew Street	1932	9
Queen Anne Street	1933/5	294
Blackstock Gardens	1934	134
Trowbridge Street	1934/5	316
Dingle Road	1934	14
St. James' Street	1935	54
Chaucer Street	1935	35
Fontenoy Street	1935	63
Wilbraham Street	1935	30
High Street, Wavertree	1935	72
Total		5,095

Description of Flats.

Number of 1-roomed dwellings	209
Number of 2-roomed dwellings	1,567
Number of 3-roomed dwellings	1,891
Number of 4-roomed dwellings	1,394
Number of 5-roomed dwellings	34
	5,095

Number of self-contained dwellings (included in above)	173
Number of lock-up shops	35

Rentals.

The rentals of the flats vary from 2s. 9d. to 9s. 8d., and those of the self-contained cottages from 9s. 1½d. to 15s. 2½d. per week.

General Statistics.

Area of City	27,321 acres.
Estimated Population	867,110
Number of inhabited houses at 31st December, 1935	191,285
Number of structurally separate dwellings occupied (1931 Census)	173,938
Rateable value	...£6,668,253
Sum represented by a Penny Rate	£24,024
Number of New Houses erected during the year :—	
(i) By the Local Authority	1,473
(ii) By other bodies or persons	3,193
Total ...	4,666

Housing Statistics.

1. *Inspection of Dwelling-houses during the Year.*

(1) (*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	77,807
(*b*) Number of inspections made for the purpose	143,383
(2) (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925..	16,071
(*b*) Number of inspections made for the purpose	25,319
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ...	2,996
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	37,417

2. *Remedy of Defects during the year without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers ...	26,909

3. *Action under Statutory Powers during the Year.*

(*a*) *Proceedings under Sections* 17, 18 *and* 23 of *the Housing Act*, 1930.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs ...	252

(2) Number of dwelling-houses which were rendered fit after service of formal notices—

(*a*) by owners 170

(*b*) by local authority in default of owners ... ... Nil.

(*b*) *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 36,989

(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—

(a) By owners 13,358

(*b*) By local authority in default of owners ... ... Nil.

(*c*) *Proceedings under Section* 19 *and* 21 *of the Housing Act,* 1930.

(1) Number of dwelling-houses in respect of which Demolition Orders were made 29

(2) Number of dwelling-houses demolished in pursuance of Demolition Orders 14

(*d*) *Proceedings under Section* 20 *of the Housing Act,* 1930.

(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made ... ... Nil.

(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit ... ... Nil.

Housing of the Working Classes.

Number of Houses owned by the Local Authority distinguishing those built in the last two years and held as under:—

Number of houses owned by the Local Authority		31,413
,,	built in the last two years under :—	
	1. Part III of the Housing Act, 1925 ...	1,626
	2. Part II do. ...	1,500
	3. Other powers	324

Erection of New Houses.

The following information has been kindly supplied by the City Building Surveyor :—

Return of Houses erected 1930-1935.

Number of Rooms, (Exclusive of bathrooms, sculleries, &c.)	1930	1931	1932	1933	1934	1935
4 Rooms or less ...	612	1,547	1,558	1,526	2,902	1,646
5 or 6 Rooms ...	1,622	1,499	1,693	1,595	2,298	2,924
7 or 8 Rooms ...	118	132	94	148	129	93
9 or 10 Rooms ...	4	3	5	4	4	3
More than 10 Rooms	2	1	—	1	—	—
Totals ...	2,358	3,182	3,350	3,274	5,333	4,666

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 six years, are :—

1930 = 1,169.
1931 = 1,810.
1932 = 1,882 (includes 179 flats).
1933 = 1,402 (,, 318 ,,).
1934 = 1,977 (,, 337 ,,).
1935 = 1,149 (,, 698 ,,).

Number of Houses erected and taken down during the year 1935.

Districts.	Number Erected.	Number Taken Down.
Exchange	355	10
Abercromby	196	—
St. Peters	45	186
Toxteth Park	96	2
Edge Hill and Sefton Park	12	4
Wavertree	1,369*	9
Fazakerley	526	—
Walton and Walton Park	407	—
Kirkdale...	—	—
Netherfield	—	3
Everton	—	195
West Derby	923	—
Knowsley	737	—
Totals	4,666	409

* Including 38 dwelling-houses in Woolton.

Of the 4,666 dwelling-houses erected during 1935, 1,473 were built under the direction of the Housing Committee, including 698 flats.

Residential Flats.—During the year 1935, 38 houses were converted into 125 residential flats, giving a net increase of 87 "new" dwelling-houses.

The Knowsley Estate is situated outside the city boundary.

WELFARE OF THE BLIND.

During 1935, 343 applicants for benefits due to the blind under the Blind Persons Act, 1920, were examined by ophthalmic surgeons. Of these, 214 were found to be blind within the meaning of the Act and 129 were not blind. The corresponding figures for 1934 were 358 applicants, of whom 224 were blind.

The re-examination of partially-sighted "blind" persons when there was reason to believe that the necessary condition of blindness was not fulfilled or where there was not in existence a certificate of blindness from an ophthalmic surgeon, was continued during the year and 14 persons were re-examined. Of these 6 were found to be no longer blind and their names were removed from the register of blind persons.

In Table I is given the number of registered blind persons in Liverpool.

TABLE I.

PERSONS REGISTERED AS BLIND.

Age.	Males.	Females.	Total.
0+	—	—	—
1+	2	5	7
5+	26	13	39
16+	16	8	24
21+	146	105	251
40+	122	99	221
50+	277	298	575
65+	96	118	214
70+	181	338	519
	866	984	1,850

In Table II, 1,804 blind persons who are 16 years of age and over, are classified according to their ability to work, etc.

TABLE II.

BLIND PERSONS 16 YEARS OF AGE AND OVER.

	Males.	Females.	Total.
Employed	151	55	206
Trained but not employed	15	1	16
Under training	19	16	35
Trainable but not under training	13	4	17
Unemployable	640	890	1,530
	838	966	1,804

In Table III, 252 blind persons who are suffering from some other serious physical defect, or who are mentally defective, are classified.

TABLE III.

BLIND PERSONS WHO ARE PHYSICALLY OR MENTALLY DEFECTIVE.

	Males.	Females.	Total.
Mentally defective	46	15	61
Physically defective	40	37	77
Deaf	37	56	93
Combinations of above disabilities	10	11	21
	133	119	252

CARE OF ANIMALS.

The Corporation of Liverpool makes yearly donations to the Royal Society for the Prevention of Cruelty to Animals, Liverpool Branch, and to the Liverpool Dogs' Home, on account of the work done by those institutions, and the following brief reports are therefore of interest.

LIVERPOOL CATS' SHELTERS.

The work of providing a humane end for the numerous unwanted cats and kittens was fully maintained during 1935, the total number of animals received at the shelters being 37,352, an increase of some 1,600 over the total for the previous year. A certain number of these were received from clearance areas which are now regularly visited by the Society's agents so that animals which the owners do not propose to take with them to new property may not be left wandering about deserted places. Cats to the number of nearly 13,000, more than one-third of this total, were collected from owners' houses in all parts of Liverpool and district by the Shelter's collecting van. Included in the total were 4,082 litters, and the public are urged to send these new-born litters direct to one or other of the Shelters unless good homes are assured. Application for a call from the collecting van should be sent to the caretaker, Liverpool Cats' Shelter, 41, Russell Street, Liverpool, 3. (Telephone : Royal 4174.) The Branch Shelters are at 90, Smith Street, Kirkdale, Liverpool, 4, and at 230, Mill Street, Toxteth, Liverpool, 8.

LIVERPOOL HORSES' REST, BROAD GREEN.

The accommodation of the above was extended at the close of the year by the erection of a special stable for donkeys. The total number of animals grazing on the pastures during 1935 was 89, a few of them being old war horses and the bulk of the remainder being the working animals of humble owners sent out for recuperative purposes. In addition it is becoming a habit for the owners of shore donkeys to send their animals in for the off season. A very high record of success is maintained. Applications should be directed to the Society's office.

LIVERPOOL ANIMALS' CLINIC.

The rebuilding of this clinic, which is the oldest free animal clinic in the provinces, was completed at the beginning of 1935 and was publicly opened by Sir Frederick Hobday, F.R.C.V.S., veterinary surgeon to H.M. King George V, on April 10th, the Lord Mayor presiding and being accompanied by the Lady Mayoress. By virtue of up-to-date equipment and improved accommodation it provides for the suffering animals of humble owners, a service which is second to

none, and major operations are now frequently performed and with a high percentage of success. Moreover, in-patients are now catered for. The total number of attendances at Larch Lea and at Mill Street during the year was 9,169, and in addition 194 in-patients were received.

All the above institutions are conducted by the R.S.P.C.A., Liverpool Branch, 3, Crosshall Street, Liverpool, 1. (Tel. Central, 645.)

Liverpool Dogs' Home.

During 1935 the total number of animals dealt with by the home was 9,170, being an increase over the previous year of 450. 710 dogs were restored to their former owners, 730 were sold to new and approved homes, and 505 boarders were catered for. The number of bodies cremated in the incinerator was 120. The Committee of the Home urgently appeal to all dog lovers to do what they can to stop the heartless practice of deliberately straying an unwanted dog, which is undoubtedly carried on, though much less than was formerly the case. The number of unwanted dogs sent direct to the Home during the year was 4,938, the number collected from the streets and received at the Home through the activity of the Police being 1,000 less than that figure. The great desideratum obviously is that there shall be no stray dogs on the streets at all, and it is therefore the Committee's unceasing aim to offer every possible facility for the removal of unwanted dogs for humane lethalling, so that there shall be no inducement to allow them to be waifs and strays. Moreover, owners are urged not to allow a litter to grow up unless good homes are assured. The collecting van may be requisitioned by sending a message to the Keeper at Edge Lane, Liverpool, 7, or by telephoning Old Swan 1340. The city office is at 3, Crosshall Street, Liverpool, 1. The Liverpool Dogs' Home is an independent charity not connected with any other animal society.

CITY OF LIVERPOOL.

Vital Statistics of the Whole District during 1935 and 5 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
1930.....	852669	19199	18881	22·1	11882	13·5	993	399	1544	82	11288	12·8
1931.....	856483	18973	18626	21·7	13024	15·2	1138	357	1740	93	12243	14·3
1932.....	861935	18548	18149	21·0	12044	13·9	1038	364	1646	91	11370	13·2
1933.....	866013	17457	16929	19·5	13076	15·1	1032	400	1655	98	12444	14·4
1934.....	866013	18244	17593	20·3	12016	13·9	1062	365	1418	81	11319	13·1
1935.....	867110	17998	17347	20·0	12288	14·2	1170	329	1445	83	11447	13·2

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 net 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) 27,321.

Total population at all ages .....855,688 } At Census of 1931

No. of structurally separate dwellings occupied...173,938 } At Census of 1931

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1935.

England and Wales, London, 121 County Boroughs and Great Towns, and 140 Smaller Towns.

(Provisional figures. The rates for England and Wales, have been calculated on a population estimated to the middle of 1935, but those for London and the towns have been calculated on populations estimated to the middle of 1934.)

—	Rate per 1,000 Population.		Annual Death-Rate per 1,000 Population.									Rate per 1,000 Live Births.		Percentage of Total Deaths.			
	Live Births.	Still-births.	All Causes.	Typhoid and Paratyphoid Fevers.	Small-pox.	Measles.	Scarlet Fever	Whooping Cough.	Diphtheria.	Influenza.	Violence.	Diarrhœa and Enteritis (under two years).	Total Deaths under one year.	Certified by Registered Medical Practitioners.	Inquest Cases.	Certified by Coroner after P.M. No Inquest.	Uncertified Causes of Death.
England and Wales ...	14·7	0·62	11·7	0·00	0·00	0·03	0·01	0·04	0·08	0·18	0·52	5·7	57				
121 County Boroughs and Great Towns, including London ...	14·8	0·68	11·8	0·00	0·00	0·04	0·01	0·04	0·09	0·16	0·45	7·9	62				
140 Smaller Towns (Estimated Resident Populations 25,000 to 50,000 at Census 1931)	14·8	0·64	11·2	0·00	0·00	0·03	0·01	0·03	0·07	0·17	0·41	3·8	55	Not available.			
London	13·3	0·52	11·4	0·00	0·00	0·00	0·01	0·04	0·06	0·11	0·51	11·2	58				
*Liverpool	20·0	0·86	13·2	0·00	0·00	0·18	0·01	0·07	0·17	0·17	0·46	11·6	83	92·8	4·2	2·7	0·3

The maternal mortality rates for England and Wales are as follows:

	Puerperal Sepsis,	Others.	Total.
per 1,000 Live Births ...	1·68	2·42	4·10
,, ,, Total Births ...	1·61	2·32	3·93

* The rates for Liverpool have been calculated on a population estimated locally to the middle of 1935.

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1935.

Causes of Death.	Net Deaths at Various Ages, of "Residents," whether occurring within or without the District.									Total Deaths in Institutions in Liverpool District, whether of "Residents" or "Non-Residents."
	At all ages.	At Ages—Years.								
		Under 1	1—	3—	5—	15—	25—	45—	65—	
All Causes { Certified	11416	1437	295	266	339	471	1210	3107	4291	7458
All Causes { Uncertified	31	8	—	—	—	—	1	3	19	—
1. Typhoid and Paratyphoid Fevers	4	—	—	—	—	1	—	3	—	5
2. Measles	154	39	74	36	5	—	—	—	—	117
3. Scarlet Fever	6	—	—	2	2	1	1	—	—	6
4. Whooping Cough	62	27	19	15	1	—	—	—	—	41
5. Diphtheria	149	3	10	56	75	3	1	1	—	154
6. Influenza	146	6	1	1	—	4	14	57	13	24
7. Encephalitis Lethargica	22	—	—	—	—	3	9	6	4	20
8. Cerebro-spinal Fever	33	11	3	5	10	—	2	2	—	35
9. Tuberculosis of Respiratory System	812	1	1	3	17	194	303	241	52	495
10. Other Tuberculous Diseases	123	7	13	23	20	23	22	8	7	122
11. Syphilis	47	7	—	—	—	—	9	22	9	42
12. General Paralysis of the Insane	24	—	—	—	—	2	10	12	—	5
13. Cancer	1311	1	—	1	4	13	123	618	551	936
14. Diabetes	78	—	—	—	1	2	6	30	39	59
15. Cerebral Haemorrhage	507	—	—	—	—	1	12	160	334	291
16. Heart Disease	2291	—	—	—	27	36	147	683	1398	1112
17. Aneurysm	23	—	—	—	—	—	1	15	7	10
18. Other Circulatory Diseases	590	—	1	1	—	2	10	151	425	298
19. Bronchitis	364	46	5	—	1	4	24	80	204	133
20. Pneumonia (all forms)	1247	370	110	54	29	26	135	278	245	892
21. Other Respiratory Diseases	122	6	3	3	1	8	13	34	54	62
22. Peptic Ulcer	94	1	—	—	—	3	14	58	18	87
23. Diarrhoea, etc.	238	186	16	7	2	2	6	12	7	182
24. Appendicitis	52	—	—	3	11	8	11	15	4	59
25. Cirrhosis of Liver	12	—	—	—	—	—	2	6	4	3
26. Other Diseases of Liver	60	1	—	—	—	2	8	22	27	60
27. Other Digestive Diseases	198	17	4	5	11	5	29	53	74	176
28. Acute and Chronic Nephritis	354	1	1	2	7	12	42	143	146	231
29. Puerperal Sepsis	29	—	—	—	—	8	21	—	—	28
30. Other Puerperal Causes	30	—	—	—	—	3	26	1	—	28
31. Congenital Debility, Premature Birth, Malformations, etc.	595	590	3	1	—	1	—	—	—	422
32. Senility	324	—	—	—	—	—	—	12	312	243
33. Suicide	85	—	—	—	2	7	21	38	17	20
34. Other Violence	311	12	11	22	49	35	41	72	69	228
35. Other Defined Causes	935	112	20	26	63	62	144	274	234	825
36. Causes Ill-defined or unknown	15	1	—	—	1	—	4	3	6	7
Totals	11447	1445	295	266	339	471	1211	3110	4310	7458

CITY OF LIVERPOOL.

Infant Mortality during the year 1935.

Net Deaths from stated Causes at various Ages under One Year.

CAUSE OF DEATH.	Under 1 Week.	1 Week and under 2 Weeks.	2 Weeks and under 3 Weeks.	3 Weeks and under 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	358	68	53	46	525	264	294	197	157	1437
All Causes. Uncertified	4	—	2	—	6	1	1	—	—	8
Chicken-pox	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	6	12	21	39
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	8	7	8	4	27
Diphtheria	—	—	—	—	—	1	1	—	1	3
Cerebro Spinal Fever	—	—	—	1	1	2	3	3	2	11
Influenza	—	—	—	—	—	2	2	—	2	6
Erysipelas	—	—	—	—	—	3	1	1	—	5
Pulmonary Tuberculosis	—	—	—	—	—	—	—	—	1	1
Tuberculous Meningitis	—	—	—	—	—	—	—	1	2	3
Abdominal Tuberculosis	—	—	—	—	—	—	—	—	1	1
Other Tuberculous Diseases	—	—	—	—	—	—	2	—	1	3
Meningitis (not Tuberculous)	—	—	1	1	2	2	5	4	6	19
Convulsions	2	3	3	—	8	3	2	2	1	16
Laryngitis	—	—	—	—	—	—	—	—	1	1
Bronchitis	—	4	1	3	8	15	12	6	5	46
Pneumonia (all forms)	13	8	11	11	43	84	104	76	63	370
Diarrhœa	—	—	—	1	1	5	21	11	6	44
Enteritis	—	2	5	3	10	26	48	33	25	142
Other Diseases of Stomach	—	—	2	—	2	2	—	1	—	5
Syphilis	1	—	—	—	1	3	3	—	—	7
Rickets	—	—	—	—	—	—	—	—	—	—
Suffocation	1	—	—	—	1	1	—	1	—	3
Injury at Birth	22	6	—	—	28	—	—	—	—	28
Atelectasis	44	1	—	—	45	2	1	—	—	48
Malformations	36	12	7	5	60	20	10	4	1	95
Premature Birth	214	25	17	15	271	25	2	—	—	298
Atrophy, Debility and Marasmus	11	1	5	4	21	46	35	4	2	108
Other Causes	18	6	3	2	29	15	30	30	12	116
	362	68	55	46	531	265	295	197	157	1445

Net Births in the year { Legitimate ... 16,593 / Illegitimate ... 754 }

Net Deaths in the year of { Legitimate Infants 1,352 / Illegitimate Infants 93 }

APPENDIX E.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1935.

Disease.	Number of Cases Notified.													Cases admitted to Hospital	Total Deaths
	At all Ages.	At Ages—Years													
		Under 1	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—		
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	1900	18	99	129	180	181	858	274	63	80	12	6	—	1536	6
Diphtheria	2695	38	82	151	176	223	1047	477	203	240	43	15	—	2656	149
Enteric Fever (including Para-typhoid)	30	1	—	—	—	—	6	4	2	6	4	6	1	27	4
Puerperal Fever	48	—	—	—	—	—	—	—	—	36	12	—	—	44	29
Puerperal Pyrexia	353	—	—	—	—	—	—	—	18	266	69	—	—	331	30
Pneumonia	2230	278	234	131	94	63	190	84	121	360	186	346	143	710	492
Cerebro-spinal Fever	69	17	7	8	3	4	11	7	5	4	—	3	—	65	33
Poliomyelitis and Polioencephalitis	3	—	1	—	—	—	1	—	—	—	1	—	—	2	—
Encephalitis Lethargica	25	—	—	—	—	—	1	1	—	8	5	7	3	19	22
Dysentery	3	1	—	1	1	—	—	—	—	—	—	—	—	2	4
Ophthalmia Neonatorum	670	670	—	—	—	—	—	—	—	—	—	—	—	200	—
Erysipelas	831	20	7	6	7	6	29	34	54	118	141	305	104	526	55
Malaria	15	—	—	—	—	—	—	—	1	11	1	2	—	6	4
Anthrax	2	—	—	—	—	—	—	—	1	—	—	1	—	2	—
*Measles	8907	680	1264	1074	1058	1179	3451	123	36	33	4	4	1	996	154
*Chickenpox	2764	78	121	96	136	152	1944	185	30	17	3	2	—	256	1
Totals	20545	1801	1815	1596	1655	1808	7538	1189	534	1179	481	697	252	7378	983

* Voluntarily notifiable.

DEATHS REGISTERED DURING THE YEAR 1935

APPENDIX F.