

[Report 1937] / Medical Officer of Health, Liverpool City.

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Publication/Creation

1937

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PUBLIC HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1937

BY

W. M. FRAZER, M.D., CH.B., M.Sc., D.P.H., BARRISTER-AT-LAW.

Medical Officer of Health.



LIVERPOOL

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

1938

PUBLIC HEALTH DEPARTMENT

REPORT

CITY OF ALBANY

1937

Staff of the Public Health Department.

1937.

Medical Officer of Health :

W. M. FRAZER, M.D., M.Sc., D.P.H., Barrister-at-Law.

Deputy Medical Officer of Health :

C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P., D.P.H.

Senior Assistant Medical Officer of Health :

B. T. J. GLOVER, M.D., Ch.B., D.P.H.

Assistant Medical Officer of Health :

T. R. ROBERTON, M.B., Ch.B., D.P.H.

Maternity and Child Welfare.

Senior Medical Officer in charge of Maternity and Child Welfare and Inspector of

Midwives : RUBY E. BELL, M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

Four Assistant Medical Officers at Maternity and Child Welfare Clinics.

Twenty-six part-time Clinic Medical Officers.

Fifty-six Health Visitors, etc.

Seventeen Probationer Health Visitors.

Three Assistants to Inspector of Midwives.

Two Ophthalmia Neonatorum Nurses.

Fifty-four Municipal Midwives.

Superintendent and Fifty-four Assistants at Infant Milk Centres

Six Assistants at Cleansing Stations.

Day Nurseries and Carnegie Welfare Centre.

Five Matrons.

Six Deputy Matrons and Sisters.

Thirty-four Nurses and Probationers.

Forty Domestic Staff.

Tuberculosis.

Chief Clinical Tuberculosis Officer : J. P. CLARKE, T.D., M.R.C.S., L.R.C.P., D.P.H.

Clinical Tuberculosis Officers at Clinics : W. H. BUTLER, M.C., M.B., Ch.B.,
M.R.C.S., L.R.C.P., D.P.H.

R. JACKSON, M.R.C.S., L.R.C.P.,
D.P.H.

J. A. RUSHWORTH, M.R.C.S.,
L.R.C.P., D.P.H.

Nine Nurses at Tuberculosis Clinics.

Venereal Diseases.

Senior Medical Officer: A. O. ROSS, M.D., Ch.B., D.P.H. (part-time).

Assistant Medical Officers:—

E. E. PREBBLE, M.D., Ch.B., M.R.C.S., L.R.C.P. (part time).

E. T. BAKER-BATES, M.D., M.R.C.P. (Lond.) (part time) to Nov. 30th.

G. R. ELLIS, M.D., Ch.B., M.R.C.S., M.R.C.P. (part time).

E. LOUISE HOWARD, M.A., M.B., Ch.B., (part time) from June 6th.

S. M. LAIRD, B.Sc., M.D., F.R.F.P.S., D.P.H.

RACHEL B. NELSON, M.B., Ch.B., D.P.H.

Six Medical Orderlies.

One Sister.

Two Nurses.

Infectious Disease Hospitals and Sanatoria.

Fazakerley Hospitals.

Medical Superintendent: A. E. HODGSON, M.D., Ch.B., D.P.H.

Senior Resident Medical Officer: E. A. BURNS, M.D., B.Ch., B.A.O.

Assistant Resident Medical Officers: L. DENIL, M.B., Ch.B., D.P.H.

E. G. FISHER, M.B., Ch.B. (to Apr. 30th.)

M. HURST, M.B., Ch.B.

(May 1st to Oct. 13th.)

W. SINCLAIR, M.B., Ch.B., D.P.H.

(from Nov. 1st.)

City Hospital, North.

Visiting Physician: E. A. BURNS, M.B., B.Ch., B.A.O.

Resident Medical Officer: A. B. CONCANON, M.B., Ch.M., M.R.C.S., L.R.C.P.

City Hospital, South.

Visiting Physician: T. R. ROBERTON, M.B., Ch.B., D.P.H.

Resident Medical Officer: A. DODD, M.B., Ch.B. M.R.C.S., L.R.C.P.

(April 16th to Oct. 31st.)

J. P. KELLY, M.B., B.Ch., B.A.O., D.P.H.

(from Nov. 23rd.)

City Hospital, East.

Visiting Physician: E. A. BURNS, M.D., B.Ch., B.A.O.

Resident Medical Officer: FRANCES WEIGHTMAN, M.B., Ch.B., D.P.H.

Fazakerley Sanatorium.

Medical Superintendent: W. CRANE, M.D., B.Ch., B.A.O., D.P.H.

Senior Resident Medical Officer: V. C. CORNWALL, M.B., Ch.B., M.R.C.S., L.R.C.P.

Radiologist: A. E. CONNOLLY, M.B., Ch.B., D.P.H., D.M.R.E.

Resident Medical Officers: T. P. TWOMEY, M.B., Ch.B., D.M.R.E.

(to March 31st.)

T. H. PIERCE, M.B., Ch.B., M.R.C.S., L.R.C.P.,

D.P.H. (to Sept. 30th.)

J. K. WADDINGTON, M.B., Ch.B., M.R.C.S.,

L.R.C.P. (from April 1st.)

J. E. GRAY, M.B., B.S. (from Nov. 1st.)

Broadgreen Sanatorium.

Medical Superintendent: O. F. THOMAS, M.R.C.P., D.P.H.

Senior Resident Medical Officer: R. P. BOWES, M.D., D.P.H.

Assistant Resident Medical Officers: J. D. BRYAN, M.B., B.S. (to May 14th.)

N. LEWIS, M.B., Ch.B. (to Oct. 7th.)

D. CAMPBELL, M.B., Ch.B.

(from Nov. 1st.)

J. S. TAYLOR, M.B., Ch.B.

(from Nov. 1st.)

Cleaver Sanatorium.

Matron : Miss D. KELSALL.

Resident Medical Officer : J. MEYER, M.D. (Feb. 1st to May 31st.)
N. O'LEARY, M.B., Ch.B., (from Sept. 1st.)

General Hospitals.

Walton Hospital.

Manager : C. A. W. ROBERTS, M.B.E.

Medical Superintendent : H. H. MacWILLIAM, B.A., M.B., B.Ch., B.A.O.,
D.P.H.

Matron : Mrs. M. M. ROBERTS, M.B.E.

One Deputy Medical Superintendent.

Three Senior Resident Assistant Medical Officers.

Twelve Junior Resident Assistant Medical Officers (appointed for 1 year).

Mill Road Infirmary.

Medical Superintendent : L. FINDLAY, M.D.

Matron : Miss G. RIDING.

One Deputy Medical Superintendent.

Two Senior Resident Assistant Medical Officers.

Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Smithdown Road Hospital.

Medical Superintendent : J. P. STEEL, M.D.

Matron : Miss R. M. DUNLOP.

One Deputy Medical Superintendent.

Two Senior Resident Assistant Medical Officers.

Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Children's Hospitals.

Alder Hey Hospital.

Medical Superintendent : W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.

Matron : Miss M. CAVILL.

One Deputy Medical Superintendent.

One Senior Resident Assistant Medical Officer.

Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Olive Mount Children's Hospital.

Matron : Miss A. B. HARDY.

Medical Superintendent : W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.

Resident Assistant Medical Officer : RITA HENRY, M.B., Ch.B., B.A.O.

Mixed Institutions.

Belmont Road Institution.

Acting Master : Mrs. M. E. CARR.

Visiting Medical Officer : D. G. HENRY, M.B., B.Ch.

One Assistant Medical Officer.

Kirkdale Homes.

Master : G. CHAPLIN.

Matron : A. CHAPLIN

Visiting Medical Officer : P. COTTER, M.B., Ch.B.

Certified Institution for Mentally Defective Children.

Seafeld House.

Superintendent : A. ARMITAGE.

Matron : E. ARMITAGE.

Visiting Medical Officer : T. D. WILLIAMS, M.B., B.S.

Homes.

Fazakerley Cottage Homes.

Superintendent and Head Master : R. J. FROOM, B.A.

Matron : C. R. FROOM.

Visiting Medical Officer : R. I. GREENSHIELDS, M.B., B.Ch.

Working Boys' Home.

Superintendent : (Acting) E. ROBINSON.

Vaccination Officers.

No. 1 District : R. R. RENDELL.

No. 2 District : A. OLNEY.

No. 3 District : J. C. HOWARTH.

No. 4 District : H. O'HARE, Assistant Vaccination Officer.

Assistant Vaccination Officer : N. G. BARTLEY.

Sanitary Staff.

Chief Sanitary Inspector : G. BINNS, F.R.San.I., F.R.I.P.H.H.

Deputy Chief Sanitary Inspector : W. PARKER M.S.I.A.

Chief Housing Inspector : C. E. SANDERSON, M.R.San.I.

Three Divisional Inspectors.

One Senior Inspector of Lodging and Sub-let Houses.

One Senior Shops Act Inspector.

Five Shops Act Inspectors.

Three Factory and Workshop Inspectors.

One Bakehouse and Cafe Inspector.

Two Offensive Trades Inspectors.

Nine Housing Inspectors.

Forty-eight Sanitary Inspectors.

One Canal Boat Inspector.

Ten Ratcatchers.

Smoke Inspectors.

Chief Smoke Inspector : C. M. OPIE, Cert.R.San.I.

Two Assistant Smoke Inspectors.

Food Inspection.

Chief Food Inspector : J. D. ALLAN, M.R.San.I., M.S.I.A.

Eleven Inspectors.

Chief Inspector Food and Drugs : A. GLEAVE, Cert.R.San.I.

Four Inspectors.

Two Inspectors of Dairies and Cowsheds.

Ambulance and Disinfecting Staff.

Superintendent : T. C. CAMPSIE.

Deputy Superintendent : H. WRIGHT.

Seven Disinfectors.

Six Ambulance Orderlies.

Thirteen Ambulance and Bedding Van, &c., Drivers.

Forty-five Workmen.

Three Mortuary Attendants.

Chief Clerk : B. S. BENNETT.

Deputy Chief Clerk : F. G. GILLIES.

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- B. Comparative Statement of Birth Rates, Death Rates and Analysis of Mortality.
- C. Abridged List of Causes of, and Ages at, Death.
- D. Table showing Deaths from Stated Causes at various Ages, of Infants under one year of age.
- E. Table of Notifiable Diseases other than Tuberculosis.
- F. Detailed Statement of Deaths registered in the City.

PUBLIC HEALTH DEPARTMENT,

MUNICIPAL ANNEXE,

DALE STREET, LIVERPOOL, 2.

7th June, 1938.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you herewith my seventh Annual Report, relating to the health of the City of Liverpool during the year 1937.

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 1937 the estimated mid-year population was 867,110, this figure being the same as that of the previous year. The natural increase of births over deaths was 5,276, but it is estimated that this increase was cancelled by the migration of part of the population to the newly-erected houses situated outside the city boundary.

The total number of births was 16,728, giving a birth-rate per 1,000 of the population of 19·3 as contrasted with a figure of 20·1 for the previous year. The total number of deaths from all causes was 11,452, giving a general death-rate of 13·2 as compared with 12·9 in 1936. Infantile mortality showed a rate of 82 per 1,000 births, as contrasted with the previous year's rate of 75.

Such are the salient vital statistics for the year 1937. The slight increase in the general death-rate over that of the previous year was due to a mild epidemic of influenza which occurred in the first quarter of the year. The birth-rate of 19·3 per 1,000 is the lowest ever recorded in the city but is considerably above the average for England and Wales, which is 14·9 per 1,000. The number of deaths recorded from puerperal fever was 10 as compared with 20 for 1936, while the maternal mortality rate of 2·31 per 1,000 births is the lowest ever recorded in Liverpool. The total number of cases of infectious disease reported to the Health Department was 350 less than in the previous year. Measles showed the greatest reduction, there being 3,132 cases less than in the previous year. It should be noted that measles ceased to be voluntarily notifiable after May 9th. Scarlet fever showed an increase of 1,588 cases, due to an epidemic which commenced during the third quarter of the year, reached its height and remained at a high level during the fourth quarter and commenced to fall in the first quarter of 1938. An outbreak of paratyphosus B fever occurred at the beginning of the year and gave rise to 132 cases of which 107 were Liverpool residents. The source of infection was ultimately traced to a carrier of the Bacterium Paratyphosus B who was handling and infecting loaves of bread.

There was a slight diminution in the number of deaths recorded from cancer, namely, 1,292 as compared with 1,301 in 1936; this is equivalent to a death-rate of 1·49 per 1,000 of the population. The number of deaths from cancer has been increasing yearly and the death-rate from this disease has remained between 1·3 and 1·5 per 1,000 for the past five years. Cancer is now the third principal cause of death and, unless some means of prevention is discovered in the meantime, this position is likely to be maintained.

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

1937 the Medical Officer of Health made official representations to the City Council in respect of 87 Clearance Areas and 1,868 insanitary houses.

On page 85 will be found a brief description of the Midwives Act, 1936, which came into operation during the year. The object of this Act is to ensure that the number of certified midwives shall be adequate for the needs of the area and that every mother shall have the advice and attention of a skilled midwife during her pregnancy, her confinement and her lying-in period. The first municipal midwives were appointed on July 30th, 1937.

The Shops Act, 1936, and the Retail Meat Dealers' Shops (Sunday Closing) Act, 1936, came into operation on January 1st, 1937, and the Shops (Sunday Trading Restriction) Act, 1936, came into operation on May 1st, 1937. A brief description of these Acts is given in the section on sanitation in this report. Shopkeepers generally are trying to comply with the requirements of these enactments, but extra work has been entailed on the part of the inspectorial staff of the sanitary department to see that the provisions of these Acts are being carried out.

Considerable progress has been made in the improving and the modernising of the municipal hospitals and institutions. Work is now in progress in the building of the continuation department at Mill Road Infirmary, and the plans for a similar department at Walton Hospital are now being prepared. Four blocks of cubicles, each containing sixteen beds, have been completed during the year at Fazakerley Isolation Hospital, three wards in the children's annexe at Belmont Road Institution have been converted into thirty-six cubicles, and the building of the treatment block at Fazakerley Sanatorium is well advanced. Extensions have been made to the X-ray plants at Mill Road Infirmary and Walton Hospital, and the entire X-ray plant throughout the hospital services has been rendered shock-proof. The new nurses' homes have been completed at Walton, Alder Hey and Fazakerley Isolation Hospitals and the extensions to the existing nurses' homes have been completed at Broadgreen Sanatorium and the City Hospital East. A recreation room for the nurses has been included in the new nurses' home at the Fazakerley Isolation Hospital and in the extension to the nurses' home at the City Hospital East.

The extensions to the laundries at Smithdown Road and Alder Hey Hospitals have been completed, and the plans for the re-organisation of the laundry at Belmont Road Institution are being prepared; the latter entail the complete re-organisation of the boiler and heating services of the whole institution as these are inefficient and antiquated. The laundry at the City Hospital North has been closed and the work has been transferred to the laundry at Broadgreen Sanatorium. This has allowed the upper floor of the laundry at the City Hospital North to be converted into cubicles for eight nurses.

Increasing use is being made of the ancillary services connected with the hospitals. During the year 57,081 radiological and 92,301 pathological examinations were made, an increase of 2,896 and 3,941 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.

CITY OF LIVERPOOL

SUMMARY

OF

VITAL STATISTICS FOR 1937

VITAL STATISTICS.

Area (land and inland water)	37,321 Acres (43 sq. miles)
Population (Census 1931)	525,682
do. (estimated to middle of Year, 1937)	527,110
Live Births	17,452
Deaths (all causes)	11,452
Do. (under 1 year of age)	1,871
Do. from :-	
Typhoid fever	521
Typhoid dysentery	521
Typhoid pneumonia	521
Typhoid meningitis	521
Other forms of typhoid	112
Typhoid fever	1,691
Respiratory diseases	1,325
Cancer	40
Maternal Deaths	
Maternal Mortality rate	8.81 per 1,000 live and still births
Infant Mortality rate	83 per 1,000 live births
Death rate	
Typhoid	0.73
Typhoid dysentery	0.73
Typhoid pneumonia	0.73
Typhoid meningitis	0.73
Other forms of typhoid	0.13
Typhoid fever	1.83
Respiratory diseases	1.40
Cancer	

CITY OF LIVERPOOL.

SUMMARY

OF

VITAL STATISTICS FOR 1937.

Area (land and inland water) 27,321 Acres (43 sq. miles)

Population (Census 1931) 855,688

do. (estimated to middle of Year, 1937) 867,110

Live Births...	...	16,728	Live Birth rate	19.3	} per 1,000 of the population
Deaths (all causes)	...	11,452	Death rate	13.2	

Do. (under 1 year of age)	1,371	Infant Mortality rate	} 82 per 1,000 live births,

Do. from :—									
Seven principal Zymotic diseases	}	621	Zymotic death rate	}	0.72				
Pulmonary Tuberculosis			}			684	Pulmonary Tuberculosis death rate	}	0.79
Other forms of Tuberculosis							}			112	Non Pulmonary Tuberculosis death rate	}	0.13
Respiratory diseases		1,591	Respiratory death rate		1.88	} per 1,000 of the population			
Cancer	...	1,292	Cancer death rate		1.49				

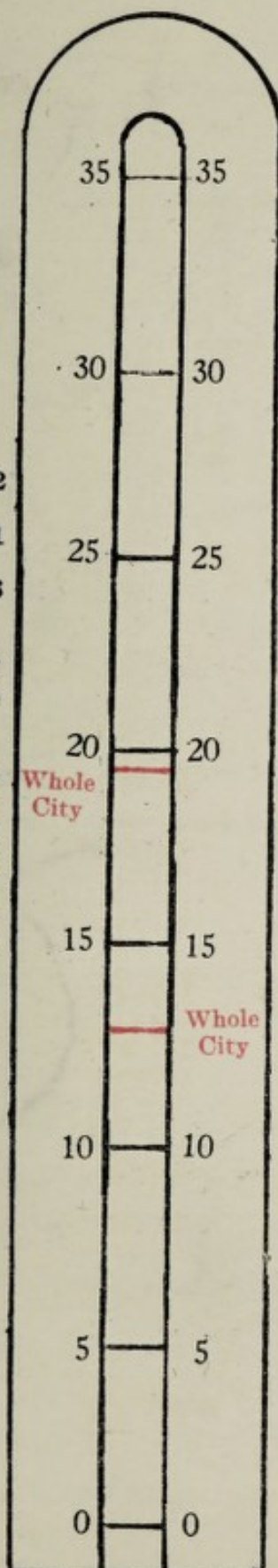
Maternal Deaths	...	40	Maternal Mortality rate	} 2.31 per 1,000 live and still births.

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 1937.

BIRTH RATES PER 1,000 POPULATION

Exchange	...	...	27.2
St. Peter's	...	...	25.1
Netherfield	...	...	23.6
Toxteth Park	...	...	21.7
Kirkdale	...	...	21.4
Fazakerley	...	...	19.0
Everton	...	...	18.7
West Derby	...	...	17.0
Wavertree	...	...	16.9
Edge Hill and Sefton Park	...	...	16.9
Abercromby	...	...	15.9
Walton and Walton Park	...	...	14.4



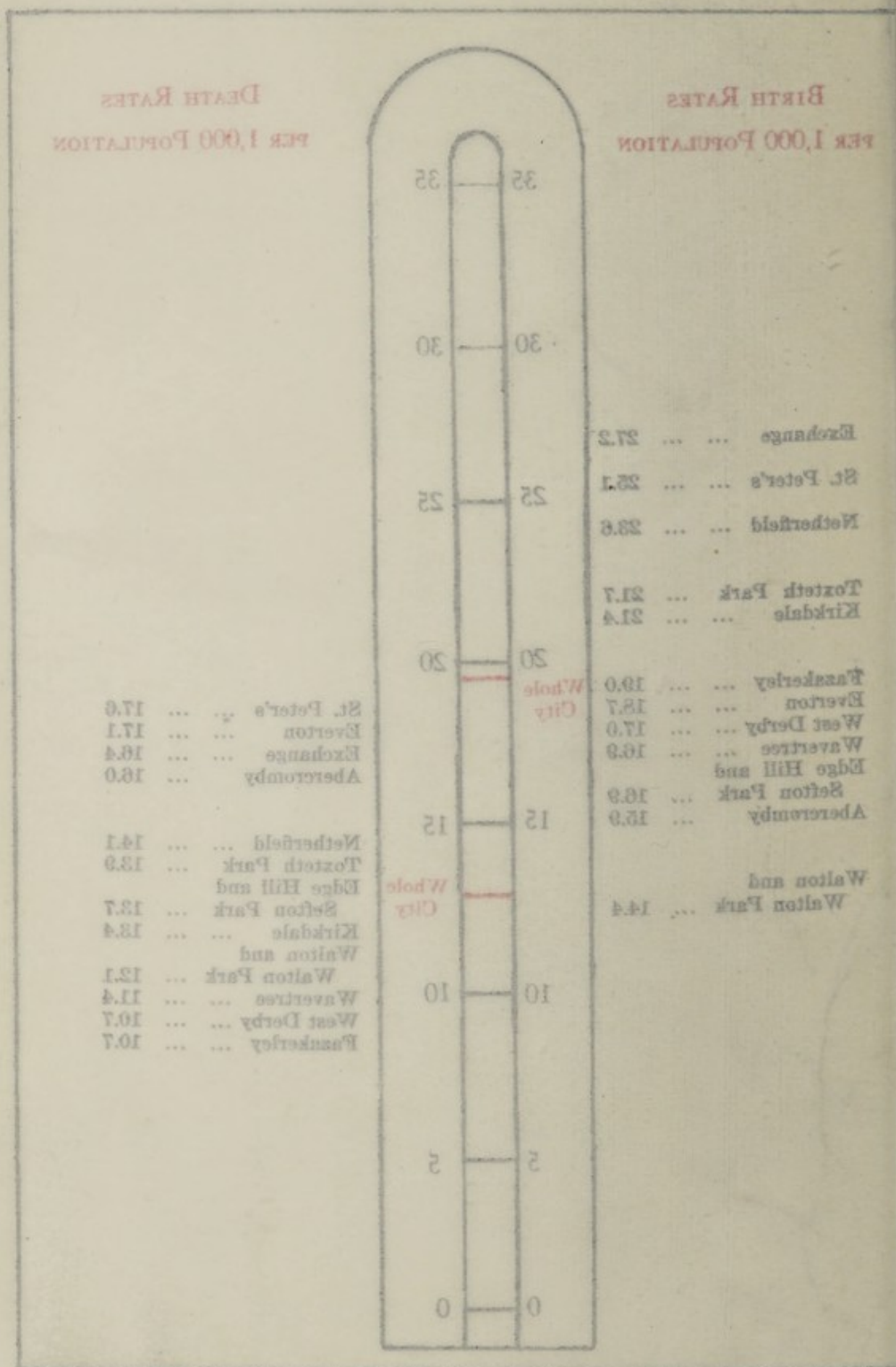
DEATH RATES PER 1,000 POPULATION

St. Peter's	...	...	17.6
Everton	...	...	17.1
Exchange	...	...	16.4
Abercromby	...	...	16.0
Netherfield	...	...	14.1
Toxteth Park	...	...	13.9
Edge Hill and Sefton Park	...	...	13.7
Kirkdale	...	...	13.4
Walton and Walton Park	...	...	12.1
Wavertree	...	...	11.4
West Derby	...	...	10.7
Fazakerley	...	...	10.7

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

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 1937.



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

POPULATION.

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

Year.	Excess of Births over Deaths.
1931	6,383
1932	6,779
1933	4,485
1934	6,274
1935	5,900
1936	6,220
1937	5,276
Yearly Average 1931/37	5,902

As indicated above, a high rate of natural increase of population for the City of Liverpool was maintained during the year 1937. This increase was, however, largely reduced not only by the normal rate of migration but also owing to the number of persons who left Liverpool during the year to reside in the new Housing Estates situated outside the city boundary or to take up employment elsewhere under Government Training Centres, and to the movement of the non-civilian population of the city. Accordingly no change was made in the estimate of population for 1937, the figure adopted being the same as that for 1936, namely, 867,110. The Registrar-General's estimate was 836,300.

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 1937, the births and deaths registered at the various hospitals and institutions having been transferred to the districts of residence.

Registration Sub-Districts.	Acreage (Land and Inland Water.)	Estimated Mid-Year Population 1937.	Persons per Acre.	BIRTHS.		DEATHS.	
				Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
EXCHANGE ...	843	48,383	57	1,315	27.2	794	16.4
ABERCROMBY ...	266	23,071	87	367	15.9	370	16.0
ST. PETER'S ...	994	51,622	52	1,297	25.1	910	17.6
TOXTETH PARK	1,647	90,633	55	1,967	21.7	1,263	13.9
EDGE HILL & SEFTON PARK	1,468	113,493	77	1,918	16.9	1,553	13.7
WAVERTREE ...	10,336	105,308	10	1,779	16.9	1,201	11.4
FAZAKERLEY ...	5,263	71,488	14	1,361	19.0	766	10.7
WALTON & WALTON PARK	1,904	91,996	48	1,327	14.4	1,109	12.1
KIRKDALE ...	929	60,017	65	1,284	21.4	803	13.4
NETHERFIELD ...	486	72,234	149	1,702	23.6	1,015	14.1
EVERTON ...	207	29,324	141	549	18.7	500	17.1
WEST DERBY ...	2,978	109,541	37	1,862	17.0	1,168	10.7
	27,321	867,110	32	16,728	19.3	11,452	13.2

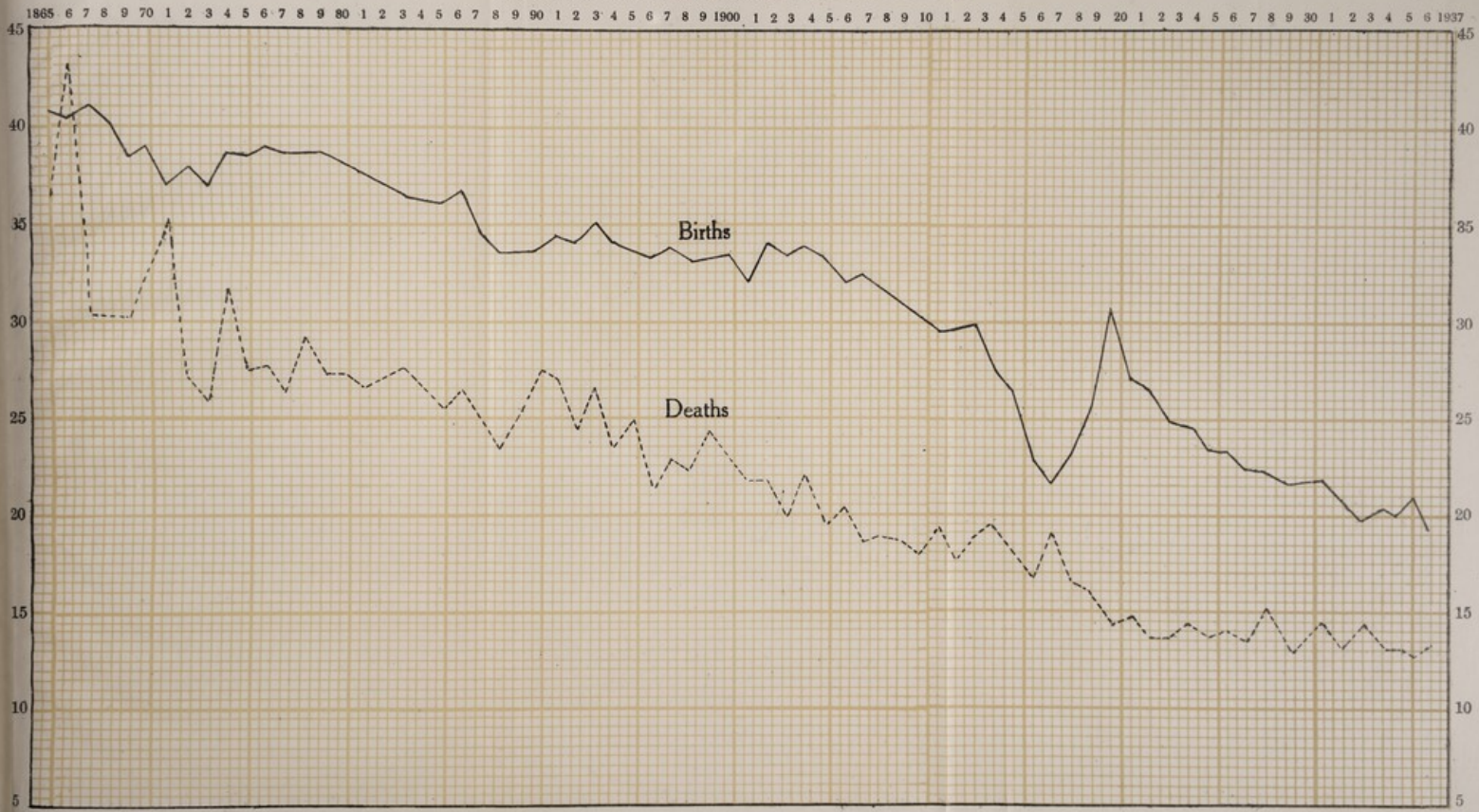
The following table shows the population, births and deaths, with birth and death rates, during the last 20 years (1918 to 1937) :—

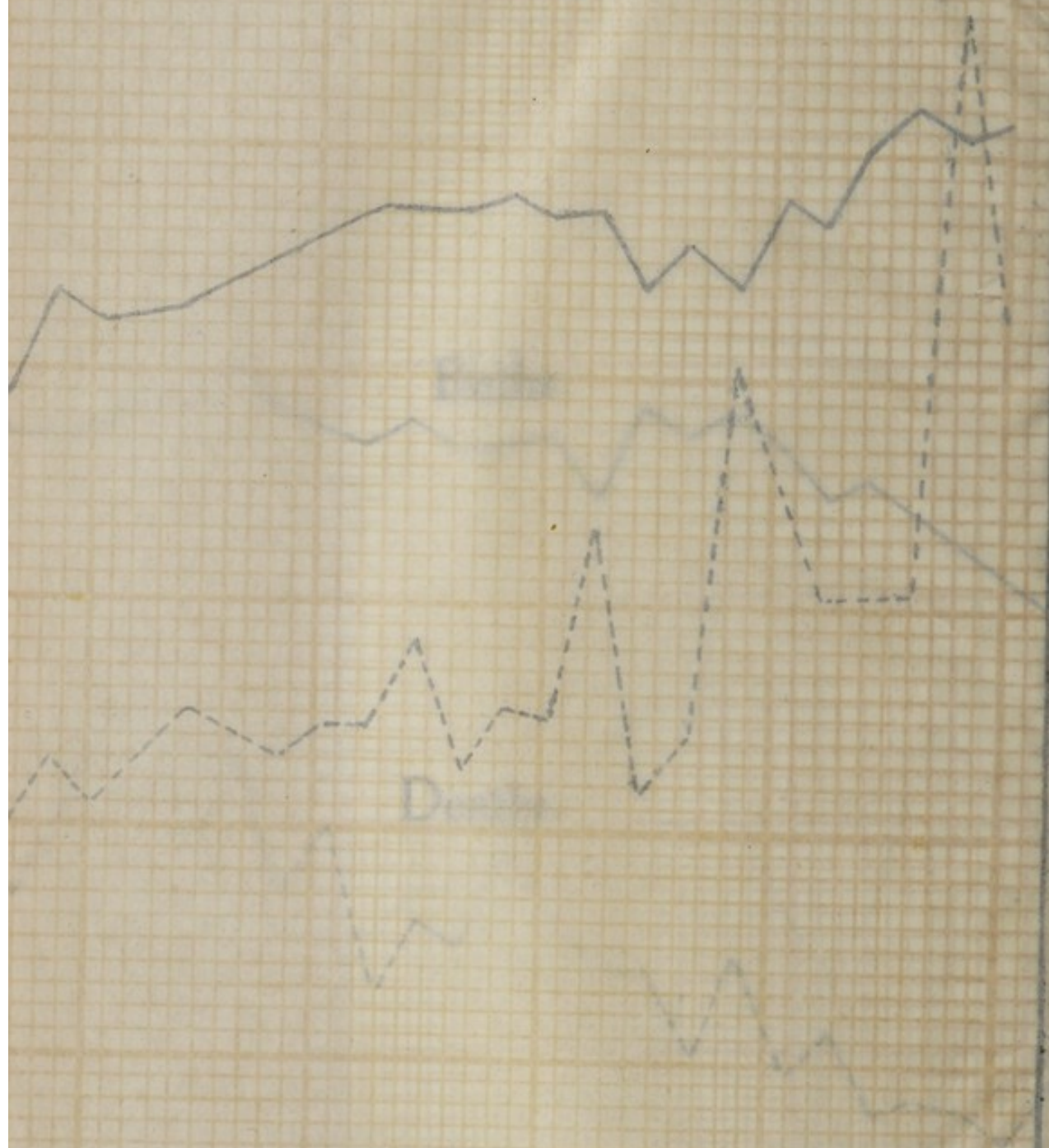
Year.	Estimated Mid-Year Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
1918 ...	798,048	17,133	21.5	15,267	19.1
1919 ...	804,316	18,694	23.2	13,283	16.5
1920 ...	810,632	25,039	30.9	12,852	15.8
1921 ...	817,000	21,904	26.8	11,666	14.3
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
1936 ...	867,110	17,403	20.1	11,183	12.9
1937 ...	867,110	16,728	19.3	11,452	13.2

* City area extended

CITY OF LIVERPOOL.

BIRTH AND DEATH RATES PER 1000 POPULATION FOR THE YEARS 1865 TO 1937.





BIRTHS.

The number of live births recorded during the year 1937 within the city was 16,728, equal to a rate of 19·3 per 1,000 of the population, the average of the previous five years (1932-1936) being 20·2. Of the total births, 8,451 were males, and 8,277 were females. The number of illegitimate live births was 760, or 4·4 per cent. of the total births, 376 being males and 384 females.

The birth-rate calculated upon the Registrar-General's estimate of population was 20·0.

The Registrar-General intimated that 120 births (55 males and 65 females) should be added to and 1,443 births (776 males and 667 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 14·9 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was also 14·9 per 1,000.

The number of still-births registered was 618, as shown in the following table. This represented 35·6 per thousand of the total (live and still) births registered and 0·7 per 1,000, of the estimated population.

Live Births.

	Males.	Females.	Total.
Legitimate	8,075	7,893	15,968
Illegitimate	376	384	760
	8,451	8,277	16,728

Still-Births.

	Males.	Females.	Total.
Legitimate	303	280	583
Illegitimate	22	13	35
	325	293	618

DEATHS.

The total deaths registered in the city during the year numbered 12,388. Of these deaths 1,298 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 362 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 11,452, being 5,997 males and 5,455 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 12·4, and that of the great towns was 12·5.

The death rate for Liverpool calculated on the Registrar-General's estimate of population was 13·7.

During the five years (1911-1915) the average death rate was 18·6 per 1,000, whilst during the five years (1932-1936) the average rate was 13·4 per 1,000.

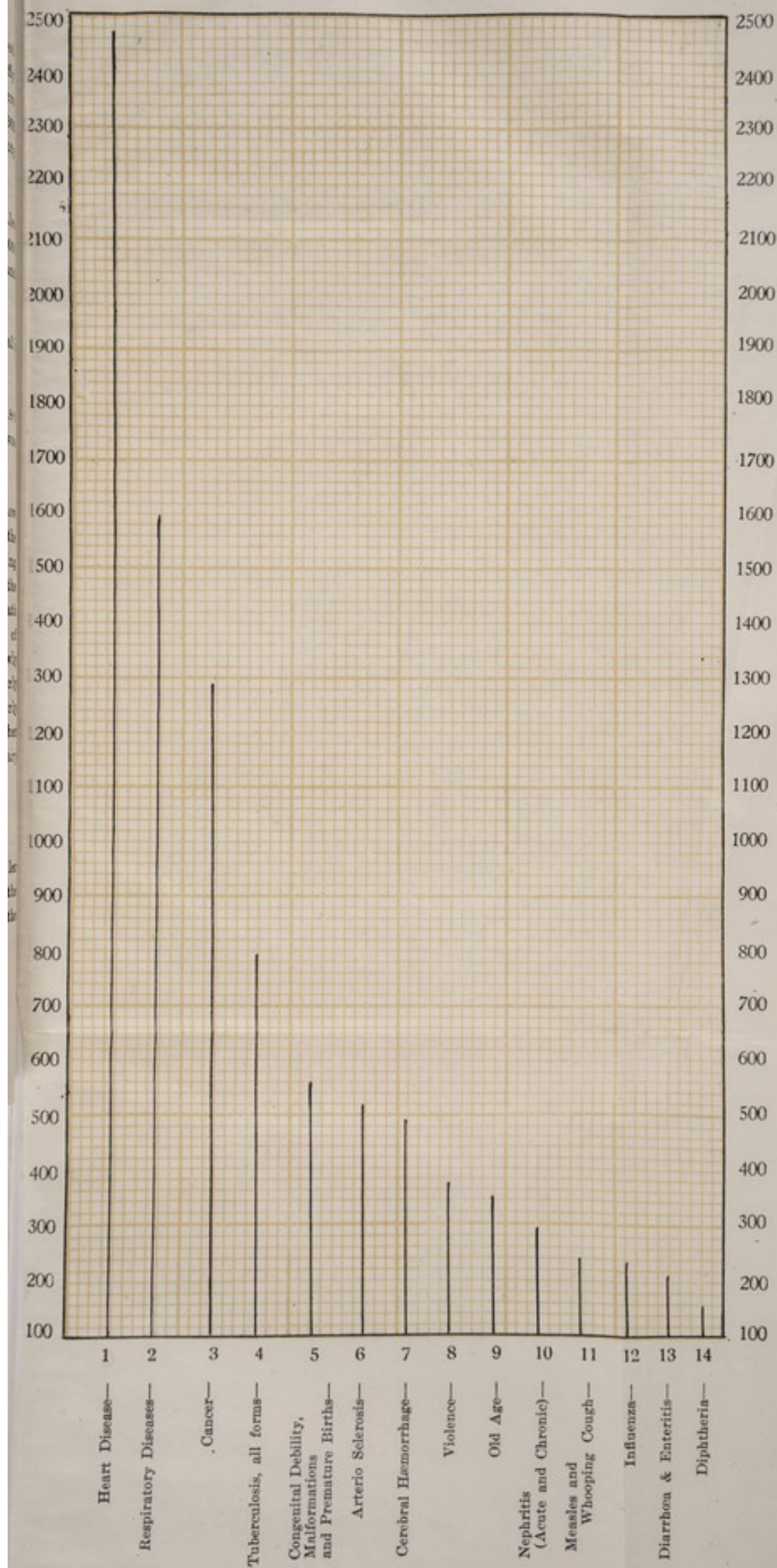
A comparison of the table on page 12 with previous reports will show that this improvement is not confined to the infant mortality nor to the mortality at any particular age, but is a general improvement affecting the whole of the population. It is plain that any variation in the *proportions* living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

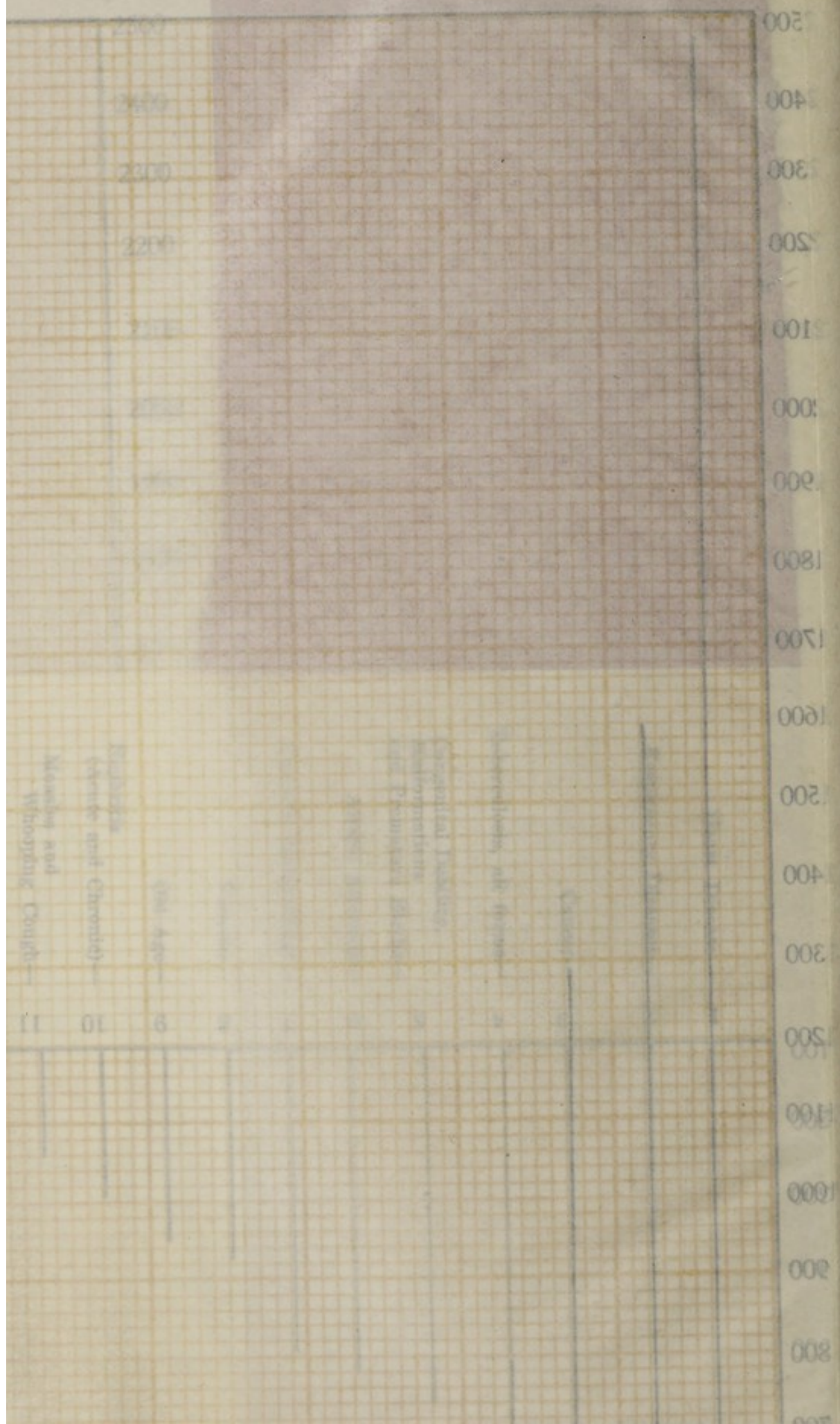
Causes of Death.

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 1937.





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 1937
						March	June	Sept.	Dec.	
ALL CAUSES	...	...	...	...	...	3,805	2,559	2,125	2,963	11,452
I.	Infectious and Parasitic Diseases	...				532	293	275	472	1,602
II.	Cancer and Other Tumours	...	...			367	329	312	348	1,356
III.	Rheumatism and other Gen. Diseases					77	66	56	74	273
IV.	Diseases of the Blood	...	...	...		30	29	18	27	104
V.	Chronic Poisoning	...	...	...		—	—	1	—	1
VI.	Diseases of the Nervous System	...				249	213	187	218	867
VII.	Diseases of the Circulatory System	...				1,056	725	574	840	3,195
VIII.	Diseases of the Respiratory System	...				749	292	184	366	1,591
IX.	Diseases of the Digestive System	...				150	149	142	148	589
X.	Diseases of the Genito-Urinary System					149	114	96	116	475
XI.	Diseases of Pregnancy	...	...	...		10	10	6	14	40
XII.	Diseases of the Skin	...	...	...		15	5	7	14	41
XIII.	Diseases of the Bones	...	...	...		17	7	4	6	34
XIV.	Congenital Malformations	...	...	...		27	22	21	29	99
XV.	Diseases of Early Infancy	...	...	...		135	134	88	104	461
XVI.	Old Age	...	...	...	...	119	78	54	95	346
XVII.	Deaths from Violence	...	...	...	...	89	89	99	89	366
XVIII.	Ill-defined Diseases	...	...	...	...	4	4	1	3	12
Ages at Death	{	Under 1 year	...	...	...	423	329	263	356	1,371
		1—	...	...	...	161	90	78	250	579
		5—	...	...	...	55	32	49	62	198
		10—	...	...	...	28	34	25	26	113
		15—	...	...	...	56	41	36	34	167
		20—	...	...	...	72	64	53	67	256
		25—	...	...	...	400	271	257	249	1,177
		45—	...	...	...	1,022	668	555	774	3,019
		65—	...	...	...	1,588	1,030	809	1,145	4,572

The following tables give Comparative Statements of Vital Statistics during the years 1933, 1934, 1935, 1936 and 1937.

BIRTHS.											
		BIRTHS.					BIRTH RATES per 1,000 population.				
		1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
1st quarter	...	4,631	4,831	4,490	4,546	4,610	21·4	22·3	20·7	21·0	21·3
2nd	„	4,512	4,760	4,651	4,694	4,830	20·8	22·0	21·5	21·6	22·2
3rd	„	4,361	4,586	4,567	4,524	4,517	20·1	21·2	21·1	20·9	20·8
4th	„	3,988	4,118	4,303	4,644	4,100	18·4	19·0	19·8	21·4	18·9
		17,492	18,295	18,011	18,408	18,057					
Corrected for transfers per Registrar Gen.		16,929	17,593	17,347	17,403	16,728	19·5	20·3	20·0	20·1	19·3

DEATHS.											
		DEATHS					DEATH RATES per 1,000 population.				
		1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
1st quarter	...	4,167	3,455	3,189	3,461	3,805	19·2	15·9	14·7	16·0	17·5
2nd	„	2,749	2,944	2,701	2,677	2,559	12·7	13·6	12·5	12·3	11·8
3rd	„	2,402	2,271	2,325	2,160	2,125	11·1	10·5	10·7	10·0	9·8
4th	„	3,126	2,649	3,232	2,885	2,963	14·4	12·2	14·9	13·3	13·7
		12,444	11,319	11,447	11,183	11,452	14·4	13·1	13·2	12·9	13·2

DEATHS OF INFANTS UNDER 1 YEAR OF AGE.											
		DEATHS.					DEATH RATES per 1,000 births registered.				
		1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
1st quarter	...	458	412	309	413	423	99	85	69	91	92
2nd	„	377	362	297	318	329	83	76	64	68	61
3rd	„	402	298	346	263	263	92	65	76	58	58
4th	„	418	346	493	317	356	105	84	116	68	87
		1,655	1,418	1,445	1,311	1,371	98	81	83	75	82

The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1937:—

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
1936 ...	16	2	3	5	5	7	14	19	21	8	100
1937 ...	17	2	2	5	5	7	13	19	21	9	100

Analysis of Decline in Mortality.

The accompanying tables (pages 12-13) show the deaths that have occurred in the city of Liverpool during the past 67 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 diarrhoea 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 11,452 in the year 1937. 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 67 years.

A similar steady decline has been shown by the tubercular diseases, which have fallen to 25.0 per cent. of the earlier figure. These deaths still account for 6.9 per cent. of the total.

In the group of respiratory diseases, although there has been a reduction in the death rate of 63 per cent., during the period under review, namely, between 1871-1880 and 1937, 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 diarrhoea 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 67 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 30 per cent.

If the general rate of mortality experienced in 1871-80 had prevailed during the year 1937, there would have been more than twice as many deaths as those actually recorded, viz., 24,726 instead of 11,452, a saving of 13,274 lives being thereby effected.

Deaths from certain Groups of Diseases in each decade from 1871 to 1930,
and during 1931, 1932, 1933, 1934, 1935, 1936 and 1937.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	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
1936	614	839	1,489	547	3,489	1,301	11,183
1937	578	796	1,819	589	3,782	1,292	11,452

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

Years.	(a)	(b)	(c)	(d)	Total Deaths from Classes (a),(b), (c) & (d)	(e)	Total Deaths from all causes.
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
1936	5.5	7.5	13.3	4.9	31.2	11.6	100.0
1937	5.0	6.9	15.9	5.1	33.0	11.3	100.0

Death Rates per 1,000 Population.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	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
1936	0.7	1.0	1.7	0.6	4.0	1.5	12.9
1937	0.7	0.9	2.1	0.7	4.4	1.5	13.2

Death-Rates expressed as a percentage of the rates experienced in 1871-1880 (Index Numbers).

Years.	(a)	(b)	(c)	(d)	Total Deaths from Classes (a), (b), (c) & (d)	(e)	Total Deaths from all causes.
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
1936	13.5	27.8	29.8	21.4	23.1	375.0	45.3
1937	13.5	25.0	36.8	25.0	25.4	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 1937 in Liverpool.

1937.	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 ...	*82	17.5	5.7	2.3	1.8	3.5	4.5	7.9	17.2	43.6	107.0	246.1	13.2
Total Number of Deaths at each Age-Period ...	1371	296	283	198	280	516	549	837	1497	2251	2368	1006	11452
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 7,661, and included 1,298 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	1,989	480
Belmont Road Institution	631	44
Smithdown Road Hospital	1,206	25
Mill Road Infirmary	803	8
Alder Hey Hospital	740	73
Kirkdale Homes	291	30
Olive Mount Children's Hospital	102	8
Royal Infirmary	293	109
David Lewis Northern Hospital	195	86
Royal Southern Hospital	192	64
The Liverpool Stanley Hospital	91	33
Liverpool Maternity Hospital	66	28
Royal Liverpool Children's Hospital	240	65
Consumption Hospital	31	29
Liverpool Hahnemann Hospital	21	2
The Women's Hospital	21	14
Carried forward	6,912	1,098

					Total Deaths.	Deaths of non-residents.
Brought forward ...					6,912	1,098
Eye and Ear Infirmary	...	...	...	...	16	7
Garston Hospital	...	...	...	...	33	3
City Hospital North	...	...	...	...	46	1
do. South	...	...	...	...	17	1
do. East	...	...	...	...	44	1
do. Fazakerley	...	...	...	...	93	5
do. do. Annexe	...	...	...	...	17	2
do. Sparrow Hall	...	...	...	...	2	—
Sanatorium, Fazakerley	...	...	...	...	80	3
do. Broadgreen	...	...	...	...	111	3
St. Joseph's Home	...	...	...	...	28	—
Cancer and Skin Hospital	...	...	...	...	16	11
Home for Incurables	...	...	...	...	15	4
Turner Memorial Home	...	...	...	...	9	4
St. Augustine's Home	...	...	...	...	50	3
Other Institutions, Nursing Homes, etc.	...	...	...	...	172	152
					<u>7,661</u>	<u>1,298</u>

Of the above deaths, 5,762 took place in the transferred institutions, 1,215 in voluntary hospitals, 410 in city hospitals, and 274 in other institutions.

The following table shows the total number of deaths in public institutions during the years 1931 to 1937:—

1931.	1932.	1933.	1934.	1935.	1936.	1937.
7,053	6,858	7,461	6,987	7,458	7,401	7,661

Infant Mortality.

The following table shows the deaths and death-rates of infants under one year of age for the year 1937:—

	Infant Deaths.	Infant Death Rates.
All Infants	1,371	82 per 1,000 live births.
Legitimate Infants ...	1,291	81 „ legitimate live births.
Illegitimate Infants ...	80	105 „ illegitimate live births.

The infant mortality rate for 1937 was 82 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-eight years. At the beginning of this period the figure was nearly 200 deaths per 1,000 births.

The infantile mortality rate in 1937 was less than one-half the rate in the first years of the present century.

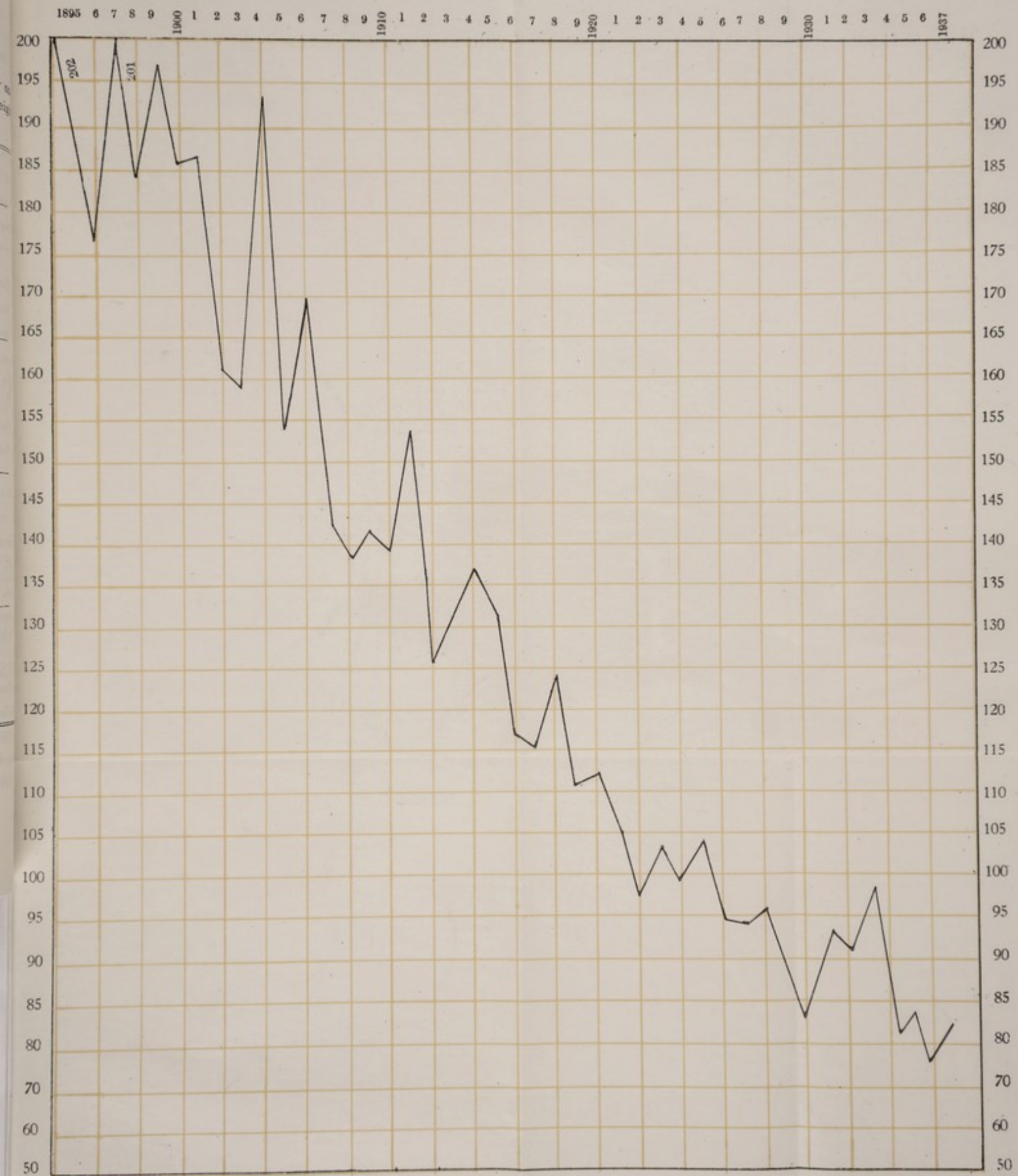
It may be noted that the numbers of deaths from all the usual forms of infantile diseases such as broncho-pneumonia, convulsions, prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic diarrhoea. The number of deaths under one year of age from this cause in the year 1937 was 151 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 Maternity and Child 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-eight years :—

Year.	No. of deaths below one year of age.	Rate per 1,000 births.	Average for 10 years
1900	4,247	186	164
1901	4,138	187	
1902	3,936	162	
1903	3,815	159	
1904	4,780	196	
1905	3,752	154	
1906	4,137	171	
1907	3,383	143	
1908	3,355	140	
1909	3,377	143	
1910	3,216	139	129
1911	3,466	154	
1912	2,778	125	
1913	2,987	132	
1914	3,219	139	
1915	2,866	133	
1916	2,421	117	
1917	2,071	115	
1918	2,137	124	
1919	2,055	110	
1920	2,826	113	100
1921	2,339	107	
1922	2,052	96	
1923	2,058	99	
1924	2,113	103	
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	
1936	1,311	75	
1937	1,371	82	

CITY OF LIVERPOOL.

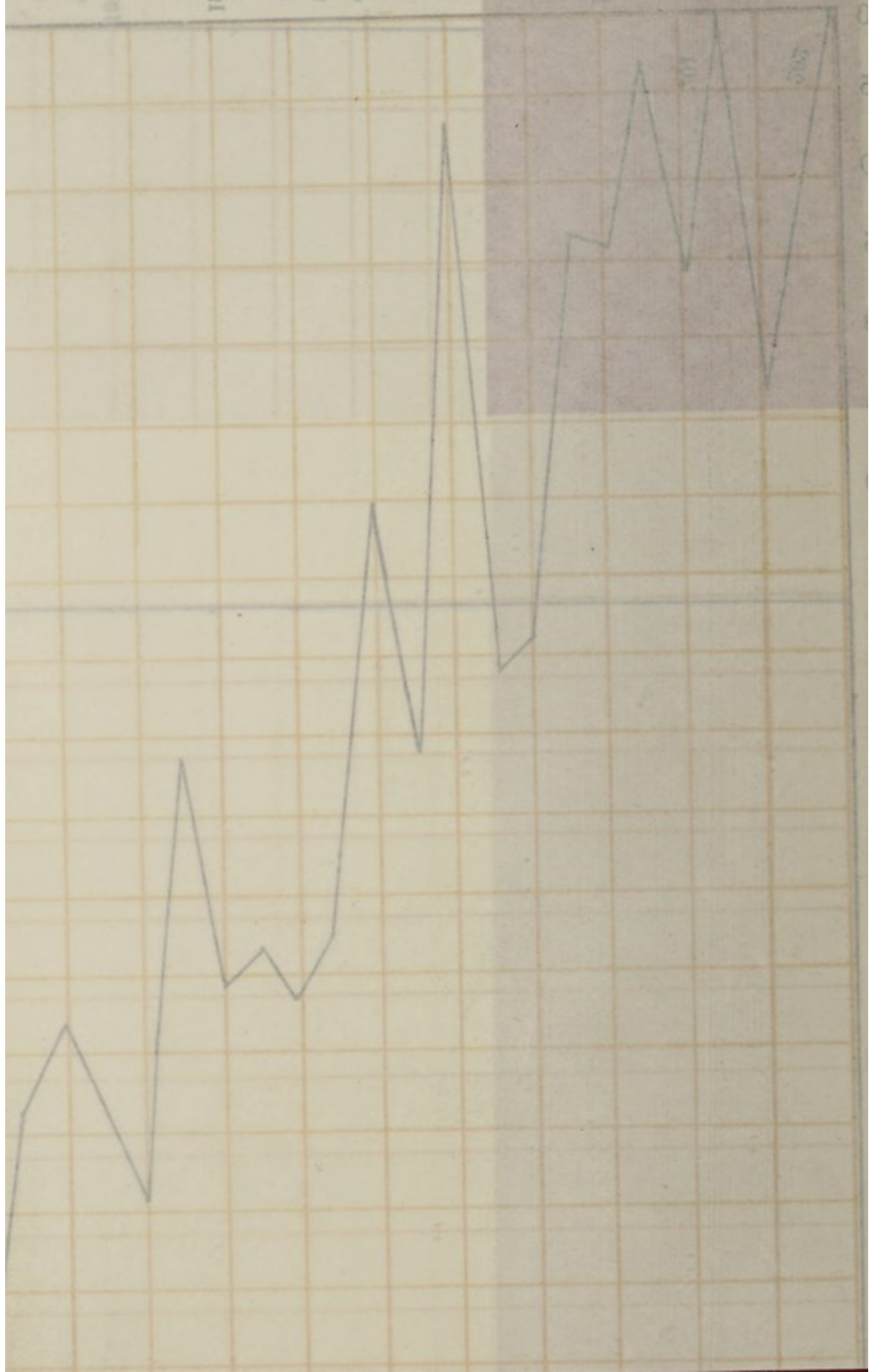
INFANT MORTALITY PER 1,000 BIRTHS, 1895-1937.



CITY OF

INFANT MORTALITY, 1895-1937.

1902 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1901 1 2 3 4 5 6 7 8 9 10 11 12 1900 1 2 3 4 5 6 7 8 9 10 11 12 1899 1 2 3 4 5 6 7 8 9 10 11 12 1898 1 2 3 4 5 6 7 8 9 10 11 12 1897 1 2 3 4 5 6 7 8 9 10 11 12 1896 1 2 3 4 5 6 7 8 9 10 11 12 1895 1 2 3 4 5 6 7 8 9 10 11 12



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 1937 is shown in the following table. The detailed causes of death are set out in Appendix D.

DISTRICTS.	Number of births. 1937.	Number of deaths under 1 year of age. 1937.	Deaths under 1 year per 1000 births. 1937.
Exchange	1,315	136	103
Abercromby	367	56	153
St. Peter's	1,297	150	116
Toxteth Park	1,967	128	65
Edge Hill & Sefton Park	1,918	167	87
Wavertree	1,779	111	62
Fazakerley	1,361	104	76
Walton & Walton Park	1,327	87	65
Kirkdale	1,284	99	77
Netherfield	1,702	156	92
Everton	549	71	129
West Derby	1,862	106	57
City	16,728	1,371	82

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.

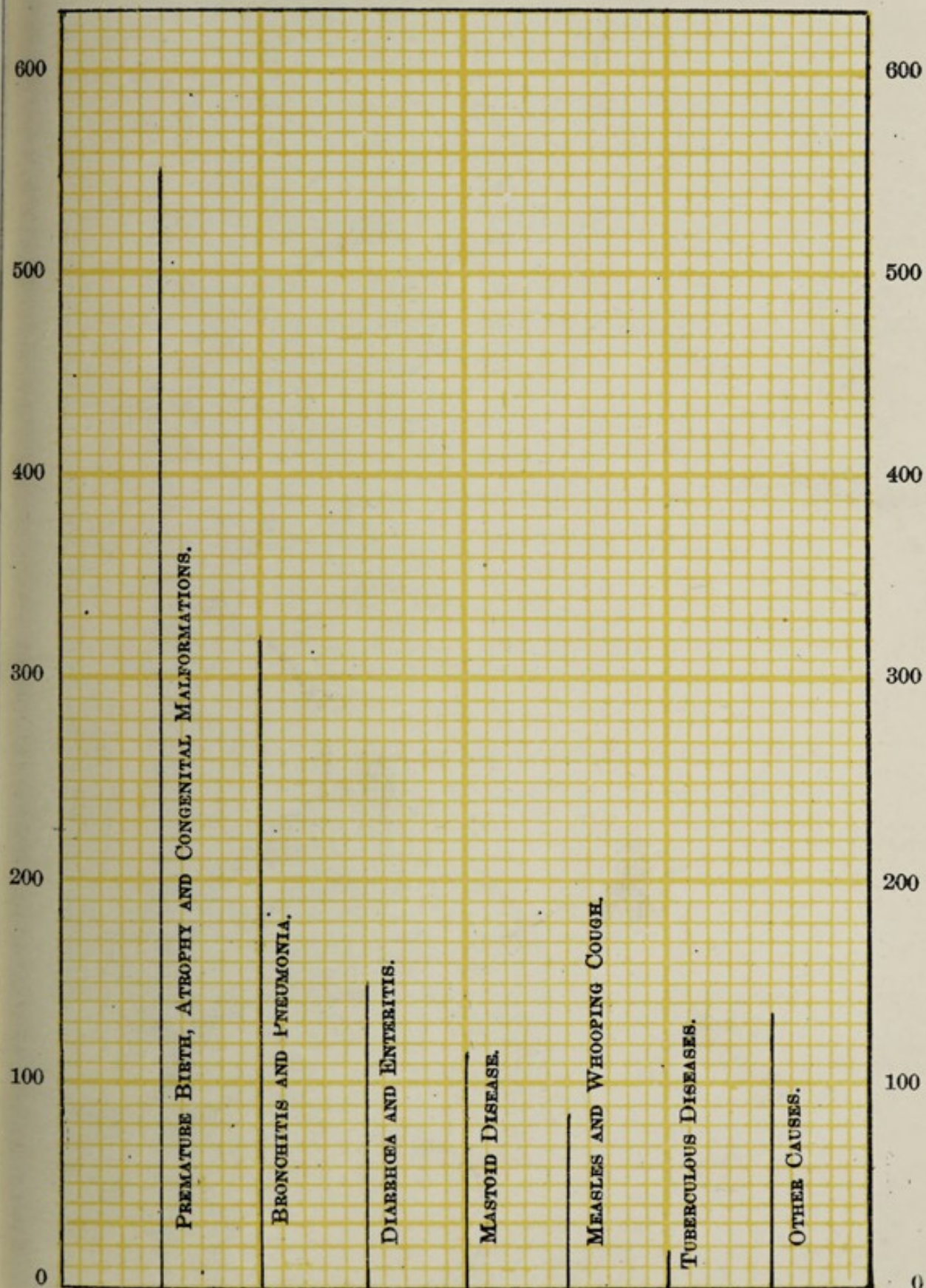
Examination of this table shows that whilst the annual number of births has shown some decline, fluctuating from 22,340 to 16,728 per annum, the number of infantile deaths has fallen from 4,232 to 1,371, and the infantile death rate has accordingly fallen from 189 to 82 per 1,000 births; in other words, this rate has fallen to 43·5 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 16·1, Digestive Diseases to 17·7 and Nervous Diseases to 34·4. 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—588 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 1937.



CITY OF LIVERPOOL.

CHART SHOWING THE PRINCIPAL CAUSES OF DEATHS OF INFANTS UNDER ONE YEAR OF AGE DURING 1937.



**Analysis of causes of Infant Mortality in successive quinquennia 1896-1935,
and the years 1936 and 1937. (A.)—Recorded Deaths.**

Years.	1 Total Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tubercu- losis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respira- tory Diseases	7 Digestive Diseases (including Diarrhoea.)	8 Malforma- tions, Premature Birth, Maras- mus, &c.	9 External Causes.
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
1931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	67
1936	17,403	1,311	149	14	83	270	142	622	13
1937	16,728	1,371	156	17	128	325	160	551	12

(B.)—Death Rates per 1,000 Births.

1896/1900	*33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·2
1926/1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
1931/1935	20·5	89	10·1	0·9	4·2	23·1	13·4	35·3	0·8
1936	20·1	75	8·6	0·8	4·8	15·5	8·2	35·7	0·7
1937	19·3	82	9·3	1·0	7·6	19·4	10·1	32·3	0·7

* In column 1 the rates indicate the number of births per 1,000 of the population.

(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 Tubercu- losis).	4 Tubercular Diseases.	5 Nervous Diseases.	6 Respira- tory Diseases.	7 Digestive Diseases (including Diarrhoea.)	8 Malforma- tions, Premature Birth, Maras- mus, &c.	9 External Causes.
1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1901/1905	100·0	91·0	102·3	89·3	95·0	91·5	76·5	94·0	65·7
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63·0
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52·1
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	25·5
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	16·4
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	11·0
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	10·4
1936	60·2	39·6	67·7	12·9	21·7	48·4	14·4	70·0	9·6
1937	57·8	43·5	73·2	16·1	34·4	60·6	17·7	63·3	9·6

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
1936	32	56	88	—	—	—	10·1	0·57
1937	37	66	103	—	—	—	11·9	0·56

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 1937 only 36 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., in 1935 50 per cent., in 1936 49 per cent., and in 1937 55 per cent.

CANCER.

Treatment of Cancer.

Radium is available for the treatment of cancer at the Liverpool Royal Infirmary and the Liverpool Radium Institute, otherwise known as the Cancer and Skin Hospital. Facilities for deep X-ray therapy are also available at the Radium Institute. An agreement has been made for the treatment by radium or deep X-ray therapy at the Radium Institute of patients transferred from the Municipal Hospitals.

Treatment of cancer by lead therapy has been given at the Municipal Hospitals under the guidance of Dr. Datnow, of the Liverpool Medical Research Organisation which is engaged in research into the most suitable organic lead compounds for the purpose.

Deaths from Cancer.

During 1937 there were 1,292 deaths attributed to cancer, equivalent to a rate of 1.5 per thousand, whereas in 1871-1880 the rate of mortality was 0.4 per thousand. Comparing the anatomical distribution in 1931-1935 and 1937 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, lungs 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 AT VARIOUS AGE-PERIODS, 1937.

Organs Affected.	Males.	Females.	Number of Deaths.									All Ages
			At Ages—Years.									
			Under 10	10-	25-	40-	50-	60-	70-	75-	80-	
Buccal Cavity ...	65	9	—	1	1	4	8	40	12	7	1	74
Stomach ...	200	147	—	—	13	29	76	131	49	23	26	347
Liver ...	23	35	—	—	4	3	4	23	11	7	6	58
Intestines ...	145	138	—	1	9	26	47	105	53	30	12	283
Lungs ...	96	24	—	1	4	23	44	36	5	7	—	120
Female Genital Organs ...	—	98	—	1	4	21	30	24	8	6	4	98
Breast ...	—	107	—	—	5	19	29	27	13	8	6	107
Skin ...	7	10	—	1	—	3	2	4	3	3	1	17
Other Organs ...	118	70	5	4	16	15	39	66	24	13	6	188
	654	638	5	9	56	143	279	456	178	104	62	1,292

Deaths from Cancer, showing the parts of the body affected, during the years 1932 to 1937.

Parts of the Body affected.	1932.			1933.			1934.			1935.			1936.			Average 1932-36.			1937.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Buccal Cavity...	86	15	101	80	12	92	90	10	100	83	7	90	87	10	97	85	11	96	65	9	74
Stomach, liver, etc.	185	132	317	221	181	402	243	169	412	224	183	407	213	160	373	217	165	382	223	182	405
Intestines, etc.	115	115	230	114	122	236	119	143	262	149	146	295	149	119	268	129	109	238	145	138	283
Breast	—	106	106	2	116	118	—	101	101	3	90	93	—	102	102	1	123	124	—	107	107
Female Genital Organs	—	91	91	—	87	87	—	108	108	—	114	114	—	109	109	—	102	102	—	98	98
Skin	9	8	17	13	8	21	29	7	36	12	8	20	12	12	24	15	9	24	7	10	17
*Lungs.....	—	—	—	67	17	84	67	19	86	86	22	108	96	27	123	197	95	292	96	24	120
Other Organs....	199	106	305	126	66	192	111	60	171	112	72	184	121	84	205	—	—	—	118	70	188
Totals.....	594	573	1167	623	609	1232	659	617	1276	669	642	1311	678	623	1301	644	614	1258	654	638	1292

* 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 1937 and 9 previous years).

	1928.		1929.		1930.		1931.		1932.		1933.		1934.		1935.		1936.		1937.		Av. of 10 yrs. 1928-1937.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Rheumatic Fever	30	55	30	49	42	51	26	36	21	27	33	36	33	38	22	31	27	30	19	31	26	35
Pericarditis	6	3	10	4	6	9	9	4	8	2	6	5	12	6	5	6	9	7	6	6	7	5
Acute Endocarditis	24	31	34	53	18	33	15	27	15	21	15	13	9	9	9	3	9	6	12	14	15	20
TOTALS	60	89	74	106	66	93	50	67	44	50	54	54	54	53	36	40	45	43	37	51	48	60
	149		180		159		117		94		108		107		76		88		88		108	

Monthly Distribution of Rheumatic Fever Deaths.		1937.	
January ...	...	M.	F.
February ...	...	1	3
March ...	...	1	4
April ...	...	1	1
May ...	...	1	3
June ...	...	1	3
July ...	...	1	2
August ...	...	3	3
September ...	...	6	1
October ...	...	1	3
November ...	...	3	2
December ...	...	3	3
Inward Transfers	...	3	3
		19	31

Deaths from Excessive Drinking, etc.

It is still gratifying to note the reduction in the number of deaths due to or accelerated by excessive drinking, there being but one death from this cause during the year.

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

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
1936	3	3	6	7
1937	1	—	1	7

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 ten 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
1936	5	36
1937	5	33

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.

1937	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	29·698	42·0	1·862	18	84·5
February	29·517	42·0	4·457	23	83·4
March	29·656	38·6	1·311	14	82·8
April	29·830	48·0	2·819	17	79·4
May	30·002	53·1	3·437	10	77·4
June	30·047	56·1	1·814	17	78·4
July	29·964	59·8	1·555	15	79·3
August	30·067	62·0	1·626	12	76·2
September	29·897	56·4	2·094	14	75·9
October	29·977	51·1	2·303	14	82·5
November	30·047	43·9	1·484	10	81·0
December	29·880	38·9	2·894	20	85·0

**Difference from the Average Quantities observed during
the last 71 years.**

1937.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees F.	Degrees F.	Inches.	Inches.
January	...	0.232	2.1	...	...	0.348
February	...	0.406	1.7	...	2.700	...
March.	...	0.235	...	3.5	...	0.449
April.....	...	0.056	1.5	...	1.149	...
May	0.035	...	1.0	...	1.429	...
June	0.056	...	...	1.2	...	0.265
July.....	0.018	...	...	0.6	...	0.132
August	0.145	...	2.2	...	...	1.466
September	...	0.079	0.2	...	...	0.674
October	0.096	...	1.4	...	...	1.032
November.....	0.163	...	0.0	...	...	1.094
December	0.034	...	...	1.8	0.183	...
Year's Totals ...	...	0.039	0.2	...	...	0.999

Monthly Analysis of Wind Observations during 1937:

Based on daily observations at four fixed hours.

1937.	Force of Wind (Beaufort Scale.*)				Direction.							
	8 or over.	4-7	1-3	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	...	96	25	3	1	1	12	55	8	12	21	11
February	...	88	21	3	6	...	5	20	10	9	16	43
March	...	72	45	7	23	11	15	33	7	3	6	19
April	...	61	50	9	5	4	17	18	7	6	24	30
May	...	45	62	17	10	3	13	21	8	7	21	24
June	...	53	50	17	7	1	1	2	7	12	31	42
July	...	45	66	13	4	...	1	13	10	13	27	43
August	...	26	59	39	10	1	6	10	7	3	14	34
September	...	46	61	13	12	3	3	8	10	24	25	22
October	...	43	68	13	11	6	23	22	13	6	22	8
November	...	38	71	11	15	8	26	27	15	3	9	6
December	...	35	77	12	28	17	17	13	14	6	5	12
Year's Total	...	648	655	157	132	55	139	242	116	104	221	294

* Force 8 is a wind velocity of 38 m.p.h. or over, Forces 4-7 include winds of a velocity of 13-37 m.p.h., Forces 1-3 include winds of 3-12 m.p.h. and "Calm" denotes air movement of less than 3 m.p.h.

1937 Week Ended.	Baro- meter Mean.	Temperature.			Rainfall.		Wind Mean direc- tion.	Median Hum- idity %.	Sun- shine hours.
		Maxi- mum.	Mini- mum.	Mean.	Amt. inches	Dur- ation hours.			
January 2	30.03	53.0	32.0	43.76	0.37	7.8	Var.	84.6	5.9
„ 9	30.49	52.0	35.1	44.23	0.80	16.5	W.	84.3	4.7
„ 16	30.03	51.8	27.5	40.7	0.13	11.8	S.E.	85.7	18.2
„ 23	29.4	54.4	31.9	42.3	0.34	7.3	S.E.	84.5	8.8
„ 30	29.32	51.0	26.0	35.0	0.44	12.4	E.	83.0	7.2
February 6	29.39	53.0	35.0	43.44	0.50	10.0	W.	85.6	15.6
„ 13	29.57	50.2	33.4	39.39	1.56	44.9	Var.	85.0	10.5
„ 20	29.75	52.0	36.0	43.6	0.76	23.8	N.W.	83.5	13.4
„ 27	29.38	45.8	30.2	39.26	1.74	35.0	N.W.	83.2	17.1
March 6	29.55	45.8	32.1	37.6	0.35	20.5	E.	81.4	13.7
„ 13	29.33	44.9	28.9	35.41	0.26	4.6	E.	92.7	4.3
„ 20	29.52	52.4	29.6	41.9	0.48	12.0	S.E.	87.5	23.3
„ 27	29.83	46.2	28.8	37.87	0.57	5.8	N.W.	76.3	42.4
April 3	29.94	57.2	33.5	42.4	0.33	5.3	S.E.	70.8	35.7
„ 10	29.7	59.1	41.2	51.03	0.38	19.6	S.	84.1	11.5
„ 17	29.61	56.5	38.9	46.54	1.05	34.6	N.W.	79.6	17.4
„ 24	29.9	56.6	38.3	47.8	0.80	26.0	N.W.	83.7	23.9
May 1	30.28	59.9	39.9	48.76	0.26	8.0	N.W.	73.8	57.9
„ 8	30.1	65.0	41.5	51.0	0.37	6.2	N.W.	79.5	40.5
„ 15	29.87	56.0	42.1	49.2	0.60	11.8	N.W.	76.7	37.2
„ 22	29.86	62.4	42.0	52.93	1.33	11.6	Var.	78.8	46.1
„ 29	30.1	73.3	51.0	59.53	1.09	9.5	Var.	74.9	35.3
June 5	30.05	66.3	48.0	55.57	0.23	8.4	N.W.	77.4	43.9
„ 12	29.97	70.3	46.0	58.7	0.72	11.4	Var.	81.0	23.2
„ 19	30.19	63.3	48.0	54.87	0.50	8.2	N.W.	77.8	46.0
„ 26	30.07	62.0	49.2	55.5	0.06	0.3	N.W.	75.8	52.3

1937 Week Ended.	Baro- meter Mean.	Temperature.			Rainfall.		Wind Mean direc- tion.	Median Hum- idity %.	Sun- shine hours.
		Maxi- mum.	Mini- mum.	Mean.	Amt. inches	Dur- ation hours.			
July 3	29.6	73.8	49.0	60.0	0.43	5.3	N.W.	78.3	24.5
" 10	29.95	66.7	49.0	56.01	0.30	6.6	N.W.	80.4	20.1
" 17	29.97	76.7	53.1	62.7	0.49	7.0	Var.	77.7	43.0
" 24	29.93	73.3	52.0	59.2	0.59	10.1	N.W.	79.9	25.6
" 31	30.02	72.2	52.0	59.4	—	—	N.W.	80.4	46.1
August 7	30.1	78.0	53.0	65.49	0.004	0.1	N.W.	70.4	59.8
" 14	29.97	72.5	53.9	63.3	0.57	9.2	N.W.	77.6	28.9
" 21	29.96	69.2	51.7	58.86	0.30	4.5	N.W.	75.9	39.4
" 28	30.22	70.5	51.5	60.47	0.47	9.4	Var.	76.6	50.7
September 4	30.03	70.0	52.0	60.3	0.53	3.9	Var.	78.2	34.1
" 11	30.11	70.3	46.0	57.43	0.50	0.3	Var.	66.5	44.7
" 18	30.92	58.4	43.1	52.63	1.45	21.9	Var.	81.6	20.5
" 25	29.96	63.5	47.8	55.06	0.27	6.7	N.W.	78.1	30.3
October 2	29.99	71.0	49.3	57.64	0.20	4.6	Var.	82.9	23.2
" 9	30.3	58.2	43.6	52.7	—	—	E.	76.8	18.2
" 16	30.36	57.0	46.0	52.2	0.008	0.2	N.W.	79.6	20.0
" 23	29.8	57.8	39.6	47.3	0.75	15.5	S.E.	88.74	15.2
" 30	29.54	59.0	40.9	48.3	1.38	36.9	S.E.	82.16	16.2
November 6	29.98	53.4	33.0	47.8	0.06	2.4	S.E.	89.9	9.8
" 13	30.21	51.0	32.0	42.84	0.12	2.0	N.	73.6	34.9
" 20	29.78	48.8	31.0	39.16	0.55	16.3	E.	79.1	13.7
" 27	30.10	48.0	30.6	40.46	0.34	19.1	Var.	82.2	7.3
December 4	29.84	54.3	34.8	43.0	1.08	23.0	Var.	81.5	4.0
" 11	29.5	39.6	29.0	34.3	1.35	28.8	Var.	85.2	4.1
" 18	29.62	41.5	32.0	36.73	0.80	25.5	N.W.	83.3	19.8
" 25	30.08	55.0	27.0	41.46	0.14	11.0	E.S.E.	87.8	6.1

CITY OF LIVERPOOL.

Diagram showing Birth Rate (B.R.) per 1,000 of estimated population.
 Death Rate (D.R.) per 1,000 of estimated population.
 Infant Mortality Rate (I.M.R.), that is, the number of deaths of infants under one year of age per 1,000 births.
 Estimated population per acre (Pop.) excluding docks and quays and including parks and open spaces.

In each of the Sub-Registration Districts of the City, during the year 1937.

FAZAKERLEY.
 B.R. 19.0
 D.R. 10.7
 I.M.R. 76
 Pop. 14

WEST DERBY.
 B.R. 17.0
 D.R. 10.7
 I.M.R. 57
 Pop. 37

WAVERTREE.
 B.R. 16.9
 D.R. 11.4
 I.M.R. 62
 Pop. 10

WALTON & WALTON PARK.
 B.R. 14.4
 D.R. 12.1
 I.M.R. 65
 Pop. 48

EDGE HILL & SEPTON PARK.
 B.R. 16.9
 D.R. 13.7
 I.M.R. 87
 Pop. 77

TONTETH PARK.
 B.R. 21.7
 D.R. 13.9
 I.M.R. 65
 Pop. 55

NETHERFIELD
 B.R. 23.6
 D.R. 14.1
 I.M.R. 92
 Pop. 149

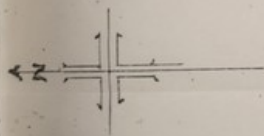
EVERTON
 B.R. 18.7
 D.R. 17.1
 I.M.R. 129
 Pop. 144

ABERCROMBY.
 B.R. 15.9
 D.R. 16.0
 I.M.R. 153
 Pop. 87

KIRKDALE.
 B.R. 21.4
 D.R. 13.4
 I.M.R. 77
 Pop. 65

EXCHANGE.
 B.R. 27.2
 D.R. 16.4
 I.M.R. 103
 Pop. 57

ST. PETER'S
 B.R. 25.1
 D.R. 17.6
 I.M.R. 116
 Pop. 52



POPULATION	...	...	whole city	867,110
BIRTH RATE	...	...	do.	19.3
DEATH RATE	...	...	do.	13.2
INFANT MORTALITY RATE	...	...	do.	82
POPULATION PER ACRE	...	...	do.	32

Diagram showing Birth Rate (B.R.) per 1,000
 Death Rate (D.R.)
 Infant Mortality Rate (I.M.R.)
 number of deaths of infants
 year of age per 1,000 births
 Estimated population per
 excluding docks and quays
 parks and open spaces.

W	B.R.	D.R.	I.M.R.	Pop.
19.0	10.7	76	14	

West District	B.R.	D.R.	I.M.R.	Pop.
17.0	10.7	76	37	

W & L	B.R.	D.R.	I.M.R.	Pop.
17.0	10.7	76	37	

W & W	B.R.	D.R.	I.M.R.	Pop.
14.4	12.1	63	48	

W & W	B.R.	D.R.	I.M.R.	Pop.
14.4	12.1	63	48	

KIRKDALE	B.R.	D.R.	I.M.R.	Pop.
21.4	18.4	77	66	

Exchange	B.R.	D.R.	I.M.R.	Pop.
27.3	18.4	77	66	

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1937:—

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 was adopted in regard to these diseases and Chickenpox until 9th May, 1937, when Measles and Chickenpox were removed from the list of voluntarily notifiable diseases.

General Statistical Tables.

In Table I are given the numbers of notifications of infectious disease received from medical practitioners during each month of 1937.

TABLE I.

MONTHLY NUMBERS OF NOTIFICATIONS OF INFECTIOUS DISEASE DURING 1937.

January	...	...	...	...	...	1,143
February	...	...	...	...	...	1,130
March	...	...	...	...	...	914
April	...	...	...	...	...	1,003
May	...	...	...	...	...	761
June	...	...	...	...	...	750
July	...	...	...	...	...	531
August	...	...	...	...	...	717
September	...	...	...	...	...	937
October	...	...	...	...	...	1,280
November	...	...	...	...	...	1,585
December	...	...	...	...	...	1,518
						12,269

In Table II are given the numbers of cases of infectious disease coming to notice during 1937, 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 1937,
AND NUMBERS ADMITTED TO HOSPITAL.

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Cases admitted to hospital	Per centage admitted to hospital
Smallpox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	89	20	7	7	2	3	1	2	9	4	3	4	151	141	93·4
Scarlet Fever ...	116	105	134	131	182	135	168	176	350	626	483	582	3188	1284	40·3
Measles and German Measles	88	105	100	270	196	96	61	48	142	508	916	1578	4108	631	15·4
Diphtheria ...	321	227	157	142	160	213	133	147	137	302	280	246	2465	2424	98·3
Puerperal Fever ...	2	1	3	4	2	4	2	2	2	4	2	5	33	27	81·8
Puerperal Pyrexia	33	35	30	25	45	29	29	49	24	41	39	33	412	387	93·9
Erysipelas ...	39	45	49	64	56	41	32	36	54	81	92	88	677	311	45·9
Cerebro-spinal Fever ...	9	11	11	8	12	5	7	5	7	2	10	7	94	94	100·0
Poliomyelitis and Polioencephalitis	—	1	1	—	—	—	—	1	2	—	1	—	6	6	100·0
Ophthalmia Neonatorum ...	60	56	70	63	68	65	82	64	52	86	52	67	785	233	29·7
Pneumonia & Influenzal Pneumonia	316	456	132	129	132	81	76	58	58	133	133	237	1941	726	37·4
Malaria ...	3	14	—	1	13	25	12	25	8	19	9	9	138	102	74·0
Dysentery ...	1	2	—	1	1	5	6	18	15	10	13	5	77	75	97·4
Encephalitis Lethargica ...	2	2	1	1	3	1	4	—	—	1	—	1	16	15	93·7
Whooping Cough ...	73	74	89	88	105	182	54	128	84	138	112	102	1229	362	29·4
Anthrax ...	—	—	—	—	—	2	—	1	—	1	—	—	4	4	100·0
Chickenpox ...	241	135	212	183	163	255	69	34	83	143	113	128	1759	150	8·5
TOTALS ...	1393	1289	996	1117	1140	1142	736	794	1027	2099	2258	3092	17083	6972	40·8

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 1937, and also corresponding cases during the previous five years.

TABLE III.

NUMBERS OF CASES OF INFECTIOUS DISEASES DURING 1937 AND THE FIVE PREVIOUS YEARS.

DISEASE.	1932	1933	1934	1935	1936	1937
Smallpox	1	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	54	70	23	30	21	151
Scarlet Fever	1,925	5,286	3,574	1,900	1,600	3,188
Measles and German Measles ...	8,816	10,004	11,055	8,907	7,240	4,108
Diphtheria	3,312	2,917	2,913	2,695	2,179	2,465
Puerperal Fever	54	44	43	48	42	33
Erysipelas	592	920	819	831	713	677
Cerebro-spinal Fever	76	64	69	69	94	94
Poliomyelitis and Polioencephalitis	25	10	9	3	15	6
Ophthalmia Neonatorum	668	594	695	670	691	785
Anthrax	2	—	2	2	1	4
Encephalitis Lethargica	21	30	30	25	23	16
Whooping Cough	1,596	987	2,437	1,044	931	1,229
Malaria	24	26	18	15	41	138
Dysentery	7	3	7	3	7	77
Chickenpox	2,993	2,888	2,715	2,764	1,811	1,759

INFECTIOUS SICKNESS.

In Table IV are given the numbers of deaths from infectious diseases during 1937, and also corresponding deaths during the previous five years.

TABLE IV.

NUMBERS OF DEATHS FROM INFECTIOUS DISEASES DURING 1937 AND THE FIVE PREVIOUS YEARS.

DISEASE.	1932	1933	1934	1935	1936	1937
Smallpox	—	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	6	2	—	4	1	16
Scarlet Fever	11	27	19	6	2	8
Measles and German Measles ...	312	299	229	154	176	120
Diphtheria	184	177	177	149	139	148
Influenza	128	342	116	146	66	228
Puerperal Fever	16	29	25	29	20	10
Erysipelas	42	73	54	55	36	17
Cerebro-spinal Fever	47	45	37	33	55	47
Poliomyelitis and Polioencephalitis	11	3	3	—	1	—
Anthrax	—	—	—	—	—	—
Encephalitis Lethargica ...	15	21	24	22	14	16
Whooping Cough	148	93	172	62	105	122
Malaria	1	2	2	4	3	6
Dysentery	5	2	2	4	3	7
Chickenpox	—	1	—	1	—	2

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 1937.

	Smallpox.	Enteric Fever.	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis and Polioencephalitis.	Encephalitis Lethargica.	Malaria	Whooping Cough.
Cases	—	151	3,188	4,108	2,465	33	412	94	6	16	138	1,229
Case-rate per 1,000 inhabitants ...	—	0·17	3·68	4·74	2·84	1·90*	0·78	0·11	0·01	0·02	0·16	1·42
Deaths	—	16	8	120	148	10	17	47	—	16	6	122
Death-rate per 100,000 inhabitants ...	—	1·8	0·9	13·8	17·1	57·6†	2·0	5·4	—	1·8	0·7	14·1

* Case-rate per 1,000 live and still 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
1936	... ..	12	...	0
1937	... ..	4	...	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 1936 shows that 66·5 per cent. of the children born in Liverpool were successfully vaccinated.

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 marked and remarkable spread of a very mild type of smallpox during the year.

In Table VI are given the numbers of primary vaccinations in Liverpool during the year 1936 and five previous years.

TABLE VI.

PRIMARY VACCINATIONS.

	1931	1932	1933	1934	1935	1936
1.—Number of children born ...	18,917	18,543	17,448	18,230	17,994	18,394
2.—Number of primary vaccinations ...	13,678	13,122	11,921	12,466	12,128	12,236
3.—Number of exemption certificates granted ...	1,993	2,134	2,295	2,536	2,530	2,613
4.—Number of certificates of insusceptibility sent ...	149	120	96	58	57	61

In Table VII are given the numbers of primary vaccinations during 1936, arranged in accordance with their recurrence in four districts.

TABLE VII.

PRIMARY VACCINATIONS IN DISTRICTS DURING 1936.

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 ...	1,148	634	236	3	55.2
	SEFTON PARK ...	1,701	1,011	224	4	59.4
	ST. PETER's (part of) ...	375	238	25	1	63.5
	EDGE HILL (part of) ...	255	142	58	3	55.7
	WAVERTREE ...	842	490	200	11	58.2
2	ABERCROMBY ...	2,827	1,808	521	10	63.9
	ST. PETER's (part of) ...	551	381	31	1	69.2
	EXCHANGE ...	990	756	37	2	75.4
	EVERTON ...	1,973	1,353	166	3	68.6
	NETHERFIELD ...	943	698	115	1	74.0
3	WALTON PARK ...	2,565	1,889	209	9	73.6
	WALTON ...	691	466	149	3	67.4
	EDGE HILL (part of) ...	811	468	137	4	57.7
	FAZAKERLEY ...	971	655	210	6	67.5
	WEST DERBY ...	953	614	225	—	64.4
4	KIRKDALE ...	798	633	70	—	79.3
Summary	No. 1 District ...	4,321	2,515	743	22	58.2
	No. 2 District ...	7,284	4,996	870	17	68.6
	No. 3 District ...	5,991	4,092	930	22	68.3
	No. 4 District ...	798	633	70	—	79.3
	TOTAL ...	18,394	12,236	2,613	61	66.5

Typhus Fever.

No case occurred in Liverpool during 1937, and no indigenous case has occurred in the city during the course of the past nineteen 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.

To emphasise the importance of early diagnosis and serum treatment in all cases of this disease, 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 the City Hospital, Fazakerley. Five cases of anthrax came under treatment at the Fazakerley Hospital during 1937, one patient being a tannery employee from Runcorn and the others four dock workers from Liverpool. Three of the cases were severe, but fortunately all recovered. The use of neokharsivan as an addition to serum therapy undoubtedly has proved of very considerable advantage since it was instituted four years ago.

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 Health 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, 382 samples of treated and untreated wool, hair, etc., were examined and 80 untreated samples showed positive evidence of anthrax infection. Those treated were all found to be free from 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.

Cases of Anthrax treated at Liverpool City Hospital, Fazakerley, during 1937.

ies D. a- ed m 16	Age	Sex	Occupation	Days ill on ad- mission	Site of Infection	Clinical Notes	Serum injected daily. Each dose expressed in ccs	Complica- tions.	Result
5	28	M.	Tannery hand	2	Forehead	Small focus	150 150	Severe serum rash.	Recovery.
6	37	M.	Lorry driver	4	Lobule of left ear.	Considerable swelling of face and neck	250 250 250	None	Recovery.
7	37	M.	Dock labourer	4	Front of left forearm	Marked œdema of arm and hand.	250 250 250 250	Tardy response to serum	Recovery.
8	32	M.	Dock labourer	5	Side of neck, below jaw.	Swelling from eye to clavicle, dysphagia, dysphonia	300 300 300 300	Severe serum rash.	Recovery.
9	37	M.	Dock labourer	4	Right side of neck, below ear.	Extensive swelling over neck and upper chest.	250 250	Severe serum rash made further serum injections undesirable, progress somewhat slow.	Recovery.

All serum was given intravenously, with, at the same time, 0.3 gms. neokharsivan on the first day of treatment, and 0.45 gms. neokharsivan on the third day.

Typhoid and Paratyphoid Fever.

During the year there occurred 13 cases of typhoid fever and 138 cases of paratyphoid fever.

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	7	6	1	1
Paratyphoid—A	—	—	—	—
Paratyphoid—B	69	69	5	9
Paratyphoid—C	—	—	—	—
Unclassified	—	—	—	—

The 13 typhoid cases (of which 7 were indigenous) represent a case-rate of 0.015 per 1,000 of the population. The 138 paratyphoid cases (of which 135 were indigenous) represent a case-rate of 0.159 per 1,000 of the population.

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 ...	—	—	4	1
1 + ...	—	—	2	2
2 + ...	1	1	7	6
5 + ...	1	2	16	10
10 + ...	—	—	9	6
15 + ...	—	—	12	19
20 + ...	2	2	9	12
30 + ...	—	1	4	4
40 + ...	3	—	4	5
50 + ...	—	—	2	4
70 + ...	—	—	—	—
TOTAL ...	7	6	69	69

Epidemic of Paratyphoid B. Fever.

An outbreak of paratyphoid B. fever occurred in Liverpool, Bootle and surrounding districts at the beginning of the year. Eventually there were 132 cases and eleven deaths. Of these cases 107 occurred in Liverpool residents. The source of the infection was traced to the infection of loaves of bread handled by a carrier of *Bact. paratyphosum B.*, who was discovered in a bakery from which was derived the bread consumed by 62 per cent. of the patients.

The following diagram shows the dates of notification, the dates of onset of illness and the calculated date of infection assuming an incubation period of 12 days. It is apparent that the great majority of the cases had been infected before the first notification was received so that infection had reached most of the patients before its existence was suspected.

NOTIFICATION.		ONSET.		INFECTION.	
DATES OF NOTIFICATION OF 123 CASES IN LIVERPOOL & BOOTLE		DATES OF ONSET OF 132 CASES IN LIVERPOOL, BOOTLE & SURROUNDING DISTRICTS		DATES OF INFECTION ASSUMING AN INCUBATION PERIOD OF 12 DAYS	

It is noteworthy that the epidemic was waning for a month before the admission of the carrier to hospital on February 9th. This downward trend of the cases after January 8th may be accounted for partly by the increased precautions which were taken by the bakery staff in washing their hands after visiting the lavatory because of special instructions which were given in this matter.

A full description of the epidemic appeared in "The British Medical Journal," August 21st, 1937. In this description reference is made to the steps taken which led to the discovery of the carrier, the isolation of the causal organism from the stools as an aid to diagnosis, the persistence of the organism in the stools of patients, and the results of experiments on the survival of *Bact. paratyphosum B.* on bread crusts.

Port Cases of Typhoid and Paratyphoid Fever.

During the year two cases of typhoid fever and two cases of paratyphoid B. fever were imported from overseas. In addition, 11 cases of paratyphoid B. fever occurred in a Mersey training ship during September, October and November. A description of this outbreak is given in the Annual Report of the Medical Officer of Health to the Port Health Authority for 1937. None of these cases is included in Tables VIII and IX.

Undulant Fever.

Two cases of undulant fever were reported during the year. In neither case was the source of infection traced.

Diphtheria.

During 1937, 2,465 cases of diphtheria were reported, a case-rate of 2.8 per 1,000 of the population. Of these cases, 148 proved fatal, making a fatality rate of 5.6 per 100 cases and a mortality rate of 17.1 per 100,000 of the population.

In Table X are given the numbers of cases of diphtheria and of deaths from this disease during 1937 in the various districts of Liverpool.

TABLE X.

DIPHTHERIA—CASES AND DEATHS DURING 1937.

District.	Estimated Population, 1937.	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	48,383	204	13	4.2	26.9	6.4	3.9	8.3	41.2
2. Abercromby	23,071	61	5	2.6	21.6	8.2	1.6	8.2	36.1
3. St. Peter's	51,622	151	5	2.9	9.7	3.3	2.6	8.6	38.4
4. Everton	29,324	138	6	4.7	20.5	4.3	5.8	2.9	23.9
5. Netherfield	72,234	250	23	3.5	31.8	9.2	6.4	3.6	35.2
6. Kirkdale	60,017	181	11	3.0	18.3	6.1	3.9	7.7	40.3
7. Edge Hill & Sefton Park	113,493	224	11	1.9	9.7	4.9	1.8	3.6	27.2
8. Toxteth Park	90,633	296	20	3.3	22.1	6.9	6.4	5.4	27.4
9. Walton & Walton Park	91,996	188	9	2.0	9.8	4.8	5.3	4.8	20.7
10. West Derby	109,541	250	13	2.3	11.9	5.2	5.2	3.2	20.0
11. Wavertree	105,308	207	13	2.0	13.3	6.3	7.2	3.4	25.6
12. Fazakerley	71,488	315	19	4.4	26.6	6.0	10.5	1.6	23.5
Central Districts (1 to 3)	123,076	416	23	3.4	18.7	5.5	3.1	8.4	39.4
Middle Districts (4 to 9)	457,697	1,277	80	2.8	17.5	6.3	5.0	4.7	29.4
Outer Districts (10 to 12)	286,337	772	45	2.7	12.2	5.8	7.9	2.6	22.9
Whole City	867,110	2,465	148	2.8	17.1	5.6	5.6	4.7	28.6

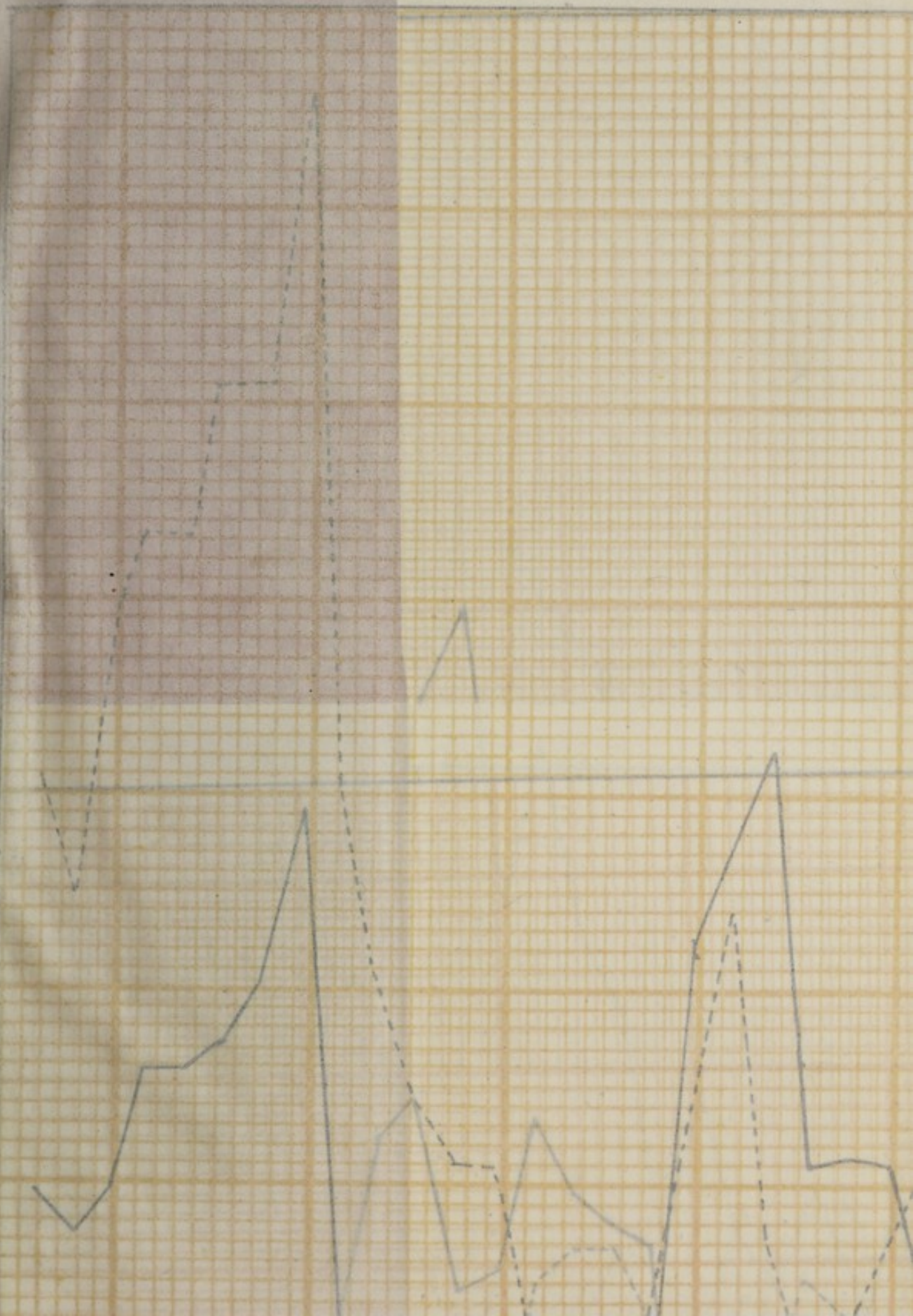
CITY OF LIVERPOOL.

DIPHTHERIA 1892-1937 FATALITY RATES PER 100 CASES.



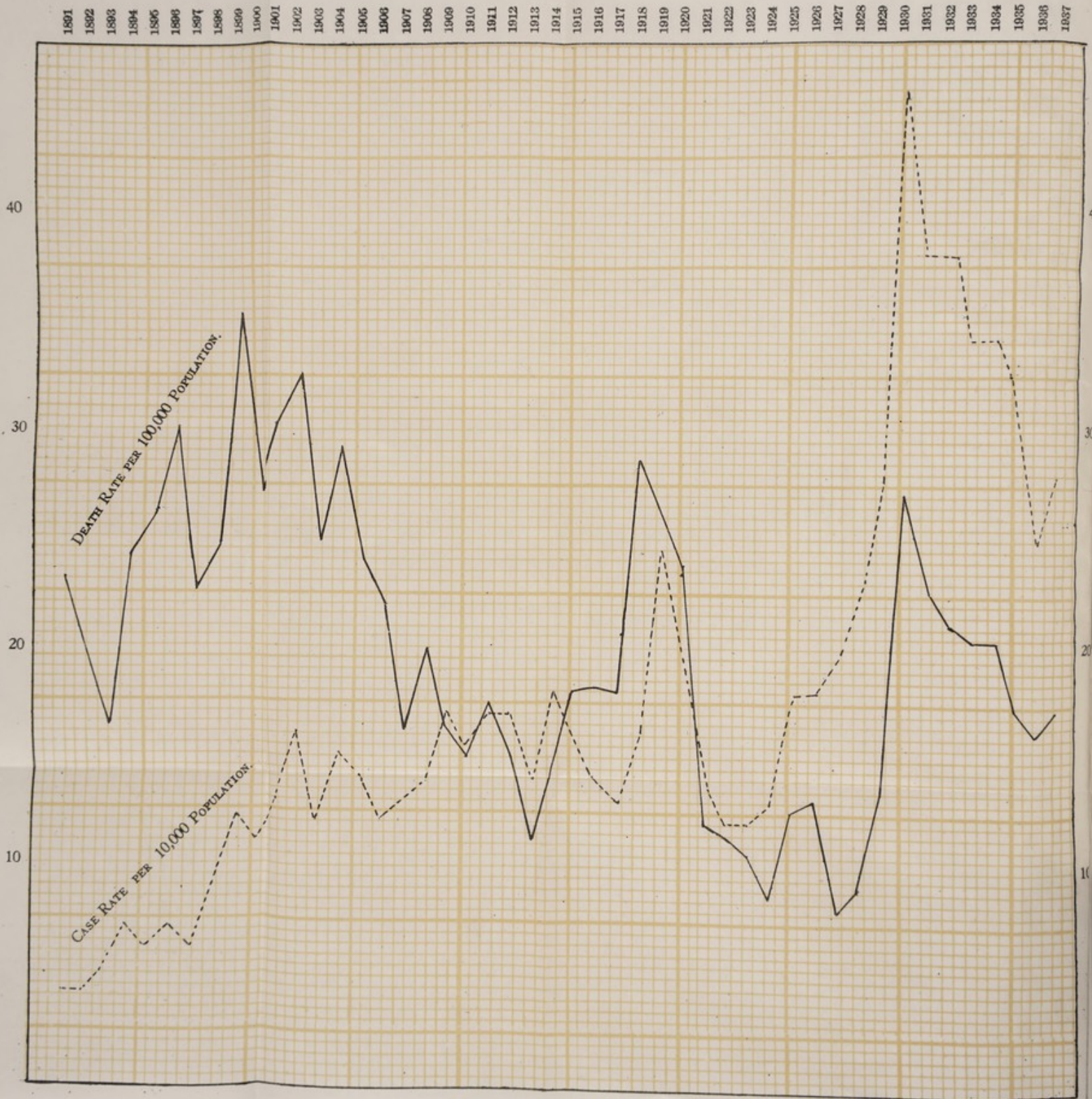
LATION AND DEATH RATES PER 100,000 POPULATION.

1912 1911 1910 1909 1908 1907 1906 1905 1904 1903 1902 1901 1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887 1886 1885 1884 1883 1882 1881 1880 1879 1878 1877 1876 1875 1874 1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860 1859 1858 1857 1856 1855 1854 1853 1852 1851 1850 1849 1848 1847 1846 1845 1844 1843 1842 1841 1840 1839 1838 1837 1836 1835 1834 1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820 1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807 1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793 1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780 1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767 1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753 1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740 1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726 1725 1724 1723 1722 1721 1720 1719 1718 1717 1716 1715 1714 1713 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CITY OF LIVERPOOL.

DIPHTHERIA 1891—1937. CASE RATES PER 10,000 POPULATION AND DEATH RATES PER 100,000 POPULATION.



In Table XII are given details relating to ages at death, ages of mother, and percentage fatality at various ages, etc. of children who died from diphtheria.

In Table XI are given the number of cases of diphtheria and of deaths from this disease during 1937, and also during nine previous years.

TABLE XI.

DIPHTHERIA—CASES AND DEATHS DURING 1937 AND NINE PREVIOUS YEARS.

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Cases	1,902	2,336	4,023	3,256	3,312	2,917	2,913	2,695	2,179	2,465
Case-rate per 1,000 population	2.2	2.7	4.6	3.8	3.8	3.4	3.4	3.1	2.5	2.8
Deaths	100	139	236	197	184	177	177	149	139	148
Death-rate per 100,000 population	11.5	15.9	26.8	23.0	21.3	20.4	20.4	17.2	16.0	17.1
Fatality rate per 100 cases	5.3	5.9	5.9	6.0	5.5	6.1	6.1	5.5	6.4	5.6

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

TABLE XII.
DEATHS FROM DIPHTHERIA.

DISTRICTS.	QUARTERS.								YEAR 1937		
	March.		June.		Sept.		Dec.		M	F.	Total.
	M.	F.	M.	F.	M.	F.	M.	F.			
Exchange	3	2	—	1	1	3	2	1	6	7	13
Abercromby	1	—	—	—	1	—	1	2	3	2	5
St. Peter's	—	—	1	—	1	—	—	3	2	3	5
Toxteth Park.....	4	6	1	1	2	1	1	4	8	12	20
Edge Hill & Sefton Park.....	1	2	—	3	2	—	2	1	5	6	11
Wavertree	1	2	2	1	1	1	3	2	7	6	13
Fazakerley	1	2	2	2	—	—	6	6	9	10	19
Walton & Walton Park	2	3	1	1	—	—	1	1	4	5	9
Kirkdale	1	4	2	—	—	2	1	1	4	7	11
Netherfield	2	4	3	2	3	3	—	6	8	15	23
Everton	—	—	—	2	1	1	1	1	2	4	6
West Derby	1	5	1	—	2	—	2	2	6	7	13
City	17	30	13	13	14	11	20	30	64	84	148

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
8	7	20	19	15	61	15	3	—	—	—	—	—	148

AGES OF NOTIFIED CASES.

22	93	167	213	221	1111	346	118	108	41	13	7	5	2465
74%						26%							

PERCENTAGE FATALITY AT EACH AGE.

36.4	7.5	12.0	8.9	6.8	5.5	4.3	2.5	0.0	0.0	0.0	0.0	0.0	5.6
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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 per cent. and 7 per cent. This favourable result is greatly helped by the admission to hospital of all patients willing to go. During 1937, 2,424 patients were admitted to hospital out of 2,465 cases notified, an admission rate of 98·3 per cent.

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 1937, 3,188 cases of scarlet fever were reported, a case-rate of 3·7 per 1,000 of the population. Of these cases, 8 proved fatal, making a fatality-rate of 0·3 per 100 cases, and a mortality-rate of 0·9 per 100,000 of the population.

A severe epidemic of scarlet fever commenced during the third quarter of the year, reached its height and remained at a high level during the whole of the fourth quarter, and commenced to fall during the first quarter of 1938. With few exceptions, the cases were of a mild character.

In Table XIII are given the numbers of cases of scarlet fever and of deaths from this disease during 1937, in the various districts of Liverpool.

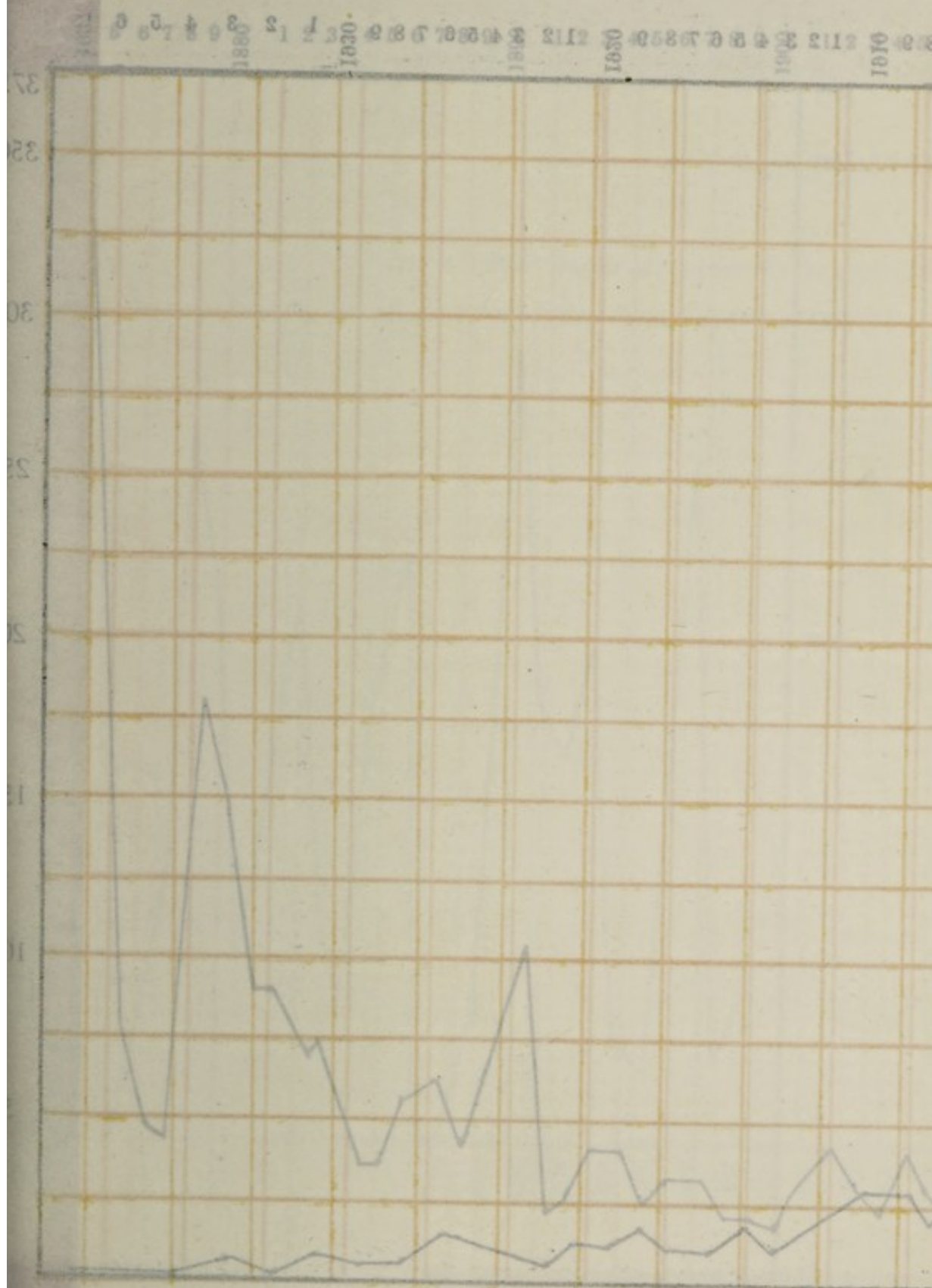
⁽¹⁾ Page 57.

TABLE XIII.

SCARLET FEVER—CASES AND DEATHS DURING 1937.

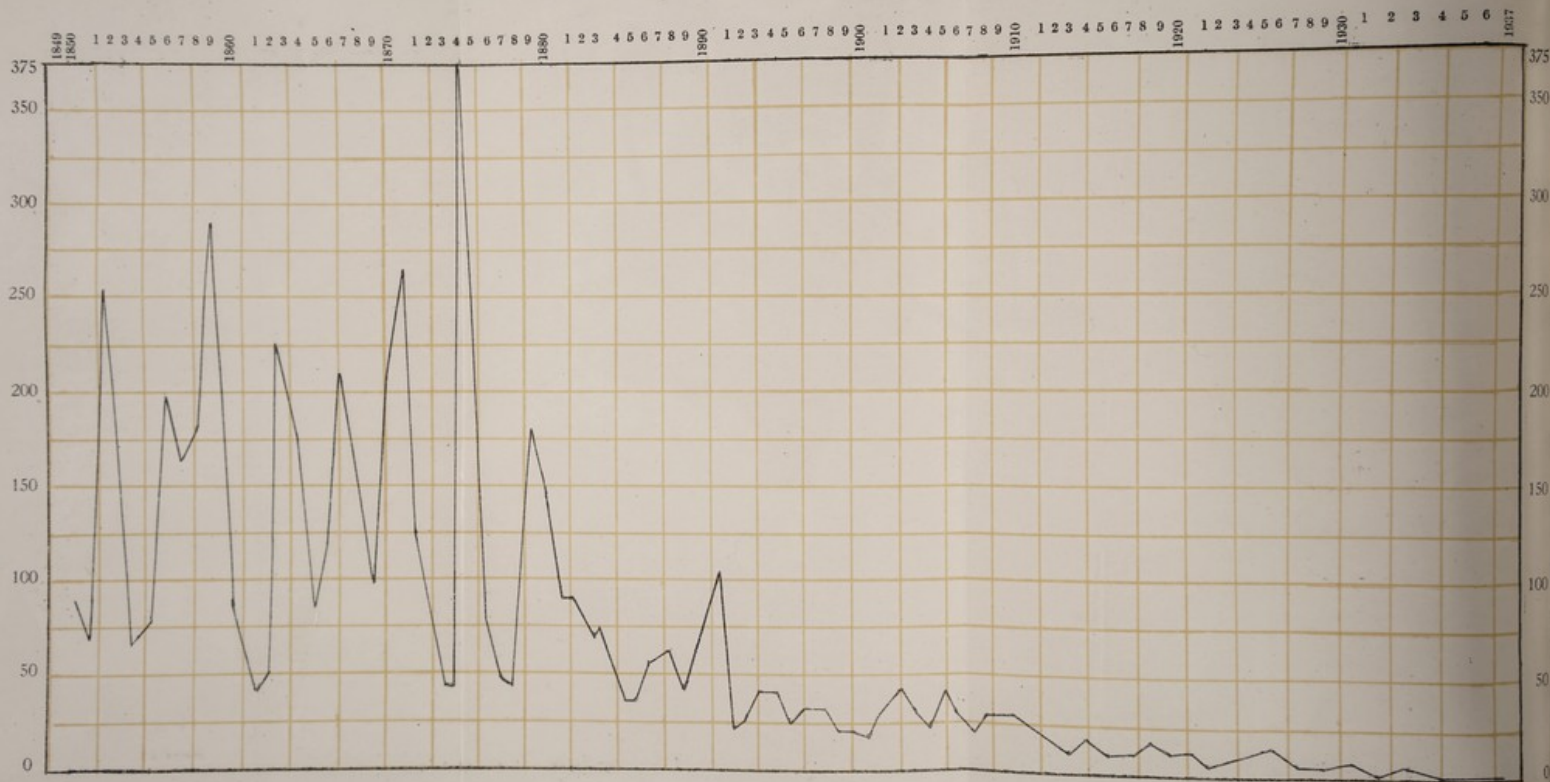
District.	Estimated Population, 1937.	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	PERCENTAGE.		
							Proportion of Secondary to Primary Cases.	Proportion of Children under 2 years of age to Total Cases.	Proportion of Children under 5 years of age to Total Cases.
1. Exchange	48,383	173	1	3.6	2.1	0.6	1.4	4.6	31.8
2. Abercromby	23,071	76	1	3.3	4.3	1.3	5.3	1.3	21.0
3. St. Peter's	51,622	190	—	3.3	—	—	1.6	2.6	31.6
4. Everton	29,324	127	—	4.3	—	—	7.1	6.3	26.8
5. Netherfield	72,234	286	—	3.9	—	—	3.8	5.9	23.0
6. Kirkdale	60,017	161	—	2.7	—	—	—	1.2	25.5
7. Edge Hill & Sefton Park	113,493	355	2	3.1	1.8	0.6	4.8	0.9	30.1
8. Toxteth Park	90,633	400	2	4.4	2.2	0.5	4.2	2.0	22.8
9. Walton & Walton Park	91,996	408	—	4.4	—	—	5.9	1.2	15.8
10. West Derby	109,541	321	1	2.9	0.9	0.3	5.3	2.8	18.0
11. Wavertree	105,308	220	—	2.1	—	—	1.8	2.7	17.8
12. Fazakerley	71,488	471	1	6.6	1.4	0.2	6.6	0.8	15.7
Central Districts (1 to 3).....	123,076	439	2	3.5	1.6	0.5	2.0	3.2	29.8
Middle Districts (4 to 9).....	457,697	1,737	4	3.8	0.9	0.2	4.5	2.5	23.2
Outer Districts (10 to 12).....	286,337	1,012	2	3.9	0.7	0.2	5.1	1.8	16.9
Whole City	867,110	3,188	8	3.7	0.9	0.2	4.4	2.4	22.1

SCARLET FEVER 1849-1937 DEATH NOTIFICATION



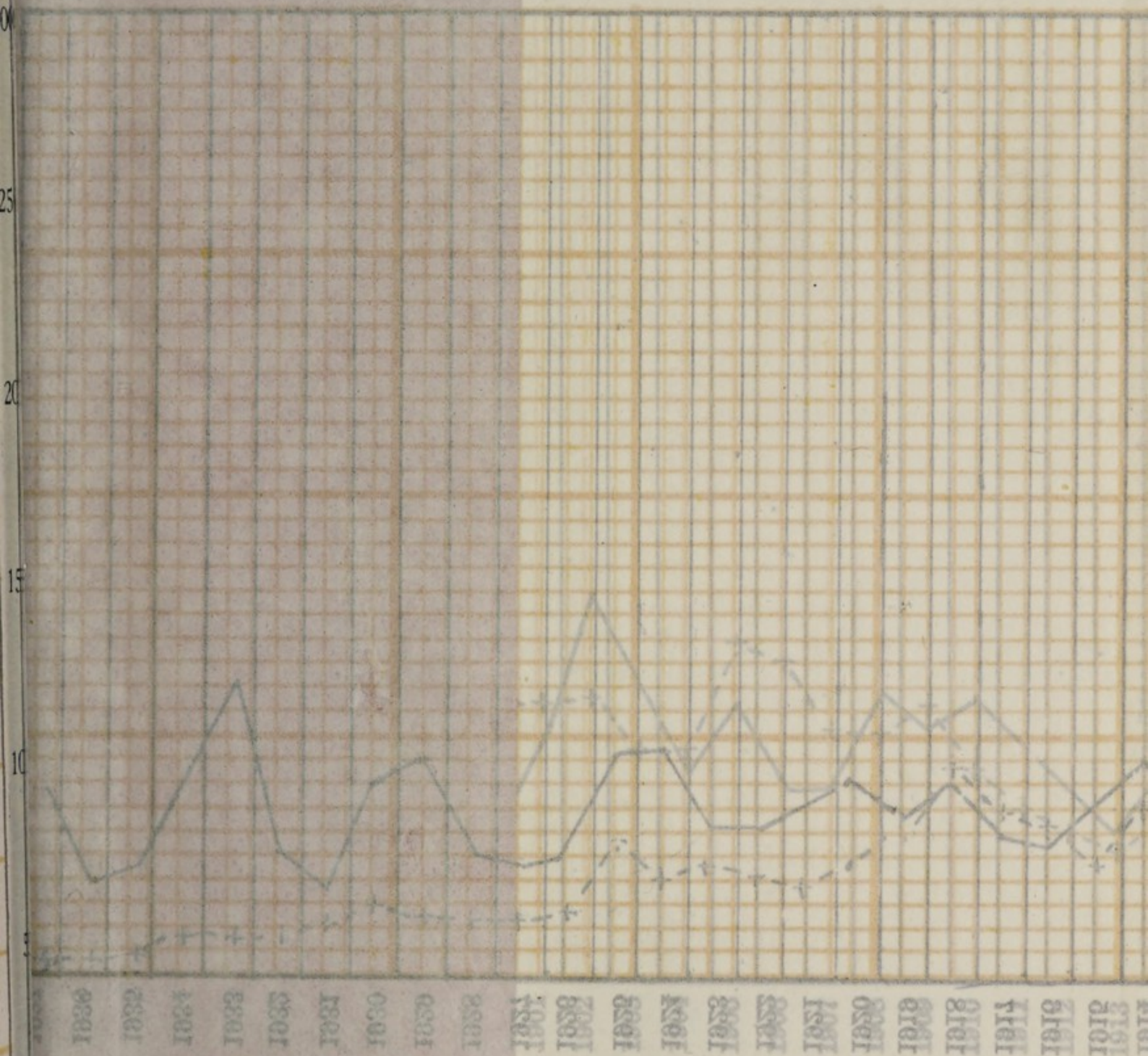
CITY OF LIVERPOOL.

SCARLET FEVER 1849-1937 DEATH RATES PER 100,000 POPULATION.



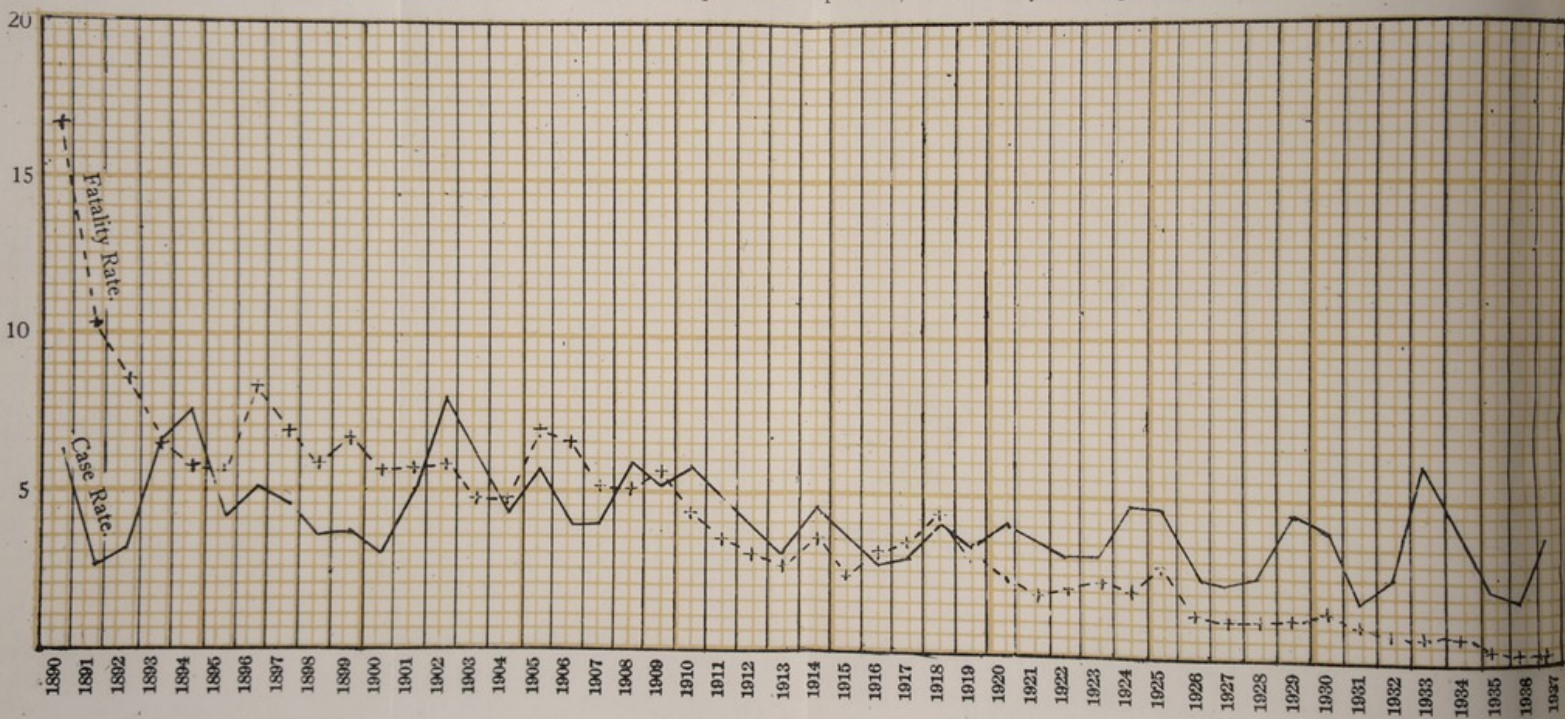
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Population and Fatality Rates per 100 Cases



CITY OF LIVERPOOL.

Scarlet Fever 1890—1937. Case Rates per 1000 Population, and Fatality Rates per 100 Cases.



In Table XIV are given the numbers of cases of scarlet fever and of deaths from this disease during 1937 and also during nine previous years.

TABLE XIV.

SCARLET FEVER—CASES AND DEATHS DURING 1937 AND NINE PREVIOUS YEARS.

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Cases ...	2,193	3,989	3,069	1,407	1,925	5,286	3,574	1,900	1,600	3,188
Case-rate per 1,000 inhabitants ...	2.5	4.6	3.5	1.6	2.2	6.1	4.1	2.2	1.8	3.7
Deaths ...	19	41	35	11	11	27	19	6	2	8
Death-rate per 100,000 inhabitants ...	2.2	4.7	4.0	1.2	1.3	3.1	2.2	0.7	0.2	0.9
Fatality rate per 100 cases ...	0.9	1.0	1.1	0.8	0.6	0.5	0.5	0.3	0.1	0.2

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

TABLE XV.
DEATHS FROM SCARLET FEVER.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.		1937.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	...	...	1	...	...	...	...	...	1	...	1
Abercromby	...	...	...	...	...	...	...	1	...	1	1
St. Peter's	...	...	...	...	...	...	...	...	...	...	...
Toxteth Park	...	...	...	...	...	...	2	...	2	...	2
Edge Hill & Sefton Park ...	...	...	1	...	...	...	1	...	2	...	2
Wavertree	...	...	...	...	...	...	...	...	...	...	...
Fazakerley	...	...	...	...	...	...	...	1	...	1	1
Walton & Walton Park	...	...	...	...	...	...	...	...	...	...	...
Kirkdale	...	...	...	...	...	...	...	...	...	...	...
Netherfield	...	...	...	...	...	...	...	...	...	...	...
Everton	...	...	...	...	...	...	...	...	...	...	...
West Derby	...	...	...	...	...	1	...	...	...	1	1
City	...	...	2	...	...	1	3	2	5	3	8

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
...	2	1	3	...	1	...	...	...	1	...	...	...	8

AGES OF NOTIFIED CASES.

9	67	157	206	266	1448	653	200	124	41	12	5	...	3,188
22.1%					45.4%	20.5%	12.0%						

PERCENTAGE FATALITY AT EACH AGE.

...	3.0	0.6	1.5	...	0.1	...	...	...	2.4	...	...	...	0.2
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N.B.—Deaths in institutions are transferred to the districts from which the patients came.

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 1937 the work has been continued on similar lines, with the results for 1937 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 XVI is given a numerical summary of the number of completed inoculations against diphtheria since 1925.

TABLE XVI.

NUMBER OF COMPLETED DIPHTHERIA INOCULATIONS.

Where or by whom inoculated.	1925-27	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
INOCULATION CLINICS :											
Carnegie	...	...	...	68	366	572	333	422	405	367	237
Townsend Avenue ...	...	...	...	...	...	381	340	354	368	305	183
Child Welfare Centres ...	...	...	...	...	...	...	...	...	198	452	1119
SCHOOLS :											
Public Elementary ...	...	...	...	...	153	3904	3895	4917	4001	6251	4855
Residential	280	22	59	76	123	264	681	433	323	431	382
MUNICIPAL HOSPITALS :											
Pazakerley	...	...	31	116	493	635	1264	434	239	267	150
Fever Hospitals—North, South and East ...	...	...	...	...	57	151	141	205	258	113	202
Alder Hey	...	...	...	...	62	121	132	122	98	163	148
Olive Mount	...	...	...	38	...	174	277	92	49	24	41
Other Municipal Hospitals	...	...	...	...	...	...	...	81	34	92	80
Miscellaneous	169	90	93	171	190	272	173	38	15	5	19
Medical Practitioners ...	...	...	...	15	99	173	135	123	128	78	85
TOTALS	449	112	183	484	1543	6647	7371	7221	6116	8548	7501

GRAND TOTAL ... 46,175

In addition to the 7,501 persons, each of whom during 1937 received a complete course of diphtheria prophylactic, there were 736 persons who did not receive a full course of injections. 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 1.1 per cent. of the total work accomplished, 85 persons treated out of a total of 7,501.

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

Where or by whom inoculated.	1925-27	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
General Clinics:											
Boyle ...	...	...	...	68	366	572	323	422	405	367	527
Grand Avenue	...	...	...	...	...	281	340	354	368	308	183
Welfare Centres	...	...	...	...	...	...	...	...	198	432	1119
Elementary ...	...	...	...	...	153	3604	2895	4917	4001	6371	1882
Mental ...	...	...	...	76	123	264	681	433	323	481	382
Municipal Hospitals:											
Kenny ...	...	...	31	116	492	636	1264	434	339	367	150
North ...	...	...	...	...	67	161	141	205	258	113	202
South and East ...	...	...	...	...	62	121	132	132	98	103	148
St. Mary ...	...	...	...	...	...	174	277	92	49	24	41
St. Mount ...	...	...	...	...	...	...	...	81	34	92	80
Municipal Hospitals:											
... ..	...	...	...	...	...	...	...	...	...	...	...
Private Practitioners	...	...	...	15	89	173	136	123	128	78	82
TOTALS	449	112	183	484	1843	6647	7371	7221	6116	8548	17501

TABLE XVII.

Age at date of inoculation.	1925/27	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Under 1 year...	2	0	0	16	53	27	19	2	1	5	8
1 year ...	4	0	0	35	150	183	187	213	211	359	595
2 years ...	4	2	0	51	89	189	219	157	232	340	461
3 years ...	3	8	1	60	82	189	246	164	222	259	367
4 years ...	14	14	7	39	103	253	466	301	489	513	698
5 years ...	28	20	13	26	112	1,224	1,375	1,637	1,541	2,297	1,658
6 years ...	24	22	44	13	94	1,405	1,583	1,999	1,563	2,497	1,820
7 years ...	13	11	44	15	99	1,048	1,357	1,222	872	1,211	823
8 years ...	33	11	14	18	81	585	519	489	216	304	320
9 years ...	29	9	9	21	86	351	266	157	100	75	110
10 years and ... over.	295	15	51	190	594	1,193	1,134	880	669	688	641
Total 5 years of age at the end of 1937 : 24,308											
Total 10 years of age and over at the end of 1937: 18,097											

Total under 5 years of
age at the end of 1937 :
3,770

Total 5-9 years of age
at the end of 1937 :
24,308

Total 10 years of age and
over at the end of 1937:
18,097

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, and also in view of the high fatality rates from diphtheria among children under 5 years of age shown in Table XII.

THE OCCURRENCE OF DIPHTHERIA IN INOCULATED PERSONS.

In Table XVIII are given the comparative case-rates during the five years ending 1937 among inoculated and non-inoculated persons.

To face page 60.

TABLE XVIII.

DIPHTHERIA—COMPARATIVE CASE-RATES DURING 1933/37 AMONG INOCULATED AND NON-INOCULATED PERSONS IN LIVERPOOL.

NOT INOCULATED.				INOCULATED.											
Age.	Non-inoculated population at risk during 5 years 1933/37.	Cases of diphtheria in non-inoculated persons during 1933/7.	Case-rate per 1,000 p.a.	T.A.F.			M.T. Toxoid.			F.T.			A.P.T.		
				Inoculated population at risk during 5 years 1932/36.	Cases of diphtheria during 1933/7.	Case-rate per 1,000 p.a.	Inoculated population at risk during 5 years 1932/36.	Cases of diphtheria during 1933/7.	Case-rate per 1,000 p.a.	Inoculated population at risk during 4 years 1933/36.	Cases of diphtheria during 1934/7.	Case-rate per 1,000 p.a.	Inoculated population at risk during 2 years 1935-36.	Cases of diphtheria during 1936-37.	Case-rate per 1,000 p.a.
Under 1	86,490	115	1·33	41	0	Nil	3	0	Nil	5	0	Nil	1	0	Nil
1 +	83,118	430	5·17	523	0	Nil	106	0	Nil	324	0	Nil	290	0	Nil
2 +	80,508	818	10·16	1,021	0	Nil	305	0	Nil	569	0	Nil	272	0	Nil
3 +	79,379	1,063	13·40	1,462	1	0·68	437	2	4·58	680	0	Nil	212	1	4·71
4 +	77,427	1,193	15·41	2,180	2	0·91	579	2	3·45	935	1	1·07	492	2	4·06
5 +	71,251	1,533	21·51	5,727	5	0·87	815	3	3·68	2,173	3	1·38	2,434	2	0·82
6 +	65,924	1,338	20·29	11,096	12	1·01	941	2	2·12	1,824	4	2·19	2,845	14	4·92
7 +	66,077	966	14·62	14,635	36	2·46	964	3	3·11	419	3	7·16	1,459	16	10·97
8 +	70,981	723	10·18	13,087	36	2·75	1,076	2	1·86	2	0	Nil	341	3	8·80
9 +	78,404	657	8·38	9,518	21	2·21	1,174	1	0·85	0	0	Nil	28	1	35·71
Total under 10	759,559	8,836	11·63	59,290	118	1·91	6,400	15	2·34	6,931	11	1·58	8,374	39	4·66
10 +	3,454,780	4,079	1·18	24,693	51	2·07	9,205	9	0·98	0	0	Nil	11	0	Nil

Schick tests performed during the year numbered 429, of which 98 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 XIX, below.

TABLE XIX.

NUMBER OF COMPLETED SCARLET FEVER INOCULATIONS.

Where or by whom inoculated.	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
INOCULATION CLINICS :											
Carnegie	—	—	—	60	352	508	303	366	332	294	148
Townsend Avenue ...	—	—	—	—	—	395	323	313	315	244	127
MUNICIPAL HOSPITALS :											
Fazakerley	—	—	—	—	165	197	121	120	99	121	79
Fever Hospitals—North, South and East ...	—	—	—	—	15	57	7	10	16	26	52
Alder Hey	—	—	—	—	36	111	132	143	98	108	131
Olive Mount	—	—	—	—	—	11	34	61	33	25	38
Other Hospitals ...	—	—	—	—	—	—	—	—	29	86	71
RESIDENTIAL SCHOOLS ...	61	18	28	31	26	218	465	478	202	294	108
MISCELLANEOUS... ..	—	65	195	9	178	191	74	45	—	—	—
MEDICAL PRACTITIONERS ...	—	—	—	15	75	129	105	94	93	57	40
TOTALS ...	61	83	223	115	847	1,817	1,564	1,630	1,217	1,255	794

GRAND TOTAL ... 9,606

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 255 Dick tests were carried out, of which 81 were positive.

Measles.

In Liverpool, measles is a disease which was notified on a voluntary basis until 9th May, 1937, when it was removed from the list of voluntarily notifiable diseases. During 1937, 4,108 cases were reported, 1,605 by notification from medical practitioners and 2,503 from schools, etc. The total number represents a case-rate of 4.7 per 1,000 of the population. The number of deaths was 120, making a fatality-rate of 2.9 per 100 cases and a mortality-rate of 13.8 per 100,000 of the population.

An epidemic of measles commenced at the beginning of the last quarter of the year. It reached a peak at the end of the year and beginning of 1938, and was over by the end of the first quarter in 1938. The majority of the cases were not unduly severe.

In Table XX are given the numbers of cases of measles reported* and of deaths from this disease during 1937, and also during nine previous years.

TABLE XX.

MEASLES—CASES AND DEATHS DURING 1937 AND NINE PREVIOUS YEARS.

	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Cases	6,025	10,546	5,966	7,572	8,816	10,004	11,055	8,907	7,240	4,108
Case rate per 1,000 inhabitants	6.96	13.19	6.78	8.84	10.23	11.55	12.76	10.27	8.35	4.74
Deaths	177	427	170	369	312	299	229	154	176	120
Death rate per 100,000 inhabitants	20.4	50.1	19.3	43.1	36.2	34.5	26.4	17.8	20.3	13.8
Fatality rate per 100 cases	2.9	4.0	2.8	4.9	3.5	3.0	2.0	1.7	2.4	2.9

* The voluntary notification of measles ceased on 9th May, 1937. Caution is necessary in drawing conclusions from the figures relating to cases and fatality-rates subsequent to that date.

CITY OF LIVERPOOL.

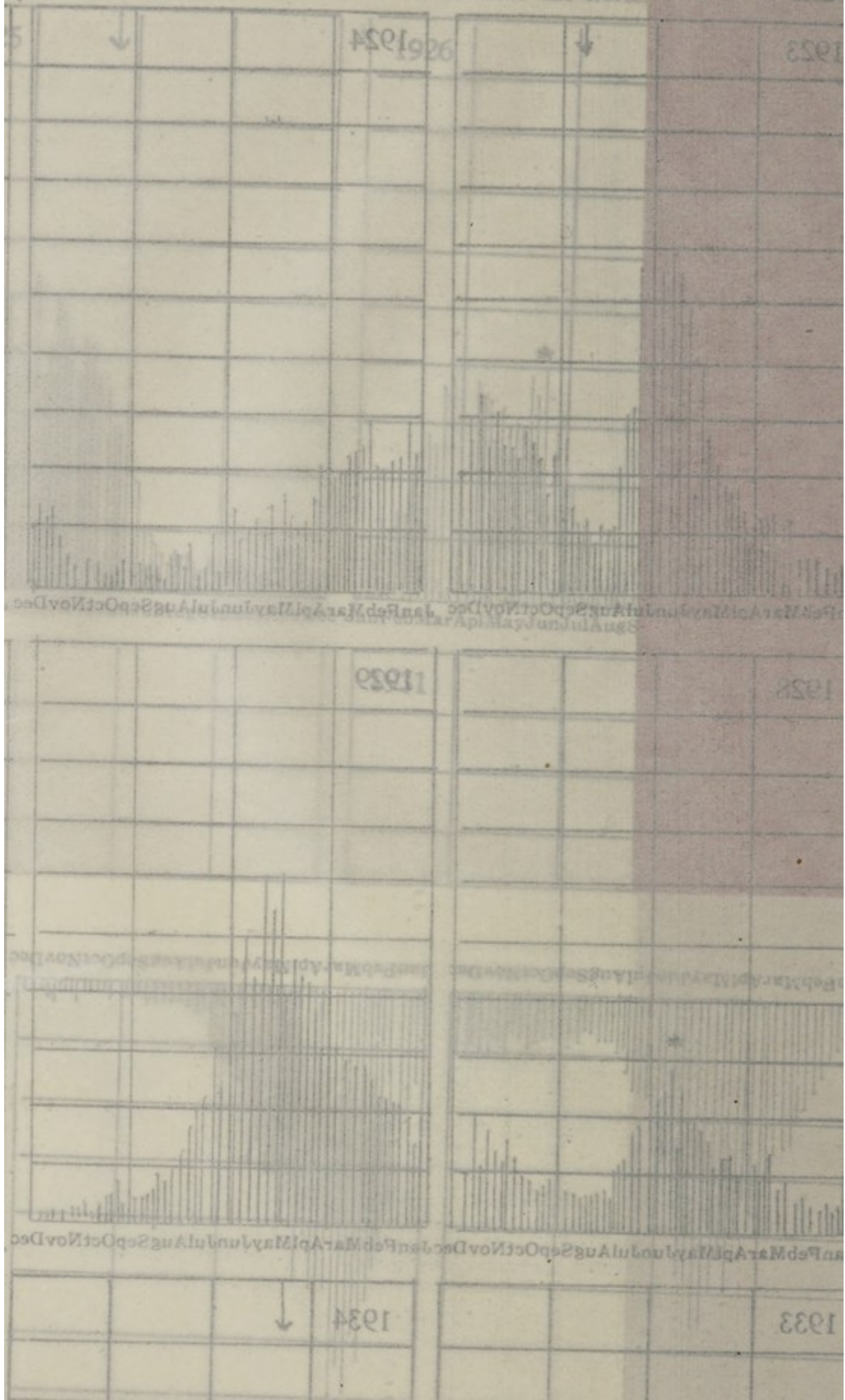
Cases of Measles during the years 1923 to 1937.

The arrows show recurring intervals of 92 weeks. The asterisks indicate the normal seasonal rise in the second quarter of the year.



CITY OF LIVERPOOL.

Tables of Menses during the years 1933 to 1934. The arrows show the



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

TABLE XXI.
DEATHS FROM MEASLES.

DISTRICTS.	QUARTERS.								YEAR 1937.			Death Rates per 100,000 Population.
	March		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
Exchange	...	...	...	...	...	...	10	8	10	8	18	37.2
Abercromby	...	...	...	...	...	...	5	4	5	4	9	39.0
St. Peter's	...	...	...	...	...	...	10	9	10	9	19	36.8
Toxteth Park.....	...	...	...	...	1	...	4	6	5	6	11	12.1
Edge Hill & Sefton Park	...	...	...	...	...	...	5	2	5	2	7	6.2
Wavertree	...	...	...	...	...	...	2	2	2	2	4	3.8
Fazakerley	...	...	...	...	...	...	2	6	2	6	8	11.2
Walton & Walton Park	...	...	...	...	...	...	2	1	2	1	3	3.2
Kirkdale	...	...	...	...	...	...	7	2	7	2	9	15.0
Netherfield	...	...	...	...	...	...	11	7	11	7	18	24.9
Everton	...	...	...	1	...	...	3	6	3	7	10	34.1
West Derby	...	...	...	...	...	...	2	2	2	2	4	3.6
City	...	...	...	1	1	...	63	55	64	56	120	13.8

AGES AT DEATH													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
23	53	19	10	10	5	...	...	...	...	...	...	...	120

AGES OF CASES.										
248	458	453	451	471	1843	131	53			4108

PERCENTAGE FATALITY AT EACH AGE.							
9.3	11.5	4.2	2.2	2.1	0.3	...	2.9

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 XXI, 95 out of 120 deaths were in children under 3 years of age.

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 or attention. The visits, etc., made by these nurses in the course of 1937 were as follows:—

New cases visited during the year	...	...	3,992
Cases nursed	„	„	747
Re-visits to cases	„	„	3,377

During 1937, 631 patients were admitted to hospital out of the 4,108 which came to the notice of the Health Department, an admission rate of 15·4 per cent.

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 1937, 1,229 cases came to the notice of the Health Department, a figure representing a case-rate of 1·8 per 1,000 of the population. Of these cases 122 proved fatal, corresponding to a death-rate of 14·1 per 100,000 of the population.

In Table XXII are given the numbers of cases of whooping cough and deaths from this disease during 1937 and also during nine previous years.

TABLE XXII.

WHOOPING COUGH—CASES AND DEATHS DURING 1937 AND
NINE PREVIOUS YEARS.

Years.	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Cases	2313	1876	1147	2267	1596	987	2437	1044	931	1229
Deaths	269	198	75	189	148	93	172	62	105	122
Death rate per 100,000 of the population ...	31.2	22.8	8.5	22.1	17.2	10.7	19.9	7.1	12.1	14.1
Percentage of deaths to cases ...	11.6	10.5	5.5	8.3	9.3	9.4	7.0	5.9	11.3	9.9

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 88 years is shown in Table XXIII.

TABLE XXIII.

WHOOPING COUGH—AVERAGE DEATH-RATE PER 100,000 INHABITANTS
FROM 1850 TO 1937.

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
1936	...	...	...	...	...	12.1
1937	...	...	...	...	...	14.1

Table XXIV 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 XXIV.

DEATHS FROM WHOOPING COUGH, 1937.

Districts.	At Ages						All ages.	Death Rates per 100,000 population.
	Under 1 yr.	1+	2+	3+	4+	5+		
1. Exchange	3	4	3	2	—	—	12	24.8
2. Abercromby	3	1	1	—	—	—	5	21.6
3. St. Peter's	7	3	3	1	—	—	14	27.1
4. Everton	4	2	1	—	—	—	7	23.9
5. Netherfield	5	6	2	—	—	—	13	18.0
6. Kirkdale	7	1	1	2	—	—	11	18.3
7. Edge Hill & Sefton Park	7	3	2	2	—	—	14	12.3
8. Toxteth Park	9	2	—	1	1	—	13	14.3
9. Walton & Walton Park	2	4	1	—	—	1	8	8.7
10. West Derby	3	3	—	—	1	—	7	6.4
11. Wavertree	4	2	—	—	—	—	6	5.7
12. Fazakerley	7	2	1	—	1	1	12	16.8
Central Districts (1 to 3)	13	8	7	3	—	—	31	25.2
Middle Districts (4 to 9)	34	18	7	5	1	1	66	14.4
Outer Districts (10 to 12)	14	7	1	—	2	1	25	8.7
Whole City	61	33	15	8	3	2	122	14.1

From Table XXV it will be observed that there has been a considerable variation in the age distribution of the deaths in the sixty-six 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 XXV.

DEATHS FROM WHOOPING COUGH AT THE VARIOUS AGES FOR THE YEARS
1871, 1881, 1891, 1901 and 1911, and 1921-1937.

	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
Average, 1921/30 ...	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
Average, 1931/35 ...	58	48	14	7	3	3	0	133	44	36	10	6	2	2	0
1936	40	42	13	7	3	0	0	105	38	40	12	7	3	0	0
1937	61	33	15	8	3	2	0	122	50	29	12	6	2	1	0

Cerebro-spinal Fever.

Ninety-four cases of cerebro-spinal fever occurred during 1937, of which 47 (or 50·0 per cent.) proved fatal, making a death-rate of 5·4 per 100,000 of the population. Eighty-seven (or 92 per cent.) of the cases were confirmed bacteriologically, and, in the remainder, there was clinical evidence of this disease.

In Table XXVI are given the numbers of cases of cerebro-spinal fever and of deaths from this disease during 1937, and also during nine previous years.

TABLE XXVI.

CEREBRO-SPINAL FEVER—CASES AND DEATHS DURING 1937 AND
NINE PREVIOUS YEARS.

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Cases	21	23	21	57	76	64	69	69	94	94
Deaths	16	21	17	47	47	45	37	33	55	47
Fatality-rate per 100 cases	76·2	91·3	81·0	82·4	61·8	70·3	53·6	48·1	58·5	50·0

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

Encephalitis Lethargica.

During 1937, 16 cases of encephalitis lethargica were notified to the Health Department for the first time. In all of these cases the illness had passed the acute stage and become chronic. There were certified 16 death from encephalitis lethargica, five of which occurred among the chronic cases reported during the year, the remaining 11 deaths being those of chronic cases reported in previous years.

In Table XXVII are given the numbers of cases of encephalitis lethargica and of deaths from this disease during 1937 and also during nine previous years.

TABLE XXVII.

ENCEPHALITIS LETHARGICA—CASES AND DEATHS DURING 1937 AND
NINE PREVIOUS YEARS.

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
CASES:										
Acute ...	54	28	27	35	4	4	7	2	1	0
Chronic ...					17	26	23	23	22	16
DEATHS in										
Acute cases ...	24	26	18	26	2	1	4	0	0	0
Chronic cases ...					13	20	9	22	14	5
Fatality-rate per 100 acute cases ...	—	—	—	—	50·0	25·0	57·1	—	—	—

Acute Anterior Poliomyelitis (Infantile Paralysis.)

During 1937, 6 cases of poliomyelitis were notified, one of which proved fatal. The cases were distributed through the year as follows:—February—1 case, March—1 case, August—1 case, September—2 cases, November—1 case. 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 XXVIII are given the numbers of cases of poliomyelitis and of deaths from this disease during 1937, and also during nine previous years.

TABLE XXVIII.

ACUTE POLIOMYELITIS—CASES AND DEATHS DURING 1937 AND
NINE PREVIOUS YEARS.

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Cases ...	6	23	14	7	25	10	9	3	15	6
Deaths ...	5	10	6	4	11	3	3	0	1	0
Percentage of deaths to notified cases ...	83·3	43·5	42·8	57·1	44·0	30·0	33·3	—	6·7	—

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 XXIX are given the average annual number of deaths due to respiratory diseases from 1871 to 1937, 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 XXIX.

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
1936... ..	1,489	13·3	1·7	29·6
1937... ..	1,591	13·9	1·8	31·6

There has been a striking decline of the respiratory death-rate to a figure which is only 31·6 per cent. of the rate which prevailed during the years 1871-80.

In Table XXX 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 1937. These figures do not include the deaths of Liverpool residents which occurred outside the city.

TABLE XXX.

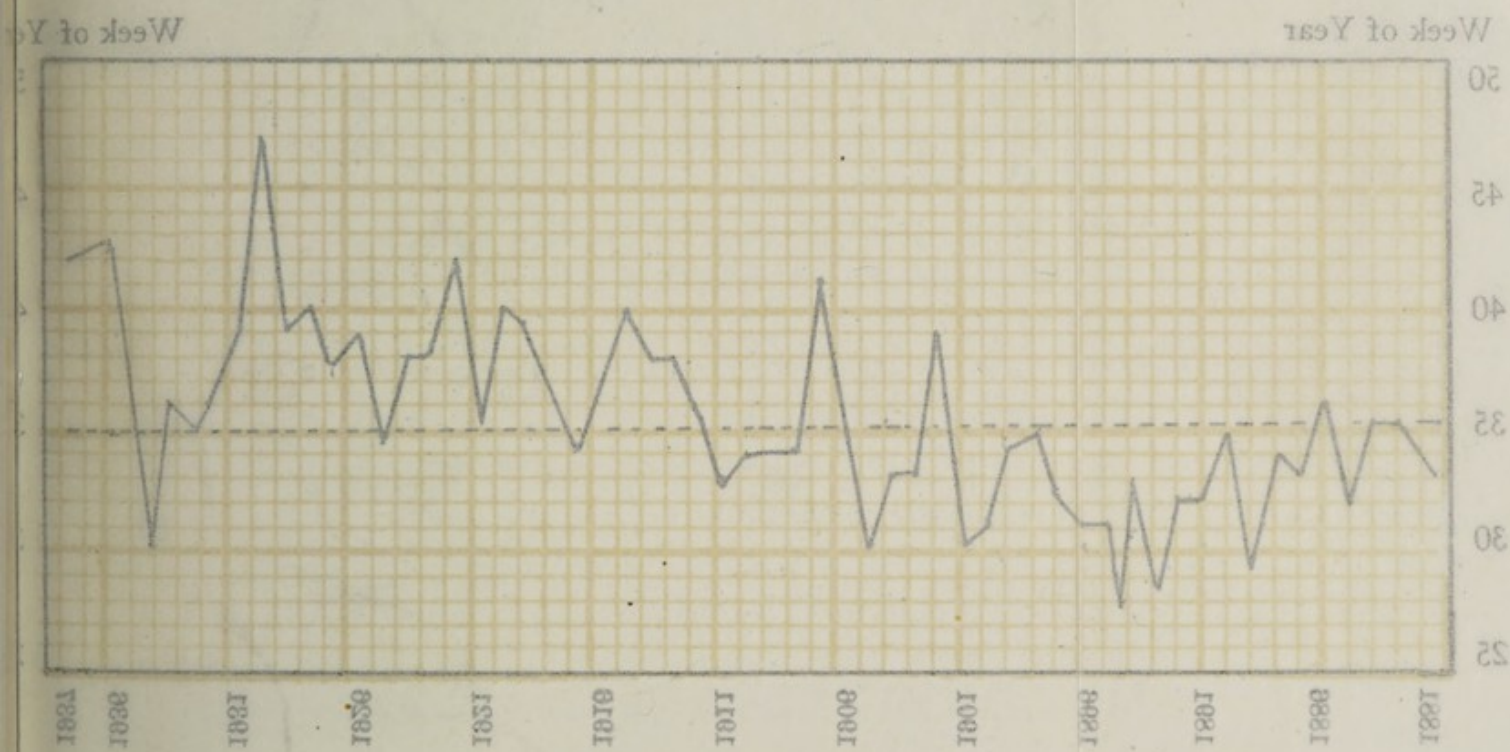
WEEKLY DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

1937. Week ended.	Total Deaths (all causes).	Weekly Death- rate per 1,000 of Estimated Population.	NUMBER OF DEATHS FROM				Percentage proportion of Res- piratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho- pneumonia	Bronchitis.	Total Res- piratory Deaths.	
Jan. 9	221	13.3	2	22	7	29	13.1
„ 16	233	14.0	9	38	7	47	20.1
„ 23	280	16.8	19	30	10	45	16.4
„ 30	316	19.0	30	42	11	56	17.7
Feb. 6	400	24.1	34	95	18	117	29.2
„ 13	409	24.6	29	83	28	117	28.6
„ 20	339	20.4	33	55	17	75	22.1
„ 27	255	15.3	12	53	10	66	25.8
Mar. 6	225	13.5	3	26	5	31	13.7
„ 13	255	15.3	4	31	11	44	17.2
„ 20	254	15.3	4	35	4	41	16.1
„ 27	251	15.1	2	23	7	30	11.9
April 3	222	13.4	2	21	9	32	14.4
„ 10	254	15.3	3	22	10	34	13.3
„ 17	228	13.7	1	22	8	32	14.0
„ 24	196	11.8	2	15	6	24	12.2
May 1	174	10.5	—	15	6	25	14.3
„ 8	218	13.1	—	17	3	20	9.1
„ 15	189	11.4	—	18	4	24	12.7
„ 22	196	11.8	—	8	5	16	8.1
„ 29	192	11.6	1	16	—	17	8.8
June 5	180	10.8	—	17	8	27	15.0
„ 12	161	9.7	—	19	2	21	13.0
„ 19	156	9.4	—	10	1	14	8.9
„ 26	142	8.5	—	5	3	9	6.2

1937. Week ended.	Total Deaths (all causes).	Weekly Death- rate per 1,000 of Estimated Population	NUMBER OF DEATHS FROM				Percentage proportion of Res- piratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho- pneumonia	Bronchitis.	Total Res- piratory Deaths.	
July 3	178	10.7	—	13	5	20	11.2
„ 10	161	9.7	—	12	4	17	10.5
„ 17	157	9.4	—	7	3	13	8.2
„ 24	182	10.9	—	9	3	13	7.1
„ 31	158	9.5	—	9	—	10	6.3
Aug. 7	161	9.7	1	13	2	17	10.5
„ 14	126	7.6	—	6	6	14	11.1
„ 21	133	8.0	—	11	2	15	11.2
„ 28	148	8.9	1	13	2	17	11.4
Sept. 4	139	8.4	—	8	1	10	7.2
„ 11	159	9.6	—	4	2	7	4.4
„ 18	180	10.8	—	15	1	17	9.4
„ 25	161	9.7	—	14	—	14	8.7
Oct. 2	159	9.6	—	13	2	15	9.4
„ 9	158	9.5	2	8	3	15	9.5
„ 16	172	10.3	—	18	2	22	12.7
„ 23	172	10.3	2	13	5	19	11.0
„ 30	198	11.9	3	11	7	19	9.5
Nov. 6	218	13.1	—	18	5	24	11.0
„ 13	200	12.0	1	19	2	21	10.5
„ 20	217	13.0	—	9	4	16	7.3
„ 27	237	14.3	2	24	7	33	13.9
Dec. 4	218	13.2	1	21	7	28	12.7
„ 11	240	14.4	3	21	10	33	13.7
„ 18	273	16.4	3	25	3	31	11.3
„ 25	270	16.2	1	32	9	42	15.5
„ 31	310	18.9	2	40	12	57	18.4

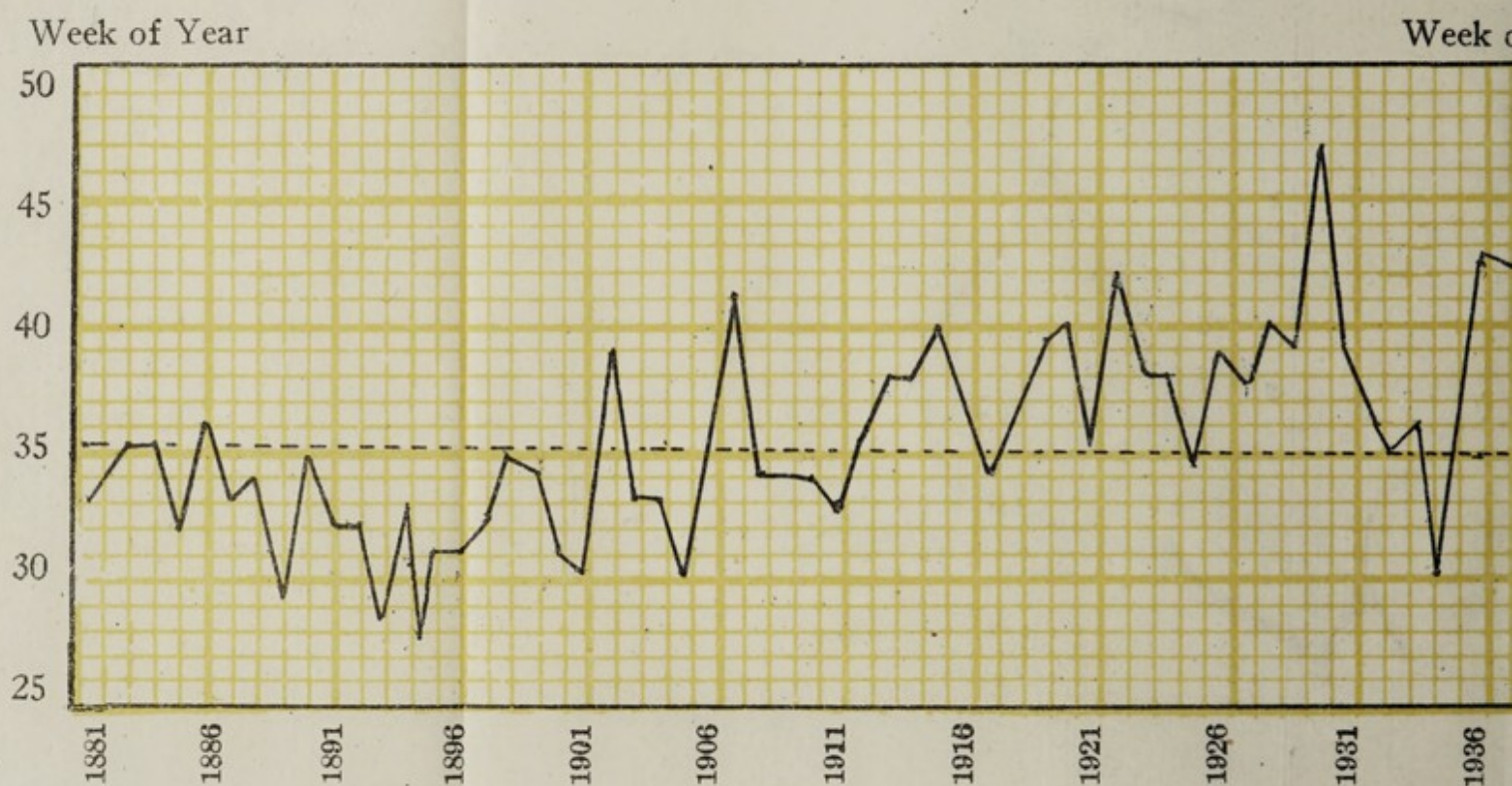
CITY OF LIVERPOOL.

Graph showing for each of the 52 years 1881-1937 the week in which the maximum number of deaths from Diarrhoeal 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 Diarrhoea, as a cause of death.



CITY OF LIVERPOOL.

Graph showing for each of the 57 years 1881-1937 the week in which the maximum number of deaths from Diarrhoeal 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 Diarrhoea, as a cause of death.



Dysentery.

During 1937, 77 cases of bacillary dysentery were reported in the City, of which 33 cases were due to Flexner's bacillus and 41 cases to Sonne's bacillus. In addition, 16 cases of bacillary dysentery and one case of amoebic dysentery were brought into the Port of Liverpool from overseas.

Diarrhoea and Enteritis.

During 1937, there were 207 deaths recorded from diarrhoea and enteritis at all ages, of which number 174 were in children under two years of age and 151 were in children under one year old. The deaths of 174 children under two years of age represent a mortality-rate of 5.1 per 1,000 births taking place in the city during the last two years. This figure represents an increase of 46 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 112.

Formerly many deaths occurred from an acute infective disease or group of diseases of which the predominating symptoms were an acute onset with diarrhoea 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 203.

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

TABLE XXXI.

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

	Registered births 1936-37	Number of deaths in 1937.	Death-rate per 1,000 births registered during 1936 and 1937.
Exchange	2,845	19	6.7
Abercromby	825	12	14.5
St. Peter's	2,597	29	11.2
Toxteth Park	4,059	15	3.7
Edge Hill and Sefton Park ...	3,877	15	3.9
Wavertree	3,546	10	2.8
Fazakerley	2,758	16	5.8
Walton and Walton Park ...	2,511	10	3.9
Kirkdale	2,640	14	5.3
Netherfield	3,268	21	6.4
Everton	1,367	7	5.1
West Derby	3,838	6	1.6
	34,131	174	5.1

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 1937 in children under 2 years of age with the mortality-rates during the previous nine years is given in Table XXXII.

TABLE XXXII.

DIARRHOEA AND ENTERITIS—MORTALITY RATES DURING 1937 AND
NINE PREVIOUS YEARS.

Mortality-rate per 1,000 births in year of record and preceding year	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
...	9.9	9.9	10.3	7.2	7.2	9.2	4.4	5.8	3.7	5.1

Of the 174 deaths under 2 years of age, 118 took place in public institutions as shown in Table XXXIII.

TABLE XXXIII.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER TWO YEARS OF AGE
IN INSTITUTIONS DURING 1937.

Alder Hey Hospital	...	...	...	...	...	66
David Lewis Northern Hospital	...	...	...	...	...	2
Royal Liverpool Children's Hospital	...	...	...	...	...	23
Mill Road Infirmary	...	...	...	...	...	4
Carnegie Welfare Centre	...	...	...	...	...	2
Royal Southern Hospital	...	...	...	...	...	4
Walton Hospital	...	...	...	...	...	3
Royal Liverpool Babies Hospital	...	...	...	...	...	4
Olive Mount Children's Hospital	...	...	...	...	...	1
Fazakerley Hospital	...	...	...	...	...	1
Belmont Road Institution	...	...	...	...	...	7
Maternity Hospital	...	...	...	...	...	1
						118

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

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

TABLE XXXIV.

DEATHS FROM DIARRHOEA AND ENTERITIS (UNDER TWO YEARS).

DISTRICTS.	QUARTERS.								YEAR 1937.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Exchange	2	...	1	3	4	...	4	5	11	8	19
Abercromby	1	1	2	...	2	1	2	3	7	5	12
St. Peter's	3	2	2	2	4	4	8	4	17	12	29
Toxteth Park	1	1	3	...	3	2	2	3	9	6	15
Edge Hill & Sefton Park...	3	...	1	3	3	2	3	...	10	5	15
Wavertree	1	2	1	...	1	3	1	1	4	6	10
Fazakerley	2	1	5	2	...	1	4	1	11	5	16
Walton & Walton Park ...	2	1	...	...	1	1	2	3	5	5	10
Kirkdale	2	3	2	...	3	2	...	2	7	7	14
Netherfield	2	1	2	1	4	4	3	4	11	10	21
Everton	1	1	2	2	1	...	...	...	4	3	7
West Derby	...	...	1	3	2	...	...	...	3	3	6
City	20	13	22	16	28	20	29	26	99	75	174

AGES AT DEATH.

Under 1 year	...	...	...	...	...	...	151
1 to 2 years	...	...	...	...	...	...	23
TOTAL	...	...	...	...	...	...	174

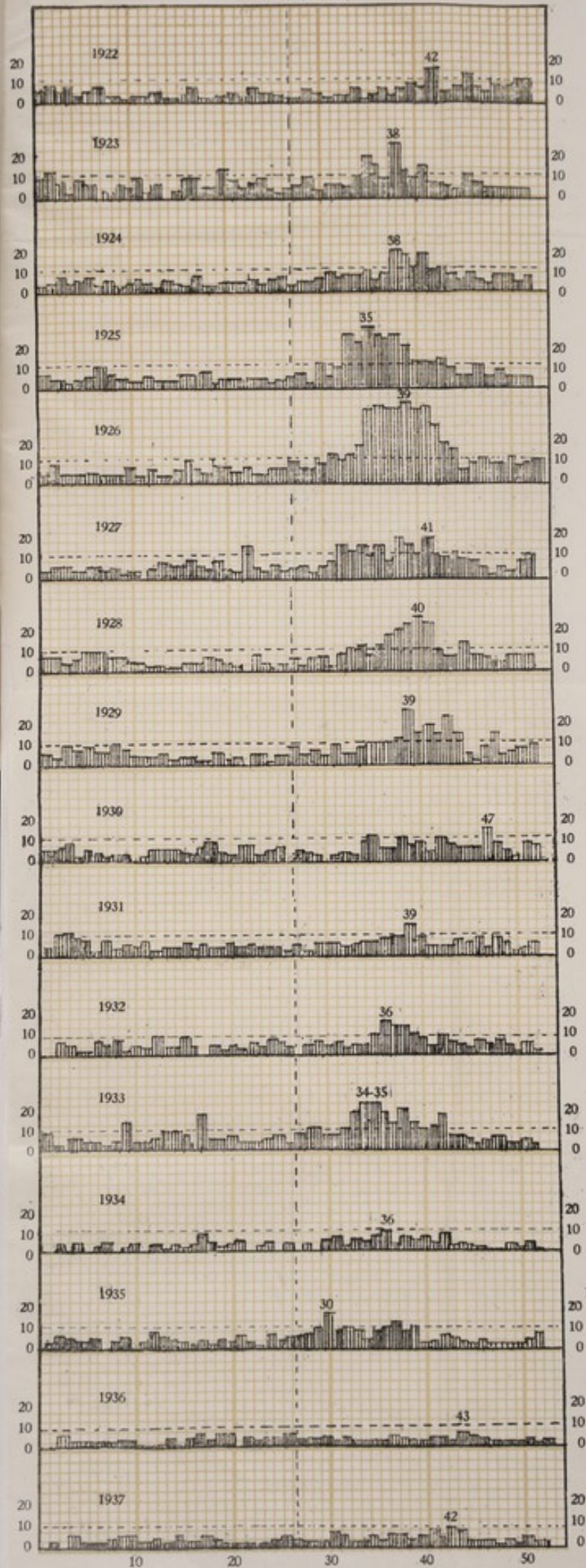
DEATHS FROM DIARRHOEA AND ENTERITIS SEPARATELY.

	QUARTERS.				YEAR.
	1st.	2nd.	3rd.	4th.	
Diarrhoea	3	2	9	7	21
Enteritis	31	36	38	48	153
Total	34	38	47	55	174

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

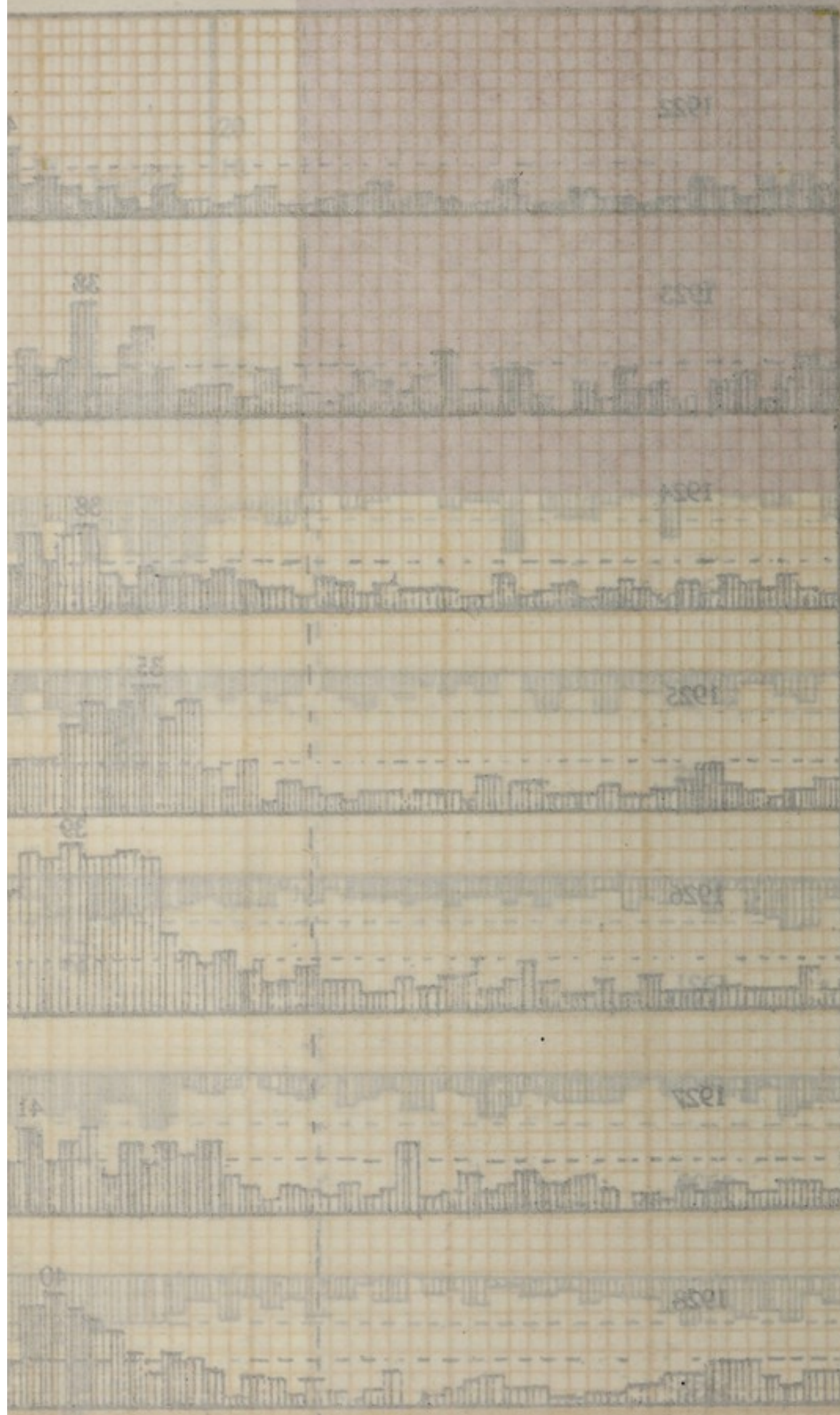
CITY OF LIVERPOOL.

DEATHS FROM DIARRHOEA & ENTERITIS (UNDER 2 YEARS OF AGE) DURING THE YEARS 1922—1937.



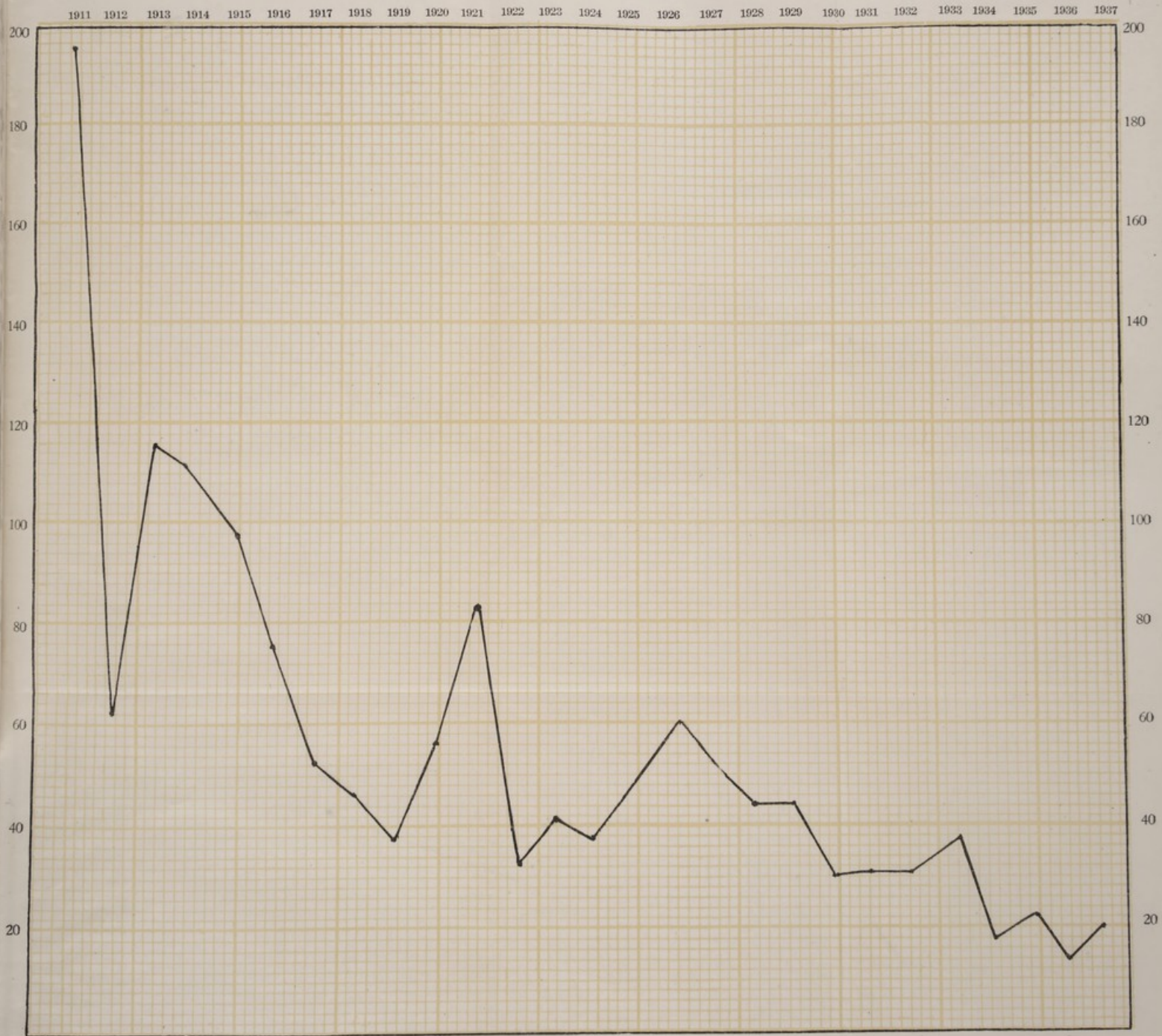
CITY OF LIVERPOOL.

DEATHS FROM DIPHTHERIA & ENTERITIS (UNDER 5 YEARS OF AGE)
YEARS 1922-1937.



CITY OF LIVERPOOL.

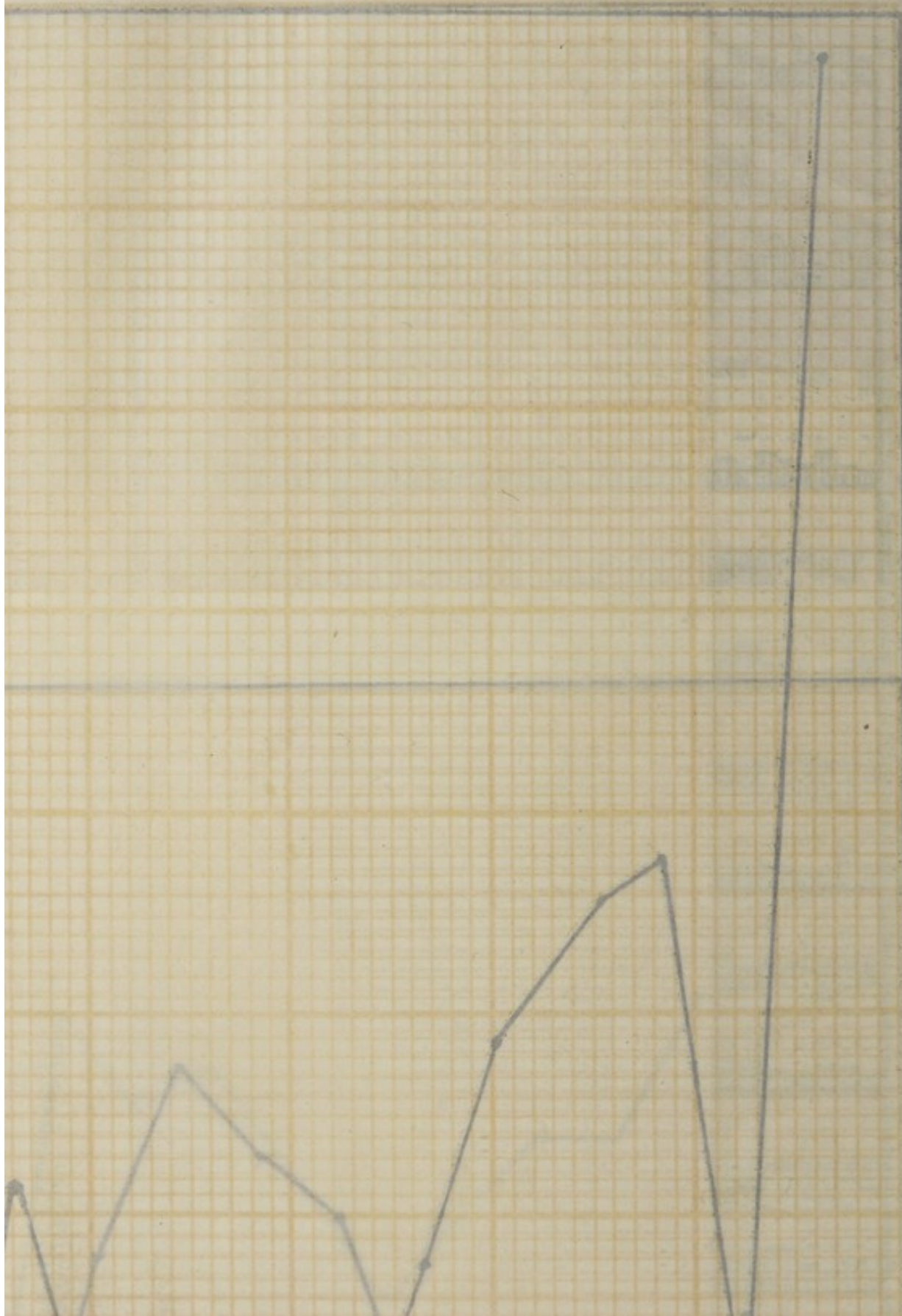
DIARRHŒA AND ENTERITIS (UNDER 2 YEARS OF AGE) DEATH RATES PER 100,000 POPULATION, 1911-1937.



LONDON CITY

UPPER MIDDLE AND LOWER MIDDLE CLASSES (UNDER 25)

1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931



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.

Public Health (Infectious Diseases) Regulations, 1927.

The following statement shows the number of notifications received under the regulations and the number of deaths during 1936 and 1937:—

	1936.		1937.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	1,680	1,004	1,940	1,170
Malaria	41	3	138	6
Dysentery	7	3	77	7
	1,728	1,010	2,155	1,183

Enquiries were made into all these cases; 701 cases of pneumonia were visited and 7 received assistance from nurses appointed for the purpose, 13 revisits being made.

Infectious Diseases in Schools.

There was a slight increase in the number of cases of infectious disease reported amongst children of school age during the year; 8,329 cases, an increase of 462, being reported as against 11,800, 13,146, 13,624, 10,485 and 7,867 for the years 1932 to 1936 respectively.

Measles showed a reduction of over 1,000 cases, and scarlet fever an increase of 993 cases. During the year, 1,808 cases of diphtheria were reported, being an increase of 343 cases over the previous year, while slight increases were also shown by whooping cough and chickenpox.

No school or department was closed during the year on account of infectious disease.

The arrangements introduced in 1932 for the inoculation of children attending the infants' departments of public elementary schools were continued. Visits for this purpose were paid to 74 schools.

The response varied considerably in the different schools, but taking the schools as a whole, approximately 27 per cent. of the infants attending were inoculated.

The following schools were visited and inoculation carried out:—

Ashfield Street Council.	Queens Road Council.
Aspen Grove Council	Rathbone Council.
Beaufort Street Council.	Roscoe Council
Booker Avenue Council.	(Garsfield Road).
Brae Street Council	Sacred Heart R.C.
Breckfield Council	Salisbury Council,
(Granton Road).	(Netherfield Road).
(Venice Street).	(William Henry Street).
Chatsworth Street Council.	Sefton Park Council.
Clint Road Council.	St. Bridget's C.E., Wavertree.
Daisy Street Council.	St. Clare's R.C.
Earle Road Council	St. Francis Xavier R.C.
(Bective Street).	St. George's, Heyworth Street.
(Webster Road).	St. Gerard's R.C.
Emmanuel Council.	St. James' Council.
Fonthill Road Council.	St. John the Evangelist, Walton.
Garston Victoria C.E.	St. Margaret's, Princes Road.
Granby Street Council.	St. Mary's, Kinglake Street.
Gwladys Street Council.	St. Mary's, Lower Milk Street.
Harrington Council.	St. Nicholas, R.C.
Harrison Jones Council.	St. Patrick, R.C.
Heygreen Road Council.	St. Peter's, Sackville Street.
Heyworth Street Council.	St. Sylvester's R.C.
Holy Trinity C.E., Anfield.	St. Teresa's R.C.
Kilrea Road Council.	Stanley Road Council.
Little Woolton and Childwall C.E.	Steers Street Council
Lorraine Street Council.	Sudley Road Council.
Major Lester Council.	Tiber Street Council.
Morrison Council.	Trinity District.
Mossley Hill C.E.	Townsend Lane Council.
Much Woolton R.C.	Walton Lane Council.
Newsham Council, Sheil Road	Walton R.C.
Northcote Road Council.	Wavertree R.C.
Our Lady R.C., Eldon Street.	Wellesbourne Road Council.
Our Lady Immaculate R.C.	Wellington Road Council.
Penrhyn Street Council.	Westminster Road Council.
Pinehurst Avenue Council.	Whitefield Road Council.
Pleasant Street Council.	Windsor Council.
Prince Edwin Street Council.	Winstone Road Council.

The total number of school children inoculated at the schools was 4,855. 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.

The following tables show the number of cases of the common infectious diseases, with the ages of the children affected and the monthly distribution of the cases.

TABLE XXXV.

SCHOOL CASES OF INFECTIOUS DISEASE OCCURRING DURING 1937.

AGE DISTRIBUTION.

DISEASE.	Under 5 years.	5 +	6 +	Total under 7 years.	7 +	8 +	9 +	10 +	11 +	12 +	13 +	14 +	Total above 7 years.	Grand Total.
Diphtheria ...	61	314	287	662	289	203	153	139	131	112	97	22	1,146	1,808
Scarlet Fever ...	53	334	355	742	270	217	168	177	129	119	88	40	1,208	1,950
Measles ...	200	836	622	1,658	220	84	56	34	32	23	21	7	477	2,135
Whooping Cough ...	59	308	146	513	49	12	9	1	4	3	—	1	79	592
Chickenpox ...	58	320	341	719	259	120	74	43	26	20	8	9	559	1,278
Mumps ...	30	149	173	352	88	42	26	18	12	16	8	4	214	566
TOTALS	461	2,261	1,924	4,646	1,175	678	486	412	334	293	222	83	3,683	8,329,

TABLE XXXVI.

SCHOOL CASES OF INFECTIOUS DISEASE DURING 1937.

MONTHLY DISTRIBUTION.

DISEASE.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Diphtheria ...	183	154	134	131	110	114	91	114	147	196	246	188	1,808
Scarlet Fever ...	58	65	91	87	98	75	84	136	283	330	354	289	1,950
Measles ...	47	43	70	202	94	63	20	18	96	211	450	821	2,135
Whooping Cough	23	10	20	54	49	121	8	71	43	71	84	38	592
Chickenpox ...	195	93	194	144	110	155	25	19	62	86	99	96	1,278
Mumps ...	65	50	110	116	62	59	14	5	18	19	32	16	566
TOTALS ...	571	415	619	734	523	587	242	363	649	913	1,265	1,448	8,329

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 1937 17,972 children who had been exposed to infection were reported in this way.

During the year, 4,403 visits to schools were paid by sanitary inspectors and 176 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 4,620 during the year.

MATERNITY AND
CHILD WELFARE

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 the 1927 children who had been exposed to infection were reported in this

During the year 1927, 1,000 visits to schools were paid by sanitary inspectors and 175 subjects were found and subsequently treated.

Reference from the Education Department to the Health Department concerning the occurrence of infection or suspected infection illness totalled 1,020 during the year.

Year	Number of visits to schools					Number of subjects found					Number of subjects treated				
	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930
1926	100	120	150	180	200	10	15	20	25	30	10	15	20	25	30
1927	120	150	180	200	220	15	20	25	30	35	15	20	25	30	35
1928	150	180	200	220	250	20	25	30	35	40	20	25	30	35	40
1929	180	200	220	250	280	25	30	35	40	45	25	30	35	40	45
1930	200	220	250	280	300	30	35	40	45	50	30	35	40	45	50
Total	550	670	750	830	950	80	100	110	125	140	80	100	110	125	140

MATERNITY AND CHILD WELFARE.

THE MIDWIFERY DEPARTMENT.

MATERNITY and CHILD WELFARE.

Summary of Vital Statistics for 1937:—

Live births	...	16,728	Live birth rate	...	19·3
Still-births	...	618	Still-birth rate	...	0·7

Total births ... 17,346

Infant Mortality rate	...	...	...	...	82
Neo-natal Mortality rate	...	...	...	...	92
Maternal Mortality rate	...	...	...	...	2·31

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, and the Public Health Act, 1936.
 - (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, and the Public Health Act, 1936.
 - iv. Any other enquiries, investigations or advice relating to the practice of midwives in the city.

During the year, 291 midwives gave the required notice under section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city.

The Midwives Act, 1936.

The Midwives Act, 1936, was passed for the purpose of securing, that the number of certified midwives available in the area for attendance on women in their own homes as midwives, or as maternity nurses, during childbirth and the lying-in period, shall be adequate for the needs of the area, either by making arrangements with voluntary organisations or by the local authority itself employing certified midwives, or partly in one way and partly in the other.

Within six months of the passing of the Act, i.e., by the end of January, 1937, it was the duty of the authority to submit proposals to the Minister of Health for carrying out its duties under Section I of the Act after consultation—

- (1) With all voluntary organisations which employed or were willing to employ domiciliary midwives in the area of the authority; and
- (2) With any local organisation of medical practitioners which effectively represented the opinion of such practitioners on questions to be considered in formulating such proposals; and
- (3) With such local organisation of midwives as appeared effectively to represent the opinions of midwives practising in the area on such questions.

The Medical Officer of Health prepared a report on the Act, setting out a scheme for the provision of salaried midwives in Liverpool which was approved by the City Council on the 6th January, 1937, by the Co-ordination (Special) Committee on the 25th January, 1937, and subsequently by the Ministry of Health.

In his report, the Medical Officer based the number of full-time midwives required in the City on the 10,388 births which, in 1935, had taken place at home. The Act suggested that the number of cases attended by each midwife should be 100, but allowances had to be made for sick leave and vacations and the possible suspension of a midwife from duty in order to prevent the spread of infection. It was, therefore, likely that the actual number allocated by the Medical Officer to each midwife annually would be about 90. The City Council agreed to the appointment of 80 midwives, but in consideration of the decline of the birth rate and other factors, this figure was understood to be provisional and has been, in fact, amended.

In accordance with the terms of the Act, it was the duty of the authority to consult with all voluntary organisations employing, or willing to employ domiciliary midwives, and, after due consideration, agreements were drawn up and approved by the Ministry of Health between the Corporation and the Board of the Liverpool Maternity Hospital and between the Corporation and the Woolton and District Nursing Society. In the former case, it was agreed that twelve midwives should be employed by the Board; in the latter case, it was agreed to employ one midwife and that the Corporation should pay an annual specified sum towards the provision of their salaries in each case.

The Act provides for the retirement of independent midwives either voluntarily or compulsorily on the grounds of unfitness. During 1937, 291 midwives gave the required notice, under Section 10 of the Midwives Act, 1902, of their intention to practise. Of these, the following retirements on compensation took place:—

i. Owing to ill-health	20
ii. Voluntary retirement	11

Retirement on compensation may take place during a period of three years from the passing of the Act and is a somewhat uncertain factor. It was, therefore, decided by the City Council to appoint in the first place only fifty midwives to the municipal service and to add to this number as and when additional midwives were required. The appointments during 1937 were as follows:—

31st July	50
2nd December	2

Between the 31st July and 31st December, the municipal midwives attended:—

Midwifery cases	1,541
Maternity cases	111

Under Section 3 (1) of the Act, it is the duty of a local authority to fix a scale of charges for the attendance of a midwife employed by them as a midwife and maternity nurse respectively. An experimental scale was drawn up and is being applied to all cases attended by the salaried midwives.

Under Section 7 of the Act, midwives are required to attend periodic courses of instruction and the Medical Officer arranged a scheme of post-graduate refresher courses for municipal midwives at the city hospitals, which commenced in November, 1937. Two midwives attended the course prior to the end of the year.

The inauguration of the Scheme has presented many difficulties and has greatly increased the work and responsibilities of the Department. One difficulty has been in regard to housing the newly-appointed midwives. The Housing Committee have assisted materially by allocating tenements in new housing areas, for the use of municipal midwives, and it is hoped that they will extend these concessions in other new areas.

The Medical Officer is satisfied that although the Scheme may still be regarded as being in the experimental stage, it is progressing along the right lines and will in due course help to fulfil the intentions of the Ministry of Health in reducing maternal mortality and morbidity.

Notification of Live and Still-Births.

A total of 8,267 births (8,071 live births and 196 still-births) were attended by midwives during the year, which represented 44.4 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 9,133 (8,662 live births, 471 still-births).

Statement of Notifications of Live and Still Births received during the Years 1936 and 1937.

Notifications Received from	1936.				1937.		
	Live Births.	Still Births.	Total.	Percentage of births notified.	Live Births.	Still Births.	Total.
Certified Midwives	6,922	202	7,124	37.6	6,643	154	6,797
Medical Attendants	1,291	52	1,343	7.1	1,204	44	1,248
Transferred Institutions	5,898	302	6,200	32.7	6,034	305	6,339
Liverpool Maternity Hospital.....	1,651	143	1,794	9.5	1,736	134	1,870
"Rest Home," Chatham Street	295	5	300	1.6	284	3	287
District Homes	1,572	43	1,615	8.6	1,428	42	1,470
Royal Infirmary	518	19	537	2.8	584	26	610
Other Institutions	22	3	25	0.1	24	3	27
Parents	1	—	1	0.005	—	—	—
	18,170	769	18,939	100.0	17,937	711	18,648
							100.0

The number of still-births notified during the year was 711*, of which number 196 were notified by midwives, being at the rate of 2·4 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 648.

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, 1,545 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 2,817.

Mother—

Obstructed labour, uterine inertia or requiring instrumental assistance	...	...	...	...	...	...	...	443
Ruptured perinæum	...	...	...	...	...	...	...	525
Ante-partum hæmorrhage	...	...	...	...	...	...	...	202
Pyrexia	...	...	...	...	...	...	...	135
Ante-natal treatment	...	...	...	...	...	...	...	98
Abortion or miscarriage	...	...	...	...	...	...	...	139
Post-partum hæmorrhage	...	...	...	...	...	...	...	95
Carried forward								1,638

* The total number of registered still-births during the year 1937 was 618 (see page 5).

Brought forward 1,638

Retained placenta or membranes	...	...	...	...	46
Varicose veins—inflamed legs, etc. (not A.N.)	...	...	...	...	40
Premature birth	...	...	...	...	7
Multiple births	...	...	...	...	10
Eclampsia	...	...	...	...	2
Deformed pelvis	...	...	...	...	3
Influenza	...	...	...	...	8

Abnormal presentation:

Breech presentation	...	...	...	...	36
Occipito-posterior position	...	...	...	...	38
Cord presentation	...	...	...	...	2
Foot presentation	...	...	...	...	6
Brow or face presentation	...	...	...	...	11
Transverse presentation	...	...	...	...	6
Placenta prævia	...	...	...	...	10
Various	...	...	...	...	197

2,060

Child—

Feebleness and prematurity	...	...	...	...	171
Ophthalmia	...	...	...	...	284
Skin eruption	...	...	...	...	93
Malformations	...	...	...	...	53
Convulsions	...	...	...	...	13
Injury at birth	...	...	...	...	3
Other conditions in child	...	...	...	...	140

757

Total ... 2,817**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, 2,809 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 16. The ability of the patient to pay was investigated, and in 15 of these cases, the whole fee was defrayed by the Maternity and Child Welfare Sub-Committee.

During the year, 842 claims from midwives for necessitous midwifery were investigated, 836 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. Seven claims under this section were paid during 1937 as follows:—

In contact with Skin Eruption	...	...	...	...	...	1
" " " Scarlet Fever	...	...	...	...	...	2
" " " Pemphigus	...	...	...	...	...	3
" " " Diphtheria	...	...	...	...	...	1

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 is notifiable under the *Infectious Disease (Notification) Act, 1889, to which the above regulations are supplementary.

* The Infectious Disease (Notification) Act, 1889 was repealed by the Public Health Act, 1936 which came into operation on 1st October, 1937, since when the obligation to notify Puerperal Fever has been included in the obligation to notify Puerperal Pyrexia under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations 1926 and 1928

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 415. Of these 3 were found to be puerperal septicæmia, and, therefore, fall within the definition of puerperal fever. The remaining 412 were cases of pyrexia of puerperal origin of a lesser degree than is legally termed puerperal fever. Of these cases 387 were admitted to or occurred in hospitals, and 57 occurred in the practice of midwives. In one case a consultant obstetrician was called in, and in 7 cases nurses were provided.

Puerperal Fever.

The number of cases of puerperal fever notified to the medical officer of health during the year was 33 of which 10 proved fatal. This gives a puerperal fever death rate of 0·58 per 1,000 total (live and still) births registered in the city.

Twenty-seven cases of puerperal fever were admitted to or occurred in hospital, viz.:—6 in Mill Road Infirmary, 15 in Walton Hospital, 1 in Smithdown Road Hospital, 4 in the Liverpool Maternity Hospital, and 1 in the Royal Infirmary. After the usual enquiries were made, 12 cases (of which 2 died) were found to have occurred in the practice of midwives.

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 1937.

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
1936	17,403	708	18,111	20	1.10	44	2.43	64	3.53
1937	16,728	618	17,346	10	0.58	30	1.73	40	2.31

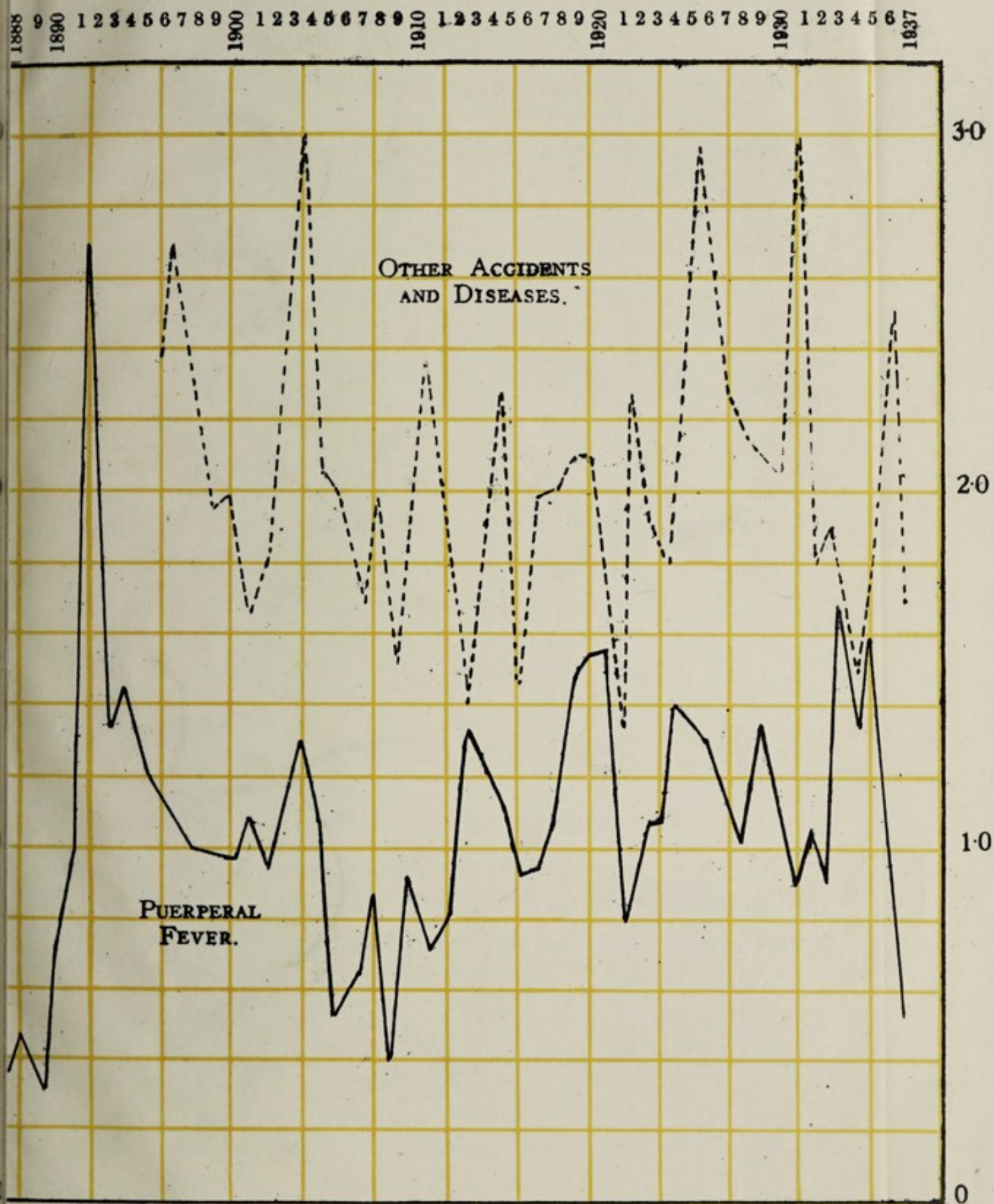
Ante-Natal Supervision.

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.

CITY OF LIVERPOOL.

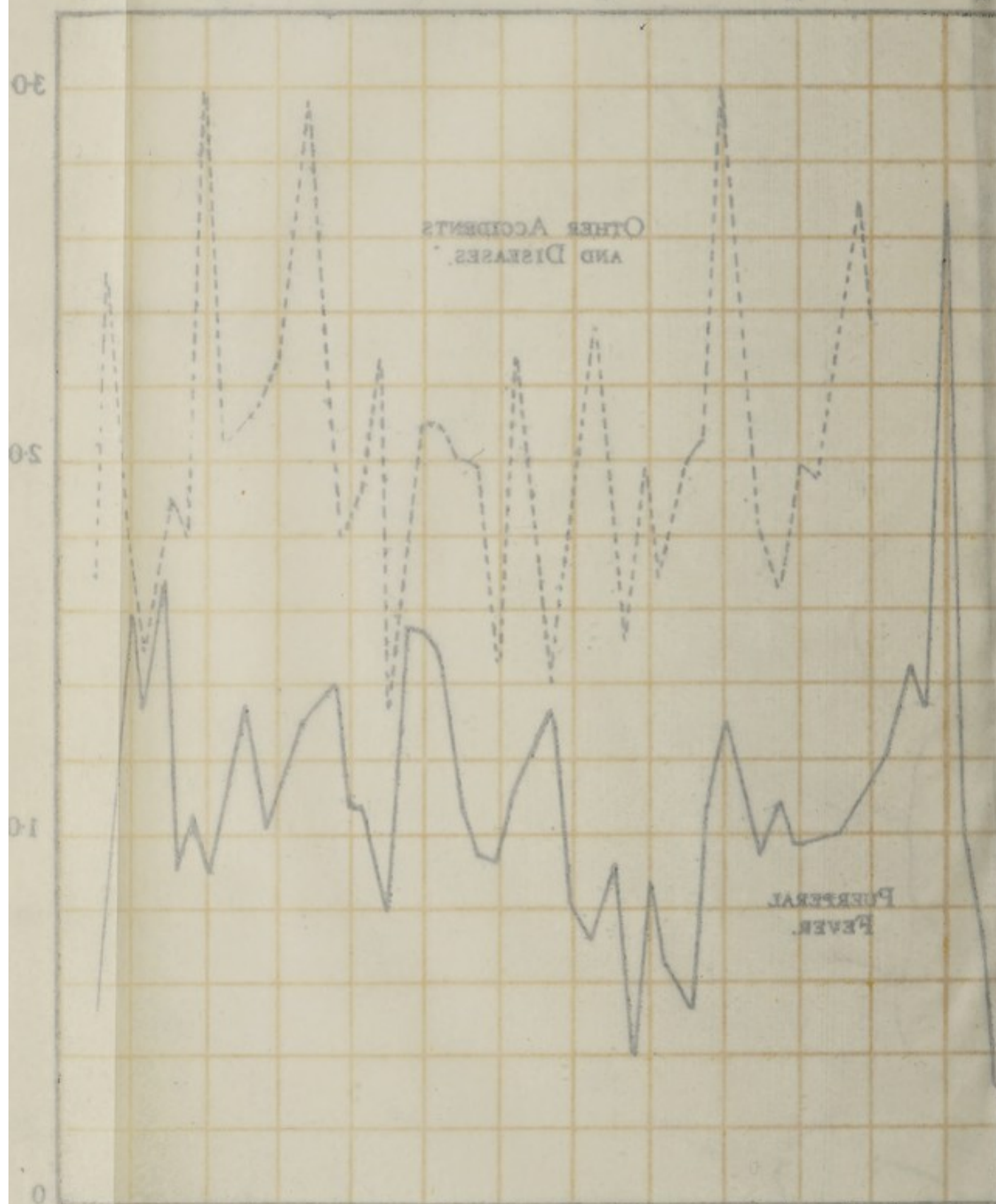
MORTALITY PER 1000 BIRTHS FROM PUERPERAL FEVER AND
OTHER ACCIDENTS AND DISEASES OF PREGNANCY, 1888-1937.



CITY OF LIVERPOOL.

MORTALITY PER 1000 BIRTHS FROM PUERPERAL FEVER AND
OTHER ACCIDENTS AND DISEASES OF PREGNANCY, 1888-1937.

1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937



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 55 per cent. of the cases, the patients have not had satisfactory ante-natal care or supervision, which in 63 per cent. of this group had not been sought at all. Good general health previous to confinement was present in only 11 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 1937, 64 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	...	...	...	...	...	...	2	} 8	
Sepsis following forceps delivery	...	...	...	...	...	...	0		
Sepsis following other abnormalities of labour	...	...	...	...	...	...	1		
Sepsis following abortion	...	...	...	...	...	...	5		
2. Toxaemia (not eclampsia)	...	...	...	...	...	...			5
3. Eclampsia	...	...	...	...	...	...			2
4. Haemorrhage	...	...	...	...	...	...			13
5. Shock	...	...	...	...	...	...			2
6. Embolism	...	...	...	...	...	...			3
7. Ectopic gestation	...	...	...	...	...	...			0
8. Dystocia	...	...	...	...	...	...			2
									35

CLASS II:—DEATHS NOT PRIMARILY DUE TO PREGNANCY.

1. Pneumonia	...	...	...	...	...	...	...	...	12
2. Cardiac disease	...	...	...	...	...	...	...	...	7
3. Chronic renal disease	...	...	...	...	...	...	...	...	2
4. Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	2
5. Unclassified	...	...	...	...	...	...	...	...	6
									29

Of the 64 mothers who died, 59 were treated or delivered in hospital, of whom 40 were admitted to hospital as emergency cases. Ante-natal care and supervision was satisfactory in only 29 cases, i.e., in 45 per cent. of the total number; it was inadequate in 13 cases and entirely absent in 22 cases, almost entirely because of lack of intelligent co-operation of the patients.

Puerperal Sepsis

Sepsis following Normal Labour.

Reg. No.	Age.	Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
20	35	Legitimate	Poor	Fairly Good	Inadequate	Emergency	Bronchitis, pericarditis.
36	30	Legitimate	Poor	Fair	Satisfactory	Emergency	General peritonitis

Sepsis following Abnormal Labour.

	37	Legitimate	1st	Poor	Fair	Satisfactory	Booked	Obstructed labour, Caesarean section.
28								

Sepsis following Abortion.

	32	Illegitimate	2nd	Poor	Very Poor	Nil	Emergency	Septic abortion, empyema.
47	34	Legitimate	1st	Fairly Comfortable	Good	Nil	Emergency	Ante-partum haemorrhage, septic abortion, severe secondary anaemia.
52	29	Illegitimate	1st	Poor	Poor	Nil	Emergency	Septicaemia following general peritonitis.
60	30	Legitimate	4th	Poor	Poor	Nil	Emergency	Septic abortion.
62	30	Legitimate	4th	Poor	Poor	Nil	Emergency	Septic abortion.

Toxæmia (not Eclampsia).

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
21	23	Legitimate	1st	Poor	Poor	Satisfactory	Booked	Hyperemesis gravidarum, uræmia, therapeutic abortion—10 weeks.
39	34	Legitimate	1st	Comfortable	Good	Satisfactory	Emergency	Ten weeks' pregnancy, patient died undelivered.
46	22	Legitimate	2nd	Poor	Poor	Nil	Emergency	Hyperemesis gravidarum.
58	43	Legitimate	4th	Fairly Good	Poor	Nil	—	Induction of labour, acute atrophy of liver.
64	32	Legitimate	1st	Fairly Comfortable	Good	Satisfactory	Booked	Miscarriage due to acute toxæmic kidney of pregnancy. Severe peritonitis, caecal abscess.

Eclampsia.

35	30	Legitimate	2nd	Fair	Fair	Inadequate	Emergency	Patient died undelivered.
51	20	Legitimate	1st	Poor	Poor	Satisfactory	Booked	Protracted labour, intra-partum eclampsia.

Hæmorrhage.

1	20	Illegitimate	1st	Poor	Fair	Satisfactory	Booked	Post-partum hæmorrhage, atony of uterus.
7	32	Legitimate	3rd	Poor	Fair	Satisfactory	Emergency	Concealed accidental hæmorrhage, Caesarean section
15	26	Illegitimate	3rd	Fairly comfortable	Poor	Inadequate	Emergency	Placenta prævia, pleurisy.
24	32	Illegitimate	3rd	Poor	Fair	Nil	Emergency	Ectopic pregnancy.
32	21	Legitimate	1st	Poor	Fairly Good	Satisfactory	Booked	Puerperal septic infection, secondary hæmorrhage.
33	42	Legitimate	8th	Poor	Fair	Inadequate	Emergency	Concealed accidental hæmorrhage 26 weeks'

40	37	Legitimate	1st	Poor	Good	Satisfactory	Booked	Post-partum haemorrhage.
44	29	Legitimate	6th	Poor	Fair	Satisfactory	Booked	Post-partum haemorrhage.
45	30	Legitimate	1st	Fairly comfortable	Poor	Satisfactory	—	Post-partum haemorrhage, haemophilia.
48	29	Legitimate	4th	Poor	Poor	Satisfactory	Booked	Concealed accidental haemorrhage, patient died undelivered.
50	31	Legitimate	3rd	Fairly comfortable	Good	Satisfactory	Emergency	Post-partum haemorrhage.
54	25	Legitimate	1st	Poor	Poor	Satisfactory	Booked	Post-partum haemorrhage, difficult forceps, toxæmia of pregnancy.
56	34	Legitimate	8th	Poor	Fair	Satisfactory	Emergency	Accidental ante-partum haemorrhage. Patient died undelivered.

Shock.

9	25	Legitimate	1st	Poor	Fair	Satisfactory	Emergency	Patient died undelivered.
29	33	Legitimate	5th	Poor	Fairly Good	Nil	Emergency	Adherent placenta.

Embolism.

4	35	Legitimate	6th	Poor	Poor	Satisfactory	Emergency	Splenic anaemia, pulmonary embolism.
12	29	Legitimate	1st	Poor	Poor	Satisfactory	—	Anaemia, coronary thrombosis.
13	39	Legitimate	12th	Poor	Fairly Good	Inadequate	—	Ante-partum haemorrhage, still birth, cerebral embolism.

Dystocia.

42	27	Legitimate	2nd	Poor	Poor	Inadequate	Emergency	Ruptured uterus, obstructed labour.
59	45	Legitimate	6th	Fairly comfortable	Good	Satisfactory	Booked	Operation for ruptured uterus, atony.

Pneumonia.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
6	39	Illegitimate	4th	Poor	Fairly Good	Nil	Emergency	Early pregnancy, patient died undelivered.
10	22	Legitimate	2nd	Poor	Poor	Nil	Emergency	Premature birth due to onset of pneumonia.
11	36	Legitimate	6th	Poor	Poor	Satisfactory	Emergency	Premature birth due to onset of pneumonia.
16	22	Illegitimate	1st	Poor	Poor	Nil	Emergency	Patient suffered from heart disease. Broncho-pneumonia developed 3 days after the birth of the baby.
19	30	Legitimate	1st	Fair	Fair	Satisfactory	Emergency	Patient suffered from severe anaemia and heart disease. Broncho-pneumonia developed after delivery.
23	28	Legitimate	3rd	Fairly Comfortable	Poor	Inadequate	Emergency	Premature labour due to onset of pneumonia.
30	33	Legitimate	5th	Poor	Poor	Nil	Emergency	Patient died undelivered.
31	24	Legitimate	5th	Poor	Poor	Inadequate	Emergency	Onset of pneumonia at time of delivery.
34	34	Legitimate	6th	Poor	Fair	Nil	Emergency	Premature birth due to onset of pneumonia, pneumococcal peritonitis.
53	32	Legitimate	2nd	Fairly Comfortable	Fair	Satisfactory	Booked	Caesarean section on account of abnormality of child and obstructed labour. Broncho-pneumonia developed later.
61	41	Legitimate	2nd	Fairly Comfortable	Fair	Nil	Emergency	Miscarriage due to gastric ulcer. Terminal pneumonia.
63	34	Legitimate	2nd	Poor	Good	Satisfactory	Emergency	Abortion at 24 weeks due to onset of pneumonia.

Cardiac Disease.

5	35	Legitimate	6th	Poor	Poor	Emergency	Mitral stenosis, endocarditis, failure of compensation. Patient died undelivered.
14	23	Legitimate	2nd	Poor	Fair	Booked	Secondary anaemia, third stage bleeding, myo-carditis.
17	19	Legitimate	1st	Poor	Poor	Emergency	Old established heart disease, Caesarean section at the 36th week.
25	38	Legitimate	1st	Poor	Poor	Booked	Mitral stenosis, failure of compensation, premature delivery.
26	30	Legitimate	1st	Poor	Poor	Booked	Chronic myocarditis, chronic bronchitis and asthma, Caesarean section, acute dilatation of heart.
27	35	Legitimate	3rd	Fair	Poor	Booked	Established heart disease, premature labour.
43	30	Legitimate	11th	Poor	Poor	Booked	Graves' disease, pleurisy.

Chronic Renal Disease.

38	35	Legitimate	8th	Poor	Poor	Emergency	Long standing nephritis, uraemia, premature labour.
55	22	Legitimate	1st	Poor	Fairly Good	Emergency	Bronchitis, bronchiectasis, extensive pyelitis, septic broncho pneumonia.

Pulmonary Tuberculosis.

41	31	Legitimate	2nd	Poor	Poor	Emergency	Abortion, notified case of phthisis.
49	20	Legitimate	1st	Poor	Poor	Emergency	Tubercular laryngitis, phthisis, premature labour.

Unclassified.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
2	34	Legitimate	2nd	Fairly comfortable	Poor	Satisfactory	Booked	Aplastic anaemia.
3	30	Legitimate	5th	Poor	Poor	Nil	—	Prolonged labour, ante-partum haemorrhage, gastric haemorrhage.
8	31	Legitimate	6th	Poor	Fairly Good	Satisfactory	Booked	Prepatellar bursitis, pyaemia.
18	35	Legitimate	1st	Fairly Comfortable	Poor	Nil	Emergency	Acute suppurative mastoiditis. Patient died undelivered.
37	28	Legitimate	2nd	Poor	Fairly Good	Inadequate	Emergency	Lobar pneumonia, erysipelas.
57	36	Legitimate	9th	Poor	Fair	Nil	Emergency	Hydatidiform mole.

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 785, which consisted of:—

Mild cases	...	...	...	...	...	...	648
Severe cases	...	...	...	...	...	...	137
Total							785

These cases were dealt with as follows:—

Number treated in the homes by special nurse	...	256
„ attended at hospital as out-patients and treated by special nurse	... ..	85
„ admitted to hospital	... ..	25
„ treated by medical attendants and special nurse	... ..	198
„ treated by medical attendants alone	... ..	179
„ treated and cured in hospital	... ..	34
„ removed (unable to trace address)	... ..	1
„ removed from district	... ..	7
		785
„ of cases brought forward from previous year..		26
Total		811

Number of cases cured	...	...	...	...	768
„ died under treatment	...	...	...	...	9
„ under treatment at 31/12/37	...	...	...	...	24
„ unable to trace	...	...	...	...	1
„ removed from district	...	...	...	...	7
„ sight impaired (1 eye)	...	...	...	...	1
„ „ lost	...	...	...	...	1
					811

In addition to the above, 20 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.
785	120	15	12.5	1.9

The total number of visits and re-visits paid in respect of the above cases was 4,900.

During the year there were 2 cases of congenital defect.

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 21 babies were admitted with their mothers.

Nursing Homes.

Liverpool Corporation Act, 1921, Midwives and Maternity Homes Act, 1926, Nursing Homes Registration Act, 1927, and the Public Health Act,

1936.—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. Seven registrations were cancelled, in two cases because the keeper of the nursing home desired to give up practice, one was cancelled and re-registered, two owing to ill-health of the keeper, one because the keeper became a municipal midwife, one because the keeper retired on compensation under the Midwives Act, 1936. No further exemptions other than those already granted were applied for.

The Nursing Homes on the register at the end of the year numbered 44, the approximate number of beds being 272.

Babies born in Nursing Homes during the year numbered 621, including 4 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, cases of weaning, maternal mortality, etc. Such visits during 1937 numbered 1,409.

THE HEALTH VISITORS' DEPARTMENT.

This 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 Act, 1915, and the Public Health Act, 1936.
- (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) Child life protection. Visiting under Part I of the Children Act, 1908; Children and Young Persons Act, 1932, and since October, 1937, under the Public Health Act, 1936.
- (9) Special visits:—
 - (a) Measles, whooping cough and pneumonia.
 - (b) Infantile diarrhœa.
 - (c) "House to house" inspection.
- (10) 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 55 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, four at Walton Hospital, five at Mill Road Infirmary, three at Smithdown Road Hospital, three are administered by the Child Welfare Association, and the remaining 23 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 6,152.

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.

Number of voluntary attendances	...	...	...	5,123
„ sent by midwives	...	...	...	3,693
„ recommended by friends	...	...	...	1,713
„ of return cases	...	...	...	4,070
„ sent by medical practitioners	...	...	...	1,415
„ „ health visitors...	...	...	...	231
„ „ hospitals	...	...	...	601

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

Total new cases	...	...	...	...	16,846
Total attendances	...	...	...	...	92,290

It is interesting to note that approximately 90 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 10,764 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, Tuberculin-tested 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 number of children admitted to the various child welfare clinics in the city :—

Admissions during the year	...	...	...	...	12,176
Total attendances	...	...	...	...	200,229

There are 23 centres at which 60 sessions are held per week.

The percentage of attendances amounted to 60·3 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 diarrhoea 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.

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 1937, 403 children under five years of age were referred for special treatment to this department summarised as follows:—

Defective vision	...	...	...	...	...	...	250
Otorrhœa	...	...	...	...	...	...	65
Orthopædic defects	...	...	...	...	...	...	88

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.

Statistics Relating to Home Visits.

Visits to expectant mothers by health visitors 7,931

*Visits under the Notification of Births Act, 1915, and
Public Health Act, 1936.*

Number of births visited during the year 17,669

Re-visits to births during the year 70,669

Re-visits to infants of 1 year to 5 years of age 91,046

*Visits paid to homes of nurse children under the Public
Health Act, 1936, and Children and Young Persons
Act, 1932* 1,083

*After-care visits to children under one year of age
discharged from Municipal Hospitals:—*

Visits to 286 cases from Alder Hey Hospital 758

„ „ 169 cases from Olive Mount Hospital 461

Visits to cases of infectious disease, etc.

Visits to cases of measles (first visits, 3,992) 7,369

„ „ „ whooping cough (first visits, 52) 115

„ „ „ pneumonia 838

„ „ „ infantile diarrhoea 625

Child Life Protection.

**Administration of Children and Young Persons Act, 1932, and Public
Health Act, 1936, Sections 206-220.**

(a) Number of persons receiving children for reward on the
Register at the end of the year 1937 119

(b) Number of children on the Register.

(1) at the end of the year 170

(2) who died during the year (in homes) 1

(3) in hospitals 4

(4) on whom inquests were held during the year nil

(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 494, equal to a rate of 29 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.

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 these deaths. It will be noted, however, how few of the total deaths occur at this early age from gastro-enteritis or diarrhœa. (See Appendix "D".)

Deaths from Diarrhœa and Enteritis.

Results of Enquiry.

Enquiries were made into the 174 deaths recorded during the year 1937. In a few instances, the parents could not be traced. In 12 cases, there was a prominent history of wasting or marasmus; in 35 there were respiratory complications; congenital abnormality accounted for one death, in 16 cases the infant was known to have been premature, and in 37 other cases there was associated disease. In 9 instances where death was ascribed to enteritis there was no diarrhœa.

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

Under 7 days	...	...	...	...	...	nil
7 days and under 14 days	...	...	...	...	...	3 cases
14 days and under 21 days	...	...	...	...	...	2 cases
21 days and under 28 days	...	...	...	...	...	4 cases

Acute intestinal infections are uncommon at these early ages when the child is usually breast-fed. Two of these cases were not breast-fed,

owing to the death of the mother in one case and in the other case the mother was suffering from tuberculosis.

Social Conditions.—Nine of the children who died were illegitimate. In 95 cases the home conditions and storage of food were unsuitable; in 61 cases the father was unemployed; in 4 cases the parents were separated and in one case the mother was working.

Methods of feeding.—The majority of 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 feeding, the cases were:—

Entirely breast-fed	...	...	...	...	...	...	17
Breast and artificial feeds at time of death	...	...	...	...	...	...	9
*Previously breast-fed, but artificially fed at time of death...	...	...	...	...	...	...	120
Artificially fed entirely	...	...	...	...	...	...	11
No history obtainable or inadequate information	...	...	...	...	...	...	12

*50 of these cases were breast-fed for one month or less.

See also pages 73-77 for further details relating to diarrhoea and enteritis.

Carnegie Welfare Centre.

The Carnegie Welfare Centre has now completed 14 years as a most useful and educational welfare centre in the city.

During 1937 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, and one ante-natal clinic is 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 1937 was 149, and the reasons for admission were:—

1. Failure to make normal progress	...	...	...	...	...	...	...	...	38
34 improved.									
2 still under treatment.									
2 transferred to hospital.									
2. Infantile Dyspepsia and Prematurity	...	...	...	...	...	...	...	...	28
18 improved.									
7 died.									
1 taken home.									
2 still under treatment.									
3. Rickets	...	...	...	...	...	...	...	...	50
41 improved.									
2 taken home for private medical attention.									
7 still under treatment.									
4. Observation Cases	...	...	...	...	...	...	...	...	33
25 sent home well.									
1 died.									
7 still under observation.									
Total									149

The average duration of stay in the wards has been 35·8 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 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 1937	...	...	...	...	...	...	579
Attendances	...	...	...	...	...	...	7,027
Still under treatment	...	...	...	...	...	...	80
<i>Rickets</i>	...	...	...	...	...	...	249
150 good results.							
61 poor results.							
38 discontinued treatment before the course was completed.							
<i>Failure to make normal progress</i>	...	...	...	...	...	...	216
137 good results.							
24 poor results.							
55 discontinued treatment.							
<i>Anæmia</i>	...	...	...	...	...	...	34
21 good results.							
5 poor results.							
8 discontinued treatment.							

Dental Clinics.

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

Attendances at all clinics:—

New cases	...	...	...	...	...	1,707
Ante-natal and post-natal mothers	...	...	...	...	...	1,496
Children	...	...	...	...	...	211
Number of extractions	...	...	...	...	...	5,945
„ „ fillings	...	...	...	...	...	13
Total attendances	...	...	...	...	...	2,280

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 Day Nurseries is 178 and in the Voluntary Nurseries 126.

Statistics relating to Corporation Day Nurseries.

NEW ADMISSIONS

Age.	West-minster Road.	Smith-down Lane.	Gt. George Square.	Garston.
Under 1 year	20	32	28	28
1 year—2 years	32	30	19	16
Over 2 years	29	30	33	14
TOTAL	81	92	80	58
Total attendances	17,017	10,516	8,792	10,063

Condition on Admission.

Good	9	24	28	15
Fairly good	46	35	37	23
Poor	26	33	15	20
TOTAL	81	92	80	58

Number of Cases of Illness contracted during the year.

Infectious	24	23	30	5
Other illness	4	7	6	7
TOTAL	28	30	36	12

MILK DEPOTS.

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

There were 7,448 persons on the books at the beginning of the year, 16,489 admitted during the year, and 6,779 who had milk previously and had been re-admitted, making a total of 23,268. 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 ...	1,031	1,035	478	81	665	3,290
Earle Road ...	301	496	480	123	247	1,647
Park Road ...	531	488	388	88	271	1,766
Boaler Street ...	520	534	381	51	312	1,798
Holly Street ...	743	560	327	125	428	2,183
Rathbone Road ...	107	419	348	64	88	1,026
Mill Street ...	87	196	119	32	149	583
Scarisbrick Road ...	401	389	241	38	363	1,432
Agents ...	89	1	352	319	2,003	2,764
	3,810	4,118	3,114	921	4,526	16,489

The total quantity of milk supplied during the year was 119,673 gallons, and 347,587 bottles were filled. The amount of dried milk supplied was 378,292 lbs.

Total cases on books, January 1st, 1937	...	...	7,448
„ „ admitted during the year	...	...	16,489
„ „ re-admitted during the year	...	...	6,779
Total supplied during 1937	...	...	30,716
Remaining on the books at the end of the year	...		7,131

Quarterly Average—January, February, March	...	7,526
„ „ April, May, June	... ..	7,160
„ „ July, August, September	...	6,890
„ „ October, November, December	...	7,460

The highest number supplied with milk at one time was 7,712 during the week ended March 5th.

Since the initiation of the scheme in 1901 down to the end of the year 1937 the number of persons supplied with milk has reached a total of 240,603.

A scale of assessment is in operation which is amended, in each case, about every four weeks.

Sessions are held at each milk depot weekly or bi-weekly for the purpose of interviewing mothers supplied with milk from that depot. Each mother's circumstances are reviewed periodically, and the necessary adjustments made in their assessments. The number of attendances of persons at the centres during the year for advice and payment for milk, etc., was 55,992. The number of visits paid during the year to children in their own homes by the health visitors attached to the depots in order to see that the children were being properly fed and the milk properly used, was 6,186. From time to time information concerning cases is received from the district health visitors and from clinics.

TUBERCULOSIS

TUBERCULOSIS

Out of a total of 1,000 primary notifications of pulmonary tuberculosis 1715 were received from private and 327 from hospital practitioners, whilst in the case of non-pulmonary tuberculosis these figures are 183 and 202 respectively, forming a total of 385.

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.

In Table IV is shown the number of cases on the notification and dispensary registers at the end of the year, the difference (1287) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued their treatment under this authority before reaching the fifth year. A few notified cases are also included in which the patients have refused to make use of the treatment facilities which are available.

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD FROM 1ST JANUARY, 1937,
TO 31ST DECEMBER, 1937:—

TABLE I.

Age-periods.	Notifications on Schedule A.											Total Primary Notifica- tions.	Total Notifica- tions on Form A. (includ- ing dupli- cates.)
	Number of Primary Notifications of New Cases of Tuberculosis.												
	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-		
Pulmonary—													
Males	—	15	41	21	56	80	153	146	158	99	27	796	947
Females	1	14	28	38	126	155	185	104	64	24	20	759	913
Non-Pulmonary—													
Males	3	36	44	35	35	14	14	14	4	6	—	205	236
Females	5	33	29	31	29	15	12	14	8	3	4	183	230

Out of a total of 1,555 primary notifications of pulmonary tuberculosis 1,218 were received from private and 337 from hospital practitioners, whilst in the case of non-pulmonary tuberculosis these figures are 182 and 206 respectively, forming a total of 388.

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 (3,376) 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 ...	3,127	2,534	1,216	1,255	8,132
Number of established cases on the Dispensary Register	1,945	1,460	662	689	4,756
Difference	1,182	1,074	554	566	3,376

In Table III is given an analysis of the 3,376 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III

Whereabouts Known.	Pulmonary Tuberculosis.						Non-Pulmonary Tuberculosis.						Totals.
	Males.			Females.			Males.			Females.			
	State of the Disease.						State of the Disease.						
	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	
Totals	64	342	776	74	314	686	54	246	254	49	279	238	3,376

Tuberculosis Clinics and Dispensary System.

During 1937 the Tuberculosis Officers have conducted 3,530 consultations either at the Tuberculosis Clinics, or in the patients' homes, in addition to which 2,434 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.				GRAND 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 ...	478	369	51	52	68	76	90	79	546	445	141	131	1,263	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	17	26	11	8	62	
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	372	427	248	176	1,223	
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous ...	1	5	3	3	—	—	—	2	1	5	3	5	14	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	79	137	311	243	770	
C.—CASES written off the Dispensary Register as :—														
(a) Recovered ...	69	69	23	15	27	30	30	25	96	99	53	40	288	
(b) Non-tuberculous (including any such cases previously diagnosed and entered on the Dispensary Register as tuberculous) ...	—	—	—	—	—	—	—	—	451	564	559	419	1,993	
D.—NUMBER OF CASES on Dispensary Register on Dec. 31 :														
(a) Definitely tuberculous ...	1,681	1,258	264	202	239	344	423	345	1,920	1,602	687	547	4,756	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	17	26	11	8	62	

1. Number of cases on Dispensary Register on January 1st ...	5,269	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...	304
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ...	1,047	4. Cases written off during the year as Dead (all causes) ...	75
5. Number of attendances at the Dispensary (including Contacts) ...	16,264	6. Number of Insured Persons under Domiciliary Treatment on the 31st December ...	87
7. Number of consultations with medical practitioners :— (a) Personal ... (b) Other ...	49 3,481*	8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...	1,04
9. Number of visits by Nurses or Health Visitors to homes of patients ...	30,350	10. Number of :— (a) Specimens of sputum, etc., examined (b) X-ray examinations made in connection with Dispensary work. ...	3,353 1,264
11. Number of "Recovered" cases restored to Dispensary Register, and included in A (a) and A (b) above... ..	11	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...	1,870

* In addition to 3,530 consultations, 2,434 reports concerning patients were sent to medical practitioners

General Remarks.

The city death rates for the year 1937 for pulmonary and non-pulmonary tuberculosis are 0.79 and 0.13 per 1,000, respectively, making a total of 0.92 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.

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 cases in which notification has been overlooked is small. (See Table XVII.)

Though all due recognition must be given to the part played by modern methods of diagnosis and treatment in enhancing the prospects of recovery in cases of tuberculosis, it is, nevertheless, essential to realise that the success of any campaign against this disease still depends very greatly upon appropriate propaganda directed towards the education of the public.

Tuberculosis, like Cancer and Venereal Disease, has always been the subject of a certain degree of "hush-hush" policy. This attitude towards cancer has, however, undergone a change during recent years when local authorities and the press have combined to urge upon the public the great importance of early diagnosis as affording the most favourable prospect of recovery. It is equally desirable that a similar attitude should be maintained towards tuberculosis and the confidence of the public established in the many facilities afforded by the Tuberculosis Scheme.

RADIOLOGY. Considerable use is being made of the X-ray plant in connection with the work of the Tuberculosis Clinics, 1,260 cases having been radiographed during the year. Concentration on greater precision in diagnosis at the Clinics has been the means of excluding many cases which otherwise would have received treatment for tuberculosis, thus overtaxing accommodation in the sanatoria at a time when beds tend to be occupied for longer periods owing to the increasing use of certain therapeutic measures such as Artificial Pneumothorax.

In addition to the above, 6,151 radiographs and 5,555 screenings have been carried out by the radiologist in connection with the treatment and investigation of cases already in sanatoria.

LIGHT THERAPY. In accordance with arrangements previously described, 5,529 treatments by Ultra Violet Rays were carried out at Belmont Road Hospital in addition to a total of 6,302 such treatments at the Sanatoria. The conditions treated included Lupus Vulgaris, Lupus Verrucosa, Cold Abscess, Tubercular Joint Disease, and Tubercular Cervical and Mesenteric Glands.

MANTOUX REACTION. This intradermal test has been applied in 478 cases at the Tuberculosis Clinics, and where negative, has been of considerable assistance in diagnosis.

Children under two years of age giving a positive Mantoux reaction, but in whom no other evidence of tuberculosis is found, are regarded as suspects and kept under close observation at the Clinics.

An interesting survey of Mantoux testing has been carried out by Dr. J. Rushworth at the South Tuberculosis Clinic, the results of which are shown in the chart facing this page. The percentage of positive reactions increases from infancy to adolescence, in both home contact and the non-contact series, but the curve of the home contacts runs above that of the non-contacts up to the age of 15 years.

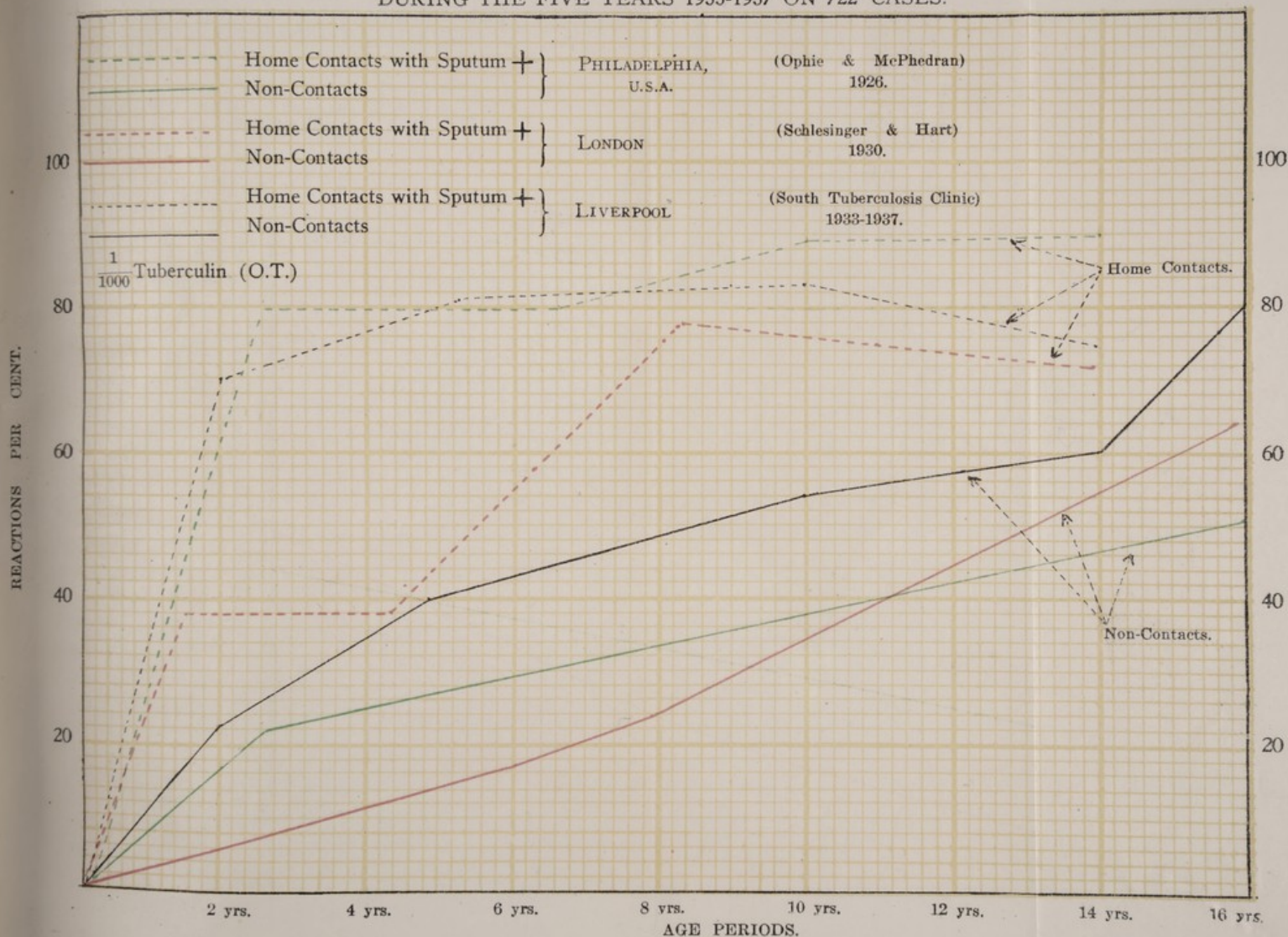
By 5 years of age 80 per cent. of the home contacts have become infected (in Liverpool), 50 per cent. of the non-contacts are infected (in Liverpool) by 9 years of age. Both groups are tubercularized to the same extent when adult life is reached. It should be noted that "infection" does not necessarily imply the subsequent development of actual "disease."

CONTACTS. During the year the tuberculosis officers examined 784 persons who are known to have been in contact with infectious cases of pulmonary tuberculosis and found evidence of disease in 14, or 1.78 per cent.

Many cases come to the notice of the tuberculosis officers which only give a short history of illness, but are found on investigation to have

CITY OF LIVERPOOL.

A SURVEY OF THE RESULTS OF MANTOUX TESTS AT THE SOUTH TUBERCULOSIS CLINIC,
DURING THE FIVE YEARS 1933-1937 ON 722 CASES.



A SURVEY OF THE RESULTS OF MANTOUX
TESTS DURING THE FIVE YEARS

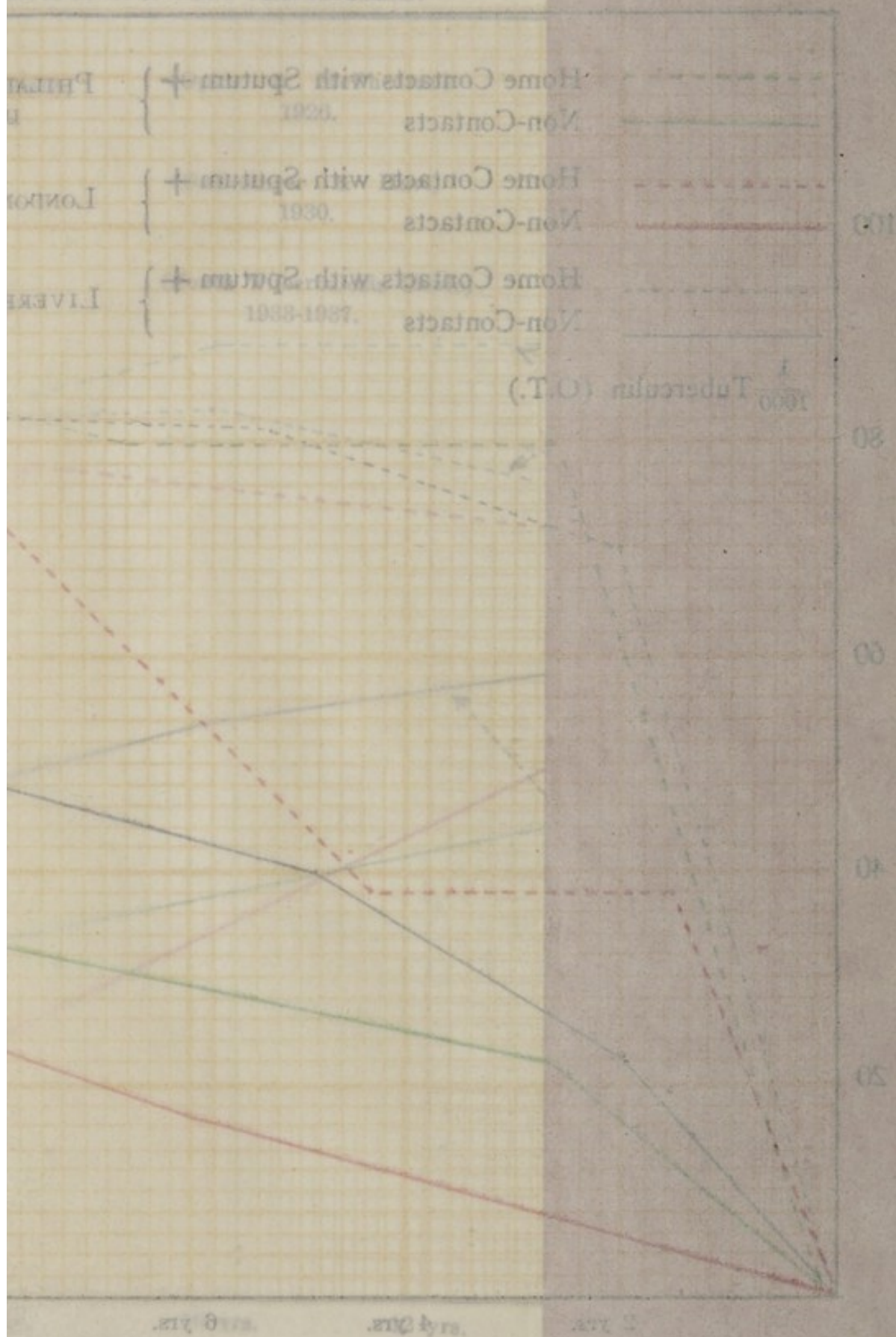


TABLE VI--NON-PULMONARY TUBERCULOSIS.

(a) The condition at the end of 1927 of all patients remaining on the Dispensary Register; and (b) the reasons for the removal of all cases written off the Register.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1927.																								1927.																								1928.																								1929.																								1930.																								1931.																								1932.																								1933.																								1934.																								1935.																								1936.																								1937.																																																																																																																																																																																																																																																																																																																																																																	
			Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs	Periosteal	Total	Bones and Joints	Abdominal	Other Organs

extensive disease. This stresses the great importance of the policy of contact examinations which is now being undertaken extensively at the Tuberculosis Clinics, where all contacts are periodically examined so long as an "open" case remains in the household.

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.

It is noteworthy that of 973 new pulmonary cases whose names were entered on the dispensary register during the year, 559 (57 per cent.) were in a very advanced stage of disease, and by the end of the year, 241 (24·7 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	2	—	2	} 6
	Females	3	1	4	
NON-INSURED PERSONS	Male Adults	14	9	23	} 197
	Female Adults	31	15	46	
	Male Children*	28	32	60	
	Female Children*	32	36	68	
TOTALS ... ..	... ..	110	93	203	

* 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	347	66	413	646
	Females	154	79	233	
NON-INSURED PERSONS	Male Adults	189	79	268	1511
	Female Adults	262	153	415	
	Male Children* . . .	181	309	490	
	Female Children* ...	112	226	338	
TOTALS ...	... ..	1245	912	2157	

* 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, 117 pulmonary and 85 non-pulmonary cases were nursed in their homes, and to these cases 10,039 visits were paid. Extremely valuable work has also been performed by 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, 1,381 patients remained under domiciliary treatment of whom 873 were persons insured under the National Health Insurance Act, and in receipt of treatment from their panel doctors and 508 were not insured and were under the treatment of doctors of their own choice. The domiciliary reports received relating to insured persons numbered 3,670, and those relating to non-insured persons numbered 2,246. 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	579	31	610
	Females	233	30	263
NON INSURED PERSONS	Male Adults ...	148	15	163
	Female Adults ...	276	30	306
	Male Children*	7	11	18
	Female Children*	9	12	21
TOTALS ...	... ..	1252	129	1381

* 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, 2,952 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.

Silicosis and Asbestosis Scheme (1931).

With the approval of the City Council, the Liverpool Tuberculosis Officers are authorised by the Secretary of State to make initial examinations of workmen engaged in occupations which expose them to the dangers of Silicosis or Asbestosis. During the year 26 workmen newly engaged in work of this description were examined, and reports were rendered to the Chief Medical Officer (Silicosis and Asbestosis Scheme).

Several radiographs were also taken in connection with this Scheme, for which a fee of £1 11s. 6d. per film is payable to the Liverpool Corporation.

A number of cases continue to be referred to the Tuberculosis Officer by the Divisional Medical Officer (Ministry of Health) and the Deputy-Commissioner of Medical Service (Ministry of Pensions).

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.

A very considerable amount of dental work is carried out at the Sanatoria, the following operations having been performed during 1937:—

Extractions under anæsthesia	...	...	...	1,141
Fillings and scalings	...	...	...	188
Miscellaneous	...	...	...	535

Special Treatment.

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

Artificial Pneumothorax (New inductions)	...	103
Artificial Pneumothorax Refills	...	7,074
Cases treated by Gold Injections	...	352
Thoracic Operations, including Phrenicectomy, Thoracoscopy, Bronchography, Thoracoplasty, etc.	...	23
Laryngological Operations	...	47

WALTON HOSPITAL.

One hundred and thirty-four beds are available in this hospital for cases of tuberculosis, and the close co-operation existing between the Medical Superintendent and the Tuberculosis Officer has borne excellent results. All the most modern methods of surgical and medical treatment of tuberculosis are being carried out, 51 chest operations having been performed and 215 cases medically treated with gold salts or other preparations during the past year. Most promising results have also been obtained by immobilization of the chest in plaster, thus proving the great value of absolute rest in the healing of tuberculous lesions. Outdoor gardening has also been introduced during the year with beneficial results.

TABLE XII.

ALDER HEY HOSPITAL. Tuberculosis Beds, 100.

This table shows the cases dealt with during the period from 1st January, 1937, to 31st December, 1937:—

	In Alder Hey, 31.12.36.	Subsequent Admissions.	Discharged.	Deaths.	Remaining, 31.12.37.
Pulmonary ...	1	36	25	8	4
Non-Pulmonary ...	68	133	102	39	60
TOTALS ...	69	169	127	47	64

The total accommodation in approved institutions made use of for patients suffering from tuberculosis was 1,093 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	126	287	30	16	463
Adult Females ...	3	99	206	28	10	346
Children under 15 ...	3	101	5	94	81	284
TOTAL ...	10	326	498	152	107	1,093

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	1	33	34	—	—
	Adult females	—	2	2	—	—
	Children	1	7	7	—	1
	Total	2	42	43	—	1
Number of patients suffering from pulmonary tuberculosis	Adult males	429	674	466	236	401
	Adult females	286	494	345	139	296
	Children	118	114	118	17	97
	Total	833	1,282	929	392	794
Number of patients suffering from non-pulmonary tuberculosis	Adult males	50	82	79	14	39
	Adult females	42	99	95	10	36
	Children	189	249	250	47	141
	Total	281	430	424	71	216
GRAND TOTALS ...		1,116	1,754	1,396	463	1,011

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

TABLE XV.

CLASSIFICATION ON Admission to the Institution.		Condition at time of Discharge.	DURATION OF RESIDENTIAL TREATMENT IN THE INSTITUTION.												TOTALS.			GRAND TOTAL.
			Under 3 months but over 28 days.			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 T.B. minus.	Quiescent ...	17	8	4	14	11	7	14	12	5	3	5	31	48	36	47	131	
	Not Quiescent ...	18	11	3	4	7	3	1	—	3	2	3	10	25	21	19	65	
	Died in Institution	10	8	1	4	1	—	—	1	—	1	2	—	15	12	1	28	
Class T.B. + Group 1	Quiescent ...	5	—	—	10	3	—	5	4	2	4	1	2	24	8	4	36	
	Not Quiescent ...	4	3	1	1	2	—	3	5	1	—	2	—	8	12	2	22	
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Class T.B. + Group 2	Quiescent ...	8	2	—	11	5	—	16	13	—	10	11	—	45	31	—	76	
	Not Quiescent ...	40	33	—	41	20	—	40	20	3	37	25	3	158	98	6	262	
	Died in Institution	1	2	—	1	2	—	1	—	—	1	1	—	4	5	—	9	
Class T.B. + Group 3	Quiescent ...	1	1	—	1	1	—	1	—	—	—	—	—	3	2	—	5	
	Not Quiescent ...	22	15	—	11	13	—	11	11	—	11	16	1	55	55	1	111	
	Died in Institution	59	42	3	31	17	—	27	11	1	38	17	1	155	87	5	247	
TOTALS (Pulmonary)...		185	125	12	129	82	10	119	77	15	107	83	48	540	367	85	992	
Bones and Joints.	Quiescent ...	3	5	9	4	1	2	6	1	13	14	5	31	27	12	55	94	
	Not Quiescent ...	2	2	4	—	3	1	2	2	—	2	2	1	6	9	6	21	
	Died in Institution	4	1	3	1	—	1	2	1	—	1	2	1	8	4	5	17	
Abdominal.	Quiescent ...	1	1	2	—	2	4	—	5	5	1	—	10	2	8	21	31	
	Not Quiescent ...	1	1	2	—	—	1	—	—	3	—	—	—	1	1	6	8	
	Died in Institution	1	2	—	—	—	—	1	—	—	—	—	—	2	2	—	4	
Other Organs.	Quiescent ...	3	3	1	—	2	—	1	—	2	2	1	1	6	6	4	16	
	Not Quiescent ...	3	1	—	—	—	—	1	1	—	—	—	1	4	2	1	7	
	Died in Institution	1	—	1	—	—	—	—	—	—	—	—	—	1	—	1	2	
Peripheral Glands.	Quiescent ...	—	1	12	1	1	6	1	2	13	—	1	17	2	5	48	55	
	Not Quiescent ...	5	—	10	1	1	—	—	—	1	—	—	3	6	1	14	21	
	Died in Institution	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1	
TOTALS (Non-Pulmonary)		24	17	45	7	10	15	14	12	37	20	11	65	65	50	162	277	

TABLE XV.—*continued.*

Observation for purpose of Diagnosis.		PULMONARY TUBERCULOSIS						NON-PULM. TUBERCULOSIS						TOTALS			GRAND TOTAL
		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.	
Tuberculous	...	—	1	1	—	—	1	—	—	—	—	—	1	—	1	3	4
Non-Tuberculous		19	1	3	8	—	1	3	—	—	3	—	—	33	1	4	38
Doubtful...	...	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	1
		19	2	4	9	—	2	3	—	—	3	—	1	34	2	7	43

**Extent of Residential Treatment provided during the year 1937 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. 31st.	
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment.				Adult Males.	5	91	77	15	4
				Adult Females	4	52	49	4	3
				Children*	—	1	1	—	—
				Total	9	144	127	19	7
Number of patients suffering from Non-Pulmonary Tuber- culosis admitted for treatment				Adult Males	4	24	23	5	—
				Adult Females	—	15	13	1	1
				Children*	—	—	—	—	—
				Total	4	39	36	6	1
Grand Total				13	183	163	25	8	

*Under 15 years of Age.

CLEAVER SANATORIUM. Beds, 200.

Considerable improvements are being made in this Sanatorium which is now under the direct supervision of the Chief Clinical Tuberculosis Officer and a Resident Medical Officer. Both pulmonary and non-pulmonary cases of tuberculosis in children are treated here, and it is hoped shortly to instal an X-ray apparatus, in addition to the recently-constructed laboratory, thus making the institution more self-contained and capable of treating most types of cases on the spot and by modern methods.

	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 Pulmon- ary Tuberculosis admitted for treatment. Children	97	60	72	1	84
Number of patients suffering from Non- Pulmonary Tuberculosis admitted for treatment. Children	82	35	59	—	58
Grand Total	179	95	131	1	142

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 19,555 such visits. All these visits are the subject of reports to the Tuberculosis Officer concerned. The domiciliary visits of the nurses of the Queen Victoria District Nursing Association, to the number of 10,039, have already been referred to.

Non-Pulmonary Tuberculosis.

Table XVI gives an analysis of the 103 cases in which death was due to non-pulmonary tuberculosis.

TABLE XVI.
NON-PULMONARY TUBERCULOSIS DEATHS.

1937.	Tuberculous Meningitis.	Bones and Joints.	Abdominal.	Peripheral glands.	Other Organs.	Totals.
Males.....	7	12	4	—	2	25
Females	6	8	3	1	3	21
Children	38	1	4	2	12	57
Totals.....	51	21	11	3	17	103

Notification and Deaths.

During the year 57 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 summarised in Table XVII.

TABLE XVII.

DISEASE.	Reasons for Non-notification of Persons who died within the City.							Inward Transferable deaths referred by the Registrar General.		TOTAL DEATHS (All Forms)
	No. of Persons who died within the City.	No. of Cases not notified before death.	Diagnosis made at a Post-mortem Examination.	Diagnosis delayed owing to Clinical difficulties.	Doctor thought case had been notified by another Practitioner.	Notification forgotten.	Patient died before notification could be effected.	Notified to Liverpool before death.	Not notified.*	
Pulmonary Tuberculosis ...	662	28 4·2%	10 1·5%	3 ·45%	6 ·9%	4 ·6%	5 ·75%	16	11	689
Non-Pulmonary Tuberculosis	100	29 29%	7 7%	15 15%	3 3%	4 4%	—	2	3	105

* A number of these cases may have been notified to the Authorities of the Areas in which death took place.

Every endeavour is made to encourage early notification of cases of tuberculosis, and Table XVIII gives an analysis of the periods within which notification has been effected.

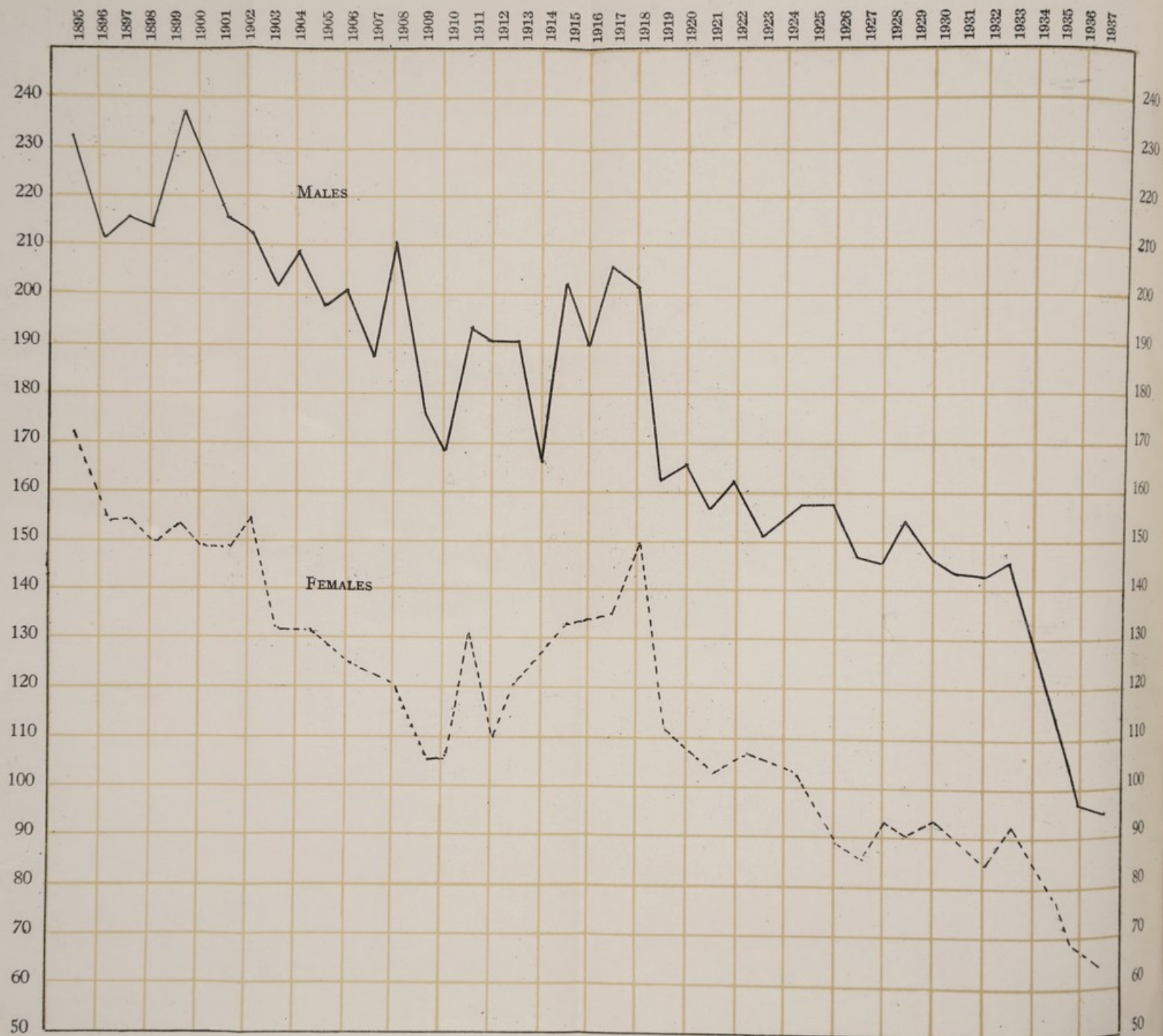
TABLE XVIII.

YEAR.	TOTAL DEATHS.				NOTIFICATIONS AND OTHER REFERENCES PRIOR TO DEATH WITHIN THE PERIODS INDICATED IN EACH COLUMN. (Figures refer to deaths within the City only.)							TOTAL DEATHS (All Forms)
	Inward Transferable deaths referred by the Registrar General.		Deaths within the City.		Within 2 weeks of death.	Within 2 to 4 weeks of death.	Within 1 to 3 months of death.	Within 3 to 6 months of death.	Within 6 to 12 months of death.	Over 12 months prior to death.		
	Not notified before death.*	Notified before death.	Not notified before death.	Notified before death.								
1933	24	36	91	1,006	127	55	109	95	126	494	1,157	
1934	18	25	81	867	99	59	127	92	110	380	991	
1935	13	17	70	842	92	33	95	97	103	422	942	
1936	23	17	87	707	87	34	89	81	74	342	834	
1937	14	18	57	705	98	39	89	65	85	329	794	

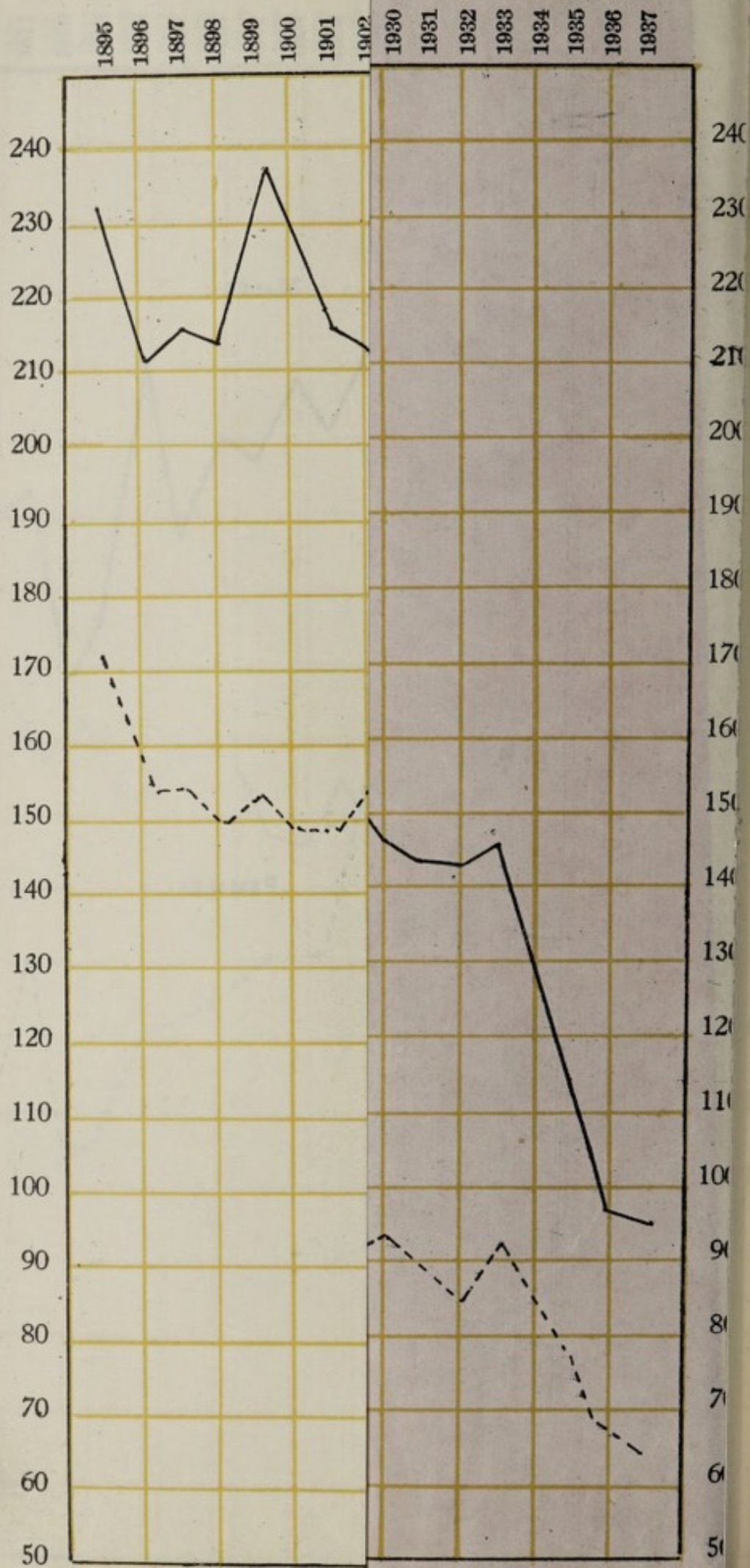
* A number of these cases may have been notified to the Authorities of the Areas in which death took place.

CITY OF LIVERPOOL.

PULMONARY TUBERCULOSIS DEATH RATES PER 100,000 POPULATION.



TION.



Deaths from Tuberculosis.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1937, 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	0.60	
1936.....	1,645	713	0.82	0.58	
1937.....	1,555	684	0.79	0.58	

* Voluntary notification from 1901 to 1911.

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

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	0.90	0.75
1881 to 1890		Nil	527	0.98	0.70
1891 to 1900		Nil	500	0.82	0.63
1901 to 1910		100*	416	0.56	0.50
1911 to 1920		716*	349	0.45	0.35
1921 to 1930		640	234	0.27	0.20
1931.....	719	164	0.19	0.15	
1932.....	672	170	0.19	0.15	
1933.....	654	148	0.17	0.13	
1934.....	585	129	0.15	0.13	
1935.....	502	123	0.14	0.11	
1936.....	445	126	0.14	0.11	
1937.....	388	112	0.13	0.11	

* 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 1937.

Age Periods.	PULMONARY.		NON-PULMONARY.	
	Males.	Females.	Males.	Females.
0—	1	2	5	9
1—	2	4	16	13
5—	1	—	10	2
10—	3	7	4	4
15—	20	33	6	6
20—	51	62	5	3
25—	64	80	3	5
35—	57	44	5	2
45—	97	26	5	4
55—	70	24	4	—
65—	26	10	—	1
TOTALS	392	292	63	49

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 1937		
	March.		June.		Sept.		Dec.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	13	7	11	5	8	5	12	2	44	19	63
Abercromby	1	6	3	1	2	1	5	—	11	8	19
St. Peters	13	3	4	5	12	3	8	6	37	17	54
Toxteth Park	6	6	9	6	10	4	3	9	28	25	53
Edge Hill & Sefton Park ...	13	10	10	9	5	5	10	10	38	34	72
Wavertree	12	2	10	2	5	7	4	4	31	15	46
Fazakerley	15	8	11	12	10	8	11	9	47	37	84
Walton & Walton Park ...	18	11	4	6	5	5	14	10	41	32	73
Kirkdale	6	2	8	7	5	6	6	6	25	21	46
Netherfield	14	8	10	7	4	8	2	13	30	36	66
Everton... ..	8	6	7	4	5	5	3	4	23	19	42
West Derby... ..	13	9	9	5	4	8	11	7	37	29	66
City	132	78	96	69	75	65	89	80	392	292	684
	210		165		140		169		57·3	42·7	
	30·7%		24·1%		20·5%		24·7%		%	%	

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 1937. Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	—	—	2	2	4	2	6	4	10
Abercromby	—	—	1	—	2	—	3	—	3
St. Peters	—	—	—	1	1	—	1	1	2
Toxteth Park	—	—	3	1	3	1	6	2	8
Edge Hill & Sefton Park	1	—	5	1	5	1	11	2	13
Wavertree	1	—	4	5	3	—	8	5	13
Fazakerley	1	—	1	3	4	3	6	6	12
Walton & Walton Park	2	—	4	2	2	1	8	3	11
Kirkdale	1	1	1	3	1	4	3	8	11
Netherfield	—	1	3	2	3	2	6	5	11
Everton... ..	—	—	1	1	—	2	1	3	4
West Derby	—	1	1	4	3	5	4	10	14
City	6	3	26	25	31	21	63	49	112
	9		51		52				

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

VENEREAL DISEASES

VENEREAL DISEASES

VENEREAL DISEASES.

Venereal diseases are a danger to the community owing to the severity of the complications and after-effects. 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 cure and to prevent the further spread of infection. The schemes prepared under these regulations have now had an extensive trial and very good results may be claimed for them.

Close co-operation between the clinics engaged in purely venereal disease treatment has progressed during the year, and the establishment of a large in-patient centre at Mill Road Infirmary has proved a distinct advantage.

All cases of venereal diseases requiring in-patient treatment are now concentrated in the special wards at Mill Road Infirmary. Pregnant women suffering from these diseases are confined there and their own health and that of their new born infants is cared for under expert hands. Periodic examinations of the children born and apparently free from disease are arranged. Infected parents are encouraged to attend the clinics until cure is accomplished. Further pregnancies are supervised and prophylactic treatment for congenital syphilis is given throughout.

It is becoming increasingly realised that the infected unit is not the individual but the family and thus whole families are examined, and, if need be, treated as the result of one diagnosed case. The maternity wards in particular of the various hospitals have referred numerous cases to the clinics for treatment, while the ante-natal centres throughout the city have sent many patients for diagnosis and treatment. It is only by a greater development of this co-operation between the health services that the large numbers of women and their families who would otherwise not be treated for this hidden scourge can come under proper treatment.

The readiness of persons infected or suspicious of infection to attend the clinics may be gauged by (1) the number of cases classed as non-venereal, e.g., in Liverpool the proportion of non-venereal cases during

the years 1934, 1935, 1936 and 1937 has been 19·6 per cent., 23·14 per cent., 23·18 per cent., and 23·43 per cent., respectively; (2) the ratio of male patients suffering from gonorrhœa of less than one year's duration to those suffering from syphilis of less than one year's duration. In the services where concealment of disease is at a minimum the ratio is 7 to 1. In Liverpool the ratio for the year was over 8 to 1 [G.1428: S₁ S₂ S₃ 172]. The inference to be drawn appears to be that the fear of venereal disease drives the patient to the clinic for advice and that the clinics are being made use of as diagnostic centres to an increasing degree.

The bugbear of the efficiency of this service to the community continues to be the defaulting patient. Considerable numbers of patients, knowing well the condition from which they are suffering, absent themselves from treatment before non-infectivity to others or safety for themselves is assured. These numbered 20 per cent. of the total number treated. The defaulting patient is one of three types:

(1) The lazy and irresponsible person who requires some form of compulsion to cause him to continue attendance.

(2) The cocksure type who fancies that he can tell when he is cured and that doctors are humbugs who do not know what they are talking about.

(3) The sensitive type who finds the visit to the clinic a daily degradation and who defaults to save his self-respect at expense of his health.

The two latter types respect efficiency and discipline in a clinic and when each visit brings them palpably nearer cure the tendency to default grows less though both may refrain from reporting for final tests of cure because of their psychological make up. In these diseases, unfortunately, there are long periods when the patient is entirely free from obvious symptoms in spite of the continued presence and internal activity of the disease. It is an unfortunate fact that of 47 patients suffering from locomotor ataxy who came for treatment to the clinic at the Stanley Hospital between the years 1919 and 1933, 44 had not received previous treatment. This would appear to give conclusive evidence that the earlier symptoms of the disease were of a trivial and ephemeral nature. During the year under review 17 per cent. of the female patients attending Mill Road Central Clinic for treatment

of syphilis defaulted in spite of at least three letters being sent to each patient asking them to return. Especially distressing is the fact that of the 19 cases of congenital syphilis under 16 years of age registered during the year, only 12 are still attending in spite of repeated letters to the parents asking for their co-operation in bringing the child for attention.

Chancroid is seen commonly at the Seamen's Dispensary (109 cases during the year) but rarely at Mill Road Infirmary Clinic (4 cases during the year) and at the Royal Infirmary (3 cases during the year). At the Seamen's Dispensary, in fact, the cases of chancroid outnumbered the cases of primary syphilis. This fact is related to the geographical distribution of venereal disease. Chancroid is mainly a disease found in tropical areas such as the Amazon region of South America, and is therefore more prevalent among seafarers than among residents of the city.

The treatment for syphilis in the first year of infection which has been the routine at the Seamen's Dispensary since 1924 is now practised at all centres in the city. Originally 1.05 grams of 914 were given weekly, but since 1928 .75 grams of 914 have been given. The bismuth dosage has remained the same. The course lasts for six weeks, as shown below:—

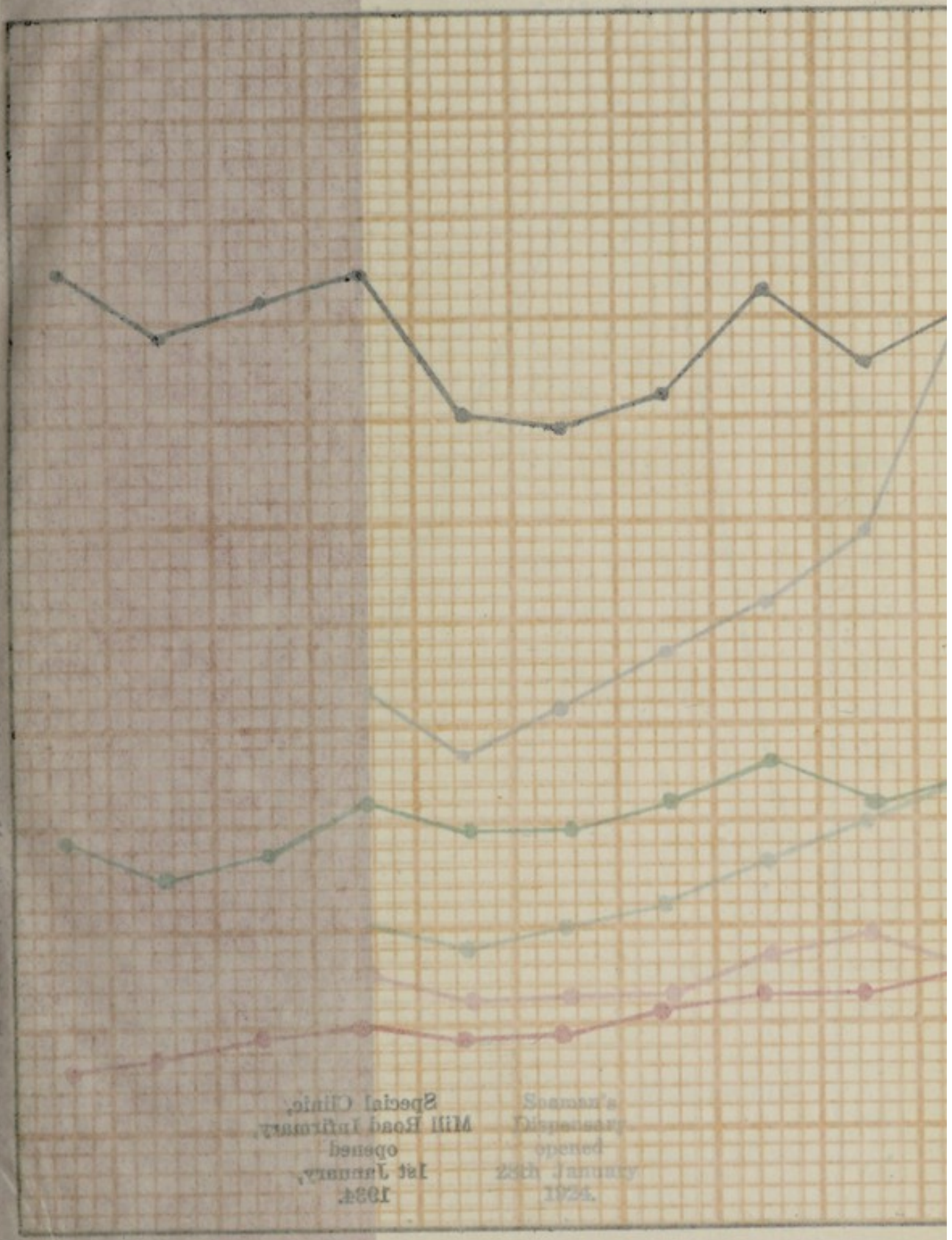
Day	1	Cent. Gms. NAB	30	Cent. Gms. Bi	20
	4		45		20
	8		30		20
	11		45		20
	15		30		20
	18		45		20
	22		30		20
	25		45		20
	29		30		20
	32		45		20
	36		30		20
	39		45		20

The NAB is dissolved in 15 c.c. of 10% solution of Sodium Thiosulphate.

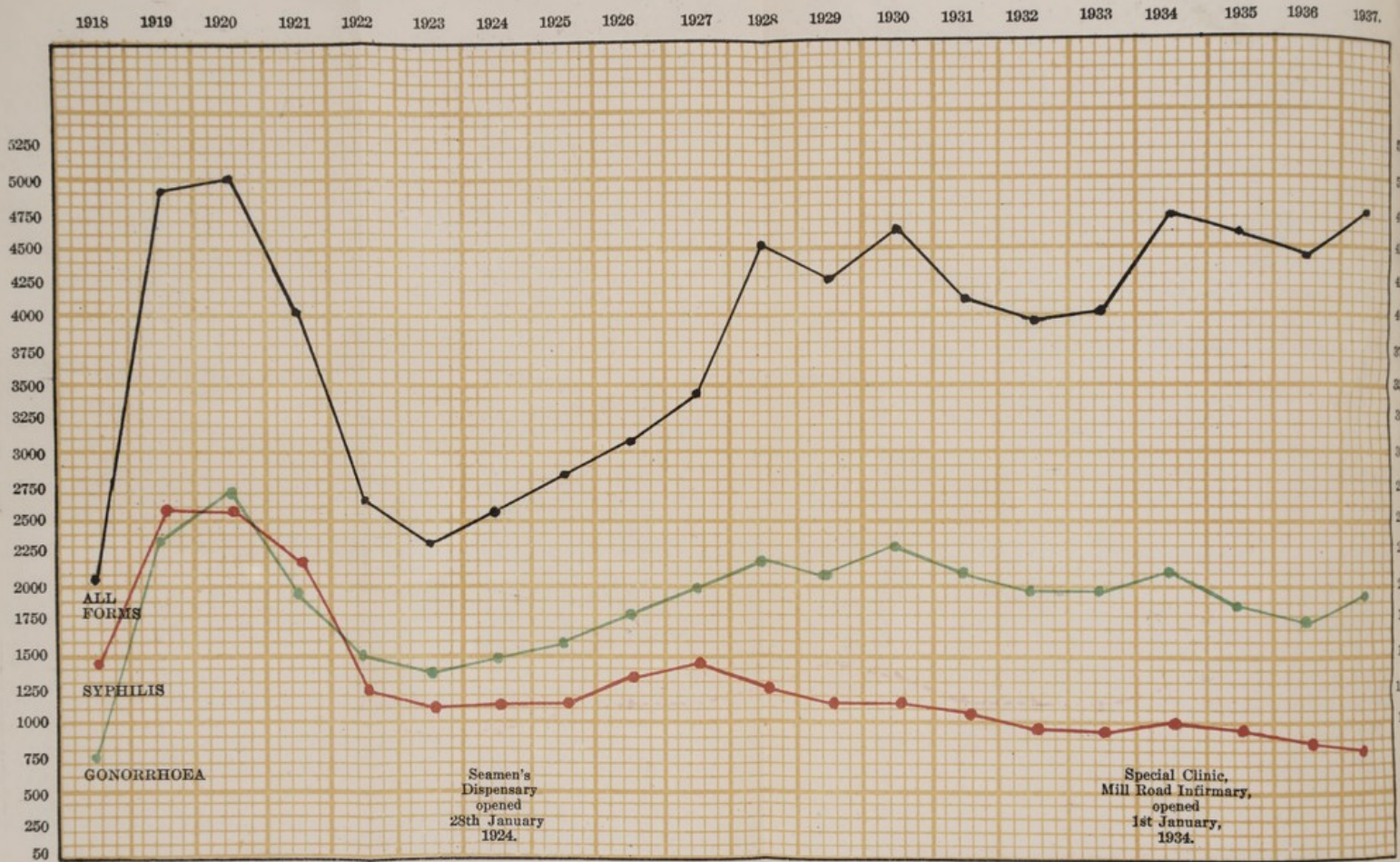
An interval is given for three months and on return the blood is taken for Wassermann test. All such cases have shown a negative Wassermann at this stage. A further course of six weeks' duration

Number of New Cases from 1918 to 1937.

1937 1936 1935 1934 1933 1932 1931 1930 1929 1928



CITY OF LIVERPOOL.
VENEREAL DISEASES. Chart shewing number of New Cases from 1918 to 1937.



exactly the same as above is given, and a six months' rest from treatment is enjoined. A Wasserman test is taken and the course repeated. Wassermann tests of blood and spinal fluid over a period of five years in every case so treated have shown only one serological relapse, and re-infection in this case could not be entirely ruled out.

The accompanying graph shows the total number of new cases of the two principal venereal diseases year by year.

The Clinics operated by the Corporation during 1937 were:—

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 table summarises the work of the treatment centres for the year 1937:—

	Seamen's Dispensary. Males only.	†Royal Infirmary.		†Mill Road Infirmary Spl. Clinic.		†Edge Lane Medical Home. Females only.	TOTAL. Males and Females.
		Males	Females	Males	Females		
New cases ...	2,258	715	226	612	452	89	4,352
Old and new patients							
Total attendances	55,131	38,088	8,717	15,158	16,934	—	134,028
In-patient days	—	63	—	9,692	11,303	6,656	27,719

† Beds for In-patients are reserved at these Institutions.

There was, therefore, an increase in the number of new patients (4,352 in 1937 compared with the number in 1936), and in in-patient days of treatment (27,719 and 20,098 respectively), but a slight reduction in the number of attendances, 134,028 and 136,518 in 1937 and 1936).

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, Wasserman reaction tests are done three times weekly, rapid diagnosis obviating delay in treatment.

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 three 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, 4,014 cases have been advised and treated, of whom 2,577 reported for the first time. Of these, 986 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:—

	1932	1933	1934	1935	1936	1937
Syphilis ...	293	304	354	380	293	344
Soft chancre ...	106	136	128	131	115	135
Gonorrhœa ...	834	918	1,019	968	987	1,112
Non-Venereal Cases...	440	586	698	780	840	986
	1,673	1,944	2,199	2,259	2,235	2,577

An analysis of the early cases of venereal disease cases met with at the clinic gives the following result.

Syphilis ...	17.6%
Soft chancre ...	8.6%
Gonorrhœa ...	73.8%

[illegible]

	Syphilis.		Soft Chancre.		Gonorrhoea.		Conditions other than Venereal.		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
1. Number of cases on 1st January under treatment or observation ...	909	378	50	...	946	252	22	8	1,927	638	2,565
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 ...	182	34	18	...	166	14	...	...	366	48	414
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 ...	97	9	...	...	...	...	...	...	97	9	106
" secondary ...	34	16	...	...	...	...	...	...	34	16	50
" latent in 1st year of infection ...	41	15	...	...	...	...	...	...	41	15	56
" all later stages ...	220	102	...	...	...	...	...	...	220	102	322
" congenital ...	35	37	...	...	...	...	...	...	35	37	72
Soft Chancre ...	...	...	115	1	...	...	...	...	115	1	116
Gonorrhoea, 1st year of infection ...	...	...	...	...	1,428	115	...	...	1,428	115	1,543
" later ...	...	...	...	...	64	23	...	...	64	23	87
Conditions other than venereal ...	...	...	...	...	...	...	1,551	360	1,551	360	1,911
4. Number of cases dealt with for the first time during the year under report known to have received treatment for the same infection, or to have been under observation, at other Centres ...	158	15	26	...	266	21	...	...	450	36	486
	1,676	606	209	1	2,870	425	1,573	368	6,328	1,400	7,728
5. Number of cases discharged after completion of treatment and final tests of cure or after diagnosis as non-venereal ...	57	7	46	1	748	64	1,553	364	2,404	436	2,840
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary ...	52	8	...	...	...	...	...	...	52	8	60
" secondary ...	16	14	...	...	...	...	...	...	16	14	30
" latent in 1st year of infection ...	6	9	...	...	...	...	...	...	6	9	15
" all later stages ...	145	82	...	...	...	...	...	...	145	82	227
" congenital ...	29	37	...	...	...	...	...	...	29	37	66
Soft Chancre ...	...	...	19	...	...	...	...	...	19	...	19
Gonorrhoea, 1st year of infection ...	...	...	...	...	462	70	...	...	462	70	532
" later ...	...	...	...	...	34	12	...	...	34	12	46
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure ...	23	...	18	...	141	11	...	...	182	11	193
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners ...	442	24	89	...	616	30	...	...	1,147	54	1,201
9. Number of cases remaining under treatment or observation on 31st December ...	906	425	37	...	869	238	20	4	1,832	667	2,499
	1,676	606	209	1	2,870	425	1,573	368	6,328	1,400	7,728
10. Number of cases in the following stages of syphilis (included in Item 5) which failed to complete one course of treatment :—											
Syphilis, primary ...	12	2	...	...	...	...	...	...	12	2	14
" secondary ...	4	2	...	...	...	...	...	...	4	2	6
" latent in 1st year of infection ...	2	5	...	...	...	...	...	...	2	5	7
" all later stages ...	35	28	...	...	...	...	...	...	35	28	63
" congenital ...	13	9	...	...	...	...	...	...	13	9	22
11. Number of attendances :—											
(a) for individual attention of the medical officer(s) ...	14,354	9,149	954	10	29,974	4,421	3,036	610	48,318	14,190	62,508
(b) for intermediate treatment, e.g., irrigation, dressing ...	524	19	839	34	58,674	11,375	22	33	60,059	11,461	71,520
TOTAL ATTENDANCES ...	14,878	9,168	1,793	44	88,648	15,796	3,058	643	108,377	25,651	134,028
12. In-patients :—											
(a) Total number of persons admitted for treatment during the year ...	186	141	18	...	113	95	19	44	336	280	616
(b) Aggregate number of "in-patient days" of treatment given ...	5,994	7,270	421	...	3,149	2,861	195	1,172	9,760	11,303	21,063
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods ...											
	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.	
	2	5	...	1	9	4	24	27	35	37	
14. Total number of injections given (out-patients and in-patients) ...	Arsenical.				Mercury.				Bismuth.		
	Approved Arsenobenzene Compounds.				Others.						
	8,312				2,741				1,403		11,375
15. Pathological Work :—	Microscopical		Cultural for Gonorrhoea		Serum		Cerebro-spinal fluid.		Others for diagnosis of Venereal Disease.		
	for Syphilis.	for Gonorrhoea.			for Syphilis.	for Gonorrhoea.					
(a) Number of specimens examined at, and by the medical officer of, the Treatment centre ...	367	4,179	—	—	—	—	—	—	—	—	
(b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory ...	90	7,655	7	—	8,941	359	—	483	—	—	

City of Liverpool.
Deaths from Venereal Disease.

Years.	SYPHILIS.			LOCOMOTOR ATAXY.			GENERAL PARALYSIS OF INSANE.			TOTAL VENEREAL DISEASE.						
	AT AGES—YEARS.															
	Under 1	1—	40—	All Ages.	Under 1	1—	40—	All Ages.	Under 1	1—	40—	All Ages.				
1915	43	9	10	62	...	1	10	11	...	10	25	35	43	20	45	108
1916	36	5	1	42	...	1	13	14	...	12	23	35	36	18	37	91
1917	25	12	3	40	...	3	16	19	...	27	43	70	25	42	62	129
1918	37	17	13	67	...	1	19	20	...	34	42	76	37	52	74	163
1919	38	6	4	48	...	4	12	16	...	22	34	56	38	32	50	120
1920	48	8	5	61	...	3	10	13	...	18	24	42	48	29	39	116
1921	41	7	9	57	...	1	16	17	...	18	35	53	41	26	62	127
1922	31	7	10	48	...	2	16	18	...	27	29	56	31	36	55	122
1923	39	5	2	46	...	2	15	17	...	18	29	47	39	25	46	110
1924	29	8	6	43	...	1	15	16	...	15	31	46	29	24	52	105
1925	24	3	8	35	...	...	18	18	...	12	20	32	24	15	46	85
1926	25	...	13	38	...	3	14	17	...	4	25	29	25	7	52	84
1927	14	5	16	35	...	3	11	14	...	8	32	40	14	16	59	89
1928	10	6	12	28	...	1	12	13	...	7	29	36	10	14	53	77
1929	10	3	20	33	...	1	15	16	...	6	20	26	10	10	55	75
1930	10	3	28	41	...	2	9	11	...	7	18	25	10	12	55	77
1931	5	9	26	40	...	1	7	8	...	3	16	19	5	13	49	67
1932	6	3	21	30	...	1	9	10	...	8	24	32	6	12	54	72
1933	4	11	26	41	...	...	20	20	...	7	21	28	4	18	67	89
1934	8	4	25	37	...	...	2	2	...	6	21	27	8	10	48	66
1935	7	4	36	47	...	...	10	10	...	6	18	24	7	10	64	81
1936	4	6	41	51	...	...	14	14	...	4	19	23	4	10	74	88
1937	4	5	39	48	...	1	10	11	...	3	20	23	4	9	69	82

Venereal Diseases—Time Table of Treatment Centres.

		NEW PATIENTS.		CONTINUATION TREATMENT.	
		MALES.	FEMALES.	MALES.	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 arrange- ment.
	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.

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

INFECTIOUS HOSPITALS AND SANATORIA.

During the year 1937 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
City Hospital South	101
City Hospital East	174
Kazakovsky Sanatorium	300
Kazakovsky Annex	150
Kazakovsky Hall	100

HOSPITAL AND HEALTH SERVICES.

At the City Hospital, Kazakovsky, 52 beds are set aside for the treatment of infectious patients, in addition to the beds at the Kazakovsky Sanatorium.

At the beginning of the year the City Infectious Hospitals were well occupied, there being 508 cases of diphtheria in hospital, which number had increased to 619 by February. This figure gradually decreased to 290 in July, slightly increasing to 301 by September, with an upward tendency towards the close of the year. At the end of December the figure was 434.

The following indicates the position of scarlet fever cases and their removal to hospital throughout the year. At the beginning of the year 60 beds were occupied with scarlet fever cases. This figure was maintained with slight variations until August, after which there was a sharp increase during September and October to 221. At the end of December the number of cases in hospital had gradually decreased to 100.

INFECTIOUS HOSPITALS and SANATORIA.

During the year 1937 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	...	...	...	...	353 „
Cleaver Sanatorium	...	...	...	...	200 „
					1,890 „

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, there being 408 cases of diphtheria in hospital, which number had increased to 519 by February. This figure gradually decreased to 290 in July, slightly increasing to 301 by September, with an upward tendency towards the close of the year. At the end of December the figure was 454.

The following indicates the position of scarlet fever cases and their removal to hospital throughout the year. At the beginning of the year 96 beds were occupied with scarlet fever cases. This figure was maintained with slight variation until August, after which there was a sharp increase during September and October to 224. At the end of December the number of cases in hospital had gradually decreased to 124.

At the beginning of the year there were no cases of measles under treatment in City Infectious Hospitals. Towards the end of October 64 beds were occupied, this figure increasing to 176 at the end of December.

During the year a number of measles cases were treated in their own homes and received daily visits from the measles nurses on the Corporation staff. Where the home conditions were unsatisfactory or at the request of the medical practitioners concerned, the patients were removed to hospital.

There were 28 whooping cough patients in hospital at the beginning of the year, and this number increased slightly to 54 cases in February, and remained steady with slight variations until the close of the year, when there were 62 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 6,979 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. 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.

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. Accordingly, 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.

The question of smallpox cases in neighbouring areas was specially considered in 1928, when a number of the adjoining local authorities 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 being made for the maintenance of each patient sent into the hospital for treatment.

This arrangement has been included in the Scheme formulated by the Lancashire County Council dealing with the provision of hospital accommodation for the treatment of Smallpox under the Local Government Act, 1929.

Record of Treatment of Cases in City Infectious Disease Hospitals and Sanatoria.

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 1937:—

DISEASES.	Remaining Dec. 31st, 1936.	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 North, Netherfield Road.										
Scarlet Fever	31	412	—	443	—	2	380	59	—	
Diphtheria	88	442	—	530	—	—	411	81	10	
Measles	—	30	—	30	—	—	25	—	1	
Other Diseases	—	377	—	377	—	3	359	14	—	
Observation cases ...	10	—	—	10	—	—	10	—	—	
Totals	129	1,261	—	1,390	—	5	1,185	154	11	4

DISEASES.	Remaining Dec. 31st, 1936.	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 South, Grafton Street.										
scarlet fever	24	331	3	358	—	7	315	36	—	—
Diphtheria	49	274	1	324	—	—	261	47	3	16
Measles	—	5	—	5	—	4	—	—	—	1
Whooping Cough	—	1	—	1	—	—	—	1	—	—
Observation cases	8	210	1	219	—	1	205	13	—	—
Totals	81	821	5	907	—	12	781	97	3	17

City Hospital East, Mill Lane, Old Swan.										
Scarlet Fever	3	116	—	119	—	12	95	12	—	—
Diphtheria	101	793	—	894	—	3	720	131	4	40
Measles	—	22	—	22	—	—	22	—	—	—
Observation Cases	8	336	—	344	—	—	321	19	—	4
Totals	112	1,267	—	1,379	—	15	1,158	162	4	44

City Hospitals, Fazakerley.										
Scarlet fever	34	505	101	640	—	72	520	39	1	9
Enteric fever group	—	133	39	172	—	29	130	9	1	4
Diphtheria	147	806	154	1,107	—	89	801	184	4	33
Measles	48	199	25	272	—	18	186	45	3	23
Whooping Cough	28	137	11	176	—	2	140	18	9	16
Other diseases	135	1,181	101	1,417	—	80	1,221	90	—	26
Totals	392	*2,961	431	3,784	—	290	2,998	385	18	111

* These admissions include Fazakerley Isolation Hospital—2,042 cases, Fazakerley Annexe—814 cases and Sparrow Hall Hospital—105 cases.

DISEASES	Remaining Dec. 31st, 1936.	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.
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Fazakerley Sanatorium.

Tuberculosis	...	...	310	291	44	645	—	2	282	282	—	79
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Broadgreen Sanatorium.

Tuberculosis	...	...	341	320	45	706	—	5	256	335	1	110
Observation Cases...	...	...	2	3	—	5	—	—	4	—	—	1
Totals ...	...	...	343	323	45	711	—	5	260	335	1	111

Cleaver Sanatorium,

Tuberculosis	...	...	188	55	48	291	—	42	97	151	—	1
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Infectious Disease Hospitals and Sanatoria.

Statement of Admissions, Discharges, Deaths, and Transfers.

Hospital or Sanatorium.	Remaining Dec. 31st, 1936.	Admitted	Trans- ferred to	Dis- charged	Trans- ferred from	Died.	Remaining Dec. 31st, 1937.
City Hospitals, Fazakerley	392	2,961	431	2,998	290	111	385
City Hospital North	129	1,261	—	1,185	5	46	154
City Hospital East	112	1,267	—	1,158	15	44	162
City Hospital South	81	821	5	781	12	17	97
Fazakerley Sanatorium	310	291	44	282	2	79	282
Broadgreen Sanatorium	343	323	45	260	5	111	335
Cleaver Sanatorium	188	55	48	97	42	1	151
TOTAL	1,555	6,979	573	6,761	371	409	1,566

**General and Children's Hospitals and other Institutions.
Statement of Admissions, Discharges, Births, Deaths, and Transfers.**

Hospital or Establishment	Remaining Dec. 26th, 1936	Admitted.	Trans- ferred to	Born.	Dis- charged.	Trans- ferred from	Died.	Remaining Dec. 25th, 1937.
Administered under the Poor Law Acts :—								
Belmont Road Institution ...	1,244	5,407	790	...	5,211	453	617	1,160
Smithdown Road Hospital ...	830	9,413	180	1,651	9,430	687	1,195	762
Kirkdale Homes ...	1,220	160	513	...	260	111	285	1,237
Olive Mount Children's Hospital ...	321	1,777	834	...	2,130	311	99	392
Cottage Homes, Fazakerley ...	374	50	164	...	104	100	...	384
Shaw Street Boys' Home ...	35	30	38	...	54	...	...	49
Seafield House ...	235	23	5	...	47	7	3	206
Administered under the Public Health Acts :—								
Walton Hospital ...	1,183	16,816	149	2,817	17,294	497	2,001	1,173
Mill Road Infirmary ...	410	9,540	169	1,525	10,070	406	784	384
Alder Hey Hospital ...	721	10,023	179	...	8,692	757	735	739
TOTAL ...	6,573	53,239	3,021	5,993	53,292	3,329	5,719	6,486
CASUAL WARDS—								
Belmont Road... ...	14	3,670	...	...	3,663	...	...	21

[illegible]

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

Name of Institution.	Built by	Date of Foundation.	Number of Beds, Dec. 31st, 1937.	Original User.	Present User.
Walton Hospital	West Derby Union	1864	1,869	General Mixed Institution ...	General Hospital :—(a) Acute and subacute medical, surgical, gynaecological and special ; (b) Adult pulmonary tuberculosis unsuitable for sanatorium treatment ; (c) Maternity ; (d) Isolation for minor infectious diseases in children ; (e) 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	1,220	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.
Kirkdale Homes	Liverpool Select Vestry	1843	1,531	School for Destitute Boys ...	Homes for aged and infirm men and women. Chronic and senile mental diseases (males). Chronic Encephalitis Lethargica. Male Epileptics.
Mil' 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	940	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. Hostel for working girls.
Shaw Street Home for Boys ...	Purchased by West Derby Union ...	Opened 1913	79	Private House	Home for working boys over 14 years
Seafeld 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, Liverpool, and Toxteth Park Joint Hospital Committee.	1903	200	Pulmonary Tuberculosis ...	Tuberculosis in Children
Deysbrook House	Purchased by West Derby Union ...	1911	—	Private Home for Children ...	Not in use.
Broadgreen Sanatorium	Liverpool Select Vestry	1906	353	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	338	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.
			11,213		

MUNICIPAL HOSPITALS and INSTITUTIONS.

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

(a) Isolation Hospitals and Sanatoria, the property of the Liverpool Corporation prior to 1930	7
(b) Hospitals transferred under the Local Government Act, 1929, and subsequently appropriated	5
(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 1937 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, 1938.
Fazakerley Isolation Hospital.	21,487	Completed.
Broadgreen Sanatorium.	3,977	Completed.
Mill Road Infirmary.	11,000	Negotiations for site.
Mill Lane Hospital.	5,116	Completed.

Continuation Departments.

Mill Road Infirmary.	22,369	Work in progress.
Walton Hospital.		Plans in preparation.

Laundry Extensions.

Smithdown Road Hospital.	11,530	Work completed.
Alder Hey Hospital.		Work completed.
Belmont Road Institution.		Plans prepared.

Boiler House Extensions, etc.

Belmont Road Institution.		Scheme submitted to Ministry of Health.
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Fazakerley Sanatorium.		£	
Replacement of Recreation Rooms, etc.	4,575	Completed.	
Treatment Block.	7,335	Part completed.	
Fazakerley Isolation Hospital.			
Four blocks of cubicles.	22,694	Completed.	
Fazakerley Annexe Hospital.			
Replacement of Wooden Ward.		Scheme approved and tender accepted.	
Belmont Road Institution.			
Cubicles in Children's Annexe.	1,860	Completed.	
Cleaver Sanatorium.			
Rest Room.	4,073	Work in progress.	
Alder Hey Children's Hospital.			
Splint Shop, etc.		Work in progress.	

The major portion of this expenditure relates to the provision of additional accommodation for nurses necessitated by the conversion of poor-law institutions into hospitals, the reduction of hours of nursing staffs, and the greatly increased user of hospitals and more rapid turn-over of beds. This programme is now well in hand with the exception of Mill Road Infirmary where the need for an extension of the Nurses' Home becomes yearly more urgent. At Fazakerley and Mill Lane Hospitals the extensions provide for recreation rooms for the nurses.

The continuation department at Mill Road Infirmary is now under construction and much progress has been made.

The need for a building to house the continuation department at Walton Hospital is great, and it is hoped that the buildings will be begun in 1938. These departments are essential to the economic running of these hospitals by permitting the early discharge of patients where this is practicable.

The re-organisation of the laundries which has been in progress during the last few years is now well nigh completed with the exception of Belmont Road Institution laundry; here the reconstruction of the laundry is tied up with a complete re-organisation of the boiler and heating services which are of an antiquated and piecemeal character

and both inefficient and expensive. A complete scheme of re-organisation which is anticipated to show considerable saving has been placed before the Ministry of Health.

During 1937 the approval of the Ministry of Health was sought for the appropriation, under the Public Health Acts, of Smithdown Road Hospital, and sanction was obtained to the appropriation of the Hospital as from April 1st, 1938. This now completes the appropriation of transferred hospitals, namely, Alder Hey Children's Hospital in 1932, Mill Road Infirmary in 1932, Walton Hospital and Cleaver Sanatorium in 1935. The other transferred institutions subserve, in whole or in part, essentially Poor Law functions and do not appear at present to be suitable for appropriation.

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 late in 1937. During the spring of 1937 there was a definite outbreak of influenza, whilst diphtheria, scarlet fever and measles prevailed in the autumn, although relatively inactive in the first three quarters of the year. The numbers admitted to the isolation hospitals were correspondingly reduced by 885. There was an increase in the cases of infectious diseases admitted to the transferred hospitals of 435 and an increase in influenza of 326 patients. Persons suffering from pneumonia or other complications of influenza are admitted to all the hospitals.

There was again an increase in the discharges, etc., from the transferred institutions of 2,043 patients in 1937 as compared with the previous year. The main part of the increase in admissions was on the medical side, diseases of the respiratory system increasing by 861, diseases of the digestive system by 397, diseases of the skin by 303, and diseases of the circulatory system by 231. 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 336. There are indications, therefore, that the rapidly-increasing resort to the hospitals has, apart from maternity admissions, been continued.

**COMBINED DISCHARGES AND DEATHS OF PATIENTS IN MUNICIPAL
INSTITUTIONS IN 1937 COMPARED WITH 1936.**

INCREASE					DECREASE				
Acute Infectious Disease	...	...	...	435	Tuberculosis	...	...	...	9
Influenza	...	...	...	326	Malignant Disease	...	...	...	5
Puerperal Pyrexia	...	...	...	5	Rheumatism and Arthritis	...	...	...	40
Puerperal Fever	...	...	...	4	Veneral Disease	...	...	...	5
Other diseases and accidents of					Accidental Injury and Violence	...	...	...	39
Pregnancy	...	...	...	17	Diseases of Nervous System	...	...	...	8
Senile Dementia	...	...	...	92	Diseases of Genito-Urinary System	...	...	...	1
Other Mental Disease	...	...	...	43					
Senile Decay	...	...	...	7					
Diseases of Respiratory System	...	...	...	861					
Diseases of Circulatory System	...	...	...	231					
Diseases of Digestive System	...	...	...	397					
Diseases of Skin	...	...	...	303					
Other Diseases	...	...	...	91					
Mothers	...	...	...	129					
Babies	...	...	...	207					
				<u>3,148</u>					<u>1,101</u>

Net increase 2,043.

These figures are shown in detail for the four principal hospitals in the accompanying tables. Eight years have now elapsed since the transfer of the general hospitals to the City, and as between 1930 and 1937 there was an increase in the admissions to the four hospitals of 13,754 patients, or 43 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 57,081, an increase of 43,182 or 318 per cent. Pathological examinations have similarly increased from 29,603 to 92,301, an increase of 62,698 or 212 per cent.; the increase is actually greater, both in numbers and character, than is indicated by this figure because at Walton Hospital many 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 12,300, an increase of 7,153, or 139 per cent. In comparison with the

CITY OF LIVERPOOL

MISSIONS AND OUTPATIENT ATTENDANCES
MUNICIPAL HOSPITALS.

Admission
Out-Patient
Scale

1937

1936

1935

1934

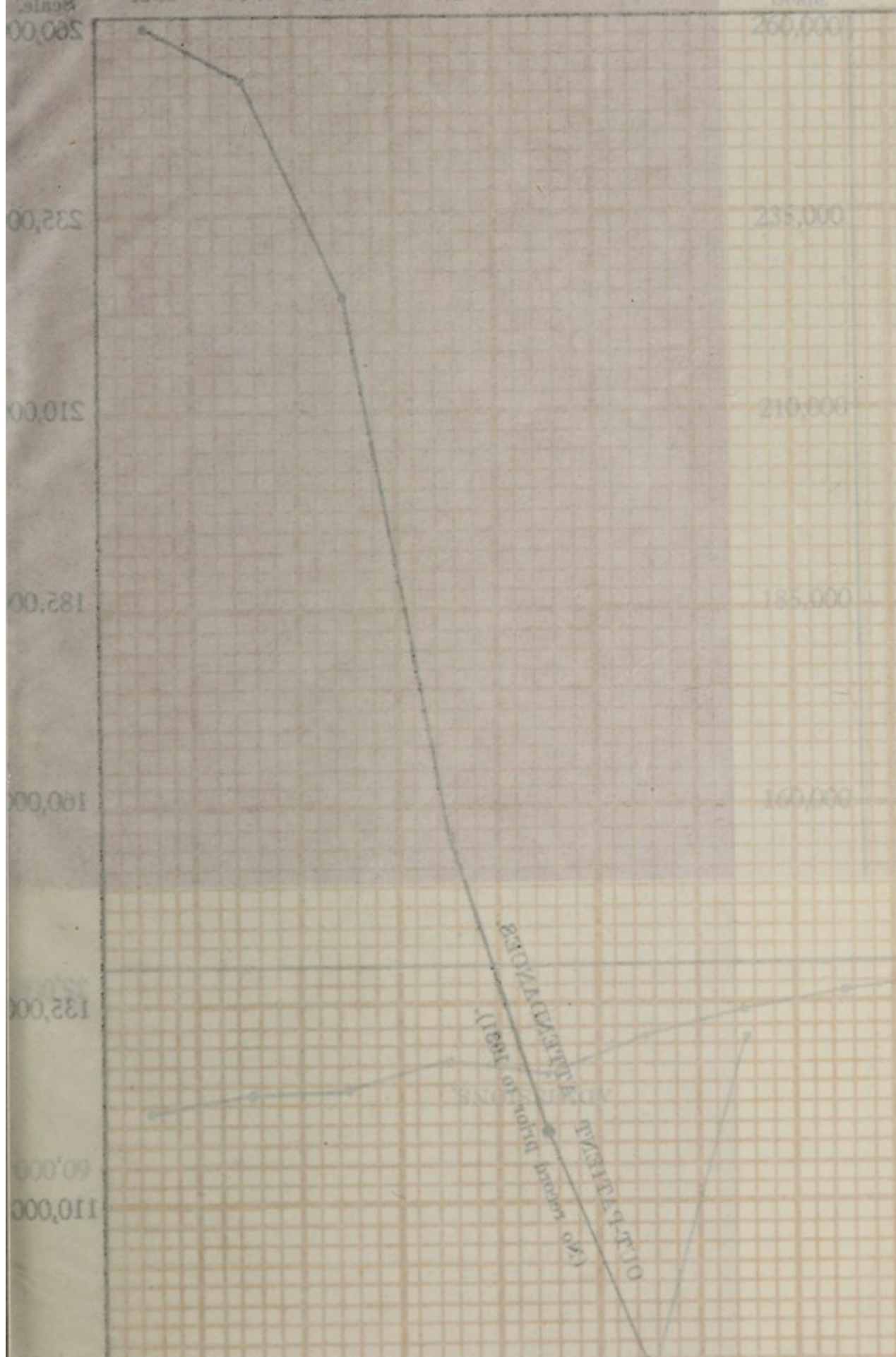
1933

1932

1931

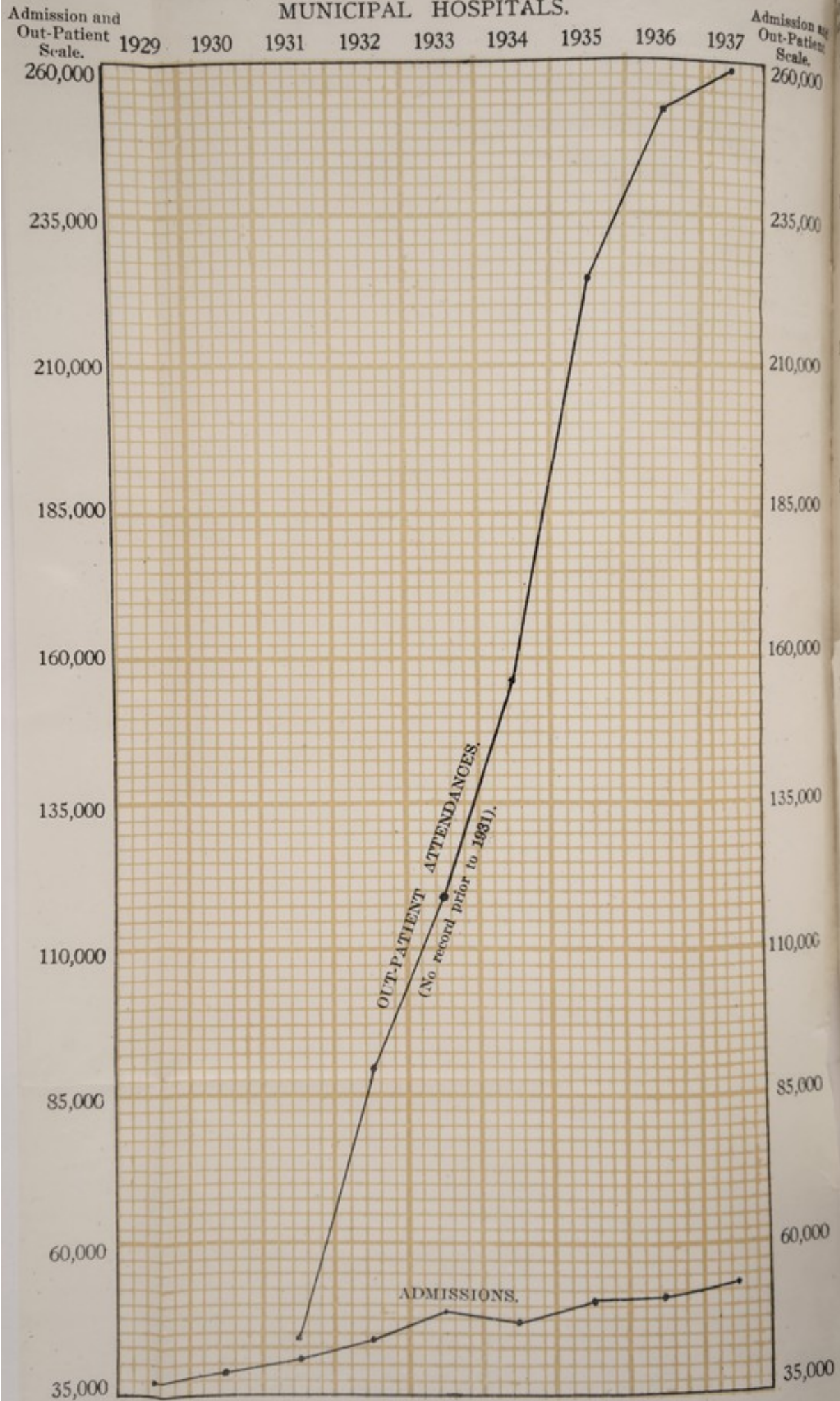
1930

1929



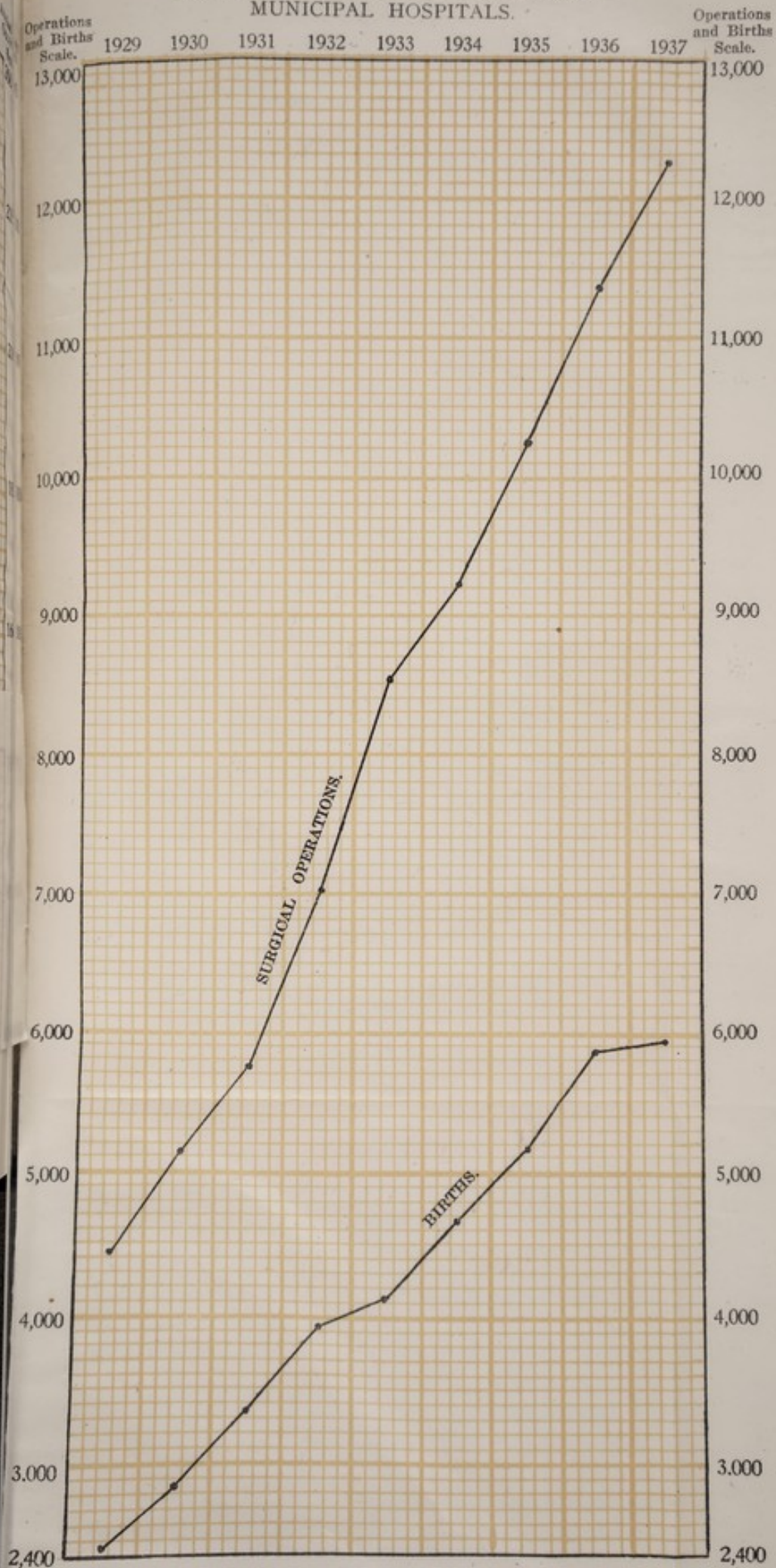
CITY OF LIVERPOOL.

ADMISSIONS AND OUT-PATIENT ATTENDANCES MUNICIPAL HOSPITALS.



CITY OF LIVERPOOL.

BIRTHS AND SURGICAL OPERATIONS MUNICIPAL HOSPITALS.

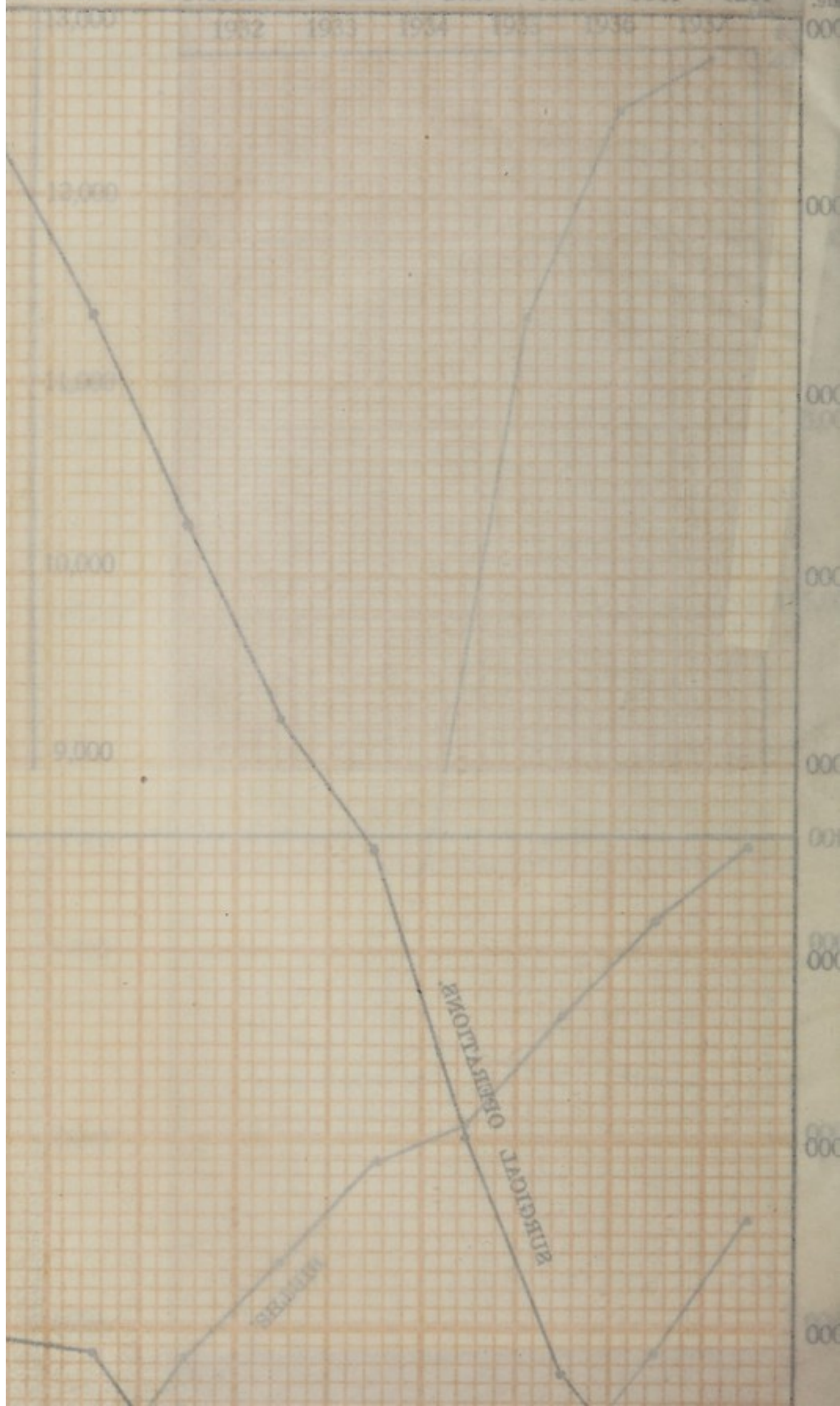


CITY OF LIVERPOOL

BIRTHS AND SURGICAL OPERATIONS

MUNICIPAL HOSPITALS

Operations and Births
1929-1935



DETAILS OF ADMISSIONS, DISCHARGES, ETC., AND WORK UNDERTAKEN AT THE FOUR MUNICIPAL HOSPITALS FOR PERIOD 1933 to 1937.

	WALTON HOSPITAL					SMITHDOWN ROAD HOSPITAL.					MILL ROAD INFIRMARY.					ALDER HEY HOSPITAL.				
	1933	1934	1935	1936	1937	1933	1934	1935	1936	1937	1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
*Admissions	15,638	15,245	15,809	16,094	16,816	8,559	8,979	9,417	9,777	9,413	8,025	8,200	9,107	9,407	9,540	8,525	7,966	9,870	8,935	10,023
*Transferred to	229	222	224	202	149	230	194	167	180	180	95	65	127	202	169	530	637	429	186	179
*Born	1,927	1,976	2,169	2,570	2,817	1,159	1,397	1,482	1,721	1,651	1,061	1,322	1,549	1,553	1,525	—	—	—	—	—
*Discharged	15,584	15,209	15,711	16,617	17,294	7,893	8,440	9,013	9,602	9,430	8,224	8,558	9,685	10,066	10,070	6,959	7,102	8,149	7,468	8,692
*Transferred from	555	571	458	507	497	926	955	800	830	687	215	293	262	353	406	1,371	808	1,247	1,157	757
*Died	1,897	1,782	1,903	1,943	2,001	1,204	1,183	1,294	1,284	1,195	745	702	830	821	784	810	719	756	578	735
Surgical Operations	2,993	3,607	3,897	4,345	5,279	1,077	922	839	1,308	1,698	2,209	2,416	2,787	3,110	3,144	2,242	2,266	2,715	2,612	2,179
Out-Patient Attendances	29,592	33,708	49,017	62,443	65,216	12,016	19,633	27,871	32,731	39,375	32,184	51,341	82,917	92,595	89,254	24,005	32,213	43,748	43,602	41,744
Pathological Examinations	20,630	24,506	29,018	28,742	27,102	5,745	9,160	10,843	14,619	15,397	8,640	17,071	26,145	24,914	23,607	5,611	6,838	12,584	20,085	26,195
Post-mortems -- --	1,033	1,109	1,344	1,275	1,167	101	98	84	94	79	176	227	295	347	174	216	92	90	158	215
X-Ray Examinations... (Radiographs)	7,913	17,292	20,181	23,717	23,788	4,457	5,531	8,091	8,549	8,477	8,288	11,008	13,329	11,975	13,166	8,182	8,081	9,983	9,944	11,650

* 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.

Y OF LIVERPOOL.

MUNICIPAL HOSPITALS.

1

previous year there was an increase of 955 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.

Maternity Departments.

The number of births has increased since 1930 from 2,858 to 6,330, an increase of 3,772 births or 121 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 being too large. The ante-natal clinics are quite inadequate and are much overcrowded. The character of these units is now under review, and increasing co-operation is being established with the district ante-natal clinics and the midwifery service of the city. Provision is made for an ante-natal clinic in the Continuation Department at Mill Road Infirmary, which will be completed in the course of 1938.

Plans have been prepared for a labour suite at Mill Road Infirmary to be built on the cross balcony with an altered allocation of wards for lying-in women. At Smithdown Road Hospital a new building is proposed. Despite the defects just noted admirable work has been done in the maternity units and a very low maternal mortality has to be recorded for the year 1937. The number of deaths of mothers confined throughout in the City Hospitals was 53 or 8.6 per thousand compared with a figure of 12 or 11.0 per thousand for those admitted after having received outside attention. The figures for those confined throughout in the hospitals are heavily loaded by the deaths of patients who were admitted on account of illness complicating pregnancy.

The Minnett gas and air apparatus was used in 3,769 cases with immense relief of suffering.

Continuation Departments.

The number of persons treated in the Continuation Out-patient Departments has again markedly increased, the numbers of persons attending having been 48,367 in 1937. Figures of attendances at these

departments are not available for all the hospitals for the whole period of seven years but they have increased from 89,828 in 1932 to 259,428 in 1937, an increase of 169,600 or 188 per cent. in the short period of five years. The transferred hospitals contained no buildings erected or adaptable for this purpose. The new admission and continuation block at Alder Hey Hospital was completed in 1932, and that at Smithdown Road Hospital in 1936.

Progress has been made with the new continuation department at Mill Road Infirmary, which also includes provision for an ante-natal clinic, and the building will be completed during 1938. Here since 1931, the continuation attendances have increased from 5,744 to 89,254. The need for a similar department at Walton Hospital is almost equally pressing, the continuation attendances having increased from 12,845 to 65,216 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.

The accompanying graph shows the increase in the number of out-patient attendances and also of admissions during the period since the transfer of the hospitals of the former Board of Guardians. The increase in these attendances has permitted the earlier discharge of patients as shown in the graph facing this page. It is only the shortened period of stay in hospital which has rendered possible an increase of 14,095 patients, i.e., 44 per cent., during the period in question, without any increase in the number of beds in these hospitals. The provision of continuation departments enables real economy to be effected with benefit to the patients.

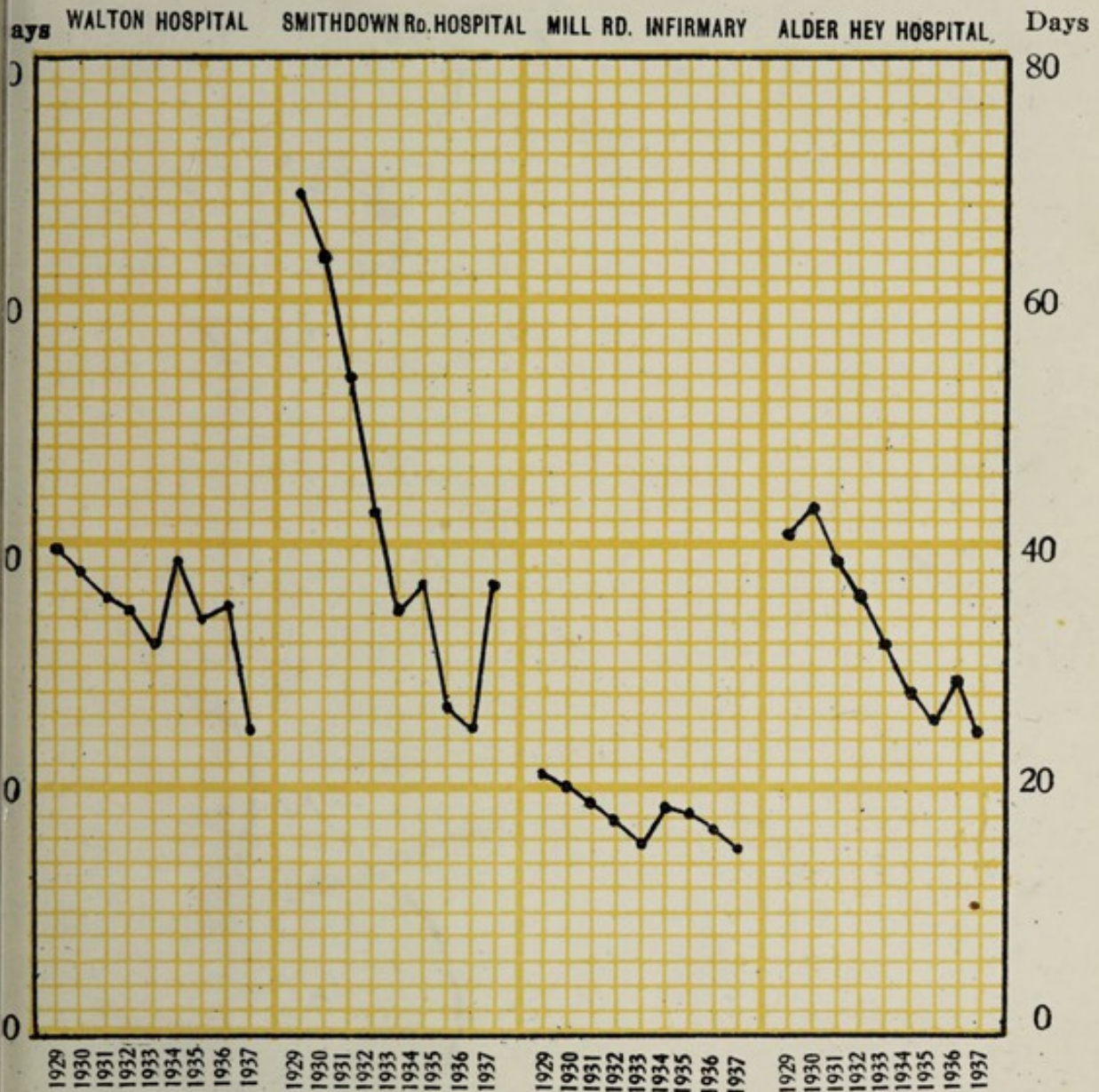
There has been a marked increase in the number of eye cases and of dental patients, a considerable and increasing proportion of whom are referred from the Public Assistance Committee. It is hoped that the provision of a dental panel may reduce the number of dental patients.

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

CITY OF LIVERPOOL.

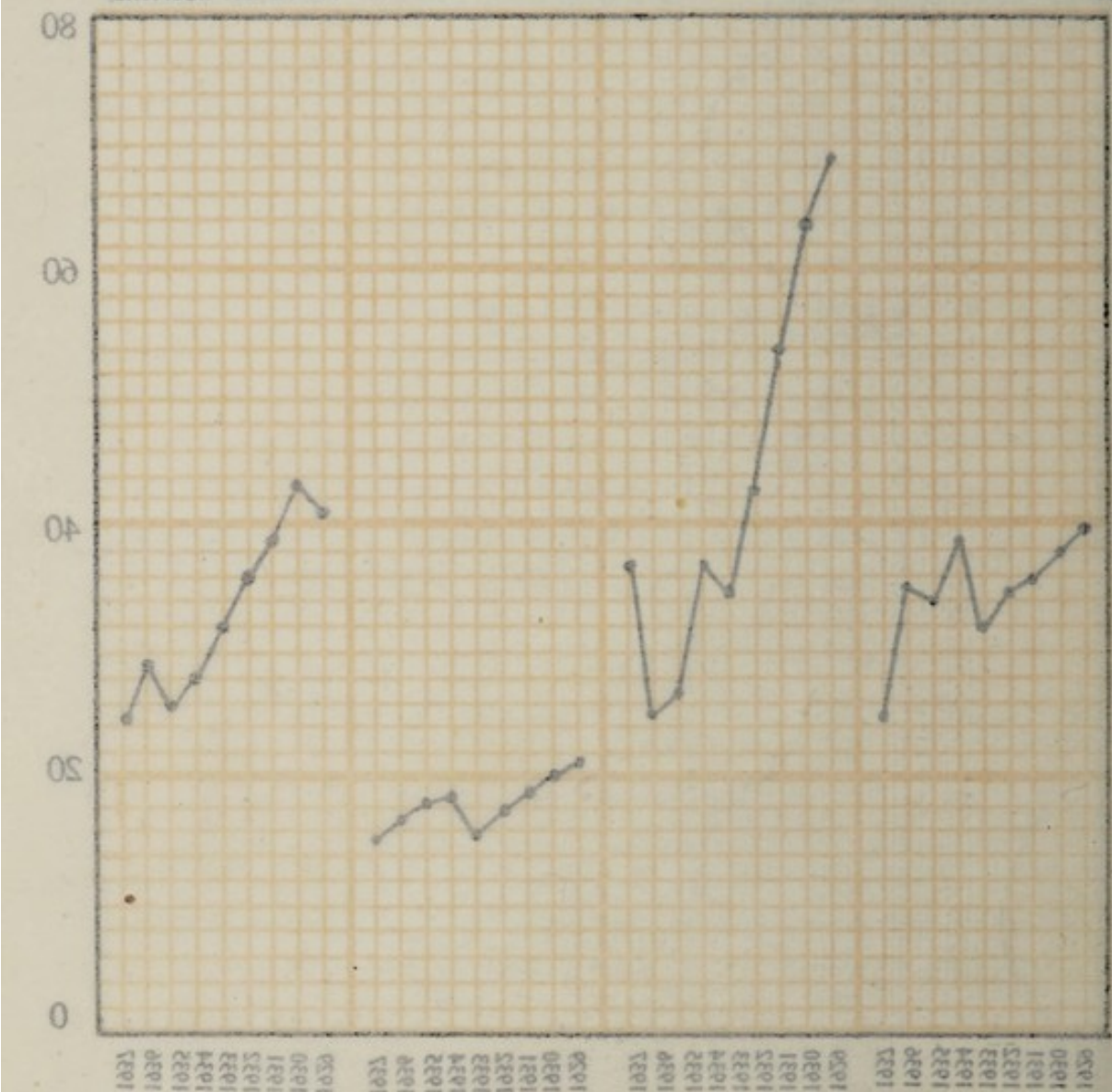
AVERAGE DURATION OF STAY—MUNICIPAL HOSPITALS—1929-1937



CITY OF LIVERPOOL.

AVERAGE DURATION OF STAY—MUNICIPAL HOSPITALS—1929-1937

WALTON HOSPITAL SMITHDOWN RD. HOSPITAL MILL RD. INFIRMARY ALDER HEY HOSPITAL



MUNICIPAL HOSPITALS AND INSTITUTIONS.

International Disease Classification of Patients Discharged for any reason.
Period 12 months ended 31st December, 1937.

SICKNESS DIAGNOSIS.	WALTON.		SMITHDOWNS ROAD.		MILL ROAD.		ALDER HEY.		BELMONT ROAD.		KIRKDALE.		OLIVE MOUNT.	
	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.
1. Infectious Disease (including Tuberculosis) ...	1,467	57	196	22	748	29	880	43	117	56	2	1,273	689	37
2. Cancer and other Tumours (Malignant Disease, Carcinoma, Sarcoma, etc.) ...	700	48	184	40	241	21	1	96	21	26	4	2,516	—	—
3. Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases ...	690	39	357	29	369	18	637	52	46	209	3	87	—	—
4. Diseases of Blood and Blood-forming Organs ...	93	51	47	32	98	15	11	17	4	54	—	—	—	—
5. Chronic Poisoning ...	11	7	5	6	7	2	—	—	1	4	—	—	—	—
6. Diseases of Nervous System and Sense Organs other than Encephalitis Lethargica ...	992	32	1,431	117	420	16	1,086	25	323	258	179	534	4	97
7. Diseases of Circulatory System ...	1,671	36	890	45	662	13	316	31	481	237	29	705	2	45
8. Diseases of Respiratory System ...	1,727	30	1,039	23	1,020	15	2,360	21	224	74	36	1,464	82	20
9. Diseases of Digestive System ...	2,150	22	1,320	23	1,524	16	2,331	12	30	231	2	454	1	10
10. Non-venereal diseases of Genito-urinary System ...	1,139	23	695	32	838	20	486	19	15	97	—	—	—	—
11. Diseases of Pregnancy, Childbirth, and the Puerperal State ...	6,791	15	3,930	13	3,713	12	—	—	—	—	—	—	—	—
12. Diseases of Skin ...	422	25	196	22	306	16	451	15	3,393	26	6	1,098	—	—
13. Non-Tuberculous Diseases of Bones and Organs of Locomotion ...	273	21	79	37	243	24	270	87	9	130	—	—	—	—
14. Congenital Malformations ...	23	47	2	10	7	20	59	31	4	210	—	—	3	35
15. Diseases of Early Infancy ...	95	5	46	3	108	19	456	22	7	25	—	—	4	117
16. Old Age, Senile Decay (not senile dementia) ...	83	44	130	194	38	9	—	—	148	331	345	595	—	—
17. Violence ...	1,130	22	573	25	651	21	697	17	39	125	40	1,170	1	1
18. Ill-defined Diseases ...	96	21	172	28	220	9	263	9	10	61	—	—	—	—
19. Convalescence ...	1	23	—	—	—	—	—	—	3	6	1	17	684	48
20. Healthy Lactating Mothers ...	37	87	—	—	5	11	—	—	2	37	—	—	—	—
21. Healthy ...	310	31	—	—	24	13	2	15	1,398	142	9	734	1,116	56
TOTALS	19,901		11,292		11,242		10,206		6,275		656		2,586	

DISCHARGES AND INSTITUTIONS

Number and sex of patients discharged for any cause
 1st January 1901 to 31st December 1901

DISEASE	MALES		FEMALES	TOTAL
	Number	Percentage	Number	Percentage
Acute infectious diseases (including Tuberculosis)	747	14.07	573	11.12
Chronic infectious diseases (including Tuberculosis)	1002	19.42	484	9.38
Chronic diseases of Nutrition and of the Internal Organs and other Chronic Diseases	500	9.57	297	5.78
Diseases of Blood-forming Organs	93	1.79	50	0.97
Diseases of the Nervous System and Senses	15	0.29	7	0.14
Diseases of the Respiratory System	983	18.92	323	6.25
Diseases of the Circulatory System	1,673	32.12	386	7.47
Diseases of the Digestive System	1,723	33.22	367	7.10
Diseases of the Urinary System	1,101	21.23	227	4.42
Diseases of the Genital System	1,129	21.77	237	4.60
Diseases of the Skin, Subcutaneous Tissues, and the Hair	6,791	130.12	187	3.63
Diseases of the Bones and Joints	192	3.68	30	0.58
Diseases of the Muscles and Connective Tissues	273	5.23	21	0.41
Diseases of the Larynx and Trachea	29	0.56	47	0.91
Diseases of the Bronchi and Lungs	92	1.77	57	1.11
Diseases of the Pleura (not pleurisy)	32	0.62	44	0.86
Diseases of the Pericardium	1,130	21.82	12	0.23
Diseases of the Heart	26	0.50	212	4.11
Diseases of the Blood Vessels	1	0.02	23	0.45
Diseases of the Endocrine Glands	37	0.71	67	1.29
Diseases of the Reproductive System	210	4.04	37	0.72
Total	19,901	382.12	17,503	339.12

in the number of cases admitted, but this disease became more prevalent in the Autumn of 1937. Diphtheria continues to be of the severe type associated with *gravis* and *intermediate* types of the diphtheria bacillus and requiring prolonged treatment in hospital averaging about seven weeks.

During the past year, with the very valued help of the City Bacteriologist, improvements have been effected in the bacteriological diagnosis of diphtheria. Advances in bacteriological technique made it improbable that patients who present appearances resembling diphtheria, from whom the diphtheria bacillus cannot be recovered, are really suffering from diphtheria. Such patients can accordingly be released from hospital at a much earlier date than would formerly have been permissible, with advantage both to the patient and to the city. As a result of the experience at certain of the hospitals it was found in 1937 that the diagnosis of diphtheria made before admission was confirmed in 67 per cent. and not confirmed in 33 per cent. of cases.

The number of patients admitted to the Isolation Hospitals during 1937 was 5,391, a decrease of 885 compared with 1936. Wards for measles, whooping cough, etc., are attached to Walton and Olive Mount Hospitals, and notwithstanding this reduction in the prevalence of infectious disease there was an increase of 425 in the numbers of children suffering from these diseases who were admitted to the transferred hospitals during 1937.

The number of cases of measles, which recurs in epidemics at intervals of approximately two years, was high at the end of the year reaching a maximum at about Christmas, 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. 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 for the greater part of the year.

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 16 cubicles, and these have now been completed and were opened early in 1938. They have proved of very great value.

The use of the 95 cubicles at Alder Hey Children's Hospital was again an unqualified success, and 2,933 children were admitted into them during the year. In view of the frequency of occurrence of cases of infectious diseases in the Children's Skin Hospital at Belmont Road hospital, a similar conversion of 3 wards into 36 cubicles has been effected there. These were opened during the prevalence of measles, diphtheria and scarlet fever in the city and were fully occupied by children who had been in contact with infection before admission, by children who had conditions, such as scabies and impetigo, which were contagious, and by children who developed infection after admission.

The completion of these several blocks of cubicles has greatly strengthened the facilities of the city for the treatment of infectious disease. During the months May to September, Sparrow Hall Hospital was entirely disused. Two of the wards were re-opened during the high prevalence of diphtheria, scarlet fever and measles during the third quarter of 1937, but the hospital was again empty of patients in the first week of April, 1938. A very considerable saving of expense has thus been effected.

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:—

R. O. Girdwood, M.B., Ch.B., Pathologist, Southern Group Laboratory.

R. P. Harboard, M.B., Ch.B., M.R.C.S., L.R.C.P., Visiting Anaesthetist, Smithdown Road Hospital.

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

Diagnostic Services and Equipment.

The number of radiological examinations has shown an increase from 51,584 in 1935 to 57,081 in 1937.

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 was installed in 1937. It includes tilting couches which greatly facilitate the work of the staff and permits direct vision of the radiosopic appearances with the minimum inconvenience to the patients.

During the year, as the result of some minor accidents to the staff, the question of shock-proofing the apparatus was reported on by the Medical Officer. After discussion with the radiologists a supplementary estimate of £1,231 for shock-proofing the X-ray apparatus throughout the hospitals was approved by the City Council in December, 1936, and this work was carried out in 1937.

The pathological laboratory examinations have risen to 92,301, an increase of 3,941 over the examinations made in the previous year. The increased calls upon the services of the staff in the Southern Hospital Group will call for some additional medical assistance at Alder Hey Hospital where the work has rapidly increased.

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 were accordingly required at each hospital, and provision was made in last year's estimates for new buildings. The most urgently needed was at Smithdown Road, where a new block which unites the Nurses' Home to the Administrative Block is now completed, and the accommodation in the older Nurses' Home has been brought up to the same standard. This work is now completed, and provides for 167 nurses and sisters.

The extensions to the Nurses' Homes at Walton Hospital and Alder Hey Children's Hospital to provide 166 and 73 additional beds respectively were completed early in 1937. The Nurses' Home at Walton was opened by the Lady Mayoress on February 25th. The 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, is now completed. These extensions have been carried out at the very cheap cost of £263 and £205 per bed respectively.

Small extensions to the Nurses' Homes at Broadgreen Sanatorium and Mill Lane Hospital were finished in 1937. At the City Hospital North the conversion of the top floor of an existing building into 8 additional rooms for nurses was effected during 1937.

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. New regulations for the training of midwives have been made by the Board, and the examination for the certificate will from May, 1939 onward be taken in two parts.

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 Certifi- cates.	C.M.B. Certifi- cates.	Fever and Tuber- culosis Certifi- cates.	R.M.P.A. Certifi- cates.
Walton Hospital	61	—	52	—	—
Mill Road Infirmary	31	—	21	—	—
Smithdown Road Hospital	23	—	33	—	2
Alder Hey Children's Hospital	—	35	—	—	—
Group I	—	—	—	33	—
Group II	—	—	—	42	—

During 1936 a course in housekeeping and administration for senior nurses was started, training taking place at each of the three General Hospitals and at Alder Hey. Lectures have been given on dietetics by Miss M. W. Grant, B.Sc., and by Dr. R. Gaddie, B.Sc., and also by Drs. Crosbie, Steel and Findlay. An examination is held at the end of each course, which occupies six months.

Almoners in Municipal Hospitals.

The transfer of the former Poor Law Hospitals to the management of the Hospitals and Port Health Committee and the subsequent appropriation of Alder Hey Children's Hospital and the three General Hospitals 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. The service was authorised to be continued as a permanency in the autumn of 1937.

Buildings and Equipment.

(a) General Review.

The Hospitals and Institutions under the control of the Hospitals and Port Health Committee comprise the buildings transferred from the West Derby Board of Guardians in 1930 and the isolation hospitals and sanatoria which were built by the Municipality before that date, all the latter—with the exception of Fazakerley Sanatorium and the temporary hospital at Sparrow Hall—being constructed before the war.

The buildings transferred from the Guardians were, with the exception of Mill Road Infirmary and Cleaver Sanatorium, constructed mainly for the reception of healthy or merely aged and infirm persons. Occasionally buildings, such as portions of Smithdown Road Hospital, were built for the reception of the sick. It had been apparent for a considerable time that the number of sick, of women entering hospital for confinement, and of bed-ridden infirm, was steadily increasing, and this increased user of the buildings as hospitals has advanced rapidly since the transfer as shown in previous sections of this report. The principal requirements were for extensions of Nurses' Homes, for Continuation Departments, and for Maternity Wards.

To cope with this increased need for hospital accommodation of non-infectious cases, the Board of Guardians had, in the years succeeding the war, carried out an extensive internal reconstruction of Walton Workhouse, which converted it into the largest general hospital in this country. This reconstruction, however, was by no means complete, and in order to render it adequate for its present use certain new buildings, as well as internal re-arrangements, had still to be built. The buildings required were a Nurses' Home, an Admission and Continuation Department, and a Maternity Building. The New Nurses' Home, which was opened by the Lady Mayoress on February 25th, 1937, was the first of these to be completed. Plans for the Admission and Continuation Department and for certain replacement buildings have been prepared.

At Mill Road Infirmary the urgent needs are for a Continuation Department and an extension of the Nurses' Home. A new Continuation Department on the site of the former Steward's House and the

Chapel was begun during the year and will be completed during 1938. It will be linked up with the main building by a bridge, and contains an ante-natal clinic, massage department, almoner's office, dental clinic, etc., in addition to clinics for medical, surgical and orthopaedic cases.

The Nurses' Home extension can only take place when a site is available and this site has not yet been acquired. The provision of wards for maternity cases is a difficult matter, owing to the lack of land for a new building, but after very careful consideration plans have now been drawn up which will, if approved, provide the essential need of a labour suite with some isolation accommodation both of which, at present, are quite inadequate.

At Smithdown Road Hospital an admission and continuation department, and an extension of the Nurses' Home have already been carried out. There is need for a Central Stores which will not only permit a number of separate departments to be brought together with better supervision and economy of transport, but will enable certain rooms at present occupied by these departments, to be liberated for administrative and hospital purposes, for which no other space is available. The construction of a new Maternity Building has for some time received the consideration of the Committee. The suite of wards known as the "Old Corridor" is not suitable for modernisation, and at some future date will require replacement by modern buildings.

Alder Hey Children's Hospital, although built to receive infirm adults, had the advantage of being a modern building completed during the war and has now an Admission and Continuation Department, with cubicles in the upper two storeys; operating theatres, laboratory dispensary, and X-ray rooms have also been built. The construction of an extension of the Nurses Home, finished early in 1937, completed the major part of the re-organisation of this hospital, which is one of the finest children's hospitals in this country. A building for the replacement of the splint shop and certain other small extensions to replace temporary wooden buildings were begun during 1937, and are now nearly completed, together with a small enlargement of the Continuation Department.

The four hospitals just discussed are for the reception mainly of acute cases and those chronic or incurable cases which require considerable medical or nursing care. Chronic sick, bed-ridden infirm, and

senile patients are received in the two Institutions, at Belmont Road and Kirkdale Homes. The greater longevity of the population, referred to on page 24, leads to a need for 50 or 60 additional beds per annum for this class of patient, and the conversion of one block from the occupation by healthy adults to that of the sick is requisite to meet this extending need. During 1937 the "D" block at Belmont Road was so converted for chronic male patients by plastering wards, formation of bath and sluice rooms, etc. At Kirkdale Homes, wards for male bedridden patients were brought into use with little alteration.

Belmont Road Institution, having been constructed for healthy adults, with 3-storey blocks and only a ground floor corridor is unsuitable for conversion to general hospital purposes, but is sufficiently capable of adaptations for bed-ridden patients. The system of heating is from four separate groups of boilers, and the wards and corridors are mainly unheated or inadequately heated. The heating will require to be entirely overhauled, and a scheme for this purpose was prepared by a consulting engineer and referred to the Ministry of Health during 1936.

Kirkdale Homes consists of a main building and annexes of varying age and adaptability. The Rumney Road Block is the most modern in construction and is well adapted for senile and defective persons. With a moderate amount of alteration the rest of the Homes can be rendered suitable for the ageing men and women received there. There are, in the West Block, a number of epileptic men who would be more suitably housed in rural surroundings. The kitchens should be modernised and more day-rooms provided. Little has been expended on this Institution since it was transferred.

The Isolation Hospitals, unlike the Transferred Institutions, are used for the purpose for which they were constructed and do not require the same amount of adaptation. Owing to the shortening of the hours of nurses, extensions in the Nurses' Homes were needed as in the General Hospitals. At the Fazakerley group a joint building to house the night nurses in the Isolation Hospital, Annexe, and Sanatorium, is now completed. At Mill Lane Hospital an extension has now been carried out. At the City Hospital North there was no room for extension, but an adaptation of an existing building enabled 8 additional bedrooms to be provided.

The main necessity for the Isolation Hospitals has been the provision of cubicles for the separate isolation of patients suffering from certain combinations of infections, and of other patients requiring separation. Such provision permits of the fullest use of existing wards. Four blocks of cubicles, each containing sixteen individual cubicles, were completed in 1937 or early in 1938. Certain temporary buildings providing recreational and occupational facilities for the Sanatorium patients had to be removed to clear the site, and two buildings were built in or adjacent to the Sanatorium grounds for men and women respectively.

Sparrow Hall Isolation Hospital, with 160 beds, was constructed during the war as a semi-permanent building for the reception of smallpox patients. The making of the East Lancashire Road and the building of the Norris Green Housing Estate has rendered its location entirely unsuitable for this purpose and the "high-rib" style of building gives a relatively short life. The Fazakerley Annexe Hospital is suitably placed for the reception of smallpox should an epidemic occur, and it is hoped that it may be possible in the next few years to evacuate Sparrow Hall Hospital and liberate the site for housing. It has proved impossible to evacuate it without some counterbalancing provision, which was obtained by the construction of the 64 cubicles referred to in the preceding paragraph and by the evacuation of a ward in the Isolation Hospital which had for many years been used for the reception of cases of tuberculosis for which it is no longer required in view of the great reduction in the numbers of notifications of cases of that disease.

The Fazakerley Annexe Hospital Wards with one exception are built of wood and should be replaced by buildings of fireproof construction. Some years ago one of these wards was completely destroyed by fire in a period of little more than half an hour. One of these wards was evacuated during the greater part of 1937, and it is hoped will be replaced by a permanent building in 1938.

Two of the three Sanatoria, namely, Fazakerley Sanatorium and Cleaver Sanatorium, were built for the purpose and the pavilion type of construction at Broadgreen Sanatorium renders the buildings suitable for its present use. The construction of a dining room for patients

and the re-organisation of the laundry and power plant have already been effected and have led to economy in working. An extension of the Nurses' Home is now completed.

The Cleaver Sanatorium, being of modern construction, has required little alteration. An extension of the Nurses' Home is completed, and the building of a rest-room—as essential an item in the working of a children's Sanatorium as it is in an open-air school—is now nearly completed.

At Fazakerley Sanatorium, the principal need has been the building of a treatment block to provide for the advances in thoracic surgery which have been made since the Sanatorium was built. The treatment block now under construction will be entirely suitable for this purpose. The kitchen was modernised during 1937. For many years, cases of pulmonary and surgical tuberculosis have been housed in two wards in the Isolation Hospital, but as stated above these wards are no longer required for this purpose.

It may be pointed out that the advances in the treatment of tuberculosis in the last twenty-five years have permitted cure or very great alleviation in cases that would formerly have been regarded as progressive in type. Consequently the period of stay in hospital or sanatorium has become considerably extended in these patients. A proportion of patients can be rehabilitated by working under colony conditions for which the extensive grounds at Fazakerley provide adequate space.

(b) Work carried out in 1937.

At Smithdown Road Hospital the reorganisation of the laundry has been completed.

At Belmont Road Institution a further house-block was converted for ward use for old and bed-ridden patients, and opened early in 1937.

At Walton Hospital the new Nurses' Home Block was completed early in 1937. This building permits the nurses, who formerly occupied a number of rooms constructed for other purposes, to be properly housed, and thus liberated a house-block for occupation by infirm or chronic patients.

The Nurses' Home at Alder Hey has now been completed and provides 73 additional beds. The nurses have, in many cases, been

living in overcrowded conditions, which have been detrimental to health. A number have also been housed in a temporary wooden building erected during the War for a physio-therapy department. The new building also includes a flat for the matron and, with the release of rooms at present occupied by her, it will be possible to provide for the medical staff who at present occupy quarters originally provided for the domestic staff, etc. The scheme provides for the building of an additional floor in the residential quarters, and this work is now in progress.

The building of the Continuation Department at Mill Road Infirmary was begun in 1937, and this Department should be in occupation during the second half of 1938.

The building of a Rest Room at Cleaver Sanatorium has been begun and is nearly completed.

At Fazakerley Sanatorium the Recreation Rooms were completed and are occupied; this permitted the building of the four cubicle blocks in the Isolation Hospital which are now in occupation. The Treatment Block is completed and the transfer of X-ray and other apparatus in progress. The new Nurses' Home for night nurses is finished and in occupation.

An alteration to the former laundry building at the City Hospital North has provided 8 additional bedrooms.

A small wing has been built at Broadgreen Sanatorium and provides additional bedrooms for nurses. The enclosing of the corridors between the Administration Block and the nearest ward blocks on either side has also been finished.

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 washing 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 complete reorganisation of the Belmont Road Institution laundry, which is, in any case, required as it is badly arranged and largely equipped with out-of-date machines.

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 Broadgreen Sanatorium is structurally adequate for a much larger turnover than is actually dealt with, some of the machinery is, however, antiquated, but with further replacements it should become a very efficient unit, and should eventually be capable of washing 1,500,000 articles per annum.

The reorganisation of the laundry at Smithdown Road at a cost of about £11,530, is now completed. It is now equipped throughout with modern machinery with a continuous and unidirectional flow from entrance to exit thus establishing an efficient unit.

The reorganisation of the Belmont Road Laundry is becoming increasingly necessary, and can now be put in hand as the re-equipment of the Smithdown Road Hospital laundry is completed.

A new dryer, at Walton Hospital, in replacement of apparatus out of date, has been installed.

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 the Fazakerley Annexe.

The laundry at Netherfield Road Hospital was closed during 1937, and the washing therefrom has been transferred to Broadgreen Laundry.

The following table shows the existing and future capacity of the City Hospital laundries and their average weekly load:—

	Present Average User.	Present Weekly Capacity.	Maximum Capacity after Extension.
Walton Hospital	96,000	110,000	112,000
Smithdown Road Hospital	41,000	45,000	55,000
Belmont Road Institution	40,000	51,000	65,000
Broadgreen Sanatorium	16,000	20,000	35,000
Fazakerley Isolation Hospital	20,000	27,000	34,000
Total	213,000	253,000	301,000

It would appear from the figures that when the Belmont Road Laundry reorganisation is being carried out, it will be possible to carry the load among the other laundries.

Tuberculosis.

There was a slight reduction in the number of cases of tuberculosis admitted into the Sanatoria during 1937 compared with the preceding year, the numbers admitted falling from 689 to 669. The number of cases of tuberculosis admitted to the Transferred Hospitals shows a reduction of 99 compared with 1936. This reduction in admissions corresponds to a genuine reduction in the number 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. At the end of 1937 the children's block at Fazakerley was freed for the

CLASSIFICATION OF IN-PATIENTS WHO WERE DISCHARGED FROM OR WHO DIED IN TRANSFERRED INSTITUTIONS DURING THE YEAR ENDED 31st DECEMBER, 1937.

Disease Groups.	SMITHDOWN ROAD.		WALTON.		MILL ROAD.		ALDER HAY.		OLIVE MOUNT.		KIRKDALE HOMES.		BELMONT ROAD.		SEAFIELD.		CLEAVEY SANATORIUM.		1937.		GRAND TOTAL.	1936.	
	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	TOTAL			Dis- charged.	Died.
																			Dis- charged.	Died.			
Acute Infectious Disease	41	3	496	24	87	11	527	68	669	23	—	—	73	1	7	—	6	—	1,903	130	2,033	1,468	146
Influenza	57	1	167	5	150	9	61	—	—	—	—	—	16	2	—	—	—	—	451	17	468	140	2
Tuberculosis—																							
Pulmonary	42	7	389	230	31	1	19	4	—	—	—	—	6	2	—	—	69	1	556	245	801	598	223
Non-Pulmonary.....	12	1	63	22	18	5	153	44	—	—	—	—	15	2	—	—	60	—	321	74	395	340	72
Malignant Disease	112	72	313	387	163	80	1	—	—	—	—	5	11	10	—	—	—	—	600	554	1,154	651	557
Rheumatism—																							
(1) Acute Rheumatism (Rheumatic Fever) together with sub-acute Rheumatism and Chorea	96	—	128	3	52	—	448	—	—	—	—	—	8	2	—	—	—	—	732	5	737	1,062	6
(2) Non-articular manifestations of so-called "Rheumatism" (muscular rheumatism, fibrositis, lumbago and sciatica).....	72	—	300	1	78	—	3	—	—	—	—	—	14	—	—	—	—	—	467	1	468	343	—
(3) Chronic Arthritis	96	—	65	1	135	1	—	—	—	—	—	—	15	2	—	—	—	—	311	4	315	505	8
Veneral Disease	34	—	66	5	434	4	4	—	—	—	—	—	11	6	—	—	—	—	549	15	564	606	16
Puerperal Pyrexia	2	—	39	—	25	1	—	—	—	—	—	—	—	—	—	—	—	—	66	1	67	80	2
Puerperal Fever—																							
(a) Women confined in hospital	—	—	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	1	5	4	—
(b) Admitted from outside	4	—	7	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	4	15	6	6
Other diseases and accidents connected with Pregnancy and Childbirth	519	2	939	8	773	6	—	—	—	—	—	—	—	—	—	—	—	—	2,231	16	2,247	2,213	17
Mental Diseases—																							
(a) Senile Dementia	18	—	22	—	3	—	—	—	—	—	29	165	51	50	—	—	—	—	114	215	329	126	113
(b) Other.....	938	2	51	2	27	3	9	—	—	1	36	7	25	2	39	—	—	—	1,125	17	1,142	1,084	11
Senile Decay	127	3	74	9	73	—	—	—	—	—	30	29	83	74	—	—	—	—	387	115	502	386	109
Accidental Injury and Violence	552	21	1,085	45	594	24	687	8	1	—	4	—	41	2	—	—	—	—	2,964	100	3,064	2,853	107
In respect of cases not included above:—																							
Disease of the Nervous System and Sense Organs	353	120	740	177	301	92	969	110	1	2	40	5	121	86	—	—	—	—	2,525	592	3,117	2,680	336
" " Respiratory System	781	260	1,360	367	829	201	1,981	279	15	67	73	49	177	54	—	1	—	—	5,216	1,278	6,494	4,921	1,573
" " Circulatory "	404	486	1,327	344	142	530	278	38	—	2	50	28	180	315	—	1	1	—	2,382	1,744	4,126	2,613	1,513
" " Digestive "	1,273	47	2,062	88	1,464	60	2,282	51	—	1	—	—	22	11	—	1	2	—	7,105	259	7,364	6,669	286
" " Genito-urinary "	616	79	1,070	69	774	66	478	8	—	—	3	—	11	4	—	—	—	—	2,953	226	3,179	2,919	259
" " Skin	195	1	420	2	306	—	450	1	—	—	—	—	3,390	8	2	—	—	—	4,763	12	4,775	4,459	25
Other Diseases	381	64	647	137	702	82	1,140	107	—	7	—	—	38	8	6	—	—	—	2,914	405	3,319	2,807	40
Mothers and Infants discharged from Maternity Wards and not included in above figures—																							
Mothers	1,760	—	3,047	—	1,509	—	—	—	—	—	—	—	—	—	—	—	—	—	6,316	—	6,316	6,187	—
Infants	1,646	—	2,742	—	1,401	—	—	—	—	—	—	—	—	—	—	—	—	—	5,789	—	5,789	5,582	—
Any persons not falling under any of the above headings	—	—	347	—	29	—	2	—	1,793	7	—	—	1,470	—	—	—	—	—	3,641	7	3,648	4,111	11
TOTALS	10,131	1,169	17,970	1,931	10,100	1,176	9,492	718	2,476	110	256	288	5,778	641	54	3	139	1	56,396	6,037	62,433	55,073	5,360

reception of adult 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. The completion of the treatment block at Fazakerley Sanatorium containing 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. At Broadgreen Sanatorium the corridors between the operating theatre and the nearest male and female wards were covered in early in 1938 in order to permit patients to be treated surgically without undue risk.

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 instances. The treatment is prolonged in old-standing cases.

At Cleaver Sanatorium the building of a rest-room where the children can lie down during the middle of the day is nearing completion. 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. It will provide for about 120 children and will also enable the children to have open-air recreation in wet weather.

reception of adult cases. One of the two wards at Hradec Králové Hospital, formerly occupied by children, has been released for the use of adults.

The number of primary cases is about 2500, showing a reduction in admissions is about 25% corresponding with the reduction in number of notified cases. The duration in number of days has been about 100 days. The average length of stay is 100 days. Contrary to what holds good in the General Hospital this increased duration of stay points to greater efficiency in the methods of treatment available and system. The greater use of collapse therapy methods, such as the induction of artificial pneumothorax, has effected cases formerly intractable; the prolongation of stay is an indication of prolongation of life in many cases. The duration of treatment on these lines is towards the greater use of artificial methods. The completion of the treatment block at Hradec Králové Hospital is now operating in two and two small wards adjacent to the X-ray building will enable these methods to be used under the most favorable conditions. At Hradec Králové Sanatorium the correlation between the operating theatre and the nearest male and female wards were covered in early in 1935 in order to permit patients to be treated surgically without undue risk.

One of the most distressing conditions is the form of tuberculosis of the skin known as lupus. The opening of the Hradec Králové at Hradec Králové Sanatorium provides adequate and efficient treatment available for the patients suffering from this condition. Early cases of lupus can now be cured without disfigurement, and the process of disfigurement can be completely averted in a considerable number of instances. The treatment is prolonged in old-standing cases.

The Hradec Králové Sanatorium is the largest of its kind where the children are housed during the middle of the day in nursing completion. Each ward is regarded as an essential provision in an open-air school and is even more regarded in a sanatorium for the treatment of tuberculosis. It will provide for about 100 children and will also enable the children to have open air recreation in wet weather.

SANITARY ADMINISTRATION.

SANITATION.

SANITARY ADMINISTRATION.

During the year the district sanitary inspectors made 159,330 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 and 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 of such premises.

During the year, 18,928 complaints of nuisances were received, as compared with 18,979 the previous year.

The number of notices served for the abatement of nuisances was 28,204 informal, and 14,997 statutory, 119 notices being served for the abolition of ashpits, and 3,669 for the provision of dust bins.

In 54 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 visited the premises in the course of house-to-house inspection.

References from other Departments.

From the City Engineer	...	...	...	...	259
„ „ Water Engineer	...	...	...	...	2,999
„ „ Building Surveyor	...	...	...	...	109
„ „ Education Department (suspected infection in school children)	...	...	...	...	4,620
Inter-Departmental References	...	...	...	...	593

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 paving, dangerous walls, floors and roofs.

References to other Departments—

To the City Engineer	...	...	...	...	1,600
„ „ Building Surveyor	...	...	...	...	2,302
„ „ Water Engineer	...	...	...	...	1,864
„ „ Education Department	...	...	...	...	35
Inter-Departmental references	...	...	...	...	176

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 investigations relating to cases of infectious diseases					
...	...	...	...	...	14,594
„ „ visits to infected houses	...	...	...	...	15,541
„ „ „ „ phthisis cases	...	...	...	...	982
„ „ enquiries relating to suspected smallpox contacts	...	...	...	...	5

Closet Accommodation.

There are still 172 privies and 105 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.
Childwall	8	1	—	—	9	8	1	—
Croxteth	67	4	2	69	2	33	34	5
Fazakerley	39	3	2	35	31	40	3	1
Garston	1	—	—	1	—	—	1	—
Knotty Ash	3	—	—	3	—	3	—	—
Sefton Park W. ...	1	—	—	—	1	—	1	—
Speke... ..	45	13	1	36	20	20	19	20
Wavertree	2	—	—	—	2	2	—	—
Woolton	49	5	3	28	40	24	32	1
TOTALS	215	26	8	172	105	130	91	27

Factories, Workshops and Shops Inspection, 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	757
Workshops	1,092
Workplaces	572
Re-visits	620
Visits, Special —Factories	619
Workshops	375
Workplaces	288
Re-visits	487
Number of notices, informal	530
“ “ statutory	102
Factories discontinued and removed from Register	21
Workshops “ “ “ “ “ “	85
Number of workshops measured	255

	DEFECTS.	
	Reported.	Remedied.
Want of cleanliness	97	87
„ ventilation	20	20
„ light, by day	3	3
„ light, by night	3	3
Overcrowding	5	5
Want of drainage to floors	—	—
Referred to H.M.I.F. No Abstract exhibited... ..	15	15
„ „ Other matters	3	3
Other Nuisances	370	330
Number found infested with rats	42	42
„ „ „ cockroaches	1	1
Sanitary Accommodation insufficient	59	48
Want of separate sanitary accommodation	28	20
„ screens, doors, etc.	105	87
„ light and Ventilation	104	74
Dirty floors, w.c. basins, seats, walls, etc.	241	217
Want of separate approaches for sexes	5	3
„ intervening air space	105	66
Number of urinals incorrect	2	1
TOTAL	1,208	1,025

**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.
<i>Factories</i> (Including Factory Laundries.)	1,863	299	—
<i>Workshops</i> (Including Workshop Laundries).	1,887	263	—
<i>Workplaces</i> (Other than Outworkers' premises).	1,060	70	—
TOTAL	4,810	632	—

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.	
<i>Nuisances under the Public Health Acts :*</i>				
Want of cleanliness	97	87	—	—
Want of ventilation	20	20	—	—
Overcrowding	5	5	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	370	330	—	—
Sanitary accommodation—				
Insufficient	59	48	—	—
Unsuitable or defective	557	445	—	—
Not separate for sexes	33	23	—	—
<i>Offences under the Factory and Workshop Acts :—</i>				
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 Work- shops Transfer of Powers) Order, 1921)				
TOTAL	1,141	958	—	—

*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	2,770
Workshop Bakehouses	230
Factory Bakehouses	197
TOTAL	3,197

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)	15
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)	129
Other Reports to H.M. Inspectors	3
Underground Bakehouses (S.101) :—	
Workshop Bakehouses in use at the end of the year	25
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	137
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 bake-houses	182

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	142
Number of returns indicating no outworkers employed	17
Number of returns referred to Sanitary Inspectors	10
Number of visits to premises by Sanitary Inspectors	137
Number of premises found incorrect	—

Bakehouses.

The number of bakehouses in use at the end of the year was 427, of which 230 were workshop bakehouses, 25 being underground, and 197 factory bakehouses, 39 being underground. Since the passing of the Factory and Workshops Act, 1901, 343 underground bakehouses have been closed.

During the year, 2,440 visits were paid to bakehouses.

Number of occasions on which bakehouses were found incorrect	...	271
Number of notices (informal)	...	271
„ „ (statutory)	...	95

Bakehouses.	Defects.	
	Reported.	Remedied.
Walls and ceilings requiring cleansing	14	14
Walls and ceilings requiring limewashing	142	128
Walls and ceilings requiring painting	—	—
<i>Sanitary Accommodation—</i>		
Sanitary accommodation insufficient	1	1
Want of separate accommodation	49	46
Want of screens, doors, etc.	58	55
Want of light	11	11
Dirty floors, water-closet basins, seats, walls, etc.	45	45
Number of urinals incorrect	6	6
Number of premises found infested with rats	—	—
Number of premises found infested with flies	1	1
Number of premises found infested with cockroaches	4	4
Storage of refuse incorrect... ..	80	77
Other Nuisances	450	387
TOTAL	861	775

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 364 in use at the end of the year.

During the year, 1,183 visits were paid to restaurant and café kitchens.

Number of occasions on which restaurants and café kitchens were found incorrect	106
Number of notices (informal)	106
Number of notices (statutory)	31

Restaurants and Café Kitchens.	Defects.	
	Reported.	Remedied.
Want of light	—	—
Want of washing facilities	—	—
<i>Sanitary Accommodation—</i>		
Sanitary accommodation insufficient	—	—
Want of separate accommodation	4	4
Want of screens, doors, etc.	12	10
Want of light	4	3
Dirty floors, water-closet basins, seats, walls, etc.	9	9
Number of urinals incorrect	—	—
<i>Section 72, Public Health Act, 1925—</i>		
2. (a) Sanitary conveniences incorrect	5	5
(b) Cistern water supply incorrect	—	—
(c) Ventilation of drain incorrect	—	—
(d) Rooms used as sleeping places	—	—
(e) Ventilation of rooms incorrect	3	3
3. (a) Walls and ceilings of room requiring limewashing, cleansing, etc.	38	38
(b) Accumulations or deposits of refuse in rooms... ..	15	14
4. Unclean condition of articles, apparatus or utensils	5	5
Number of trade refuse bins defective	58	51
Number of ashbins defective	2	—
Number of premises found infested with rats	—	—
Number of premises found infested with steam flies	1	1
Number of premises found infested with cockroaches	1	1
Number of other nuisances	83	69
TOTAL	240	213

Licensed Premises.

SECTION 72, PUBLIC HEALTH ACT, 1925.

Visits were made to 1,317 licensed premises, and it was found that the conditions under which beer is stored and sold are satisfactory on the whole. Measures have been taken to maintain a good standard of cleanliness, the result of inspections being as follows:—

	Reported.	Remedied.
Beer Cellars.		
Defective condition of paving	211	179
Defective condition of walls	12	10
Defective condition of ceilings	18	16
Defective drainage	55	54
Defective ventilation	72	70
Unclean condition of paving	65	57
Unclean condition of walls	169	165
Unclean condition of ceilings	122	122
Unclean condition of pipes	51	51
Unsatisfactory condition of vessels used for waste beer ...	219	212
Rat runs	1	1
Family washing hung in cellar	1	1
Clarification of beer incorrect	43	38
Bar.		
Defective condition of drip sinks	37	30
Defective condition of drain boards	14	8
Defective condition of wash sinks	6	6
Defective condition of waste-pipes	57	54
Defective condition of bar floors	1	1
Unclean condition of pumps	59	59
Unclean condition of bar floors	3	3
Unclean condition of cupboards	43	43
Facilities for cleansing of glasses insufficient	372	112
TOTAL ...	1,631	1,292

Seven premises where defects existed have been either closed or demolished and no further action has been necessary.

Shops Acts, 1912-1936.

By means of systematic visitation of shops throughout the city, effective administration of the Shops Acts is secured, and the necessary information obtained for the purpose of keeping up to date a register

of all shops in the city. The majority of the shops in the city are closed for the weekly half-holiday at 1 p.m. on Wednesday, except in the central area where Saturday is the closing day for most shops.

In connection with the closing of shops on the weekly half-holiday, the City Council has made 20 half-holiday orders, and in addition 12 closing orders are in force with regard to evening closing. Regular visits on the weekly half-holiday, and in the evening, are made to ensure that the provisions of the Shops Acts and the various Closing Orders made thereunder are complied with.

In addition to the above, orders have been made by the City Council suspending the closing hours on the Thursday preceding Good Friday each year, for the retail trade or business of:—

- Fish, game and poultry dealers;
- Fruit and vegetable dealers;
- Dealers in bread and flour;
- Dealers in groceries and provisions.

During the year, half-holiday orders and closing orders have been made in respect of shops in which the above-mentioned trades or businesses are carried on in those parts of the city added since the 9th November, 1913, namely, the Allerton, Childwall, Little Woolton, Much Woolton, and Croxteth Wards, and the Speke portion of Garston Ward.

In accordance with the requirements of the Public Health Act, 1936, Section 205, a female Inspector, in addition to her duties under the Shops Acts, has made enquiries with reference to "prohibition of the employment of women after childbirth", and in this connection 236 visits have been made to factories and workshops within the city. In each case the female overseer was interviewed and, as a result of the visits, it may be anticipated that every precaution will be taken to see that the provisions of the Act are carried out.

Shops Act, 1934.

The provisions of the Act relating to the employment of shop workers have been effectually applied during the course of routine visitation of shops, and it has been ascertained that the conditions of employment

have improved as a result, in respect both to the hours of employment of young persons, and the arrangements for the health and comfort of shop workers, including ventilation, heating, sanitary conveniences, lighting, washing facilities, and the provision of facilities for the taking of meals.

Owners and occupiers of shops are generally desirous of taking reasonable measures to comply with the requirements of the Act, and are ready to obtain and act upon the advice given by the Shops Acts Inspectors.

The normal maximum working hours for young persons are 48 per week, but in many instances the actual hours worked do not reach 48 per week. It has also been found that only a small proportion of young persons have been required to work the overtime permitted by the Act. By means of careful enquiry as to records of hours of employment, errors due to various causes are checked and an improvement brought about.

In order to restrict night employment, it is necessary that each young person shall receive an interval of at least eleven consecutive hours' rest between midday on one day and midday on the next day, so as to include the hours from 10-0 p.m., on one day, until 6-0 a.m. the next day (5-0 a.m., in the case of male young persons between the ages of 16 and 18 years, employed in connection with the collection or delivery of milk, bread or newspapers).

Visits are made by inspectors after 10 p.m., and before 5 a.m., to enforce this provision.

Satisfactory progress has been made with regard to the works required by notices served under Section 10, dealing with arrangements for the health and comfort of shop workers, and shopkeepers, and owners of premises have generally been ready to comply with the requirements of this Section.

In cases where accommodation is restricted or where special circumstances exist, provision is made under Section 10 to enable a certificate

of exemption to be granted by the City Council, provided that other suitable arrangements are conveniently available.

The number of applications for exemption dealt with since the Act came into operation on the 30th December, 1934, is 267, and those dealt with during the year number 73. In all cases careful enquiry is made to ensure that the alternative arrangements are satisfactorily made and maintained, and in one case only was it found necessary during the year to withdraw the certificate.

Shops Act, 1936.

This enactment, which came into operation on the 1st January, 1937, extended the provisions of the Shops Acts, 1912—1934, to the business of lending books or periodicals when carried on for the purpose of gain.

There are several shops in the city where this is the only business carried on, but in the great majority of shops, chiefly newsagents and stationers, it comprises only a part of the business of the shop.

The effect of the Act has been to restrict the hours during which the business of lending books and periodicals may be carried on, to the general evening closing hours, and to one o'clock on Wednesday, that day having been fixed as the weekly half-holiday in an Order made by the City Council on the 7th April, 1937. It also extends the provisions of the Shops Acts, 1912—1934, to the employment of assistants and young persons engaged at such shops.

This business cannot be carried on, on Sunday.

Retail Meat Dealers' Shops (Sunday Closing) Act, 1936.

The closing of butchers' shops on Sunday was made compulsory when this Act became operative on the 1st January, 1937, but shops occupied by persons of the Jewish religion which are licensed by the Shechita Board to carry on the trade of a Kosher butcher, may keep open until 8-0 p.m. on Sunday, provided they give notice to the Local Authority, and keep the shop closed on Saturday, and exhibit a notice to that effect.

There are seventeen such shops in the city where the occupiers have given the required notice so as to keep open on Sunday.

Shops (Sunday Trading Restriction) Act, 1936.

This measure, which came into operation on the 1st May, 1937, requires all shops to be closed on Sunday, except for the transactions mentioned in the First Schedule. The transactions given in the Second Schedule may be carried on on Sunday for a period of nine months from the 1st May, 1937, but after that time such sales must not take place on Sunday, unless permitted by a partial exemption order made in accordance with the provisions of the Act.

Such an order cannot authorise a shop to be open for the serving of customers after 10-0 a.m. on Sunday.

A small number of individual applications for the making of an Order were received from occupiers of small general shops, but as the number of applications did not represent two-thirds in number of the shops to be affected by the Order, the City Council were unable to make the necessary Order.

The Act also provides for compensatory holidays for all persons employed about the business of shops which are open for the serving of customers on Sunday. Such holidays must be given on a week-day, and must be in addition to the statutory weekly half-holiday. For working more than four hours on Sunday, a person must be given a whole day as a compensatory holiday, and must not be employed on more than two other Sundays in the same month.

An assistant employed for not more than four hours on Sunday must receive a "half-holiday", this being a day when the assistant is either not employed before, or not employed after half-past one o'clock in the afternoon, about the business of that shop. In this case the assistant may be employed on every Sunday in the month.

In all cases a record of such employment must be kept which shall also indicate the day of the compensatory holiday.

Special provision is made for persons of the Jewish religion, who have a conscientious objection to carrying on trade or business on the Jewish Sabbath, to have their shops registered with the Local Authority for the purpose of keeping open on Sunday, provided they submit an application together with a statutory declaration in the manner prescribed by the Act.

Twenty-five such applications were received from Jewish persons during the year.

The administration of the above Shops Acts affecting Sunday trading is effectually carried out by means of systematic visitation each Sunday, and for this purpose Inspectors are regularly engaged throughout the city, the duties being arranged so that shops may be visited during the whole day.

There are approximately 4,000 shops open on Sunday, comprising mainly, sweets, tobacco and newsagents' shops, and general dealers' shops, and upon the Act becoming operative, every shop in the city open on Sunday was specially visited for the purpose of advising the occupiers, as to the Shops Acts generally, and the Shops (Sunday Trading Restriction) Act, 1936, in particular, and it has been found that shopkeepers generally are trying to carry out the requirements of these enactments.

The operation of this Act has generally proved beneficial to shop assistants employed on Sunday, but many occupiers of the above-mentioned shops have expressed a desire for the compulsory closing of shops for the whole day or at a fixed time on Sunday, irrespective of the nature of the trade carried on, in order that they may rest on Sunday.

Particulars of Visits and Inspections.

Special Complaints.

Closing hours	409
Closing on Sunday	106
Closing on Jewish Sabbath	15
Employment of persons on Sunday	18
Assistants' half-holiday	91
Intervals for meals	24
Seats for female assistants	22
Employment of young persons	178
Ventilation	12
Lighting	3
Temperature	52
Washing facilities	32
Facilities for taking meals	11
Sanitary conveniences	154

Registration.

Retail shops visited	7100
Assistants employed.	
Young persons—Male	2,271
Female	1,528
Adults—Male	3,391
Female	2,888
Wholesale shops visited	164
Young persons employed—Male	136
Female	82

Visits re Half-holiday Closing.

Shops visited after 1 p.m.	128,365
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Visits re Evening Closing.

Shops visited after 7 p.m.	18,390
Shops visited after 8 p.m.	44,010
Shops visited after 9 p.m.	16,299
Shops visited after 9.30 p.m.	6,073
Shops visited after 10 p.m.	1,054

Visits re Sunday Closing.

No. of shops visited on Sunday	11,433
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Re-visits (General).

Closing hours and notices	499
Sunday closing and notices	3,467
Sunday employment of persons	43
Assistants' statutory half-holiday and notice	685
Compensatory holidays	6
Intervals for meals	27
Seats for female assistants	27
Employment of young persons	593
Notices—Shops Act, 1934	4,273
Welfare arrangements	5,562

Caution Letters.

Offences in shops	358
Offences by street traders	23

Informations.

Half-holiday closing	28
Evening closing	141
Sunday closing	16
Assistants' half-holiday	41
Employment of young persons	56
Employment of persons—Sunday	2
Intervals for meals	3

No. of incidental calls	2,482
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Public Health Acts.

No. of nuisances reported	48
No. of nuisances abated	42
No. of conveniences limewashed	2
No. of informations	1
No. of nuisances outstanding	6

Contraventions.

	Reported	Remedied	Outstand
1912 and 1913 Acts.			
Half-holiday closing	178	178	—
Mixed trades notice	875	875	—
Closing notice			
(Alt. W.H.H.)	5	5	—
Assistants' half-holiday	135	135	—
Intervals for meals	24	24	—
Seats for female assistants	20	20	—
Assistants' half-holiday notice	784	784	—
1928 Act.			
Evening closing	240	240	—
Mixed trades notice (C.O.)	311	311	—
1934 Act.			
Employment of young persons	125	125	—
Record of hours of employment	147	147	—
Notices A to K.	3,834	3,834	—
Ventilation	12	12	—
Lighting	35	33	2
Temperature	701	654	47
Washing facilities	735	717	18
Facilities for taking of meals	110	109	1
Sanitary conveniences	1,117	1,079	38
1936 Acts.			
Sunday closing	57	57	—
Mixed shops notice (Form I)	2,926	2,926	—
Employment of persons on Sunday	3	3	—
Record of Sunday employment	961	961	—
Closing Jewish shops on Saturday	—	—	—
Employment of persons on Jewish Sabbath	4	4	—
Saturday closing notice	12	12	—
TOTALS	13,351	13,245	10

Nature of Offence.	No. of Contraventions.	No. of Warnings.	Prosecutions.					Amount of	
			No. of Informations.	No. withdrawn.	Discharged Cautioned.	Dismissed.	Fined.	Fines.	Costs.
Brought forward ...	2,044	1,974	70	—	24	—	46	£18 9 0	£3 12 0
CLOSING ORDERS.									
Shop open after closing hour fixed by closing order ...	158	119	39	1	19	—	19	£6 0 0	£3 0 0
Hawking after hour fixed by closing order ...	—	—	—	—	—	—	—	—	—
Notices not displayed in mixed shops after closing hour ...	311	311	—	—	—	—	—	—	—
SHOPS (HOURS OF CLOSING) ACT, 1928.									
Shop open after closing hour ...	240	143	97	—	39	—	58	£38 17 6	£6 0 0
Hawking after closing hour ...	5	—	5	—	2	—	3	£0 17 6	£0 8 0
HAIRDRESSERS' AND BARBERS' SHOP (SUNDAY CLOSING) ACT, 1930.									
Hairdresser carrying on business on Sunday ...	—	—	—	—	—	—	—	—	—
SHOPS ACT, 1934.									
Excessive hours of employment of young persons ...	113	108	5	—	—	—	5	£10 0 0	£0 14 0
Hours of employment not recorded...	147	118	29	1	1	—	27	£27 5 0	£1 19 6
Not given 11 consecutive hours' rest in 24 hours ...	12	—	12	—	—	—	12	£14 0 0	£0 12 6
Notices and Abstracts not exhibited	3,834	3,824	10	—	—	—	10	£8 15 0	£0 2 6
Correct intervals for meals and rest not allowed...	2	—	2	1	—	—	1	£0 10 0	—
SHOPS (SUNDAY TRADING RESTRICTION) ACT, 1936.									
Shop not closed on Sunday ...	56	42	14	—	3	—	11	£3 0 0	£0 12 0
Mixed shops notice not exhibited ...	2,926	2,925	1	1	—	—	—	—	—
Record of Sunday employment not kept ...	961	959	2	—	—	—	2	£1 0 0	—
RETAIL MEAT DEALERS' SHOPS (SUNDAY CLOSING) ACT, 1936.									
Shop not closed on Sunday ...	1	—	1	—	—	—	1	£0 5 0	—
TOTALS ...	10,810	10,523	287	4	88	—	195	£128 19 0	£17 0 6

It was found necessary to caution 381 persons by letter for minor infringements of the Acts.

Premises, etc., controlled by Byelaws and Regulations.

Common Lodging Houses.

At the commencement of the year 1937, there were on the register 74 lodging houses providing accommodation for 3,916 lodgers. During the year, 15 houses were removed from the register leaving at the end of the year 59 houses with accommodation for 3,257 lodgers.

Under Part 5 of the Public Health Acts Amendment Act, 1907, Sections 69 to 72 (adopted in 1912), 10 deputy keepers were registered during the year.

Liverpool Corporation Act, 1936.

Common Lodging Houses.

Section 72 provides that no house or part of a house within the city shall be exempt from the provisions with respect to common lodging houses of the Public Health Acts or of this section or any byelaws made under this Act on the ground that accommodation in such house or part of a house is let for a longer period or longer periods than one day or is not let for a less period than one week.

Notwithstanding anything in the Public Health Acts the registration of a common lodging house, whether registered before or after the passing of this Act, shall remain in force only for such time not exceeding one year as may be fixed by the Corporation, but may be renewed from time to time by the Corporation.

Under this section of the Act, 67 applications were received from keepers, of which number 13 were granted, 7 of these with a reduced number of lodgers, 2 were refused owing to the houses not being kept up to the required standard, and no action was taken in respect of 12 applications, the houses being included in clearance or re-development areas.

Seventy-three verbal notices for infringements of the byelaws were given to registered keepers during the year.

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 Common Lodging Houses.

Number of houses on register (males only)	...	...	50
" " " " " (females only)	...	...	9
" " lodgers allowed (males)	...	...	2,845
" " " " (females)	...	...	412
" " day visits	...	...	1,228
" " nocturnal visits	...	...	125
" " special visits	...	...	47

Inspection of Houses Let-in-lodgings.

Number of houses on register, January 1st, 1937	...	...	15,565
" " " removed from register during 1937	...	...	702
" " " added to register during 1937	...	...	nil.
" " " on register, December 31st, 1937	...	...	14,863
Total number of visits and re-visits	...	...	6,850
Number of inspections for infringements of byelaws	...	...	337
" " floors, stairs, etc., found dirty	...	...	156
" " " " " cleansed on re-visit	...	...	131

No informations were laid during the year.

In a large number of houses let-in-lodgings situated within the old city boundary, the standard of accommodation is poor, and of these 4,580 are included in areas represented as being unfit for human habitation under the Housing Act.

Canal Boats.

Public Health Act, 1936. Part X. Sections 249 to 258.

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 1,301, and the condition of the boats and their occupants as regards matters dealt with in the Act and Regulations is indicated in the following table:—

Boats on register, 1st January, 1937	...	...	...	...	...	...	...	411
New boats registered	...	...	...	...	...	...	...	13
Boats removed from register	...	...	...	...	...	...	...	26

*Boats on register, 31st December, 1937	...	...	...	...	...	...	...	398
							{ motor-propelled 72 motor-towed 42 steam-propelled 61 steam-towed 101 horse-drawn 122 }	

Application to register boat	...	...	...	...	...	...	...	1
------------------------------	-----	-----	-----	-----	-----	-----	-----	---

Contraventions occurred on 47 boats, of which number, 10 were registered by other authorities.

Nature of Contraventions.	Reported.	Remedied.
Unregistered boats used as dwellings	3	3
No certificate on board or certificate not legible	2	1
Leaky decks	5	4
Defective stoves or stove-pipes	13	13
Cabins requiring re-painting	12	10
Registration authority and number not painted on boat	2	2
Dirty cabins	4	4
Registered number not legible	2	2
Defective skylights	2	2
Defective water tanks	3	3
Defective scuttle covers	3	2
Verminous cabin	1	1
Certificate not correct	1	1
Defective cabin fittings	7	7
Defective deck lights	1	1
TOTAL	61	56

Written notices were issued to owners in 37 instances, and verbal notices were given to masters in 10 instances. Of these notices 44 have been complied with. No informations were laid during the year against

*Of the 26 boats removed from the register, 5 were broken up, 1 converted to motor-propelled boat, 3 have been sold outside the district, 10 not to be used as dwellings, 6 were re-registered owing to change of ownership, and 1 was sunk,

owners or masters for infringement of the Acts or regulations. No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district.

The inspectors of the Port Health Authority made 646 inspections during the year and 22 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.

182 boats were visited, which were registered as follows:—121 at Liverpool, 17 Runcorn, 1 Leigh, 1 Leeds, 12 Manchester, 9 Chester. Twenty-one boats were not registered (not used as dwellings).

All were "wide" boats, 1 being propelled by steam, 60 steam-towed, 51 motor-driven, 24 motor-towed, and 46 horse-drawn.

The number of inspections of these 182 boats was 655, and the population comprised:—Men, 351; women, 6; children, 8; a total of 365 persons, the sexes and ages being as follows:—

Males over 14 years of age	...	...	...	...	351
„ „ 5 and under 14	...	...	...	...	3
„ under 5 years of age	...	...	...	...	2
Females over 12 years of age	...	...	...	...	6
„ „ 5 years and under 12	...	...	...	...	3
„ under 5 years of age	...	...	...	...	0
					365

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).

Six children of school age were found on canal boats during the year, who were on trips with their parents during the school holidays. No 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. Three visits have been made and four samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations. Ninety-three visits have been made to premises where rag flock was used, 54 samples were taken, and with the exception of 3, were in accordance with the regulations. In each of the 3 cases the offender was cautioned.

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 13,024, and the following summary indicates the position at the end of the year :—

Number of visits to stables	...	...	...	...	13,024
„ „ „ „ „ found occupied	...	...	...	...	803
„ „ „ „ „ „ disused	...	...	...	...	1,264
„ „ middens inspected	...	...	...	...	7,104
„ „ „ found fly infested	...	...	...	...	6
„ „ „ „ incorrect	...	...	...	...	141
„ „ visits to manure depots	...	...	...	...	84
„ „ manure pits repaired	...	...	...	...	25
„ „ „ „ emptied	...	...	...	...	114

The number of stables in use at 31st December, 1937, was 803 as compared with 998 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 84 visits have been made to manure depots.

Offensive Trades.

There were on the register of offensive trades in the city at 31st December, 1937, 127 businesses coming under this category, which is 63 more than the number at the end of the preceding year owing to the inclusion of rag and bone dealers under Section 107, Public Health Act, 1936.

Nature of Business.	1936	1937
Blood boilers	—	—
Blood driers	—	—
Bone boilers	2	2
Fat extractors	6	7
Fat melters	9	10
Fellmongers	1	—
Glue makers	—	—
Gut scrapers	5	7
Rag and bone dealers... ..	2	61
Size makers	—	—
Soap boilers	10	8
Tallow melters	—	—
Tripe boilers	6	5
Fertilizer manufacturers	2	5
Hide and skin stores	9	10
Knackers' yards	2	2
Lard refiners	2	3
Meat (Horse and Cow) boilers	—	1
Oil and chemical works	3	1
Tanneries	5	5
TOTAL	64	127

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 nuisance be caused, and that the business be discontinued whenever the Council shall so require.

During the year the number of inspections was, 1,930.

Number of special visits	...	...	...	...	29
„ „ ordinary visits	...	...	...	...	1,633
„ „ re-visits re nuisances	...	...	...	...	268
„ „ nuisances abated	...	...	...	...	206
„ „ applications to establish	...	...	...	...	7
„ „ „ granted	...	...	...	...	2
„ „ „ for renewal	...	...	...	...	5
„ „ „ granted	...	...	...	...	5
„ „ Offensive trades discontinued and removed from the register	...	...	...	...	4
„ „ nuisances found	...	...	...	...	225
„ „ notices issued (informal)	...	...	...	...	158
„ „ „ „ (statutory)	...	...	...	...	58
„ „ premises rat-infested	...	...	...	...	—
„ „ „ fly-infested	...	...	...	...	—

Fish Friers' Premises.

At the end of the year there were 655 fish friers' businesses within the city, all of which were visited systematically to see that the requirements of the Byelaws were carried out.

Fish Friers' Premises.					Totals.
Number of special visits...	...	...	...	...	216
„ of ordinary visits	...	...	...	...	1,787
„ of re-visits	...	...	...	...	1,093
„ found incorrect	...	...	...	...	482
„ of nuisances found	...	...	...	...	798
„ of contraventions of Byelaws	...	...	...	...	7
„ found rat-infested	...	...	...	...	—
„ found fly-infested	...	...	...	...	1
„ of incidental calls	...	...	...	...	121
„ of notices issued (informal)	...	...	...	...	460
„ of notices issued (statutory)	...	...	...	...	25
„ of nuisances abated	...	...	...	...	714
„ of contraventions of Byelaws remedied	...	...	...	...	7

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 are 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, 645 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 34 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	...	...	...	205
„ „ „ platforms (fish arrivals)	...	...	...	52
„ „ „ poultry depots	...	...	...	613
„ „ „ marine stores	...	...	...	995
Observations re swill removal	...	...	...	270

Furniture Removers.

Premises visited	...	...	...	40
„ re-visited	...	...	...	3
Vans inspected	...	...	...	65
„ found dirty	...	...	...	2
„ re-inspected	...	...	...	2

Prohibition of Sale of Verminous Furniture, etc.

Under Section 83 of the Liverpool Corporation Act, 1936, no dealer shall sell or expose for sale any second-hand furniture, mattress, bed-linen or similar articles if the same are to his knowledge infested with bed-bugs or if by taking reasonable precautions he could have known the same to be so infested.

No.	Date		Description	Amount
	Month	Day		
1	Jan	1	Balance	100.00
2	Jan	5	Interest	5.00
3	Jan	10	Interest	5.00
4	Jan	15	Interest	5.00
5	Jan	20	Interest	5.00
6	Jan	25	Interest	5.00
7	Jan	30	Interest	5.00
8	Jan	31	Interest	5.00
9	Feb	1	Balance	105.00
10	Feb	5	Interest	5.00
11	Feb	10	Interest	5.00
12	Feb	15	Interest	5.00
13	Feb	20	Interest	5.00
14	Feb	25	Interest	5.00
15	Feb	28	Interest	5.00
16	Feb	29	Interest	5.00
17	Mar	1	Balance	110.00
18	Mar	5	Interest	5.00
19	Mar	10	Interest	5.00
20	Mar	15	Interest	5.00
21	Mar	20	Interest	5.00
22	Mar	25	Interest	5.00
23	Mar	30	Interest	5.00
24	Mar	31	Interest	5.00
25	Apr	1	Balance	115.00
26	Apr	5	Interest	5.00
27	Apr	10	Interest	5.00
28	Apr	15	Interest	5.00
29	Apr	20	Interest	5.00
30	Apr	25	Interest	5.00
31	Apr	30	Interest	5.00
32	Apr	30	Interest	5.00
33	May	1	Balance	120.00
34	May	5	Interest	5.00
35	May	10	Interest	5.00
36	May	15	Interest	5.00
37	May	20	Interest	5.00
38	May	25	Interest	5.00
39	May	30	Interest	5.00
40	May	31	Interest	5.00
41	Jun	1	Balance	125.00
42	Jun	5	Interest	5.00
43	Jun	10	Interest	5.00
44	Jun	15	Interest	5.00
45	Jun	20	Interest	5.00
46	Jun	25	Interest	5.00
47	Jun	30	Interest	5.00
48	Jun	30	Interest	5.00
49	Jul	1	Balance	130.00
50	Jul	5	Interest	5.00
51	Jul	10	Interest	5.00
52	Jul	15	Interest	5.00
53	Jul	20	Interest	5.00
54	Jul	25	Interest	5.00
55	Jul	30	Interest	5.00
56	Jul	31	Interest	5.00
57	Aug	1	Balance	135.00
58	Aug	5	Interest	5.00
59	Aug	10	Interest	5.00
60	Aug	15	Interest	5.00
61	Aug	20	Interest	5.00
62	Aug	25	Interest	5.00
63	Aug	30	Interest	5.00
64	Aug	31	Interest	5.00
65	Sep	1	Balance	140.00
66	Sep	5	Interest	5.00
67	Sep	10	Interest	5.00
68	Sep	15	Interest	5.00
69	Sep	20	Interest	5.00
70	Sep	25	Interest	5.00
71	Sep	30	Interest	5.00
72	Sep	30	Interest	5.00
73	Oct	1	Balance	145.00
74	Oct	5	Interest	5.00
75	Oct	10	Interest	5.00
76	Oct	15	Interest	5.00
77	Oct	20	Interest	5.00
78	Oct	25	Interest	5.00
79	Oct	30	Interest	5.00
80	Oct	31	Interest	5.00
81	Nov	1	Balance	150.00
82	Nov	5	Interest	5.00
83	Nov	10	Interest	5.00
84	Nov	15	Interest	5.00
85	Nov	20	Interest	5.00
86	Nov	25	Interest	5.00
87	Nov	30	Interest	5.00
88	Nov	30	Interest	5.00
89	Dec	1	Balance	155.00
90	Dec	5	Interest	5.00
91	Dec	10	Interest	5.00
92	Dec	15	Interest	5.00
93	Dec	20	Interest	5.00
94	Dec	25	Interest	5.00
95	Dec	30	Interest	5.00
96	Dec	31	Interest	5.00
97	Total			155.00

Two thousand seven hundred and thirty-nine premises have been visited by the district sanitary inspectors, and infringements were observed in 6 cases.

During the year six dealers were summoned, five dealers having exposed for sale certain second-hand furniture which by taking reasonable precautions they could have known to be infested with bed bugs. Four dealers were fined £1 each, and one dealer fined 5s. In the other case, the dealer was accused of selling second-hand furniture infested with bed bugs, and was fined £1.

Removal of Remains.

Under the terms of licences issued from the Home Office the district sanitary inspectors supervised the exhumation and re-interment of 9 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 1936.	End of 1937.
Number of licensed piggeries	92	94
Number of pigs specified on the licences	3,866	3,831
Approximate average number of pigs kept	2,170	2,154

During the year, three new licences to keep pigs were applied for involving the keeping of sixty-five pigs. These applications were granted. Five licences were transferred from one person to another.

During the year, 375 visits of inspection to piggeries were made. Three 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 1933-1937, 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 1933-1937.

Year.	Number of licensed piggeries.	Number of pigs approved.
1933	130	4,532
1934	106	4,311
1935	97	4,204
1936	92	3,866
1937	94	3,831

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 1937, 411 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 examined or destroyed in the City and Port of Liverpool during the year 1937.

1937	Warehouses.		Sewers.		Other Places.		Total (City).		Ships.		Quays.		Other Sources.		Total (Port).	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	8	25	...	809	8	208	16	1,042	120	1	144	7	51	9	315	17
February ...	1	1	...	707	3	367	4	1,075	229	11	84	6	42	6	355	23
March ...	4	26	...	759	16	389	20	1,174	211	...	125	11	34	12	370	23
April ...	27	26	...	799	18	419	45	1,244	205	2	138	25	65	14	408	41
May ...	12	21	...	704	13	309	25	1,034	218	5	121	14	75	51	414	70
June ...	16	15	...	906	22	471	38	1,392	343	...	195	16	73	32	611	48
July ...	1	13	...	908	13	418	14	1,339	105	1	119	8	57	24	281	33
August ...	11	7	...	766	26	352	37	1,125	85	...	128	6	50	18	263	24
September ...	17	63	...	986	22	402	39	1,451	286	...	159	22	82	25	527	47
October ...	24	25	...	954	52	344	76	1,323	132	...	190	32	89	32	411	64
November ...	11	43	...	1,023	23	417	34	1,483	250	...	136	35	110	50	496	85
December ...	16	60	...	839	25	262	41	1,161	433	...	111	19	76	23	620	42
TOTAL ...	148	325	...	10,160	241	4,358	389	14,843	2,617	20	1,650	201	804	296	5,071	517

Number and species of rats caught, in the City and Port of Liverpool, during the year 1937.

1937.	Examined (City).		Destroyed (City).		Examined (Port).		Destroyed (Port).		Total Caught.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	City and Port.
									Black and Brown.
January	5	229	11	813	204	13	111	4	1,390
February	1	231	3	844	203	22	152	1	1,457
March	13	249	7	925	204	23	166	...	1,587
April	10	268	35	976	317	40	91	1	1,738
May	5	219	20	815	238	48	176	22	1,543
June	11	290	27	1,102	281	48	330	...	2,089
July	5	270	9	1,069	190	28	91	5	1,667
August	9	248	28	877	197	23	66	1	1,449
September	10	311	29	1,140	283	47	244	...	2,064
October	20	280	56	1,043	299	64	112	...	1,874
November	16	329	18	1,154	263	83	233	2	2,098
December	15	263	26	898	265	41	355	1	1,864
TOTAL	120	3,187	269	11,656	2,944	480	2,127	37	20,820

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.

AMBULANCE SERVICES.

The number of cases of infectious disease removed to hospital was 7,081.

DISINFECTION OF PREMISES AND ARTICLES.

The number of houses disinfected after infectious disease was 2,084. The number of articles of bedding, clothing, etc., disinfected by steam after exposure to infectious disease was 137,676.

DISINFESTATION OF PREMISES AND HOUSEHOLD EFFECTS.

Premises.—During the year, 3,935 Corporation houses and 906 Corporation tenements were inspected for vermin. It was found that 1,072 houses and 730 tenements were infested with bugs. In the table below is described the action taken in these cases, as well as in 171 non-Corporation houses similarly treated.

TREATMENT OF INFESTED PREMISES.

	Corporation Houses.		Non-Corporation Houses.
	Houses.	Tenements.	
Number treated by method "A" ...	401	230	0
Number treated by method "B" ...	485	464	171
Total treated ...	886	694	171
Number of failures (method "A") ...	3	1	0
Number of failures (method "B") ...	0	0	0
Awaiting treatment at the end of the year	186	36	0

Method "A" consists of the use of washed heavy naphtha, of which a description was given in the 1935 report and to which further reference has been made in a paper read before the Royal Sanitary Institute⁽¹⁾. Method "B" is a laborious one, involving considerable disturbance of the house structure and consisting of the use of a blow-lamp and a liquid insecticide made up of a 3 per cent. solution of cresylic acid in kerosene (closed flash point 170° F.).

It is noteworthy that in four cases only was there failure after naphtha disinfection to kill the bugs and their eggs. Information as to failures is obtained in one of three ways, namely, (1) a search for live bugs as soon as the house is opened after gassing, (2) reports from decorators who work in the house before the arrival of new tenants, and (3) two inspections separated by a fortnight during the first month of occupation by the new tenant. If no evidence of bugs has come to light during the first month of the new tenancy, it is reasonably certain that the naphtha has been successful in killing all the bugs and their eggs.

Of the 1,580 Corporation houses and tenements disinfested, 873 were vacant at the time of treatment and 707 were occupied. The naphtha treatment was carried out on vacant premises only.

Household Effects.—The disinfection of bug-infested household effects is carried out in two ways, namely, by hydrogen cyanide gas and by steam. Treatment with hydrogen cyanide in gas-tight vans is reserved for furniture and non-absorbing articles of that description, and steam treatment is made use of for bedding, pillows, cushions and similar soft furnishings. During the year, the furniture of 2,656 families was disinfested with hydrogen cyanide gas, and the bedding belonging to 2,862 families was treated in a steam disinfector. In no case are the belongings of tenants allowed to enter Corporation houses unless they are known to be free from bugs or have been satisfactorily disinfested.

Control of Disinfection Arrangements.—The treatment of premises with washed heavy naphtha, the use of the blow lamp and liquid insecticide and the treatment of bedding, etc., in a steam disinfector are carried out by the staff of the Health Department. The treatment of

⁽¹⁾ Recent Advances in Methods of Bed-bug Disinfection by B. T. J. Glover, M.D., D.P.H., Senior Assistant Medical Officer of Health, Liverpool, published in the "Journal of the Royal Sanitary Institute," Vol. 58, No. 9, dated March, 1938.

furniture with hydrogen cyanide is performed on Health Department premises under the supervision of the staff, but the gassing and haulage are carried out by contractors.

Supervision and Education of Tenants.—Some preliminary consideration has been given by the City Council during the year in connection with measures which should be taken in regard to the supervision or education of tenants of Corporation houses with the object of preventing infestation or re-infestation after cleansing. This appears to be one aspect of the larger question as to the education of tenants in methods to be used for the care of Corporation houses. Many of such tenants have come from slum houses where conveniences for cleanliness were almost non-existent and in certain circumstances such tenants are by no means used to inhabiting houses where modern conveniences exist.

Two Octavia Hill house-property managers have already been appointed, but no decision has yet been come to as to whether this particular system should be extended to cover all Corporation houses or whether some other method of supervision and education of tenants should be adopted.

Mortuaries.

The Mortuary at the Princes 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, or when it is necessary to make post-mortem examinations. During the year the number of bodies removed to Prince's Dock Mortuary was: From the river, 7; and from the city, 274.

The method of transport of the bodies of persons killed, or found dead in the street, has been adequately provided for; the Health Committee has 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 173.

Cremation.

There are 38 crematoria in this country, the total number of cremations during 1937 being 14,129.

The Liverpool Crematorium, which is situated in Anfield Cemetery, was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the burial Authority for the city in October, 1908, they took over the administration of the Crematorium.

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
1926-1935	1,591
1936	222
1937	286
TOTAL	3,577

Smoke Abatement.

The control of smoke emission from industrial chimneys has been well maintained during 1937. There has been a reduction of industrial smoke in Liverpool during recent years, due to administrative action, co-operation with the users and owners of boiler-plant and increased use of gas and electricity for power and process purposes. This improvement is reflected in the figures given below for alterations and improvements during this year:—

New steam boilers installed to give increased power	...	25
Central heating boilers installed	... ..	41
Mechanical stokers fitted to steam and heating boilers...		95
Chimneys erected or extended to give increased draught		29
Smokeless fuel used or other improvements	... ..	17

The increase in the number of small mechanical stokers adopted to vertical and locomotive type boilers and central heating plant in the past year is remarkable. They are all of the "under feed" type, being

a compact arrangement of screw feed and forced draught fan. In most cases the stokers are thermostatically or automatically controlled. They invariably use small grate bituminous coal and as the raw fuel is fed underneath the glowing fuel in the furnaces, the correct setting of the controls ensures smokeless combustion.

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 54·8 minutes per hour, black smoke issues for 1·1 minutes per hour, and smoke of any density or colour for 5·2 minutes per hour. Manufacturers are advised and cautioned when the smoke emission exceeds a light grey colour and are reported when black smoke exceeds two minutes in the aggregate during a continuous period of thirty minutes.

An analysis of the causes of 227 examples of unnecessary smoke is as follows:—

Bad or irregular firing	...	...	...	...	...	123
Insufficient draught	...	...	...	...	...	32
Structural defects	...	...	...	...	...	17
Poor fuel or boilers overloaded	...	...	...	...	...	41
Firemen having other duties	...	...	...	...	...	14
						—
Total						227
						—

Complaints.—Some, but not all, of the complaints received regarding smoke and fumes from industrial chimneys are of a serious nature. During the year 49 complaints were received, and a remedy was found in every sustained case. In 18 cases the nuisance was abated by increasing the chimney height or by structural alterations to the boiler-plant. A change of fuel was made in seven cases with satisfactory results, and in 4 other cases an entire new plant was installed. In the remaining 20 cases, an abatement of the nuisance was brought about by systematic observations and advice as to firing methods. These complaints necessitated 489 visits and periodical observations.

Speke.—The majority of the new factories erected in the Speke area have installed smokeless appliances for power and heating purposes. The small mechanical, under-feed stokers, already mentioned, have been almost

universally adopted for boiler steam-raising purposes and for central heating. A very large, old-established firm in that area, whose smoke emission previously caused inconvenience at the Air Port, has installed additional boiler plant and thereby have reduced considerably the smoke nuisance.

The atmospheric purity of Speke will be largely influenced in the future by the extent to which houses are provided with heating and cooking facilities not dependent upon the use of raw coal.

Smoke Nuisance from Steamers.—The River Mersey and the Liverpool Docks are included in the routine observation work, and were subject to supervision during the year. The regular traders to the port are now realising the restrictions imposed on them in regard to excessive smoke and, on the whole, are making efforts to conform to the prescribed standards. The smaller river craft are now fully aware that excessive smoke is prohibited. During the year there were 22 reports of excessive smoke emission from steamers in dock and on the river, 12 of which related to foreign-going steamers. In every case the owners were communicated with in respect of the nuisance. In the remaining cases, 7 informations were laid and in every case a conviction was obtained.

Railway Smoke.—As a result of a deputation, headed by the Lord Mayor, which interviewed Sir Josiah Stamp, the President of the L.M. & S. Railway Company, the Railway Company has now agreed to try the effects of changes in the firing of locomotives in the hope that a method of working will be found that will reduce the nuisance. Before trying experiments of this description, which are laborious and expensive, measurements are being taken of the condition of the atmosphere in the neighbourhood of tunnel openings while the present methods of coal firing are in use for the purpose of comparing them with a similar series of measurements as and when changes are made.

Domestic Smoke.—The most important and at the same time the most difficult question in connection with domestic smoke abatement is to get the public interested. That a continual reduction is taking place is certain, but the evils from this nuisance are visible in many districts of the city. The gas and electricity industries show once again considerable increases in the consumption of their products, and increased use is made of solid smokeless fuels. The demand for domestic fuel in Liverpool during the winter months is approximately 19,000 tons per

week, and the demand for solid smokeless fuel is approximately 1,000 tons per week.

The Firing of Domestic Chimney Flues.—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 bituminous 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. The number of prosecutions for this form of offence during the current year was 2,345 compared with 2,310 for the previous year.

Lectures on Smoke Abatement and Fuel Economy.—It is recognised that the scientific and rational use of coal will contribute materially to the solution of the smoke problem, and it is for this aspect of the smoke problem that these lectures have been designed. Forty students enrolled for the 1937 winter course, and since the commencement of the class five years ago, 400 students from most of the large firms in the area have attended the lectures. Experience has shown that the majority of the firms in Liverpool are co-operating, and it is appreciated that in regard to industrial smoke abatement, manufacturers are willing to follow suitable suggestions for efficient and smokeless working of their industrial furnaces.

Action taken in respect of Smoke Nuisances.—Proceedings for the abatement of nuisances by the emission of excessive smoke from factories, steamers, etc., were taken under the Liverpool Corporation Act, 1936, the Public Health (Smoke Abatement) Act, 1926, and the Public Health Act, 1936.

Twenty-two owners were communicated with in respect of nuisances caused by the emission of excessive smoke from steamers, and 208 manufacturers and 42 steamship owners were cautioned for unnecessary smoke. Eight informations were laid and in every case a conviction was obtained. The amount of fines was £6 4s. 0d.

Action under the Public Health (Smoke Abatement) Act, 1926, and the Public Health Act, 1936:—

Number of chimney observations recorded	...	...	2,137
„ „ minutes black smoke emitted	...	...	1,174
Average minutes black smoke per hour recorded	...		1.1
„ „ all „ „ „ „ „	...	...	5.2
Number of reports for black smoke emission	...	...	27
„ „ statutory notices issued	...	...	21
„ „ advisory visits	...	...	367

Proceedings in three cases were postponed to allow reconstruction and alterations to be made to furnaces. In another case a fine of £3 was imposed on a large firm with premises in the centre of the city for not complying with a Magistrates' Prohibition Order.

West Lancashire and Cheshire Regional Smoke Abatement Committee.

The local authorities comprising this Committee are:—Liverpool, Birkenhead, Bootle, Wallasey, St. Helens, Widnes, Preston, Bebington, Crosby, Lancashire C.C., the Urban District Councils of Huyton-with-Roby, Litherland, Neston, Ormskirk, Prescot, and the Rural District Councils of West Lancashire and Whiston.

The Executive Committee, consisting of 14 members, met as required during the year and acted in an advisory capacity on problems connected with smoke abatement. In furtherance of the recommendation of the Ministry of Health that collaboration should be established between the Regional Committee and the Alkali, etc., Department of the Ministry, Mr. H. G. Howson, Inspector of Alkali, etc., Works, has been co-opted a member of the Executive Committee.

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 of which came 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:—

		Aigburth Vale Gauge.	Carnegie Gauge.	St. George's Hall Gauge.	Netherfield Road Gauge.
Undissolved matter	...	79.18	227.25	192.47	300.08
Dissolved matter	...	78.02	106.85	122.45	196.77
Total solids	...	157.20	334.10	314.92	496.85
Acidity as H_2SO_4	...	10.65	14.14	16.11	8.30
Chlorine as Cl.	...	19.92	24.58	34.18	30.14
Ammonia as NH_3	...	0.18	0.47	0.34	3.06
Sulphate as SO_3	...	18.43	24.52	25.26	53.63
Lime as CaO	...	7.67	15.40	11.35	15.13
Rainfall in inches	...	30.93	28.37	24.00	27.63

During the year, the rainfall at Netherfield Road, Carnegie Infant Welfare Centre and St. George's Hall was about $7\frac{1}{2}$ per cent. lower than during 1936, and the rainfall during 1936 was from 12 per cent. to 16 per cent. lower than in 1935. The rainfall at Aigburth Vale, on the other hand, was about 2 per cent. higher than in 1936.

The total matters deposited during the twelve months at Netherfield Road, Carnegie Infant Welfare Centre and St. George's Hall were much lower than in 1936, the amounts being less by:—

Netherfield Road	...	...	...	116 tons per square mile.
Carnegie Infant Welfare Centre	...	34	„ „ „ „	
St. George's Hall	...	75	„ „ „ „	

The total matters deposited at Aigburth Vale were practically the same as in 1936.

The monthly collections of rainwater from all stations during the whole of the year were acid in character.

Details of the analyses month by month at the four stations are given in the following tables:—

Atmospheric Pollution, 1937.

(Aigburth Vale).

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	10.34	15.80	10.48	19.67	12.60	14.79	11.29	17.55	7.48	14.42	9.00	13.78	157.20
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.10	0.20	0.10	0.10	0.17	0.17	0.34	0.20	0.17	0.13	0.10	0.24	2.02
Other Organic Matter	2.09	2.06	2.16	3.40	3.40	2.76	2.70	3.17	1.75	2.60	1.92	2.42	30.43
Mineral Matter	3.43	4.14	3.84	5.12	4.45	4.18	4.04	4.48	2.97	3.71	3.34	3.03	46.73
Total Undissolved Matter	5.62	6.40	6.10	8.62	8.02	7.11	7.08	7.85	4.89	6.44	5.36	5.69	79.18
DISSOLVED MATTER—													
Organic Matter by Ignition	2.36	3.77	2.12	5.02	2.29	3.84	1.58	4.85	1.31	3.80	1.45	2.70	35.09
Mineral Matter	2.36	5.63	2.26	6.03	2.29	3.84	2.63	4.85	1.28	4.18	2.19	5.39	42.93
Total Dissolved Matter	4.72	9.40	4.38	11.05	4.58	7.68	4.21	9.70	2.59	7.98	3.64	8.09	78.02
Acidity as H_2SO_4	0.61	1.45	0.54	1.48	1.18	0.51	0.40	1.08	0.44	0.98	0.67	1.31	10.65
Chlorine as Cl.	1.58	3.91	1.62	2.26	1.15	0.98	1.11	1.38	0.91	1.55	1.21	2.26	19.92
Ammonia as NH_3	0.02	0.03	0.01	0.01	—	0.01	—	0.03	—	0.02	0.03	0.02	0.18
Sulphate as SO_3	1.25	1.92	0.88	2.59	1.58	1.52	0.91	2.16	0.88	1.95	0.94	1.85	18.43
Lime as CaO	0.61	0.30	0.40	1.75	0.57	0.67	0.27	0.34	0.27	1.21	0.37	0.91	7.67
RAINFALL {	46.27	122.95	31.73	98.49	74.69	37.68	51.56	68.08	50.90	68.08	47.59	87.91	785.93
Millimetres													
Inches	1.82	4.84	1.25	3.88	2.94	1.48	2.03	2.68	2.00	2.68	1.87	3.46	30.93
pH. Value	3.7	3.8	3.7	3.8	3.7	3.9	3.9	3.7	3.9	3.7	3.8	3.7	—

Atmospheric Pollution, 1937.

(Carnegie Infant Welfare Centre, Cambridge Street.)

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.....	23.26	33.31	18.56	47.10	34.20	26.87	32.75	32.55	17.90	21.97	24.70	20.93	334.10
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.29	0.43	0.23	0.43	0.39	0.33	0.53	0.33	0.23	0.29	0.56	0.33	4.37
Other Organic Matter	4.60	5.48	3.97	12.12	7.72	5.65	8.21	7.78	4.27	4.99	5.62	4.86	75.27
Mineral Matter	10.61	12.58	7.79	23.58	16.00	13.53	14.35	14.32	8.57	9.86	7.78	8.64	147.61
Total Undissolved Matter	15.50	18.49	11.99	36.13	24.11	19.51	23.09	22.43	13.07	15.14	13.96	13.83	227.25
DISSOLVED MATTER—													
Organic Matter by Ignition.....	3.88	5.55	3.28	4.34	4.54	3.68	5.52	5.06	2.27	2.73	6.08	2.37	49.30
Mineral Matter	3.88	9.27	3.29	6.63	5.55	3.68	4.14	5.06	2.56	4.10	4.66	4.73	57.55
Total Dissolved Matter	7.76	14.82	6.57	10.97	10.09	7.36	9.66	10.12	4.83	6.83	10.74	7.10	106.85
Acidity as H ₂ SO ₄	0.79	2.33	0.82	3.12	1.18	0.20	0.36	1.12	0.53	1.22	0.99	1.48	14.14
Chlorine as Cl.	2.20	4.63	1.94	2.17	1.74	1.18	1.61	1.81	1.45	1.71	2.04	2.10	24.58
Ammonia as NH ₃	0.13	0.10	0.07	0.03	0.01	—	—	0.01	—	0.02	0.03	0.07	0.47
Sulphate as SO ₄	1.54	2.76	1.35	4.07	2.86	1.51	1.91	2.60	1.45	1.81	1.05	1.61	24.52
Lime as CaO	0.72	1.25	0.76	1.31	1.22	0.72	0.92	0.92	0.49	1.02	5.58	0.49	15.40
RAINFALL {	47.69	121.17	32.23	56.72	68.32	36.09	45.12	70.90	63.16	67.03	45.76	66.38	720.57
{ Millimetres													
{ Inches	1.88	4.77	1.27	2.23	2.69	1.42	1.78	2.79	2.49	2.64	1.80	2.61	28.37
pH. Value	3.7	3.7	3.7	3.2	3.8	4.3	4.2	3.7	3.9	3.6	3.7	3.6	—

(St. George's Hall).

Atmospheric Pollution, 1937.

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	17.55	32.85	22.30	31.03	32.40	26.14	25.60	34.67	20.72	23.82	21.26	26.58	314.92
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.13	0.27	0.24	0.27	0.47	0.33	0.37	0.77	0.30	0.30	0.27	0.24	3.96
Other Organic Matter	3.23	4.95	3.60	5.83	7.01	5.39	5.29	8.32	4.92	5.26	4.28	4.58	62.66
Mineral Matter	6.74	9.57	8.22	13.71	14.28	11.12	10.37	15.06	8.86	9.87	8.89	9.16	125.85
Total Undissolved Matter	10.10	14.79	12.06	19.81	21.76	16.84	16.03	24.15	14.08	15.43	13.44	13.98	192.47
DISSOLVED MATTER—													
Organic Matter by Ignition	3.57	9.03	5.12	5.42	5.32	3.71	4.25	5.26	3.88	3.61	3.34	6.17	58.68
Mineral Matter	3.88	9.03	5.12	5.80	5.32	5.59	5.32	5.26	2.76	4.78	4.48	6.43	63.77
Total Dissolved Matter	7.45	18.06	10.24	11.22	10.64	9.30	9.57	10.52	6.64	8.39	7.82	12.60	122.45
Acidity as H ₂ SO ₄	1.31	2.86	1.58	1.45	1.01	0.47	0.47	0.94	0.77	1.68	1.35	2.22	16.11
Chlorine as Cl.	2.59	6.43	3.07	2.96	1.99	1.72	2.02	2.32	2.22	2.70	2.39	3.77	34.18
Ammonia as NH ₃	0.03	0.10	0.03	0.01	0.01	—	—	—	—	0.03	0.10	0.03	0.34
Sulphate as SO ₃	1.45	3.17	2.12	2.46	2.22	1.95	2.19	2.46	1.31	1.95	1.62	2.36	25.26
Lime as CaO	0.64	0.91	1.15	1.01	1.04	0.84	0.84	0.94	0.71	1.04	0.98	1.25	11.35
RAINFALL {	31.73	88.57	25.12	66.76	58.17	30.41	41.64	60.81	54.20	58.83	38.34	54.86	609.44
{ Millimetres													
{ Inches	1.25	3.49	0.99	2.63	2.29	1.20	1.64	2.39	2.13	2.32	1.51	2.16	24.00
pH. Value	3.4	3.6	3.2	3.7	3.8	3.8	4.0	3.7	3.8	3.5	3.5	3.3	—

Atmospheric Pollution, 1937.

(332, Netherfield Road).

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	39.16	43.82	74.55	39.57	48.50	25.92	30.60	33.36	29.39	32.84	56.37	42.77	496.85
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.42	0.78	0.35	0.51	0.43	0.32	0.78	0.36	0.26	0.48	0.35	0.61	5.65
Other Organic Matter	6.24	6.88	11.71	6.85	9.16	4.73	6.90	6.79	4.62	4.62	6.69	6.05	81.24
Mineral Matter	18.14	13.50	48.42	13.21	27.28	9.62	11.77	12.58	8.94	7.16	27.65	14.92	213.19
Total Undissolved Matter ...	24.80	21.16	60.48	20.57	36.87	14.67	19.45	19.73	13.82	12.26	34.69	21.58	300.08
DISSOLVED MATTER—													
Organic Matter by Ignition	6.67	10.73	5.70	9.50	4.36	3.87	5.04	7.43	8.12	10.29	9.57	9.04	90.32
Mineral Matter	7.69	11.93	8.37	9.50	7.27	7.38	6.11	6.20	7.45	10.29	12.11	12.15	106.45
Total Dissolved Matter	14.36	22.66	14.07	19.00	11.63	11.25	11.15	13.63	15.57	20.58	21.68	21.19	196.77
Acidity as H ₂ SO ₄	1.19	1.90	0.13	1.11	0.15	0.20	0.23	0.23	0.62	1.02	0.55	0.97	8.30
Chlorine as Cl	3.14	5.07	2.09	3.07	1.52	1.50	1.59	1.94	2.29	2.66	2.44	2.83	30.14
Ammonia as NH ₃	0.31	0.48	0.19	0.16	0.12	0.18	0.05	0.25	0.20	0.36	0.31	0.45	3.06
Sulphate as SO ₃	3.78	5.11	4.24	5.43	3.32	3.07	2.83	3.19	4.41	5.70	7.03	5.52	53.63
Lime as CaO	0.90	1.19	2.47	1.58	1.33	0.62	0.53	0.62	0.85	1.33	2.15	1.56	15.13
RAINFALL {	50.27	116.88	37.26	77.58	47.47	34.45	52.06	60.74	66.35	65.08	38.28	55.38	701.80
{ Millimetres ...													
{ Inches	1.98	4.60	1.47	3.05	1.87	1.36	2.05	2.39	2.61	2.56	1.51	2.18	27.63
pH. Value	3.6	3.7	4.4	3.7	5.1	4.3	4.3	5.1	3.9	3.7	3.9	3.7	—

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 708 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 1937 the quantity of domestic and trade refuse collected by the department was 314,471 tons, and the total quantity disposed of was 341,127 tons. The quantity dealt with per working day was 1,112 tons.

The whole of the 708 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.

Nine sweeping machines are employed regularly, five on night work (three of which collect as well as sweep), covering approximately 100 brush miles of roadway nightly, and four 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 1937, 24,915 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, 1,820,530 gallons of water were distributed during the season.

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, 1937, was 374.

There are 31 underground urinals with 283 stalls and 124 overground urinals with 608 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.

An improved type of fixture ash-bin was first supplied to Liverpool premises in 1898, and at the end of 1937, the number of bins in use of this type was 91,154, the number of ashpits being reduced from 65,000 to 1,156. In addition, more than 111,000 loose bins are in use. 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 681, 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.

In 1936 the Corporation obtained further powers to compel the provision of bins in lieu of ashpits.

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 disposal 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 60,568 tons of soil, etc., were used for covering the refuse disposed of at tips during the year.

During the year 78,783 tons were burned at the destructors, 56,048 tons of refuse and 8,959 tons of heavy covering material were deposited at sea by hopper barge, 8,026 tons were sold to farmers, etc., and 197,541

tons were otherwise disposed of at tips and for agricultural purposes, etc. In addition, approximately 15,300 tons of clinker residue 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.

The system of street cleansing, known as the *beat system*, is still in operation in 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-laws against street littering has now been in operation for five years, and experience shows that the members of the public are displaying a tendency to co-operate with the Corporation in keeping the streets clean. Cases continue to occur, however, in which the Corporation feel 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:—

All the covered baths are equipped with modern filtration plants, and the open-air baths will be similarly equipped during 1938.

Samples of bath water are frequently submitted to the City Bacteriologist for examination. In the case of baths equipped with modern filtration plant, the water is almost invariably found to reach a drinking water standard, presenting less than 10 organisms per c.c. when grown at 37° or 22° C. and containing no bacillus coli in 100 c.c.s of the sample. This is a satisfactory degree of cleanliness.

FOOD INSPECTION

including the supervision of dairies, the cleanliness of milk and ice-cream, tuberculous milk, disease of cattle, and adulteration of food and drugs.

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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 carcasses 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 Hospitals and Port Health Committee and the Education Committee. In some instances goods supplied were not according to contract and consequently 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.	Total visits paid.
454	21,532	22,374	19,475	1,134	52	67	2,302	824	15	68,229

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 1937, 1,589 animals were slaughtered. All the carcasses 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 carcasses of 11,591 animals showed abnormal conditions, and a detailed examination was made in each case.

During the year, 2,892 carcasses were rejected as being unfit for human food. Of these, 1,793 were destroyed at the abattoir and 1,099 were destroyed at knackers' yards.

During 1937, 488,730 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 ...	...	2,120	28,459	16,329	5,100	22,988	352,006	60,139	—
Private Slaughter- houses ...	...	—	—	—	1	10	—	1,396	182
TOTALS ...	...	2,120	28,459	16,329	5,101	22,998	352,006	61,535	182

Many carcasses of home-killed animals are brought into Liverpool from other districts. A summary is given in Table III.

TABLE III.

CARCASSES OF ANIMALS (HOME-KILLED) BROUGHT INTO LIVERPOOL FROM OTHER DISTRICTS.

Brought into the—	Beef.	Veal.	Mutton.	Lamb.	Pork.
Meat Market	4,860	707	508	3,689	8,606
Factories, Shops, etc. ...	111	25	45	1,002	776
TOTALS	4,971	732	553	4,691	9,382

In addition to the above, 5,877 boxes or packages of home-killed offal were dealt with in the meat market, and 7,746 cuts of pork were examined at premises in the City.

A large number of carcasses of imported meat, both frozen and chilled, pass through the meat market. The figures for 1937 are given in Table IV.

TABLE IV.

CARCASSES OF IMPORTED (FROZEN AND CHILLED) MEAT PASSING THROUGH THE MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.
68,291	428	116,901	712,398	15,241

In addition to the above, 21,956 cuts of beef and 176,954 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 1937 which led to the total or partial destruction of carcasses is given in Table V.

TABLE V.

DISEASES FOR WHICH CARCASSES WERE TOTALLY OR PARTIALLY DESTROYED
AS INDICATED IN THE TABLE.

Disease.	No.	Disease.	No.
Abscess (partial)	53	Nephritis	3
Arthritis, Septic (total)	107	Pyæmia	12
„ Simple (partial)	258	Peritonitis Septic	33
Asphyxia	267	Pneumonia	34
Caseous Lymphadenitis	6	Pleurisy	9
Contamination (partial)	10	Pleurisy (partial)	6
Decomposition (total)	59	Presternal Calcification	2
„ (partial)	28	Septicæmia	9
Distomatosis	123	Septic Mastitis	7
Dropsy	146	„ Metritis	6
Enteritis	229	„ Pericarditis	1
Immaturity	8	Swine Fever	66
Injury (total)	20	Swine Erysipelas	3
„ (partial)	232	Tuberculosis (total)	567
Jaundice	31	„ (partial)	834
Johnes Disease	2	Uræmia	1
Joint Ill	13	Urticaria (partial)	3
Melanosis (partial)	3		

In the routine ante and post mortem examination of pigs several cases of Swine Fever were detected, and subsequently the existence of the disease was confirmed in nine herds containing a large number of pigs.

During the year, 1,252 “contacts”, i.e., pigs which had been exposed to infection, were sent to the abattoir on licences issued by the Ministry of Agriculture and Fisheries and were dealt with by the Food Inspectors.

In addition to the above, 64 carcasses of pigs, which had been slaughtered and dressed in other districts on account of exposure to infection, were examined before being offered for sale in the meat market. This examination resulted in the destruction of 5 carcasses.

In addition to the number of carcasses 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 CARCASSES TOTALLY CONDEMNED.

Disease.	No.	Disease.	No.
HEADS AND TONGUES :—		SPLEENS :—	
Abscess	56	Abscess	2
Actinomycosis	77	Decomposition	1
Contamination	8	Peritonitis	38
Decomposition	20	Tuberculosis	1,895
Injury	3		
Tuberculosis	6,185	STOMACHS :—	
LUNGS :—		Abscess	32
Abscess	202	Contamination	1
Congestion	14,124	Peritonitis	50
Decomposition	355	Tuberculosis	2,238
Emphysema	15		
Melanosis	3	KIDNEYS :—	
Pneumonia	610	Abscess... ..	36
Pleurisy	442	Contamination	1
Tuberculosis	7,217	Cysts	86
Unclassified Cystic Conditions...	2,208	Cirrhosis	113
LIVERS :—		Decomposition	1
Abscess	312	Nephritis	33
Cavernous Angioma	509	Tuberculosis	1,576
Cirrhosis	1,478		
Distomatosis	8,641	UDDERS :—	
Infarcts	44	Abscess	63
Melanosis	1	Actinomycosis	50
Necrosis	12	Mammitis	1,997
Parasitic	310	Tuberculosis	68
Peritonitis	68		
Tuberculosis	4,164	INTESTINES :—	
Unclassified Cystic Conditions...	3,978	Abscess	23
HEARTS :—		Congestion	88
Abscess	18	Peritonitis	39
Contamination	94	Tuberculosis	2,635
Decomposition	87		
Pericarditis	215		
Tuberculosis	3,799		

Incidence of Tuberculosis in Bovine Animals.

During 1937, 52,009 bulls, bullocks, heifers and cows were killed, of which 5,389 (10·36 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.	Carcass and Organs completely rejected.		Carcass 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 ...	...	17	0.80	183	8.63	206	9.71	406	19.15
BULLOCKS ...	...	24	0.08	77	0.27	695	2.44	796	2.79
HEIFERS ...	...	18	0.35	13	0.25	75	1.47	106	2.08
COWS ...	...	359	2.19	458	2.80	3,264	19.99	4,081	24.99
TOTALS ...	52,009	418	0.80	731	1.40	4,240	8.15	5,389	10.36

It is interesting to record that 157 of the 2,120 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	4,817	89·38
Liver	1,937	35·94
Intestines	1,938	35·96
Head and associated lymph glands	2,561	47·52
Stomach	1,338	24·83
Spleen	1,466	27·20
Kidneys and genital organs	1,614	29·95

(Table VIII does not include the diseased organs from 426 animals totally rejected.)

Cows with Tuberculous Disease of the Udder.

During the year, 64 cows slaughtered in the ordinary course of trade were found to be suffering from tuberculous disease of the udder. This figure is 0·39 per cent. of the total cows killed.

Calves with Tuberculosis.

During the year 22,998 calves were slaughtered. Sixteen carcasses were totally rejected on account of tuberculosis, and in 16 cases the carcasses were passed after rejection of infected organs.

The following table summarises the number of carcasses inspected and condemned during the year.

TABLE IX.

CARCASSES INSPECTED AND CONDEMNED.

	Cattle, excluding Cows.	Cows.	Calves.	Sheep and Lambs.	Pigs.
Number killed	35,680	16,329	22,988	352,006	61,535
Number inspected	35,680	16,329	22,988	352,006	61,535
ALL DISEASES EXCEPT TUBERCULOSIS.					
1. Whole carcasses condemned ...	13	40	79	772	350
2. Carcasses of which some part or organ was condemned ...	1,193	5,129	7	12,884	18,779
3. Percentage of number inspected affected with disease other than tuberculosis	3·38%	31·65%	0·37%	3·88%	31·24%
TUBERCULOSIS ONLY.					
1. Whole carcasses condemned ...	59	359	16	...	133
2. Carcasses of which some part or organ was condemned ...	1,092	3,722	16	...	3,643
3. Percentage of number inspected affected with tuberculosis	3·22%	24·99%	0·14%	...	6·13%

Quantities of Food Materials Condemned.

The quantities of food materials condemned as being unfit for human food are given in Table X.

TABLE X.

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.	Egg Pulp.	Canned Food- stuffs.
		Wet.	Dry.							Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.				
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Tins.
446,446	887,343	223,403	21,868	1,708	393	3,507	562	17,057	369,339	197,554	13,900	28	952	

A few samples of food materials were submitted for bacteriological or chemical examination as follows:—

TABLE XI.

SAMPLES OF FOOD MATERIALS SUBMITTED FOR BACTERIOLOGICAL OR CHEMICAL EXAMINATION.

Cheese.	Canned Foodstuffs.	Shell-Fish.	Fruit.	Miscellaneous.
8	3	2	1	1

Fruit, Vegetable and Fish Markets.

In Table XII are given the quantities of fish, rabbits, poultry and game which passed through the Wholesale Market during the year.

TABLE XII.

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE MARKET.

FISH				Rabbits.	Poultry.	Game.
Wet Fish.	Dry Fish.	Shell-Fish.	Salmon.			
16,371½ tons	4,242 tons	822½ tons	86 tons	14,088 packages	6,193 packages	80 packages

The figures in Table XII include only the quantities of these food materials dealt with by firms associated with markets controlled by the Markets Committee.

The wholesale dépôt in Queen Square and the Wholesale Fruit Market are two of the principal distributing centres in the country for imported fruit. During the year, 108,440 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, carcasses and meats brought to Liverpool for sale from other places by road, rail or steamer are sometimes insufficiently protected from contamination. It was found necessary to prosecute in one case for an offence under these Regulations and a conviction was obtained.

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 1937, 84 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; dead poultry 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.

It was not found necessary to prosecute under this Act during 1937.

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 in the position to know what is the standard of quality of the food that he is buying.

(1).—See page 261.

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 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.

During the year, the following applications for licences as slaughtermen were received, namely: 2 for new licences, 8 for renewal of existing licenses and 303 temporary licenses for the slaughter of animals for the food of Mohammedans. In each case the licence was granted.

Liverpool Corporation Act, 1936.

Under Section 78 of this Act, persons who are manufacturers or vendors of or dealers in ice cream, together with the premises used for the manufacture for sale or sale of ice cream, must be registered with the Corporation. During the year 761 such registrations were issued.

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 XIII.

Registration of Dairies.

(*Milk and Dairies Order, 1926.*)

Number of registered dairies at the end of 1936.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1937
747	19	—	53	713

During the year, 63 dairies were transferred from one owner to another. This opportunity was taken advantage of to effect improvements both in structure and apparatus.

The numbers of registered dairies during the five years 1933-1937 were: 815, 801, 789, 747 and 713 respectively.

Inspection of Dairies.

During the year, 6,191 visits of inspection were paid to dairies. In 21 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 1936 were 7,710.

Registration of Dairymen.

The number of registered dairymen is described in Table XIV.

TABLE XIV.

REGISTERED DAIRYMEN.

Number of registered dairymen on Jan. 1st, 1937.	Applications for registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1937.
798	72	—	53	817

Of the 817 dairymen on the register at the end of the year, 52 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 12 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 XV is a summary of the register of licences in respect of milch cows.

TABLE XV.

REGISTRATION OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1936.	End of 1937.
Number of licensed cowsheds... ..	235	222
Number of cows specified on the licences	4,439	4,152
Approximate average number of cows kept ...	3,230	3,070

During the year one new application for a licence to keep twenty cows was received and was granted. Nineteen licences were transferred from one person to another.

A comparison of the numbers of licensed cowsheds during the years 1933-1937, together with the numbers of cows to which the licences referred, is given in Table XVI.

TABLE XVI.

A COMPARISON OF THE NUMBERS OF COWSHEDS AND COWS LICENSED DURING THE YEARS 1933-1937.

Year.	Number of licensed cowsheds.	Number of cows approved.
1933	272	5,036
1934	254	4,790
1935	246	4,615
1936	235	4,439
1937	222	4,152

During the year, 1,757 visits of inspection were paid to cowsheds. Forty-four 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 207.

The Daily Supply of Milk to Liverpool.

The quantity of milk consumed in Liverpool daily is as follows:—

TABLE XVII.

DAILY CONSUMPTION OF MILK DURING 1937.

Grade of Milk.									Quantity in Gallons.
Tuberculin-tested (Certified)	...	...	...	...	...	...	...	...	107
Tuberculin-tested	...	...	...	...	...	...	...	...	1,423
Tuberculin-tested (Pasteurised)	...	...	...	...	...	...	...	...	490
Accredited	...	...	...	...	...	...	...	...	8,770
Raw ungraded	...	...	...	...	...	...	...	...	13,044
Pasteurised under licence	...	...	...	...	...	...	...	...	14,666
Heat-treated to pasteurisation standard	...	...	...	...	...	...	...	...	6,700
Sterilized	...	...	...	...	...	...	...	...	5,118
Total									50,318

The relative quantities of milk produced within the city or brought into the city by rail or by road are as follows:—

TABLE XVIII.

DAILY SOURCE OF MILK DURING 1937.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
9,210 gallons	35,518 gallons	5,590 gallons

Total, 50,318 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 XVII above. The number of producers and dealers in Liverpool who are licensed in accordance with the Milk (Special Designations) Order, 1936, by the Local Authority, to produce or sell a graded milk, is given in Table XIX.

TABLE XIX.**PRODUCERS AND VENDORS OF GRADED MILK IN LIVERPOOL.**

Nature of licence or licences.	Tuberculin Tested (Certified) Milk	Tuberculin Tested Milk	Tuberculin Tested (Pasteurised) Milk	Accredited Milk	Pasteurised Milk.
Producer only ...	0	0	0	19	0
Producer and retail vendor ...	1	1	1	45	4
Retail vendor only ...	6	10	15	17	0

During the year the following changes in licence-holders took place, namely: 4 new licences were issued to producers only of "Accredited" milk; 5 new licences were issued to producer-retailers of "Accredited" milk; and the licences of 2 producer-retailers, 1 producer and 2 vendors were surrendered.

Lectures on the Hygiene of Milk Production.

A course of 7 lectures and 3 demonstrations on the hygiene of milk production for dairymen, cowkeepers and others interested in this subject was held for the second time, and was attended by 69 students. An examination held subsequently was taken by 51 candidates, of whom 34 passed.

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 fifteen firms were approved as sources of milk for school children, of which fourteen actually supplied milk during the year.

The numbers of children who have each consumed a third of a pint of milk daily on five days in each week during each term are as follows:

TABLE XX.

NUMBERS OF CHILDREN CONSUMING MILK DAILY.

Date	Numbers
March, 1934	13,951
November, 1934	73,382
March 31st, 1935	70,343
October 1st, 1935	68,969
March 31st, 1936	71,295
October 1st, 1936	76,438
March 31st, 1937	79,061
October 1st, 1937	84,329

The average attendance of scholars on October 1st, 1937, was 132,840, so that more than half (63 per cent.) of the children were in receipt of milk daily.

The Supervision of Milk supplied to School Children.

INSPECTION OF PLANT. The staff of the Health Department pay regular visits to the premises of approved dairymen both for the purpose of inspecting the pasteurising plant and to check the accuracy of the temperature control. The full scope of this inspection was described in

the report for 1935. A check upon the accuracy of the temperature recorders was made on 112 occasions. On every occasion holding temperatures were found to be correct.

SAMPLING. Samples of milk were taken regularly in the schools shortly after delivery, and submitted both for bacteriological and chemical examination, the latter including the phosphatase test for efficient pasteurisation.

In Table XXI are given the results of bacteriological examination.

TABLE XXI.

BACTERIOLOGICAL EXAMINATION OF MILK SUPPLIED TO SCHOOL CHILDREN.

Number of Samples.	Number found to be Tuberculous.	Total Bacterial Count.					Coliform Organisms.		
		Over 100,000 per c.c.	Between 50,000 and 100,000 per c.c.	Between 10,000 and 50,000 per c.c.	Between 1,000 and 10,000 per c.c.	Under 1,000 per c.c.	Absent in 1 c.c.	Present in 1 c.c. Absent in 10 c.c.	Present in 10 c.c.
218	1	9	15	38	97	59	158	25	35

It is noteworthy that a large proportion exhibited a high degree of cleanliness as shown by a total count of less than 10,000 organisms (71% of the samples) and the absence of coliform organisms in 1 c.c. (72% of the samples).

In one sample of milk tubercle bacilli were found. This was probably due to a defect in the pasteuriser leading to a forward leak of milk. The plant has since been replaced by one of modern design.

A comparison of the bacterial quality of the milk supplied by the 15 approved firms is given in Table XXII.

TABLE XXII.

SCHOOL MILK SUPPLIED BY DIFFERENT FIRMS.

m.	Number of Samples.	TOTAL COUNTS.						COLI COUNTS.	
		Over 100,000.	50,000-100,000.	10,000-50,000.	1,000-10,000.	Under 1,000.	Absent in 1 c.c.	Present in 1 c.c. Absent in $\frac{1}{10}$ c.c.	Present in $\frac{1}{10}$ c.c.
	14	0	2	5	7	0	13	1	0
	15	1	1	5	7	1	12	0	3
	15	0	0	0	6	9	15	0	0
	14	0	0	0	0	14	12	1	1
	14	0	0	2	8	4	12	1	1
	15	0	0	3	10	2	9	4	2
	14	1	3	5	4	1	5	3	6
	14	0	0	1	5	8	11	1	2
	15	0	1	2	6	6	11	1	3
	14	0	0	1	11	2	8	3	3
	16	0	3	4	7	2	12	2	2
	17	7	3	1	6	0	5	4	8
	15	0	1	7	6	1	12	1	2
	11	0	0	2	5	4	8	2	1
	15	0	1	0	9	5	13	1	1
	218	9	15	38	97	59	158	25	35

In Table XXIII are given the results of chemical examination, including the phosphatase test.

TABLE XXIII.

CHEMICAL EXAMINATION OF MILK SUPPLIED TO SCHOOL CHILDREN.

Number of Samples.	Fat Content.				Phosphatase Test.	
	4% plus.	3½% plus.	3% plus.	Under 3%	Number of Samples.	Phosphatase Present.
118	20	58	40	—	113	—

It is noteworthy that the majority of the samples (66%) were very rich in cream and that no sample yielded fat below the legal limit.

THE CLEANLINESS OF MILK.

The bacterial content of milk is a measure of the cleanliness of production, handling and storage. During 1937, 237 samples of graded milk and 195 samples of ungraded milk were submitted to the City Bacteriologist for bacterial counts. The results are given in Tables XXIV and XXV, below.

TABLE XXIV.

BACTERIAL COUNTS IN SAMPLES OF TUBERCULIN TESTED MILK.

Supplied by	Number of Samples	Where taken,	METHYLENE BLUE REDUCTION TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.			
			Satisfactory.	Unsatisfactory.	Absent in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.	Present in $\frac{1}{100}$ c.c.
A	26	Hospitals and Institutions.	24	2	22	0	1	3
A	23	Infant Welfare Centres.	21	2	15	3	3	2
B	12	Do.	11	1	11	1	0	0
C	12	Do.	10	2	7	3	1	1
D	24	Hospitals and Institutions	24	0	21	3	0	0
E	9	Do.	9	0	5	2	2	0
F	11	Do.	10	1	8	2	0	1
G	10	Do.	10	0	8	2	0	0
H	20	Do.	12	8	3	5	3	9
I	3	Do.	3	0	0	2	0	1
J	10	Wholesale depot	10	0	3	2	5	0
K	6	Do.	5	1	2	2	1	1
L	6	Do.	5	1	1	0	1	4
M	6	Do.	6	0	3	1	1	1
N	7	Do.	6	1	5	2	0	0
O	2	Do.	2	0	2	0	0	0
P	3	Do.	3	0	2	0	1	0
Q	7	Do.	6	1	1	3	3	0
R	5	Do.	4	1	2	2	0	1
*S	3	Do.	3	0	2	1	0	0
*T	7	Do.	7	0	6	0	1	0
*U	5	Milkshop in city	5	0	4	0	0	1
*V	7	Do.	7	0	4	1	2	0
*W	13	Farm in city ...	13	0	10	1	1	1
TOTALS	237		216	21	147	38	26	26

* Tuberculin Tested Milk (Certified) bottled on the farm.

The bacterial standard for tuberculin tested milk laid down in the Milk (Special Designations) Order, 1936, is that the milk shall satisfy the prescribed methylene blue test, and that coliform bacilli must be absent in $\frac{1}{100}$ c.c. It will be observed that 21 samples failed to pass the methylene blue test and that 26 samples showed an excessive number of coliform bacilli.

TABLE XXV.

BACTERIAL COUNTS IN SAMPLES OF UNGRADED AND UNTREATED MILK
PRODUCED IN LIVERPOOL.

Month.	Number of Samples	METHYLENE BLUE REDUCTION TEST.			PRESENCE OR ABSENCE OF COLIFORM BACILLI.			
		Satisfactory.	Unsatisfactory.	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 ...	10	10	0	6	1	2	1	0
February ...	10	9	1	3	1	3	3	0
March ...	27	22	5	11	8	3	1	4
April ...	19	16	3	6	3	7	1	2
May ...	12	7	5	4	1	0	3	4
June ...	12	10	2	0	2	3	3	4
July ...	26	7	19	0	0	6	3	17
August ...	13	4	9	0	0	4	1	8
September	19	8	11	1	2	3	6	7
October ...	26	13	13	3	2	8	6	7
November...	10	8	2	1	4	2	2	1
December...	11	10	1	1	4	1	4	1
TOTAL ...	195	124	71	36	28	42	34	55
		63.5%	36.4%	18.41%	14.35%	21.0%	17.43%	28.1%

The samples of ungraded and untreated milk tabulated in Table XXV were taken from milk produced in Liverpool by 114 cowkeepers. The milk was from cows milked at 6 a.m., and may have been kept on the counter of the milkshop for several hours before the sample was 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 XXV 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 195 samples, 124 satisfied the methylene blue reduction test. Furthermore, 36 showed an absence of coliform bacilli in 1 c.c., and a further 28 exhibited this organism only in so large a quantity of milk as 1 c.c., indicating comparative freedom from manurial contamination.

Ice Cream.

During the year, 2,425 visits of inspection were paid to the premises of 305 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, 110 samples of ice-cream were submitted to the City Bacteriologist for bacteriological examination. The results are given in Table XXVI. It is noteworthy that in many cases the bacterial counts were very high.

TABLE XXVI.
BACTERIAL COUNTS IN ICE CREAM.

1937 Month	NUMBER OF BACTERIA PER C.C.					Absent in 1 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		PRESENT IN					
							1 c.c.	10 ¹ c.c.	10 ² c.c.	10 ³ c.c.	10 ⁴ c.c.	
April	—	—	3	9	18	26	2	—	1	1	—	—
May	—	—	7	2	22	16	7	5	3	—	—	—
June	—	—	4	3	4	2	4	1	2	2	—	—
July	—	—	2	3	1	1	1	2	—	2	—	—
August	—	—	14	6	6	3	3	5	4	11	—	—
September	—	—	—	2	4	1	2	3	—	—	—	—
Totals	—	—	30 (27.3%)	25 (22.7%)	55 (50.0%)	49	19	16	10	16	—	—

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 12 per cent. of the specimens examined;

(2) About 1,300 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, 369 samples of milk produced within the city were submitted for bacteriological examination for tubercle bacilli with the following results:

TABLE XXVII.

THE EXAMINATION FOR TUBERCULOSIS, OF MILK PRODUCED WITHIN THE CITY.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	174	14	8·0%
Ungraded raw milk ...	195	15	7·6%

The percentage of samples of raw ungraded milk which proved to be tuberculous, namely, 7·6 per cent., is considerably less than the percentage of tuberculous samples of milk produced in areas outside the city, namely, 13·8 per cent. (see below). The corresponding figure for last year was 9·8 per cent.

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

During the year, 647 samples of milk produced in areas outside the city were submitted for bacteriological examination for tubercle bacilli with the following results:—

TABLE XXVIII.

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 ...	402	11	2·7%
Ungraded raw milk ...	245	34	13·8%

The percentage of samples of raw ungraded milk on sale to the public which proved to be tuberculous, namely, 13·8 per cent., is considerably higher than the percentage for milk produced within the City, namely, 7·6 per cent. The corresponding figure for last year was 15·6 per cent.

The following table shows the situation of the areas outside the city from which tuberculous milk was received:—

TABLE XXIX.

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 ...	64	9	14·0%
Cheshire	„ ...	129	21	16·0%
Denbighshire ...	„ ...	18	1	5·5%
Flintshire ...	„ ...	22	2	9·0%
Shropshire ...	„ ...	8	0	—
Westmorland ...	„ ...	2	0	—
Staffordshire ...	„ ...	2	1	50·0%
		245	34	13·8%

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 1937.

Tuberculosis occurring in Cows within the City.

There are in Liverpool approximately 3,070 cows in milk. Details of the veterinary examinations of these cows, together with similar figures for the previous five years, are given in Table XXX.

TABLE XXX.

THE VETERINARY EXAMINATION OF COWS IN LIVERPOOL COWSHEDS.

Year.	Visits for clinical examinations.	Samples of milk from suspected town cows examined microscopically.	Cows examined.	Cows with tuberculosis of the udder, or giving tuberculous milk.
1932.....	567	134	7,636	27
1933.....	580	169	7,718	28
1934.....	460	143	6,419	32
1935.....	779	411	10,285	37
1936.....	702	313	8,441	46
1937.....	894	274	12,068	33

The number of routine Sanitary Inspectors' visits paid to cowsheds was 1,700, of which 74 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 1937, 34 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 XXXI 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 XXXI.

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	33	1,537	16	13
Denbighshire	3	32	2	1
Flintshire ...	2	97	3	1
Lancashire...	15	441	10	4
Shropshire ...	1	43	—	1
Staffordshire	2	70	1	1
TOTALS ...	56†	2,220	32	21

* In some cases more than one diseased animal was discovered on a farm.

† This total includes 9 cases brought forward from 1936.

The Milk Supply of Corporation Institutions.

The Hospitals and Port Health Committee takes approximately 785 gallons of Tuberculin-tested milk and 1,109 gallons of Accredited milk per day. The total annual consumption is, therefore, about 691,300 gallons.

The Hospitals and Institutions non-tuberculin-tested supply was found to be tuberculous on 8 occasions, and including three herds which were still under investigation at the end of 1936, 5 cases of tuberculosis of the udder and 1 of other forms of tuberculosis were detected. Routine examination of hospital supply herds resulted in the detection of 2 cases of tuberculosis of the udder and 5 of other forms of tuberculosis.

The Tuberculin-tested supply was found tuberculous on one occasion.

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 XXXII are given the number of animals dealt with during 1936 and 1937, and the nature and degree of disease from which they suffered.

TABLE XXXII.
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.
1936	1,513	88	44	1	1	42	74	14
1937	1,070	65	30	2	2	31	56	9

The total market value of the animals slaughtered was £770 10s. 0d.

The amount paid in compensation and recovered from the Ministry of Agriculture and Fisheries as well as from the sale of carcasses is given below:—

	£	s.	d.				£	s.	d.
Compensation refunded				Compensation	paid	to			
by the Ministry of				owners...	...	...	277	3	10
Agriculture	204	9	3	Credit balance	...	...	36	5	8
Amount recovered by sale									
of carcasses	109	0	3						
	£313	9	6				£313	9	6

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 8,622 samples of food and drugs was purchased or taken and submitted for examination. Of these samples 4,973 were formal samples and 3,649 were informal samples.* The results are summarised in Table XXXIII.

* 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.

SUMMARY OF OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, DURING THE YEAR 1937.

INFORMAL SAMPLES.				FORMAL SAMPLES.				Informa- tions laid.	
Number of samples taken.	Number found genuine.	Number adulterated.		Nature of Sample.	Number of samples taken.	Number found genuine.	Number adulterated.		
		Seriously.	Slightly.				Seriously.		Slightly.
—	—	—	—	Arrowroot...	18	18	—	—	—
3	3	—	—	Baking Powder ...	5	5	—	—	—
2	2	—	—	Barley ...	160	150	10	—	9
48	48	—	—	Beer and Stout ...	—	—	—	—	—
20	20	—	—	Bread ...	—	—	—	—	—
349	348	1	—	Butter ...	87	87	—	—	—
20	20	—	—	Cake Flour and Mixtures ...	1	1	—	—	—
29	28	1	—	Cheese and Wrapped Cheese ...	3	3	—	—	1
14	13	1	—	Cocoa and Mixtures ...	53	53	—	—	—
88	86	2	—	Condensed Milk ...	—	—	—	—	2
14	14	—	—	Coffee and Mixtures ...	40	40	—	—	—
123	122	—	1	Confectionery ...	14	14	—	—	—
5	5	—	—	Cake and Biscuits ...	—	—	—	—	—
115	111	1	3	Condiments and Spices ...	195	192	—	3	3
11	11	—	—	Corn Flour ...	15	15	—	—	—

SUMMARY OF SAMPLES, &c.—continued.

INFORMAL SAMPLES.				Nature of Sample.	FORMAL SAMPLES.				Number of Vendors cautioned.	Informations laid.
Number of samples taken.	Number found genuine.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.			
		Seriously.	Slightly.				Seriously.	Slightly.		
1	1	—	—	Cream of Tartar ...	23	23	—	—	—	—
69	69	—	—	Cream and Tinned Milk ...	—	—	—	—	—	—
35	35	—	—	Custard Powder ...	7	7	—	—	—	—
28	26	2	—	Dripping and Compounds ...	2	2	—	—	—	—
19	19	—	—	Dried Fruits ...	144	143	1	—	1	—
55	55	—	—	Drugs ...	6	6	—	—	—	—
8	8	—	—	Egg Substitute Powder ...	1	1	—	—	—	—
1	1	—	—	Flour ...	75	75	—	—	—	—
3	3	—	—	Ground Almonds and Substitute ...	9	9	—	—	—	—
12	12	—	—	Honey ...	—	—	—	—	—	—
40	40	—	—	Ice Cream ...	—	—	—	—	—	—
173	166	7	—	Jams, Jellies and Marmalade ...	—	—	—	—	6	—
46	46	—	—	Lard and Compounds ...	64	64	—	—	—	—
17	17	—	—	Lemon Cheese and Curd ...	—	—	—	—	—	—
95	95	—	—	Margarine ...	2	2	—	—	—	—
1803	1738	54	11	Milk ...	3015	2815	146	54	52	45
—	—	—	—	„ Skimmed ...	2	1	1	—	—	1

INFORMAL SAMPLES.				Nature of Sample.	FORMAL SAMPLES.				Number of Vendors cautioned.	Informations laid.
Number of samples taken.	Number found genuine.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.			
		Seriously.	Slightly.				Seriously.	Slightly.		
2	2	—	—	Oatmeal and Preparations	64	63	1	—	1	—
13	13	—	—	Olive Oil ...	—	—	—	—	—	—
7	7	—	—	Rice and Ground Rice	267	248	1	18	1	—
7	7	—	—	Self Raising Flour	154	154	—	—	—	—
1	1	—	—	Sugar ...	109	109	—	—	—	—
1	1	—	—	Sausage ...	12	10	2	—	1	1
25	24	1	—	Syrup and Treacle	1	1	—	—	—	—
—	—	—	—	Tapioca ...	80	78	1	1	—	—
9	9	—	—	Temperance Beverages	17	17	—	—	—	—
30	28	1	1	Tinned and Potted Meats	—	—	—	—	1	—
74	60	6	8	Tinned and Potted Fish	—	—	—	—	6	—
69	60	2	7	Tinned Fruits	—	—	—	—	2	—
14	14	—	—	Vinegar ...	—	—	—	—	—	—
7	7	—	—	Wines and Spirits	4	4	—	—	—	—
144	136	5	3	Miscellaneous	324	322	2	—	7	3
3649	3531	84	34	 TOTAL ...	4973	4732	165	76	93	50

Total Number of Samples, 8,622.

Milk was the food material which accounted for the greatest number of samples, namely, 4,818. 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 XXXV below. In no milk sample was any added preservative found.

In table XXXIV is an analysis of where and when milk samples were taken, together with the number of subsequent prosecutions.

TABLE XXXIV.

MILK SAMPLES.

Where the samples were taken or purchased.	Number of Samples taken on			
	Week- days.	Subsequent Prosecutions.	Sundays.	Subsequent Prosecutions.
City Milkshops	1,757	26	350	2
Wholesale Milk Depots	956	15	10	2
Railway Stations	103	—	—	—
Hospitals and Public Assistance Institutions	1,315	—	—	—
Other Hospitals	20	—	—	—
Infant Welfare Centres and Day Nurseries	307	—	—	—
	4,458	41	360	4

In the course of the collection of samples enumerated in Table XXXIII, 6,321 visits were paid to shops, 70 visits to premises of wholesale dealers in margarine, and 3,962 visits to other places.

In Table XXXV is a summary of the prosecutions during 1937 for offences under the Food and Drugs (Adulteration) Act, 1928, and the Milk and Dairies (Amendment) Act, 1922, together with the fines inflicted and the costs recovered.

TABLE XXXV.

OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, AND MILK AND DAIRIES AMENDMENT ACT, 1922, AND
 PHARMACY AND POISONS ACT, 1933, PART 2.

No. of informa- tions laid.	Nature of Sample.	Nature of Offence.	RESULT OF LEGAL PROCEEDINGS.				Costs. £ s. d.
			No. of convic- tions.	Withdrawn on payment of costs.	Withdrawn and dismissed without costs.	Fines. £ s. d.	
27	Milk ...	Adulterated with water ...	27	—	—	29 0 0	33 9 0
18	Milk ...	Deprived of milk fat ...	17	—	1	15 0 0	17 17 0
1	Skimmed Milk ...	Containing water ...	1	—	—	—	1 1 0
1	Sausage ...	Sausage containing Preservative, unlabelled ...	1	—	—	1 0 0	1 1 0
1	Phenolic Disinfectant ...	Failing to be registered under Part 2, Pharmacy and Poisons Act, 1933	1	—	—	10 0 0	1 1 0
2	Ammonia ...		2	—	—	12 0 0	2 2 0
50			49	—	1	67 0 0	56 11 0

Food Poisoning.

No examples of food poisoning came to notice during the year.

Fertilizers and Feeding Stuffs.

During 1937, 122 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take legal proceedings.

Pharmacy and Poisons Act, 1933.

The Pharmacy and Poisons Act, 1933, regulates the sale of poisons. It is the duty of the Local Authority to carry out Part II of the Act, which deals with the registration of persons selling poisons mentioned in the Poisons List Confirmation Order, 1935. The number of names entered in the register is 519.

REPORT OF THE CITY BACTERIOLOGIST, 1937.

General.—This year the number of examinations made by the Department has increased still further to 100,732 as compared with 83,815 in the preceding year and 55,740 in 1934. As in previous years a good deal of this increase represents an extension of the work on diphtheria, but there has also been a great enlargement in the number of specimens from cases of intestinal diseases and some increase in the work done on venereal disease.

Milk Examinations.—The adoption of the new methods required by the Ministry of Health has altered the character of this work to a certain extent by reason of the adoption of the methylene blue test instead of bacterial counts for raw samples.

As in previous years the general milk samples continue to provide evidence of the presence of tubercle bacilli. Of 1,138 samples examined 77 proved to be tuberculous. In the same period 210 samples of heat-treated milk for school children provided one which contained tubercle bacilli. This is the only tuberculous sample met with out of 650 examined in 3 years. In this case a defect in the plant was noted about the time at which the sample was collected. It was immediately rectified, before the result of the examination was known, and since that date no further tuberculous samples have been received. Of 366 samples of school milk, mostly unheated, submitted by other authorities 20 contained tubercle bacilli.

In March the laboratory completed an experiment in which, with the co-operation of one of the city firms, milk was examined for tubercle bacilli before and after pasteurisation on two days in each week over a period of a year. Just over 200 specimens were examined, and it was found that while 61 per cent. of the samples contained tubercle bacilli before pasteurisation, not a single one contained them after pasteurisation. (*Lancet* II, p. 151. 1937.)

Water.—The daily samples of the city supply and the monthly samples from the Prescott reservoirs and the wells revealed no serious departure from a satisfactory standard.

Plague.—None of the 7,163 rats examined were found infected with plague.

Diphtheria.—This year has seen a considerable increase in the work on different aspects of the diphtheria problem. As in the previous year the study of the incidence of the various types and their relation to the severity and complications of the disease has been continued. As a prelude to further studies an attempt was begun last year to ascertain the real incidence of the disease by correlating clinical and bacteriological diagnosis. At the request of the Medical Officer of Health this has now been extended to all the infectious diseases hospitals. As a result we have collected valuable information as to the accuracy of bacteriological diagnosis and also have been able to assist considerably in obtaining accurate ideas on the real incidence of diphtheria in the community and the error of notification statistics. The full results of these studies are not yet available but will be published in due course. An administrative problem of some importance has been raised by the discovery that in diphtheria wards, just as has been previously shown in London in scarlet fever wards and elsewhere in general surgical wards, cross infection from one patient to another is a relatively common occurrence. This problem is a new one in hospital administration and is engaging serious attention in many places. It is clear that its solution requires much further investigation and may be difficult and expensive. (*Jl. of Hyg.* No. 2, p. 248. 1938.)

Enteric Diseases.—The epidemic of paratyphoid in the early part of 1937 threw a very heavy load on the laboratory. Altogether 1,882 specimens of faeces and 853 specimens of urine have been examined. Typhoid bacilli were isolated 11 times from the faeces and twice from

the urine; *B. paratyphosus B.* was recovered 287 times from the faeces and 95 times from urine. During the epidemic the value of bacteriological diagnosis was very thoroughly examined and adequately demonstrated with the result that every effort is now being made to substantiate all clinical diagnosis of enteric fever in this way. It was possible to trace this epidemic to its probable source, a person engaged in handling bread who was a paratyphoid carrier. (Frazer, Glover and Glass, Brit. Med. J. II., p. 369, 1937: Glass and Wright, J. Path. and Bact., vol xlv No. 2, pp. 431-439, 1937.)

There has been a large increase this year in the number of strains of dysentery bacilli isolated in the laboratory. In previous years these have been very few in number (3 in 1936). This year they numbered 76, of which 31 were of the Flexner group (27 type Z and 4 type Y) and 45 were *Bact. Sonnei*. A similar increase has been reported from other cities. It is not clear how far the apparent increase of dysentery is real and how far it depends on the increased tendency to make use of the laboratory in the diagnosis of intestinal disorders.

Anthrax.—The Government disinfecting station submitted 374 specimens of hair and wool for examination. Of these 188 were untreated and 79 contained anthrax bacilli, 186 were treated and of these none were infected with anthrax. The results of the examination of untreated samples from various sources were as follows:—

Source.	Positive.	Negative.
Persia	3	4
Russia	6	13
Algeria	2	5
China	10	18
Egypt	2	2
North Africa ...	1	0
Tunis	7	14
East Indian ...	25	16
Morocco	6	5
Other sources ...	17	32
	79	109

Work for Authorities outside the Liverpool Area.—In addition to the work done for the Corporation the laboratory has examined 5,597 specimens for outside authorities, about 600 more than in the previous year.

Examinations made in the Bacteriological Department for the City of Liverpool during the year 1937.

Milk (fresh-liquid)—Coli estimation, methylene blue test and examination for tubercle bacilli	...	...	651
„ „ —Coli estimation, bacterial count and examination for tubercle bacilli	...	...	339
„ „ —Coli estimation and methylene blue test...	...	...	5
„ „ —Coli estimation and examination for tubercle bacilli	...	...	34
„ „ —Coli estimation, bacterial count, methylene blue test and examination for tubercle bacilli	...	...	2
„ „ —Coli estimation only	...	...	2
„ „ —Coli estimation, bacterial count and methylene blue test	...	...	2
„ „ —Examination for tubercle bacilli only (Veterinary samples)	...	...	63
„ „ —Inoculation only	...	...	213
„ „ —? Dysentery	...	...	2
			1,313

Foodstuffs :—

Tinned milk	...	...	18
Shell-fish for bacterial contamination	...	...	1
Ice cream for bacterial content and coli estimation	...	...	108
Miscellaneous foodstuffs	...	...	12
			139

Water—bacterial counts and coli estimation :

Daily samples from City supply	...	...	314
Monthly samples	...	...	37
Baths water	...	...	112
Miscellaneous samples	...	...	29
			492
Rats for plague bacilli	...	...	3,410
Swabs for organisms of Vincent's Angina	...	...	293
Swabs for diphtheria bacilli	...	...	51,547
Diphtheria cultures—virulence tests	...	...	979
„ „ —type determination	...	...	4,796

Carried forward ... 62,969

**Examinations made in the Bacteriological Department for Authorities
and Private Practitioners, etc., outside Liverpool.**

Milk (fresh-liquid)	...	...	...	...	...	...	...	924
Water and sewage effluents	...	...	...	...	...	...	...	143
Swabs for organisms of Vincent's Angina	...	...	...	...	...	...	...	11
Swabs for diphtheria bacilli	...	...	...	...	...	...	...	3,591
Diphtheria cultures—virulence tests	...	...	...	...	...	...	...	26
„ „ —type determination	...	...	...	...	...	...	...	32
Agglutination tests	...	...	...	...	...	...	...	79
Blood cultures	...	...	...	...	...	...	...	3
Faeces and urine for organisms of the enteric group	...	...	...	...	...	...	...	296
Cerebrospinal fluid for pathogenic organisms	...	...	...	...	...	...	...	16
Sputum, etc., for tubercle bacilli	...	...	...	...	...	...	...	117
Miscellaneous secretions	...	...	...	...	...	...	...	164
Miscellaneous samples	...	...	...	...	...	...	...	195
								<u>5,597</u>

Venereal Diseases :

Wassermann tests	...	...	...	...	...	...	...	2,792
Meinicke tests	...	...	...	...	...	...	...	4
Films for gonococci	...	...	...	...	...	...	...	512
Gonococcus complement fixation tests	...	...	...	...	...	...	...	184
								<u>3,492</u>

SUMMARY.

Bacteriological examinations	...	...	...	...	5,597
Venereal diseases examinations	...	...	...	...	3,492
					<u>9,089</u>
Examinations made for the City of Liverpool	...	...	...	91,643	
Examinations made for Authorities and Private Practitioners outside Liverpool	...	...	...	9,089	
				<u>100,732</u>	

HOUSING

Progress with all clearance operations proceeded throughout the year, 87 areas being dealt with by clearance area procedure, and four areas were declared proposed re-development areas.

Clearance Areas.

The following summary refers to dwelling houses represented by the Medical Officer of Health during the year 1937 as being unfit for human habitation within the meaning of Section 25 of the Housing Act, 1936:—

Number of dwelling houses represented during 1937:—

HOUSING

Progress of Slum Clearance.

The following summary indicates the number of houses dealt with to date:—

Year	No. of Clearance Orders	No. of Temporary Purchase Orders	No. of Dwelling-houses	No. of Persons displaced	No. of houses demolished	No. of persons displaced
1937	40	17	2,767	12,092	1,100	4,100
1936	41	60	2,762	14,362	1,100	4,100
1935	43	60	2,611	17,923	1,100	4,100
1934	60	27	1,908	9,900	1,100	4,100
Totals	184	164	10,038	54,308	4,400	16,400

Public Inspectors.

During the year under review nine Public Inspectors were held in connection with 127 areas further details of which are set out in the following table and one in connection with two re-development areas.

HOUSING.

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Clearance Areas.

The following summary refers to dwelling-houses represented by the Medical Officer of Health during the year 1937 as being unfit for human habitation within the meaning of Section 25 of the Housing Act, 1936:—

Number of dwelling-houses represented during 1937	...	1,868
„ „ persons occupying the dwelling-houses	...	9,990
„ „ clearance areas officially represented	...	87
„ „ areas declared compulsory purchase orders	...	27
„ „ areas declared clearance orders	...	60

Progress of Slum Clearance.

The following summary indicates the number of houses dealt with to date:—

Year.	No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be displaced.	No. of Houses demolished.	No. of Persons displaced.
1934	60	42	2,757	13,093	—	709
1935	47	60	2,793	14,302	278	1,285
1936	55	59	3,511	17,923	695	5,443
1937	60	27	1,868	9,990	872	5,224
TOTALS	222	188	10,929	55,308	1,845	12,661

Public Inquiries.

During the year under review nine Public Inquiries were held, eight in connection with 127 areas, further details of which are set out in the following table and one in connection with two re-development area plans.

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling- houses.	No. of Persons to be displaced.
65	62	3,990	20,115

During the year 121 confirmation orders were received in connection with 3,253 dwelling-houses. These orders confirmed the inclusion of 98.9 per cent. of dwelling-houses in the areas.

The following is a list of Clearance Areas which were represented during the year.

Compulsory Purchase Orders.

Clearance Areas.	Houses.	Population.
Beaufort Street, No. 1 ...	12	83
„ No. 2 ...	218	1,340
Brownlow Hill, No. 1 ...	5	28
„ No. 3 ...	43	255
Combermere Street ...	2	...
Copperas Hill ...	5	33
Forge Place ...	12	55
Great Newton Street, No. 2 ...	17	125
Greek Street ...	75	438
Larkhill Lane ...	14	53
Laxey Street ...	249	1,304
Mill Street, No. 5 ...	4	32
„ No. 6 ...	3	11
„ No. 7 ...	7	57
„ No. 8 ...	3	6
Netherfield Road South, No. 1 ...	28	80
Northumberland Street ...	2	5
Park Road, No. 2 ...	5	28
Prince William Street ...	4	20
Rodick Street, Woolton ...	5	26
Russell Street, No. 1 ...	4	23
„ No. 2 ...	4	20
Trowbridge Place ...	16	55
Trowbridge Street ...	7	22
Warwick Street, No. 1 ...	5	35
„ No. 2 ...	3	17
Wolfe Street ...	260	1,531
TOTALS ...	1,012	5,682

Clearance Orders.

Clearance Areas.	Houses.	Population.
Alexander Pope Street	3	25
Bispham Street	3	14
Bond Street, No. 1	8	3
" No. 2	18	87
Brook Street, No. 1	2	8
" No. 2	23	99
Brownlow Hill, No. 2	4	12
Brownlow Street	7	59
Congreve Street	3	13
Dansie Street	3	4
Denison Street	21	150
Dublin Street	34	238
Earle Street	3	13
East Street	9	29
East Prescott Road, No. 3	3	7
" No. 4	21	82
Edgar Street, No. 1	2	9
" No. 2	2	9
Freemasons Row, No. 1	7	37
" No. 2	4	19
Gibraltar Row	31	182
Great Howard Street, No. 1	23	110
" No. 2	2	27
" No. 3	2	8
" No. 4	6	40
" No. 5	299	1,492
Great Newton Street, No. 1	6	48
Marlborough Street	2	11
Marybone, No. 1	21	114
" No. 2	13	75
" No. 3	4	39
Milton Street	4	21
Naylor Street, No. 4	4	22
Netherfield Road North, No. 1	23	79
" No. 2	22	64
Netherfield Road South, No. 2	9	20
" No. 3	11	27
Old Hall Street	6	25
Out Lane Cottages	4	9
Paisley Street	33	200
Parr Street, No. 1	16	57
" No. 2	7	26
Pembroke Street	5	11
Pickop Street	12	55
Prussia Street	15	86
Queen Street, No. 1	5	22
" No. 2	4	12
Regent Street, No. 1	12	92
" No. 2	13	138
" No. 3	5	39
" No. 4	4	22
Rigby Street	5	22
Rushton Place, Woolton	4	10
St. Paul's Square	8	33
Saltney Street, No. 2	3	14
Standish Street	3	17
Trafalgar Street	13	49
Virginia Street	12	62
Waterloo Road, No. 1	3	7
" No. 2	2	4
TOTALS	856	4,308

Individual Unfit Houses.

Thirty-one individual houses were represented as being unfit for human habitation within the meaning of Section 11 of the Housing Act, 1936, and these were dealt with as follows:—

	No. of Houses.
Demolition orders made	18
Undertaking given not to use for human habitation	6
Plan submitted to render house fit for human habitation in accordance with approved scheme	1
Number adjourned	6

Closing Orders in respect of parts of Buildings.

Twenty-eight representations of parts of buildings were made as a result of which 20 closing orders were made, and 3 undertakings not to let for human habitation were accepted, the remainder being adjourned.

Seventy-four inspections of underground dwellings were carried out, and in 59 instances closing orders were made prohibiting the use of the part of the building or of the room for human habitation.

Re-conditioning by Owners.

Lists of works proposed to be carried out in order to render houses fit for human habitation were submitted in connection with 98 houses, and after providing owners with lists of additional works, the Local Authority in 80 cases indicated that it was their opinion that, after the execution of these works, the houses would remain fit for a period of years, being not less than 5 years or more than 10 years.

At the end of the year works were proceeding at 17 of these properties with a view to obtaining the necessary certificate.

In the case of 18 houses, the Committee were not of the opinion that after the execution of the proposed works, the houses would remain fit for a period of 5 years.

Sixty-three cases were receiving further consideration by the owners.

Re-development Areas.

Four areas were declared by the Council as proposed re-development areas and submitted to the Minister of Health. Figures relating to the conditions existing in these areas are shown in the following table:—

Re-development Area.	No. of buildings other than dwelling-houses.	No. of working-class houses.	No. of working-class houses overcrowded.	No. of working-class houses unfit and incapable at reasonable expense of being rendered fit.	No. of working-class houses congested.
Athol Street ...	257	3,445	935	1,334	2,075
Beaumont Street	32	248	20	101	127
Pitt Street and Kent Square ...	172	755	136	323	318
Wye Street ...	7	90	20	12	87

The Inquiry in connection with the re-development plans relating to Beaumont Street Re-development Area, and Pitt Street and Kent Square Re-development Area was held in November, and the Minister's decision has not yet been received.

Housing of the Working Classes.

Re-housing Schemes.

During 1937 the following flats, erected on sites in the central areas of the city, were completed and occupied:—

WILBRAHAM STREET.—This block, which now contains 60 flats, was completed by the erection of 30 flats comprising 1 one bedroom, 5 two bedroom and 24 three bedroom types.

CARYL STREET AND GRAFTON STREET.—This scheme, which now contains 12 bed living room, 38 one bedroom, 112 two bedroom, 114 three bedroom and 36 four bedroom type flats, a total of 312 flats, was completed by the erection of 160 flats comprising 6 bed living room, 20 one bedroom, 56 two bedroom, 60 three bedroom and 18 four bedroom types.

UPPER FREDERICK STREET.—72 flats, comprising 2 bed living room, 12 one bedroom, 16 two bedroom, 37 three bedroom and 5 four bedroom types.

HILL STREET.—56 flats, comprising 8 one bedroom, 25 two bedroom, 12 three bedroom and 11 four bedroom types.

HORATIO STREET.—44 flats, comprising 16 one bedroom, 8 two bedroom and 20 three bedroom types.

MYRTLE STREET.—The scheme, which contains 44 one bedroom, 100 two bedroom, 190 three bedroom and 10 four bedroom type flats and 2 shops, was completed during the year by the erection of 164 flats comprising 11 one bedroom, 50 two bedroom, 93 three bedroom and 10 four bedroom types.

GERARD STREET.—A further block of 40 flats, containing 10 two bedroom and 30 three bedroom types, was completed and occupied.

JOHNSON STREET.—40 flats, comprising 20 two bedroom and 20 three bedroom types.

In addition to the 606 flats referred to, the following houses and flats were erected on the outskirts of the City in connection with the slum clearance programme:—

LARKHILL ESTATE.—A further 15 one bedroom type flats were completed and occupied.

KNOWSLEY (FINCH HOUSE) ESTATE.—On this estate, which is mainly situated outside the City boundary, 10 two bedroom, 484 three bedroom and 42 four bedroom houses of the non-parlour type were completed.

FINCH LANE.—26 three bedroom and 8 four bedroom non-parlour houses and 20 cottages for aged persons were completed.

WOOLTON.—20 cottages for aged persons were completed during the year.

SPARROW HALL.—82 two bedroom, 278 three bedroom and 34 four bedroom houses of the non-parlour type were completed.

SPEKE ROAD.—The original scheme containing 246 flats has been enlarged by the completion of 66 flats, comprising 9 one bedroom, 27 two bedroom and 30 three bedroom types and 3 shops. 60 flats contained

in this latter block, comprising 5 one bedroom, 25 two bedroom and 30 three bedroom types, have been used for the relief of overcrowding in the Garston district.

At the end of 1937 building operations, in connection with slum clearance activities, were proceeding on the following:—

CENTRAL AREAS.

FONTENOY STREET.—48 flats, comprising 4 one bedroom, 28 two bedroom, 12 three bedroom and 4 four bedroom types and 13 shops.

QUEEN ANNE STREET.—75 flats, comprising 16 one bedroom, 25 two bedroom, 33 three bedroom and 1 four bedroom types, were nearing completion at the end of the year.

CORLETT STREET.—138 flats, comprising 13 one bedroom, 35 two bedroom, 87 three bedroom and 3 four bedroom types and 7 shops.

ST. DOMINGO ROAD.—194 flats, comprising 12 one bedroom, 118 two bedroom, 36 three bedroom and 28 four bedroom types, were in an advanced stage of construction. This is the first portion of a large scheme which will eventually contain 404 flats.

UPPER STANHOPE STREET.—67 flats, comprising 15 one bedroom, 25 two bedroom and 27 three bedroom types.

WESTMORELAND PLACE.—127 flats, comprising 8 one bedroom, 35 two bedroom and 84 three bedroom types, were nearing completion at the end of 1937.

NORTHUMBERLAND STREET AND WARWICK STREET.—257 flats, comprising 9 one bedroom, 104 two bedroom, 110 three bedroom, 20 four bedroom and 14 five bedroom types.

PITT STREET—KENT SQUARE.—90 flats, comprising 5 one bedroom, 25 two bedroom, 50 three bedroom and 10 four bedroom types, were nearing completion at the end of 1937.

ST. ANDREW'S GARDENS.—30 flats, comprising 6 one bedroom, 14 two bedroom and 10 three bedroom types and 3 shops, forming an extension to the 316 flats already erected.

GERARD STREET.—90 flats, comprising 18 one bedroom, 39 two bedroom, 27 three bedroom and 6 four bedroom types and 1 shop, were almost completed at the end of the year. These flats will be the third block to

be completed in the Central Re-development Area, where it is intended to erect 2,190 flats.

ST. OSWALD'S STREET.—108 flats, comprising 16 one bedroom, 36 two bedroom and 56 three bedroom types.

HIGHFIELD STREET.—A block of 23 flats, comprising 5 two bedroom and 18 three bedroom types, is in course of erection, forming the second portion of a scheme which will eventually contain 383 flats.

OUTSKIRTS.

KNOWSLEY (WOOLFALL HEATH) ESTATE.—At the end of 1937 building operations were in progress on a contract for 2,000 houses of various types on this portion of the Knowsley Estate.

SPARROW HALL.—A further 105 three bedroom and 12 four bedroom non-parlour houses, 63 three bedroom parlour houses and 36 flats were in advanced stages of construction at the end of the year.

Housing Schemes in the Suburbs.

In the year 1919 the Housing Committee commenced to erect houses in the suburbs and under the Housing Acts of 1919, 1923, 1924 and 1925, had erected 26,217 houses and 415 flats on suburban estates up to the end of 1936.

During 1937, a further 119 houses, comprising 23 three bedroom non-parlour and 96 three bedroom parlour type, were erected without subsidy on the Knowsley (Longview Farm) Estate, and at the end of the year a further 152 three bedroom parlour type houses were in course of erection on this estate.

At Speke, 200 non-parlour and 300 parlour type houses were in course of erection at the end of 1937. These houses, which are also being built without State assistance, are being erected in close proximity to an area in which considerable industrial development will take place, and it is intended to build about 6,000 houses on this estate and to provide for the amenities which will enable the estate to be a self-contained community unit.

The following tables give details relating to the suburban districts where houses have been erected and to the situations of the dwellings provided in the central areas of the City:—

Houses Erected on Suburban Estates.

(Including houses erected on the outskirts for slum clearance purposes.)

	Non-Parlour.	Parlour.	Total.
Dovecot Estate	2,331	686	3,017
Edge Lane Drive Estate	560	311	871
Elms House Estate	252	—	252
Fazakerley Estate	1,030	410	1,440
Finch Lane... ..	54	—	54
Highfield Estate	—	618	618
King Street, etc., Garston	76	—	76
Knotty Ash Estate	389	263	652
Knowsley Estate	874	—	874
Larkhill Estate	476	1,834	2,310
„ „ (Flats)	51	120	171
Norris Green Estate	4,730	2,965	7,695
Pinehurst Road Estate	287	395	682
Ronald Street	78	—	78
Sparrow Hall Estate	394	—	394
Speke (Banks Lane) Estate	286	—	286
Speke Road (Flats)	312	—	312
Springwood Estate	250	1,249	1,499
„ „ (Flats)	—	49	49
Walton-Clubmoor Estate	1,525	1,671	3,196
Woolton	145	—	145
Partly developed estates	—	554	554
Total within the area of the City	14,100	11,125	25,225
Huyton Farm Estate	937	79	1,016
Knowsley Estate	2,294	132	2,426
„ „ (Flats)	48	—	48
Total outside the City boundary	3,279	211	3,490
TOTAL	17,379	11,336	28,715

During the same period (1919-1937) 25,602 houses have been erected by private enterprise within the area of the City, and of these 4,294 were eligible for subsidy under the Housing Acts of 1923 and 1924.

Dwellings Erected in the Central Areas of the City.

Situation.	Date opened.	Number of dwellings (Including houses with shops attached).
St. Martin's Cottages	1869	124
Victoria Square	1885	270
Juvenal Dwellings	1891	101
Arley Street	1897	46
	1902/3	
Gildart's Gardens	1897	229
	1904	
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	455
	1906/7	
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	223
Northumberland Street Area	1913	68
St. Anne Street Area	1914	78
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	1931/6	209
Great Richmond Street	1931	21
Beloe Street	1931	69
Burnet Street	1932	16
Dingle Mount	1932	118
Carried forward		4,093

Situation.						Date opened.	Number of dwellings (Including houses with shops attached).
Brought forward ...							4,093
Kew Street	...	...	...	...	...	1932	9
Queen Anne Street	...	...	...	...	...	1933/6	374
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	...	...	...	...	...	1935/7	60
High Street, Wavertree	...	...	...	...	...	1935	72
Caryl Street-Grafton Street	...	...	...	...	...	1936/7	312
Myrtle Street	...	...	...	...	...	1936/7	344
Gerard Street	...	...	...	...	...	1936/7	178
Highfield Street	...	...	...	...	...	1936	66
Nelson Street	...	...	...	...	...	1936	25
Upper Frederick Street	...	...	...	...	...	1937	72
Hill Street	...	...	...	...	...	1937	56
Horatio Street	...	...	...	...	...	1937	44
Johnson Street	...	...	...	...	...	1937	40
TOTAL ...							6,361

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) ... 28,175
- (b) Number of inspections made for the purpose ... 40,090
- (2) (a) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 2,873
- (b) Number of inspections made for the purpose ... 6,887
- (3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ... 2,477

(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		8,297
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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	...	21,824
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3. *Action under Statutory Powers during the Year.*

(a) *Proceedings under Sections 9, 10 and 16 of the Housing Act, 1936.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	...	396
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(2) Number of dwelling-houses which were rendered fit after service of formal notices—

(a) by owners		252
---------------	--------	-----

(b) by local authority in default of owners		Nil.
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(b) *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied		36,726
--	--------	--------

(2) Number of dwelling-houses in which defects were remedied after service of formal notices:—

(a) By owners		14,902
---------------	--------	--------

(b) By local authority in default of owners		Nil.
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(c) *Proceedings under Sections 11 and 13 of the Housing Act, 1936.*

(1) Number of dwelling-houses in respect of which Demolition Orders were made	18
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	21
<i>(d) Proceedings under Section 12 of the Housing Act, 1936.</i>	
(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made	79
(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.
4. <i>Housing Act, 1936—Part IV—Overcrowding.</i>	
(a) (i) Number of dwellings overcrowded at the end of the year	5,690
(ii) Number of families dwelling therein ...	6,144
(iii) Number of persons dwelling therein ...	38,188
(b) Number of new cases of overcrowding reported during the year	54
(c) (i) Number of cases of overcrowding relieved during the year	6,923*
(ii) Number of persons concerned in such cases	36,300
(d) Particulars of any cases in which dwelling-houses have again become overcrowded after the Local Authority have taken steps for the abatement of overcrowding ...	Nil.
(e) Other particulars with respect to overcrowding upon which the Medical Officer of Health considers it desirable to report:—	

* Revealed by further survey of houses overcrowded before the appointed day.

During the year, 91,865 visits were made to houses in connection with overcrowding provisions of the Housing Act.

54 families were found to have overcrowded premises after the appointed day (1st of January, 1937) thereby committing an offence against the Act. In each of these cases notices under Sections 59 and 66 were served upon the occupiers and landlords respectively, and in 50 cases the notices to abate the overcrowding were complied with.

The Overcrowding Survey carried out in 1935-1936 revealed that of the 155,399 houses surveyed, 11,554, or 7·43 per cent., were found to be overcrowded.

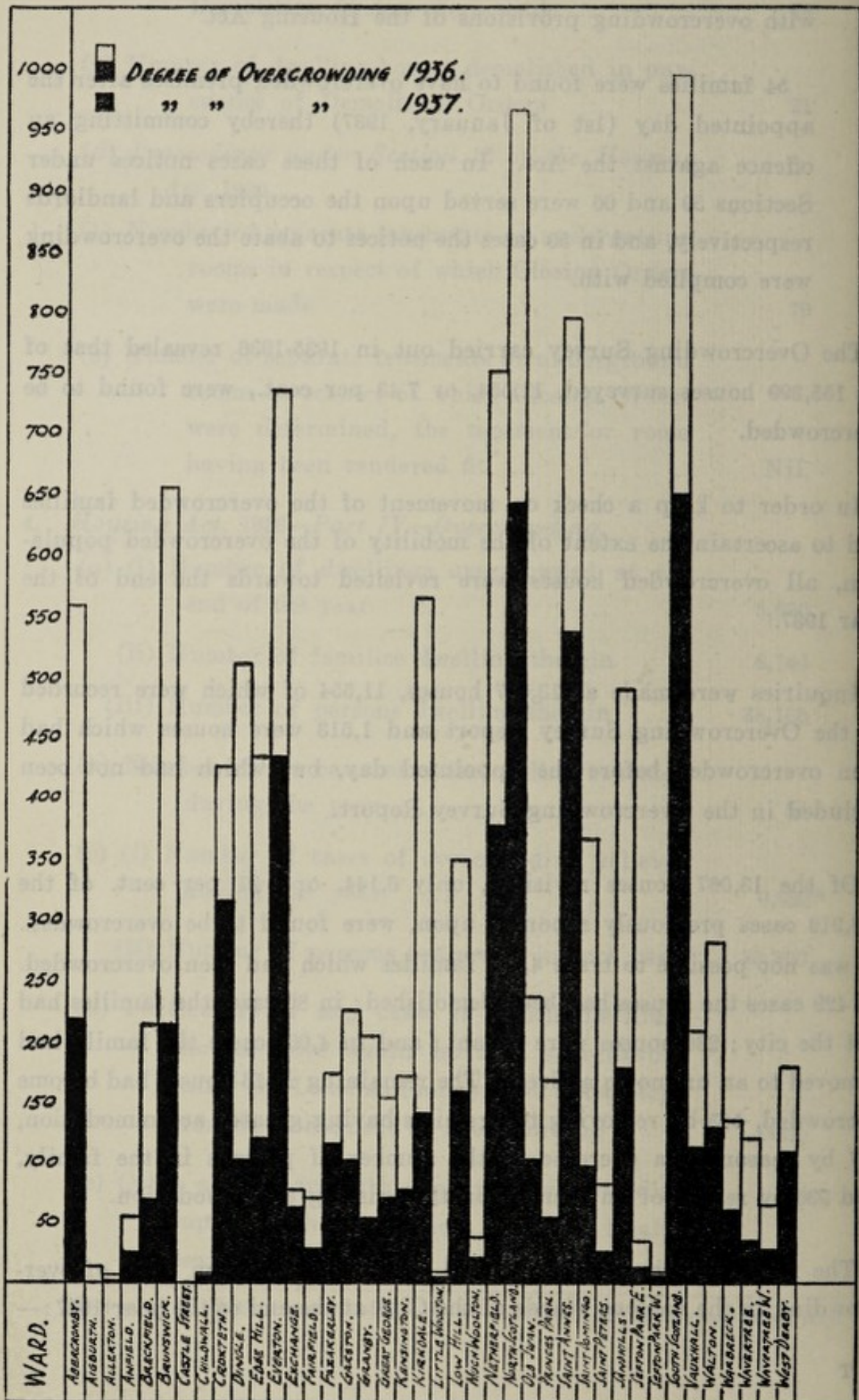
In order to keep a check on movement of the overcrowded families and to ascertain the extent of the mobility of the overcrowded population, all overcrowded houses were revisited towards the end of the year 1937.

Inquiries were made at 13,067 houses, 11,554 of which were recorded in the Overcrowding Survey Report and 1,513 were houses which had been overcrowded before the appointed day, but which had not been included in the Overcrowding Survey Report.

Of the 13,067 houses revisited, only 6,144, or 3·91 per cent. of the 156,912 cases previously reported upon, were found to be overcrowded. It was not possible to trace 4,807 families which had been overcrowded. In 429 cases the houses had been demolished; in 80 cases the families had left the city; 236 houses were vacant; and in 4,062 cases the family had removed to an unknown address. The remaining 2,116 houses had become decrowded, 553 by removing to premises having greater accommodation, 627 by reason of a decrease in the number of persons in the family, and 936 by reason of an increase in the existing accommodation.

The following chart indicates the reduction of known cases of overcrowding in the various Wards of the City at the end of the year 1937:—

CHART SHOWING REDUCTION OF OVERCROWDING WHICH TOOK PLACE IN 1937.



From the information supplied it will be seen that the percentage of known overcrowding has in two years dropped from 7.43 per cent. to 3.91 per cent.

Houses owned by the Local Authority.

Total number of houses and flats owned by the Local Authority at 31st December, 1937 (excluding 19 houses built under the powers of the Housing Acts and subsequently sold) 35,057

Number of houses and flats built in the last two years under—

1.	Housing Act, 1936, Part III	...	...	...	2,693
2.	„ „ „ Part IV	...	...	...	60
3.	„ „ „ Part V	...	...	...	859

The following table shows the accommodation which has been provided in the Corporation's housing and rehousing schemes up to 31st December, 1937:—

No. of rooms per dwelling (exclusive of bathrooms, sculleries, etc.).	Number of houses and flats erected.					Totals.
	On suburban estates.			In central areas.		
	Houses.	Aged person's cottages.	Flats.	Houses.	Flats.	
1	—	58	—	—	223	281
2	—	92	66	—	1,538	1,696
3	1,105	—	182	18	2,155	3,460
4	15,473	—	181	154	2,139	17,947
5	11,406	—	151	18	116	11,691
7	1	—	—	—	—	1
TOTALS ...	27,985	150	580	190	6,171	35,076

In addition to the above, 61 shops have been erected in the various schemes in the central areas of the City, and 175 shops, with 118 flats above, on suburban estates.

Rentals.

The weekly rentals, including rates, of flats range from 3s. 1½d. for a bed living room flat to 9s. 6d. for a four bedroom flat. The inclusive weekly rentals of houses vary between 8s. 0d. and 14s. 6d. for non-parlour type houses and between 15s. 8d. and 19s. for parlour type houses.

Erection of New Houses.

The following information has been kindly supplied by the City Building Surveyor:—

Return of Houses erected 1932-1937.

Number of Rooms, (Exclusive of bathrooms, sculleries, etc.)	1932	1933	1934	1935	1936	1937
4 Rooms or less	1,558	1,526	2,902	1,646	2,225	1,696
5 or 6 Rooms	1,693	1,595	2,298	2,924	2,632	2,165
7 or 8 Rooms	94	148	129	93	36	16
9 or 10 Rooms	5	4	4	3	—	1
More than 10 Rooms	—	1	—	—	—	—
Totals	3,350	3,274	5,333	4,666	4,893	3,878

The number of houses which have been erected by or for the Housing Committee during the last six years are:—

1932 ...	1,887 (includes 179 flats)
1933 ...	1,350 („ 318 „)
1934 ...	2,026 („ 337 „)
1935 ...	1,473 („ 698 „)
1936 ...	1,802 („ 694 „)
1937 ...	1,810 („ 687 „)

Number of houses erected and taken down during the year 1937.

Sub-Registration Districts.	Number Erected.	Number Taken Down.
Exchange	154	204
Abercromby	174	78
St. Peters	97	158
Toxteth Park	379	151
Edge Hill and Sefton Park	17	127
Wavertree	1,460	15
Fazakerley	634	—
Walton and Walton Park	27	3
Kirkdale	1	—
Netherfield	—	—
Everton	—	114
West Derby	280	108
Total within the area of the city	3,223	958
Finch House Estate	536*	—
Longview Farm Estate	119*	—
Total outside the city boundary	655	—
	3,878	958

* Outside the City Boundary.

Of the 3,878 dwelling-houses erected during 1937, 1,810 were built under the direction of the Housing Committee, including 687 flats, and of these, 655 houses were erected on estates outside the city boundary.

RESIDENTIAL FLATS.—During the year 1937, 36 houses were converted into 127 residential flats, giving a net increase of 91 “new” dwelling-houses,

Vital Statistics of Slum Areas and Corporation Housing Estates.

The following table is a record of vital statistics of the total number of insanitary houses in Slum Clearance Areas in the City of Liverpool represented during 1936 compared with those of the Corporation

Housing Estates for the same period.

Area.	Houses	Popula- tion	Popula- tion per house	Per- centage of total popula- tion	Births	Deaths	Infant deaths	Pul- monary tuber- culosis deaths	Birth rates	Death rates	Infant mortality rates	Pul- monary tuber- culosis death rates
Insanitary houses in Clearance Areas repre- sented during 1936 ...	3,511	17,923	5.10	2	519	265	52	25	29.0	14.8	100	1.4
Corporation Housing Estates on the out- skirts of the City ...	24,645	104,742	4.25	12	1,781	947	117	98	17.0	9.0	66	0.9
City of Liverpool ...	193,709	867,110	4.5	100	17,403	11,183	1,311	713	20.1	12.9	75	0.8

General Statistics.

Area of City	27,321 acres.
Estimated Population	867,110
Number of inhabited houses at 31st December, 1937	194,781
Number of structurally separate dwellings occupied (1931 Census)...	173,938
Rateable value	£6,694,468
Sum represented by a Penny Rate	£24,636
Number of New Houses erected during the year :—	
(i) By the Local Authority (of which 119 were built without subsidy)	1,810
(ii) By other bodies or persons	2,068

WELFARE OF THE BLIND.

During 1937, 342 applicants for benefits due to the blind under the Blind Persons Act, 1920, were examined by ophthalmic surgeons. Of these, 217 were found to be blind within the meaning of the Act and 125 were not blind. The corresponding figures for 1936 were 358 applicants, of whom 208 were blind.

Two "blind" persons were re-examined during the year because there was reason to believe that they were no longer blind within the meaning of the Blind Persons Act. Both 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 +	3	1	4
5 +	20	14	34
16 +	19	11	30
21 +	143	112	255
40 +	106	84	190
50 +	287	291	578
65 +	100	116	216
70 +	212	392	604
	<u>890</u>	<u>1,021</u>	<u>1,911</u>

In Table II, 1,873 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	147	53	200
Trained but not employed	10	—	10
Under training	17	11	28
Trainable but not under training	13	3	16
Unemployable	680	939	1,619
	867	1,006	1,873

In Table III, 182 blind persons who are suffering from some other serious physical defect, or who are mentally defective, are analysed.

TABLE III.

BLIND PERSONS WHO ARE PHYSICALLY OR MENTALLY DEFECTIVE.

	Males.	Females.	Total.
Mentally defective	42	21	63
Physically defective	31	30	61
Deaf	16	22	38
Combinations of above disabilities	8	12	20
	97	85	182

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 removal of the principal Shelter from Russell Street to 11, Mount Vernon Road, Edge Hill, Liverpool, 7, foreshadowed in the last report, was duly completed in the Spring of 1937. The new premises have been specially adapted and fitted up and the work has gone on with much more facility in consequence. The total number of animals handled at the Liverpool depots during 1937 was 34,191. Only 7 of these were claimed by their owners, all the rest being humanely lethalled. The Society continues to urge the public to send new-born litters straight to the Shelters unless good homes are assured for them. This seems the only practicable method of reducing the immense stream of superfluous animals. Of the total mentioned above the collecting van brought in 13,286, including a number of litters. Requests for the van should be sent direct to the caretaker at the Mount Vernon Road Shelter, by postcard or by telephone (Royal 4174).

The increased accommodation enables the Society to keep strays (unless unfit to be kept) in the hope of owners claiming them, and owners are urged, on the loss of a cat, to make immediate enquiries. Other Shelters are at 90, Smith Street, Kirkdale, Liverpool, 4, and at 230, Mill Street, Toxteth, Liverpool, 8. Boarder cats are received at Mount Vernon Road and at Smith Street.

LIVERPOOL HORSES' REST.

A removal has to be recorded in respect to the Horses' Rest as well as the Cats' Shelter. As mentioned a year ago the Broadgreen Estate had been sold and a new Estate at Halewood, known as Lodge Farm had been purchased. An extensive range of stabling and loose-boxes complete with all necessary adjuncts, together with houses for the keeper and his assistant, has now been erected and is well occupied. The Public Opening Ceremony was held on September 28th, 1937, when the Deputy Lord Mayor (Councillor R. J. Hall), accompanied by the Lady Mayoress, presided over a large and distinguished assembly, the premises being formally opened by Sir Robert Gower, M.P., Chairman of the R.S.P.C.A., London. A new ambulance has been presented to the Society and is used for bringing animals to and from the pastures. One hundred and forty-four horses, donkeys and ponies were grazed and rested during 1937, a substantial advance on previous figures.

LIVERPOOL ANIMAL CLINIC.

At the Larch Lea and Mill Street premises the total attendances last year numbered 9,662, and in addition 251 in-patients were treated at Larch Lea, where also 88 major operations were conducted. All this work is carried out on the animals of people who cannot afford to pay veterinary charges, and the Clinics are served by practising Veterinary Surgeons who attend in rotation on an honorary footing.

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.

The increase in the animals received at the above, which was recorded in 1936, continued throughout 1937, the total number being 10,194, more than 500 in excess of the previous year. Eight hundred and eight were restored to their owners, 704 were sold to good homes, and 554 boarders were accommodated. The number cremated was 102. The two motor-vans which call at the police stations and at private houses for stray and unwanted animals were kept busy throughout the year, and at the very close of the year arrangements were made to replace one of these vans by a new vehicle. The van will be sent for an unwanted dog, or litter, on application to the Keeper, Dogs' Home, Edge Lane, Liverpool, 7 (Telephone, Old Swan 1340).

The Committee urges the public not to keep new-born litters at all unless they are sure of suitable homes, but to send them to the Home immediately, retaining perhaps one male puppy. Thanks to the cheap and ready facilities for collecting unwanted animals the total number picked up on the streets by the police was substantially exceeded by the number brought direct to the Home or collected by the van, the former being 4,490 and the latter 5,296. The city office is at 3, Crosshall Street, Liverpool, 1 (Telephone Central 645). The Liverpool Dogs' Home is an independent charity not connected with any other animal society.

APPENDIX A

CITY OF LIVERPOOL.

Vital Statistics of the Whole District during 1937 and 5 previous years.

Year.	Population estimated to Middle of each year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NET DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Net.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 year of age.		At all ages.	
			Number.	Rate.					Number.	Rate per 1000 Net Births.	Number.	Rate.
1932.....	861935	18548	18149	21·0	12644	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
1936.....	867110	18398	17403	20·1	12118	14·0	1290	355	1311	75	11183	12·9
1937.....	867110	18051	16728	19·3	12388	14·3	1298	362	1371	82	11452	13·2

CITY OF LIVERPOOL

Final Statement of the Waste District during 1837 and 5 previous years

Waste District	Number of Houses	Number of Inhabitants	Total Tonnage Registered in the District	Tonnage of Refuse	
				At Home	At Work
1837	12,000	120,000	1,200	1,000	200
1836	11,500	115,000	1,150	950	200
1835	11,000	110,000	1,100	900	200
1834	10,500	105,000	1,050	850	200
1833	10,000	100,000	1,000	800	200
1832	9,500	95,000	950	750	200
1831	9,000	90,000	900	700	200
1830	8,500	85,000	850	650	200
1829	8,000	80,000	800	600	200
1828	7,500	75,000	750	550	200
1827	7,000	70,000	700	500	200

APPENDIX B.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1937.

England and Wales, London, 125 County Boroughs and Great Towns, and 148 Smaller Towns. (Provisional Figures)

	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.	Diarrhoea 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 ...	14.9	0.63	12.4	0.00	...	0.02	0.01	0.04	0.07	0.45	0.54	5.8	58	}	Not	a	available.	
125 County Boroughs and Great Towns, including London ...	14.9	0.67	12.5	0.01	...	0.03	0.01	0.04	0.08	0.39	0.45	7.9	62					
148 Smaller Towns (Resident Populations 25,000 to 50,000 at Census 1931)	15.3	0.64	11.9	0.00	...	0.02	0.01	0.03	0.05	0.42	0.42	3.2	55					
London ...	13.3	0.54	12.3	0.00	...	0.01	0.01	0.06	0.05	0.38	0.51	12.0	60					
Liverpool ...	19.3	0.71	13.2	0.02	...	0.14	0.01	0.14	0.17	0.26	0.42	10.4	82	94.7	2.7	2.4	0.2	

The maternal mortality rates for England and Wales are as follows: per 1,000 Total Births ... Puerperal Sepsis, 0.94 Others, 2.17 Total, 3.11

* The rates for Liverpool have been calculated on a population estimated locally to the middle of 1937.

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1937.

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	11431	1368	430	149	311	423	1174	3012	4564	11763
Uncertified	21	3	—	—	—	—	3	7	8	—
1. Typhoid and Paratyphoid Fevers	16	3	1	3	—	4	4	1	—	17
2. Measles	120	23	72	20	5	—	—	—	—	128
3. Scarlet Fever	8	—	3	3	1	—	1	—	—	9
4. Whooping Cough	122	61	48	11	2	—	—	—	—	130
5. Diphtheria	148	8	27	34	76	3	—	—	—	154
6. Influenza	228	6	6	2	4	5	41	79	85	239
7. Encephalitis Lethargica	16	—	—	—	—	1	7	6	2	17
8. Cerebro-spinal Fever	47	17	15	3	3	3	6	—	—	59
9. Tuberculosis of Respiratory System	684	3	3	3	11	166	245	217	36	770
10. Other Tuberculous Diseases	112	14	18	11	20	20	15	13	1	130
11. Syphilis	48	4	—	—	—	1	11	21	11	53
12. General Paralysis of the Insane	23	—	—	—	—	—	5	17	1	23
13. Cancer	1292	—	1	2	2	9	108	580	590	1466
14. Diabetes	103	—	—	—	1	2	7	47	46	119
15. Cerebral Haemorrhage	494	—	—	—	—	1	15	153	325	547
16. Heart Disease	2460	1	1	3	20	45	178	717	1495	2635
17. Aneurysm	15	—	—	—	—	—	3	6	6	22
18. Other Circulatory Diseases	720	—	—	—	—	1	7	169	543	781
19. Bronchitis	319	30	6	1	3	3	19	87	170	330
20. Pneumonia (all forms)	1170	291	133	26	26	35	131	268	260	1323
21. Other Respiratory Diseases	101	4	6	3	4	5	14	35	30	112
22. Peptic Ulcer	97	—	—	—	—	2	28	51	16	121
23. Diarrhoea, etc.	207	151	26	2	2	2	—	14	10	227
24. Appendicitis	39	—	1	—	10	5	7	7	9	51
25. Cirrhosis of Liver	8	—	—	—	1	—	1	6	—	9
26. Other Diseases of Liver	56	1	—	—	—	1	6	22	26	72
27. Other Digestive Diseases	182	17	10	4	9	2	22	58	60	217
28. Acute and Chronic Nephritis	287	1	1	—	10	14	28	97	136	338
29. Puerperal Sepsis	10	—	—	—	—	1	9	—	—	17
30. Other Puerperal Causes	30	—	—	—	—	2	27	1	—	39
31. Congenital Debility, Premature Birth, Malformations, etc.	560	551	3	1	2	1	2	—	—	647
32. Senility	346	—	—	—	—	—	—	18	328	378
33. Suicide	63	—	—	—	—	5	22	26	10	68
34. Other Violence	303	12	13	7	35	35	61	60	80	347
35. Other Defined Causes	1006	173	36	10	64	49	147	240	287	1156
36. Causes Ill-defined or unknown.....	12	—	—	—	—	—	—	3	9	12
TOTALS	11452	1371	430	149	311	423	1177	3019	4572	12763

CITY OF LIVERPOOL.

Causes of, and year of Death during the year

Causes of Death.	At all ages.	Males.					Females.				
		Under 5 years.	5 to 15 years.	15 to 25 years.	25 to 45 years.	45 years and over.	Under 5 years.	5 to 15 years.	15 to 25 years.	25 to 45 years.	45 years and over.
All Causes	11431	12871	4004	119	210	511	12871	4004	119	210	511
Provided	31	3	—	—	—	—	31	3	—	—	—
Unprovided	11400	12868	4004	119	210	511	12840	4001	119	210	511
Typhoid and Paratyphoid Fevers	16	78	41	—	—	—	16	78	41	—	—
Measles	120	250	72	—	—	—	120	250	72	—	—
Scarlet Fever	8	—	—	—	—	—	8	—	—	—	—
Whooping Cough	173	611	42	—	—	—	173	611	42	—	—
Diphtheria	148	181	17	—	—	—	148	181	17	—	—
Influenza	328	602	100	—	—	—	328	602	100	—	—
Pharyngeal Catarrhs	10	—	—	—	—	—	10	—	—	—	—
Pharyngeal Fever	47	43	—	—	—	—	47	43	—	—	—
Tuberculosis of Respiratory System	654	107	—	—	—	—	654	107	—	—	—
Other Tuberculous Diseases	112	161	13	—	—	—	112	161	13	—	—
Erysipelas	28	—	—	—	—	—	28	—	—	—	—
Gonorrhoea of the Uterus	23	—	—	—	—	—	23	—	—	—	—
Cancer	107	—	—	—	—	—	107	—	—	—	—
Diarrhoea	103	—	—	—	—	—	103	—	—	—	—
Cholera	44	—	—	—	—	—	44	—	—	—	—
Heart Disease	1240	1240	704	107	—	—	1240	1240	704	107	—
Stroke	10	—	—	—	—	—	10	—	—	—	—
Other Cerebrovascular Diseases	700	—	—	—	—	—	700	—	—	—	—
Diseases of the Lungs	1410	120	78	—	—	—	1410	120	78	—	—
Pneumonia (all forms)	1170	278	103	—	—	—	1170	278	103	—	—
Other Respiratory Diseases	161	4	—	—	—	—	161	4	—	—	—
Pleurisy	197	—	—	—	—	—	197	—	—	—	—
Bronchitis	507	131	—	—	—	—	507	131	—	—	—
Asthma	20	—	—	—	—	—	20	—	—	—	—
Gonorrhoea of Liver	8	—	—	—	—	—	8	—	—	—	—
Other Diseases of Liver	28	—	—	—	—	—	28	—	—	—	—

CITY OF LIVERPOOL.

Infant Mortality during the year 1937.

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	...	...	...	...	...	315	66	58	46	485	251	283	195	148	1362
	Uncertified	...	...	...	...	...	9	—	—	—	9	—	—	—	—	9
Typhoid Fever	...	...	...	...	...	...	—	—	—	1	1	—	1	—	1	3
Chicken-pox	...	...	...	...	...	...	—	—	—	—	—	—	1	—	—	1
Measles	...	...	...	...	...	...	—	—	—	—	—	1	2	7	13	23
Scarlet Fever	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—
Whooping Cough	...	...	...	...	...	...	—	—	—	—	—	4	12	20	25	61
Diphtheria	...	...	...	...	...	...	—	—	—	—	—	1	2	2	3	8
Cerebro Spinal Fever	...	...	...	...	...	...	—	—	—	—	—	3	6	3	5	17
Influenza	...	...	...	...	...	...	—	—	—	—	—	—	3	2	1	6
Dysentery	...	...	...	...	...	...	—	—	—	—	—	1	—	3	—	4
Erysipelas	...	...	...	...	...	...	—	—	—	—	—	2	5	—	1	8
Pulmonary Tuberculosis	...	...	...	...	...	...	—	—	—	—	—	—	1	1	1	3
Tuberculous Meningitis	...	...	...	...	...	...	—	—	—	—	—	—	—	5	1	6
Other Tuberculous Diseases	...	...	...	...	...	...	—	—	—	—	—	1	3	4	—	8
Meningitis (not Tuberculous)	...	...	...	...	...	...	—	1	—	—	1	2	1	—	1	5
Convulsions	...	...	...	...	...	...	4	—	1	—	5	1	2	1	2	11
Bronchitis	...	...	...	...	...	...	—	1	1	1	3	11	8	6	2	30
Pneumonia (all forms)	...	...	...	...	...	...	5	4	9	14	32	69	83	56	51	291
Diarrhoea	...	...	...	...	...	...	—	1	—	—	1	3	8	5	2	19
Enteritis	...	...	...	...	...	...	—	3	2	4	9	22	50	33	18	132
Other Diseases of Stomach	...	...	...	...	...	...	1	—	—	—	1	1	1	1	—	4
Syphilis	...	...	...	...	...	...	—	—	—	—	—	2	2	—	—	4
Rickets	...	...	...	...	...	...	—	—	—	—	—	—	—	1	2	3
Suffocation	...	...	...	...	...	...	1	—	1	—	2	3	2	—	—	7
Injury at Birth	...	...	...	...	...	...	39	9	1	—	49	2	—	1	—	52
Atelectasis	...	...	...	...	...	...	28	4	—	—	32	1	—	—	—	33
Malformations	...	...	...	...	...	...	25	10	7	5	47	23	14	6	—	90
Premature Birth	...	...	...	...	...	...	206	23	21	11	261	40	—	—	—	301
Atrophy, Debility and Marasmus...	...	...	...	...	...	...	9	3	5	5	22	22	9	1	1	55
Other Causes	...	...	...	...	...	...	6	7	10	5	28	36	67	37	18	186
							324	66	58	46	494	251	283	195	148	1371

Net Births in the year { Legitimate ... 15,978
 { Illegitimate ... 760

Net Deaths in the year of

{ Legitimate Infants 1,291
 { Illegitimate Infants 80

APPENDIX E.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1937.

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	3188	9	67	157	206	266	1448	653	200	153	18	11	—	1284	8
Diphtheria	2465	22	93	167	213	221	1111	346	118	135	21	17	1	2424	148
Enteric Fever (including Para- typhoid)	151	5	4	3	5	7	32	15	26	30	13	11	—	141	16
Puerperal Fever	33	—	—	—	—	—	—	—	—	28	5	—	—	27	10
Puerperal Pyrexia	412	—	—	—	—	—	—	—	25	335	49	3	—	387	—
Pneumonia	1941	155	132	100	65	54	140	53	160	396	204	358	124	726	448
Cerebro-spinal Fever	94	31	10	11	3	6	11	4	5	10	2	1	—	94	47
Poliomyelitis and Polioencephalitis ..	6	—	2	1	—	—	1	1	—	1	—	—	—	6	—
Encephalitis Lethargica	16	—	—	—	—	—	—	—	—	5	1	8	2	15	16
Dysentery	77	13	8	12	6	5	12	4	3	8	1	5	—	75	7
Ophthalmia Neonatorum	785	785	—	—	—	—	—	—	—	—	—	—	—	233	—
Erysipelas	677	23	13	9	4	2	21	36	43	94	107	240	85	311	17
Malaria	138	—	—	—	—	—	1	—	27	67	23	20	—	102	6
Anthrax	4	—	—	—	—	—	—	—	—	1	3	—	—	4	—
*Measles	4108	248	458	453	451	471	1843	131	24	27	2	—	—	631	120
*Chickenpox	1759	21	42	31	102	75	1294	181	7	4	1	—	1	150	2
TOTALS	15854	1312	829	944	1055	1107	5914	1424	638	1294	450	674	213	6610	845

* Measles and Chickenpox were voluntarily notifiable from October 31st, 1920, until May 9th, 1937, when they were removed from the list of notifiable diseases.

APPENDIX

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the

DISEASE.	All Ages.	Under 1.	1—2.	2—3.	3—4.	4—5.	5—10.	10—15.	15—20.	NUMBER OF CASES REPORTED.																
										1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.					
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Diphtheria	877	23	13	9	41	4	12	21	43																	
Epidemic Typhus	782	782	—	—	—	—	—	—	—																	
Scarlet Fever	77	13	8	42	0	12	12	16	13																	
Epidemic Typhus	10	—	—	—	—	—	—	—	—																	
Measles and Rubella	8	—	2	—	—	—	—	—	—																	
Epidemic Typhus	64	21	10	11	2	108	14	14	10																	
Scarlet Fever	1241	100	122	100	2402	582	120	20	1207																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	582	120	20	1207																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	412	—	—	—	—	—	—	—	—																	
Scarlet Fever	32	—	—	—	—	—	—	—	—																	
Epidemic Typhus	181	0	4	2	0	112	22	43	28																	
Scarlet Fever	2102	22	23	187	2212	221	101	202	112																	
Epidemic Typhus	4100	100	122	100	2402	58																				

CITY OF LIVERPOOL
DEATHS REGISTERED DURING THE YEAR 1937

APPENDIX F.

100	100
90	90
80	80
70	70
60	60
50	50
40	40
30	30
20	20
10	10
0	0