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PUBLIC HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1939

BY

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

Medical Officer of Health.



LIVERPOOL

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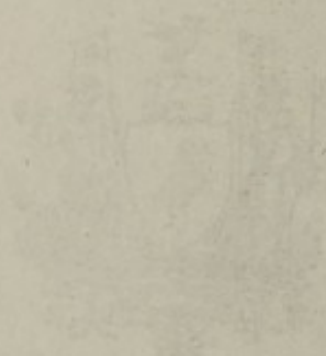
1940

PUBLIC HEALTH DEPARTMENT.

REPORT

CITY OF LIVERPOOL

1898



Printed by the City of Liverpool, at the City of Liverpool, at the City of Liverpool.

Staff of the Public Health Department.

1939.

Medical Officer of Health :

W. M. FRAZER, O.B.E., 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-seven Health Visitors, etc.

Twelve Temporary Health Visitors.

Seventeen Probationer Health Visitors.

Three Assistants to Inspector of Midwives.

Two Ophthalmia Neonatorum Nurses.

Fifty-seven Municipal Midwives.

Superintendent and Fifty Assistants at Infant Milk Centres.

Five Assistants at Cleansing Stations.

Three Caretakers at Welfare Clinics.

Carnegie Welfare Centre.

One Matron.

One Sister.

One Domestic.

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), (to Sept. 29th).

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).

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

N. S. TAYLOR, M.B., Ch.B., (to Aug. 26th).

S. WALKER, M.B., Ch.B. (from Dec. 12th).

C. MCGIBBON, M.B., Ch.B. (from Dec. 1st).

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 Officers: E. A. BURNS, M.D., B.Ch., B.A.O.

L. DENIL, M.B., Ch.B., D.P.H.

Two Assistant Resident Medical Officers.

City Hospital, North.

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

Resident Medical Officer: R. WHEELER, M.B., Ch.B., M.R.C.S., L.R.C.P. (to Aug. 1st.)

A. F. GRANGER, M.B., Ch.B. (from Aug. 1st).

City Hospital, South.

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

Resident Medical Officer: E. W. EVANS, M.B., Ch.B. (to Aug. 31st).

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.

Two Assistant Resident Medical Officers.

†*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.

Two Assistant Resident Medical Officers.

Cleaver Sanatorium.

Matron: Miss D. KELSALL.

Resident Medical Officer: JEAN S. TAYLOR, M.B., Ch.B.

Medical Superintendent: W. CRANE, M.D., B.Ch. B.A.O., D.P.H., (from Sept., 1st).

*As from Sept. 1st, classified as Emergency Hospitals.

†Included in the Emergency Medical Service Scheme.

‡As from Sept. 1st, loaned to Royal Southern Hospital as Emergency Hospital

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.

Deputy Medical Superintendent:—A. MARTINEZ, M.D.

Senior Resident Assistant Medical Officers: J. MARTINEZ, M.D., F.R.C.S., B.S.
T. LENNON, M.D., D.C.O.G.
B. WILLIAMS, M.D., F.R.C.S.,
M.C.O.G.

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

†Mill Road Infirmary.

Medical Superintendent: L. FINDLAY, M.D.

Matron: Miss G. RIDING.

Deputy Medical Superintendent: H. B. BAGSHAW, M.A., F.R.C.S., L.R.C.P.

Senior Resident Assistant Medical Officer: A. HINDHAUGH, F.R.C.S.

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.

Deputy Medical Superintendent: E. S. SMITH, M.D.

Senior Resident Assistant Medical Officers: G. CUTTLE, L.M.S.S.A., D.P.H.
E. W. LITTLE, M.B., Ch.B. (to July 21st).
O. L. STEVENSON, F.R.C.S. (from July 21st).

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.

Deputy Medical Superintendent: E. C. R. COUPER, M.B., Ch.B., F.R.F.P.S.

Senior Resident Assistant Medical Officers: M. BABER, B.Sc., M.R.C.S., L.R.C.P.
M. WILLIAMS, M.B., Ch.B., B.Sc.,
M.R.C.P.

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

Two Resident Assistant Medical Officers: (from Sept. 1st).

Mixed Institutions.

†*Belmont Road Institution.

Master: G. CHAPLIN.

Matron: Mrs. A. CHAPLIN.

One Resident Assistant Medical Officer (from Sept. 1st).

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

Two Assistant Visiting Medical Officers.

Visiting Surgeon: J. T. MORRISON, O.B.E., M.B., F.R.C.S., L.R.C.P.

Visiting Physician: J. MURRAY BLIGH, M.D., F.R.C.P.

Kirkdale Homes.

Master: H. T. SALTER.

Matron: Mrs. D. SALTER.

Visiting Medical Officer: C. GODFREY, M.B., B.Ch., B.A.O.

*As from Sept. 1st, classified as Emergency Hospital.

†Included in the Emergency Medical Service Scheme.

Certified Institution for Mentally Defective Children.

Seafield House.

Superintendent : A. ARMITAGE.

Matron : Mrs. E. ARMITAGE.

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

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 : D. LUCAS, M.R.San.I.

Three Divisional Inspectors.

One Senior Inspector of Lodging and Sub-let Houses.

One Senior Shops Inspector.

One Senior Factory Inspector.

Five Shops Inspectors.

Four Factory Inspectors.

One Bakehouse and Cafe Inspector.

Two Offensive Trades Inspectors.

Nine Housing Inspectors.

Forty-eight Sanitary Inspectors.

One Canal Boat Inspector.

Ten Ratcatchers.

One Motor-van Driver.

Smoke Inspectors.

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

One Assistant Smoke Inspector.

Food Inspection.

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

Eleven Inspectors.

Chief Inspector Food and Drugs : A. D. H. JOHNSTONE, Certs., R.San.I., M.S.I.A.

Four Inspectors.

Two Inspectors of Dairies and Cowsheds.

Ambulance and Disinfecting Staff.

Superintendent : T. C. CAMPSIE.

Deputy Superintendent : H. WRIGHT.

Seven Disinfectors.

Seven Ambulance Orderlies.

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

Forty-six 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,

LIVERPOOL,

7th November, 1940.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you herewith my ninth Annual Report, relating to the health of the City of Liverpool.

Owing to the war, and in order to comply with the Ministry of Health's circular on the subject, the report has been considerably curtailed. The various modifications suggested by the Minister have been carried out and the text has been limited to matters of special interest.

I desire to acknowledge figures and information for inclusion in the Report from the various Heads of Departments and also from the officers of the various voluntary hospitals and charitable institutions.

The estimated mid-year resident population for the year was 822,400 and the natural increase of births over deaths was 4,946. This increase, however, was cancelled by migration of part of the population to newly-erected houses outside the city boundary prior to the beginning of the war.

The total number of births was 15,614, giving a birth-rate of 19.0 per 1,000 as contrasted with a figure of 19.6 for the previous year. The total number of deaths from all causes was 10,668, giving a general death-rate of 13.3 as compared with 12.3 in 1938. Infantile mortality showed a rate of 71 per 1,000 births and is the lowest ever recorded for the city.

The birth-rate of 19.0 per 1,000 is a slight decrease over that of the previous year, but is still higher than that of England and Wales, which is 15.0 per 1,000. Five deaths occurred from puerperal fever as contrasted with eleven in 1938, and the maternal mortality rate of 1.86 per 1,000 was the lowest ever recorded. A considerable decrease occurred in the number of cases of infectious disease reported to the Health Department, 10,464 cases being reported in 1939 as against 15,625 in 1938, a reduction of 5,161 cases. This reduction was shared by practically all the infectious diseases; measles showed a reduction of 2,776 cases and diphtheria a reduction of 962 cases.

There was a slight decrease in the number of deaths recorded from cancer, namely, 1,289 as compared with 1,344 in 1938. This is equivalent to a death-rate of 1.61 per 1,000 of the population. Owing to the outbreak of war, the operation of the Cancer Act, 1939, which was introduced to facilitate the diagnosis and treatment of all who are suffering or are suspected to be suffering from the disease has been postponed.

The work in connection with the demolition of insanitary property has of necessity been curtailed owing to the war and official representations by the Medical Officer of Health to the City Council were only made in respect of 814 insanitary houses.

Upon the outbreak of war all cases of infectious disease in the Bootle Infectious Diseases Hospitals were evacuated to Liverpool hospitals and it became necessary to reorganise the hospital and public health services in accordance with the scheme laid down by the Ministry of Health. Details of these changes will be found in the section of the Report dealing with the hospital service.

I should like to be permitted to express my 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 1939.

Area (land and inland water)	...	...	...	...	27,321 Acres (43 sq. miles)
Resident Population (estimated at mid Year, 1939)	...	...	...	...	822,400
Estimated Average Population (for calculation of death rates)	...	...	...	...	802,000
Number of Persons enumerated in connection with the National Register, (September, 1939)	...	...	...	...	733,191
Live Births	...	...	15,614	Live Birth rate	19.0 per 1,000 of estimated resident population.
Deaths (all causes)	...	...	10,668	Death rate	13.3 per 1,000 of estimated average population.
Deaths (under 1 year of age)	1,098	Infant Mortality rate	71 per 1,000 live births.		
Deaths from :—					
Seven principal Zymotic diseases	} 267	Zymotic death rate	} 0.33	} per 1,000 of the estimated average population.	
Pulmonary Tuberculosis	} 647	Pulmonary Tuberculosis death rate	} 0.80		
Other forms of Tuberculosis	} 99	Non Pulmonary Tuberculosis death rate	} 0.12		
Respiratory diseases	1,024	Respiratory death rate	} 1.28		
Cancer	... 1,289	Cancer death rate	} 1.61		
Maternal Deaths	...	29	Maternal Mortality rate	1.86 per 1,000 births.	

POPULATION.

The mid-year residential population for the year 1939 was estimated by the Registrar-General to be 822,400. This figure was used for the calculation of birth-rates in accordance with the Ministry of Health's Circular No. 1961.

During the last quarter of the year the deaths of non-civilians were excluded and the death-rates were calculated on the Registrar-General's estimated average population, viz., 802,000.

The number of persons enumerated on September 29th in connection with the National Register was 733,191; this enumeration was carried out at a time when the movement of population to outside the city reached a high figure and consequently considerable adjustments had to be made to obtain a figure to correspond to the mid-residential population.

Populations, Births and Deaths.

The following table shows the estimated mid-year resident populations, the number of births and deaths, and the rates per 1,000 in each district of the city for the year 1939.

Registration Sub-Districts.	Acreage (Land and Inland Water.)	Estimated Mid-Year Resident Population 1939.	BIRTHS.		DEATHS.	
			Number of Births.	Rate per 1,000.	Number of Deaths.	*Rate per 1,000.
EXCHANGE ...	843	45,130	1,046	23.2	691	15.7
ABERCROMBY ...	266	22,072	401	18.2	443	20.6
ST. PETER'S ...	994	48,296	1,062	22.0	727	15.4
TOXTETH PARK ...	1,647	85,959	1,944	22.6	1,129	13.5
EDGE HILL & SEFTON PARK ...	1,468	105,746	1,589	15.1	1,411	13.7
WAVERTREE ...	10,336	103,482	1,810	17.5	1,129	11.2
FAZAKERLEY ...	5,263	68,747	1,220	17.7	693	10.3
WALTON & WALTON PARK ...	1,904	87,252	1,418	16.3	1,221	14.3
KIRKDALE ...	929	56,449	1,201	21.3	768	13.9
NETHERFIELD ...	486	68,510	1,478	21.6	862	12.9
EVERTON ...	207	26,864	575	21.4	481	18.0
WEST DERBY ...	2,978	103,893	1,870	18.0	1,113	11.0
	27,321	822,400	15,614	19.0	10,668	13.3

* Death rates have been calculated on the Registrar General's Mid-Year average population.

The following table shows the population, births and deaths, with birth and death rates, during the period 1931-1939:—

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.
1931	856,483	18,626	21·7	12,243	14·3
1932	852,146	18,149	21·3	11,370	13·3
1933	847,830	16,929	20·0	12,444	14·7
1934	843,538	17,593	20·9	11,319	13·4
1935	839,267	17,347	20·7	11,447	13·6
1936	835,018	17,403	20·9	11,183	13·4
1937	830,790	16,728	20·1	11,452	13·8
1938	826,584	16,175	19·6	10,638	12·9
1939	822,400	15,614	19·0	10,668	13·3

NOTE.—The rates have been calculated upon the corrected populations based upon the Census Returns of 1931 and the Registrar-General's mid-1939 estimated resident population.

BIRTHS.

The number of live births recorded during the year 1939 was 15,614, equal to a rate of 19·0 per 1,000 of the estimated resident mid-year population, this being the lowest birth-rate recorded for the city. Of the total births, 7,961 were males, and 7,653 were females. The number of illegitimate live births was 723 or 4·4 per cent. of the total births, 357 being males and 366 females.

The birth-rate in the City of Liverpool was considerably above the average of the great towns, which was 14·8 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was 15·0 per 1,000.

The number of still-births registered was 631 as shown in the table below. This represented 38·9 per thousand of the total (live and still) births registered and 0·77 per 1,000 of the estimated population.

	LIVE BIRTHS.			STILL BIRTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.
Legitimate ...	7,604	7,287	14,891	315	286	601
Illegitimate ...	357	366	723	18	12	30
	7,961	7,653	15,614	333	298	631

DEATHS.

The total deaths registered during the year numbered 10,668 (5,453 males and 5,215 females), equal to a death-rate of 13·3 per 1,000 of the estimated average population. During the period since the commencement of the war the deaths of non-civilians were excluded for tabula-

tion elsewhere. The death-rate for England and Wales was 12·1 and that of the great towns was 12·0.

The adjusted death-rate for Liverpool, i.e., the crude death-rate modified by the A.C.F. (areal comparability factor) was 15·3.

The Short List of Causes of Death appears in Appendix C, and fuller details as to the causes of death are set out in Appendix F.

The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1939 :—

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
1938 ...	16	1	3	4	5	7	13	20	22	9	100
1939 ...	13	1	3	4	4	7	14	21	23	10	100
1935-1939 (average)	16	2	3	5	5	6	13	20	21	9	100

ANALYSIS OF CAUSES OF MORTALITY.

Deaths from certain Groups of Diseases in each decade from 1871 to 1930, and during 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938 and 1939.

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
1938	543	769	1,235	527	3,074	1,344	10,638
1939	285	746	1,181	480	2,692	1,289	10,668

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
1938	5.1	7.2	11.6	4.9	28.8	12.6	100.0
1939	2.7	7.0	11.1	4.5	25.2	12.1	100.0

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
1938	0.6	0.9	1.4	0.6	3.5	1.5	12.3
1939	0.3	0.9	1.5	0.6	3.8	1.6	13.3

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
1938	11.5	25.0	24.6	21.4	20.2	375.0	43.1
1939	5.8	25.0	26.3	21.4	19.1	400.0	46.7

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 1939 in Liverpool.

1939.	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	*71	7.5	2.7	1.7	1.9	2.9	4.1	7.4	17.6	46.8	116.3	281.2	13.3
Total Number of Deaths at each Age-Period ...	1,098	120	127	136	286	408	471	746	1,454	2,291	2,441	1,090	10,668
Estimated Resident Population ...	16,427	16,013	46,801	80,841	150,123	140,846	114,660	100,271	82,605	48,949	20,988	3,876	822,400

* 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 7,044, and included 1,288 persons who were non-residents in the city area.

Infant Mortality.

The following table shows the deaths and death-rates of infants under one year of age for the year 1939 :—

					Infant Deaths.	Infant Death Rates.
All Infants	...	...	...	...	1,098	71 per 1,000 live births.
Legitimate Infants	...	...	...	...	1,022	69 „ legitimate live births.
Illegitimate Infants	...	...	...	...	76	105 „ illegitimate live births.

The infant mortality rate for 1939, viz., 71 per 1,000 births was the lowest recorded for the city.

The following table shows the average yearly number of deaths of infants below one year of age and the rate per 1,000 births during the last four decennial periods :—

Years.	Average Yearly No. of deaths below one year of age.	Average Yearly Rate per 1,000 births.
1900—1909	3,892	164
1910—1919	2,722	129
1920—1929	2,078	100
1930—1939	1,442	83

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 1939 is shown in the following table. The detailed causes of death are set out in Appendix D.

DISTRICTS.	Number of births.		Number of deaths under 1 year of age.		Deaths under 1 year, per 1,000 births. 1939.	
	1939.		1939.			
Exchange	1,046		105		100	
Abercromby	401		74		184	
St. Peter's	1,062		90		85	
Toxteth Park	1,944		97		45	
Edge Hill and Sefton Park	1,589		121		76	
Wavertree	1,810		95		52	
Fazakerley	1,220		82		67	
Walton & Walton Park ...	1,418		88		62	
Kirkdale	1,201		95		79	
Netherfield	1,478		93		63	
Everton	575		60		104	
West Derby	1,870		98		52	
City	15,614		1,098		71	

**Analysis of causes of Infant Mortality in successive quinquennia 1896-1935,
and the years 1936, 1937, 1938 and 1939. (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
1938	16,175	1,189	122	12	106	266	128	508	15
1939	15,614	1,098	53	13	136	222	109	515	20

(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
1938	18·7	73	7·5	0·7	6·5	16·4	7·9	31·4	0·9
1939	19·0	71	3·4	0·8	8·7	14·2	7·0	33·0	1·3

* 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 Exter- Caus
1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100
1901/1905	100·0	91·0	102·3	89·3	95·9	91·5	76·5	94·0	65
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	25
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	16
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	11
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	10
1936	60·2	39·6	67·7	12·9	21·7	48·4	14·4	70·0	9
1937	57·8	43·5	73·2	16·1	34·4	60·6	17·7	63·3	9
1938	56·0	38·6	59·1	11·3	29·4	51·2	13·8	61·6	8
1939	56·9	37·5	26·8	12·9	63·9	44·4	12·3	64·7	8

Deaths from Diabetes.

The following table shows the incidence of fatal cases of diabetes in Liverpool during the last five years:—

	Actual Numbers.			Rate per 100,000 population.	Ratio of males to females.
	Males.	Females.	Total.		
1935	18	60	78	9·0	0·30
1936	32	56	88	10·1	0·57
1937	37	66	103	11·9	0·56
1938	39	51	90	10·4	0·76
1939	52	84	136	17·0	0·62

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 1939 there were 1,289 deaths attributed to cancer, equivalent to a rate of 1.6 per thousand.

DEATHS FROM CANCER AT VARIOUS AGE-PERIODS, 1939.

Organs Affected.	Males.	Females.	Number of Deaths.									All Ages
			At Ages—Years									
			Under 10	10-	25-	40-	50-	60-	70-	75-	80-	
Buccal Cavity	72	9	—	1	3	1	12	36	12	12	4	81
Stomach	185	139	—	1	12	28	75	119	47	28	14	324
Liver ...	20	22	1	—	—	3	10	14	6	4	4	42
Intestines	137	156	—	1	7	24	50	107	57	23	24	293
Lungs ...	101	28	—	—	6	24	41	43	11	3	1	129
Female Genital Organs	—	112	—	—	6	20	34	27	15	7	3	112
Breast ...	1	101	—	—	2	21	28	36	5	5	5	102
Skin ...	10	10	—	—	1	—	2	5	4	5	3	20
Other Organs	112	74	6	3	14	17	31	59	31	12	13	186
	638	651	7	6	51	138	283	446	188	99	71	1,289

Deaths due to Rheumatic Fever, Pericarditis and Acute Endocarditis (during 1939).

	Males.	Females.		Males.	Females.
Rheumatic Fever ...	8	32	Monthly Distribution of Rheumatic Fever Deaths.	January ...	2 3
Pericarditis ...	3	6		February ...	1 4
Acute Endocarditis ...	7	8		March ...	1 4
TOTALS ...	18	46		April ...	— 4
				May ...	— 2
				June ...	1 1
				July ...	1 3
				August ...	1 2
				September ...	1 —
				October ...	— 4
				November ...	— 1
				December ...	— 2
Deaths from Scarlet Fever ...	4			Inward Transfers ...	— 2

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.

1939.	Barometer.	Temperature.	RAINFALL.		Mean Humidity of the air (Complete Saturation 100%).
	Mean.	Mean.	Amount.	No. of days on which 0·01 in. or more fell.	
	Inches.	Degrees F.	Inches.		
January	29·589	40·2	4·252	21	83·4
February	29·980	42·9	2·146	14	82·5
March	30·019	42·7	1·555	15	81·0
April	29·927	47·7	2·024	15	78·5
May	30·104	52·2	1·303	9	77·6
June	30·025	57·9	2·535	14	71·4
July	29·809	58·8	6·118	21	85·3
August	30·015	61·6	2·185	10	81·8
September	30·153	57·6	0·748	6	79·3
October	29·916	47·8	2·594	15	81·2
November	29·757	48·2	4·409	24	85·4
December	30·000	40·4	2·311	12	88·6

**Difference from the Average Quantities observed during
the last 73 years.**

1939.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees F.	Degrees F.	Inches.	Inches.
January .....	...	0.334	0.3	...	2.008	...
February	0.051	...	2.5	...	0.402	...
March	0.122	...	0.5	...	...	0.192
April	0.024	...	1.1	...	0.369	...
May	0.136	...	0.2	...	...	0.704
June	0.033	...	0.6	...	0.441	...
July .....	...	0.134	...	1.5	3.383	...
August	0.091	...	1.7	...	...	0.912
September	0.184	...	1.4	...	...	1.977
October	0.036	...	...	1.9	...	0.740
November .....	...	0.123	4.2	...	1.798	...
December	0.144	...	...	0.3	...	0.403
Year's Totals .....	...	...	0.7	...	3.473	...

Monthly Analysis of Wind Observations during 1939.

Based on daily observations at four fixed hours.

1939.	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 .....	...	84	38	2	13	10	29	14	9	12	24	11
February	1	85	23	3	...	...	6	25	9	24	38	7
March	3	83	33	5	14	14	10	9	6	2	51	13
April	1	74	38	7	10	9	22	12	7	10	26	17
May .....	...	29	74	21	21	17	9	5	6	2	15	2
June .....	...	36	78	6	16	12	10	9	9	14	15	29
July .....	...	50	64	10	4	1	7	13	15	11	50	13
August .....	...	24	80	20	15	2	15	15	10	5	25	17
September .....	...	32	73	15	18	24	22	8	6	9	6	12
October .....	...	59	54	11	26	19	35	11	4	2	7	9
November .....	...	69	43	8	2	1	16	19	20	14	27	13
December .....	...	53	64	7	15	13	26	11	8	10	30	4
Year's Total ...	5	678	662	115	154	122	207	151	109	115	314	173

* 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.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1939:—

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

TABLE I.

MONTHLY NUMBERS OF NOTIFICATIONS OF INFECTIOUS DISEASES DURING 1939.

January	...	...	...	...	1,039
February	...	...	...	...	742
March	...	...	...	...	683
April	...	...	...	...	689
May	...	...	...	...	696
June	...	...	...	...	593
July	...	...	...	...	573
August	...	...	...	...	507
September	...	...	...	...	318
October	...	...	...	...	425
November	...	...	...	...	527
December	...	...	...	...	462
					7,254

* Notifiable as from 23rd Oct., 1939.

TABLE II.

NUMBERS OF CASES OF INFECTIOUS DISEASES COMING TO NOTICE DURING 1939,
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 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	3	4	3	5	2	3	—	10	5	1	1	1	38	35	92·1
Scarlet Fever ...	269	244	238	239	246	221	263	168	135	97	158	125	2405	1066	44·4
Measles and German Measles...	4	11	8	7	9	13	18	4	19	8	42	87	230	56	20·4
Diphtheria ...	180	180	132	172	112	104	118	82	90	129	101	103	1503	1470	97·8
Erysipelas ...	—	2	—	1	1	2	1	—	1	4	—	—	12	3	25·0
Erysipelas ...	38	30	34	55	21	21	41	38	19	32	23	23	375	344	91·7
Erysipelas ...	43	43	54	35	40	40	60	28	30	33	27	34	467	206	44·1
Cerebro-spinal Fever	8	8	8	11	7	6	4	3	4	5	2	4	70	67	95·7
Poliomyelitis and Polio-encephalitis	1	—	1	—	1	—	1	1	—	2	2	1	10	9	90·0
Ophthalmia Neonatorum ...	69	68	46	89	62	64	68	56	49	56	42	48	717	138	19·2
Pneumonia & Influenza Pneumonia	412	129	83	183	124	92	79	51	47	77	91	75	1443	557	38·6
Malaria ...	8	9	5	12	8	8	10	12	2	4	1	10	89	40	44·9
Dysentery ...	2	—	3	4	4	—	1	—	—	—	—	4	18	12	66·7
Encephalitis Lethargica ...	—	—	1	2	—	1	2	—	—	—	—	—	6	5	83·3
Whooping Cough ...	74	83	57	76	80	53	28	36	14	16	42	54	613	215	35·1
Anthrax ...	—	1	1	1	1	—	—	—	—	—	—	1	5	5	100·0
Chickenpox ...	114	115	70	88	134	277	90	22	6	3	5	9	933	144	15·4
TOTALS ...	1225	927	744	980	852	905	784	511	421	467	537	579	8932	4372	48·8

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

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.

Typhus Fever.

No case occurred in Liverpool during 1939, and no indigenous case has occurred in the city during the course of the past twenty-one years.

Anthrax.

Eight patients suffering from anthrax were treated during 1939 at the Liverpool City Hospital, Fazakerley, and all of these were residents of either Liverpool or Bootle. Six were directly engaged in the handling of either hides or wool, and the remaining two were probably infected by dust-borne spores. In the case of patient No. 77, a marine boiler-maker, it is possible that the ships on which his work was done might have carried hides at some time or other, and it is likely that he contracted the disease from the dust. Patient No. 80 is of special interest, since her daily routine was solely associated with domestic duties in her home. Her husband, however, a dock labourer, had been engaged in handling dry hides on a ship four days before the commencement of her illness, and it is probable that she became infected from the dust on his clothing.

In the course of the year, eighteen persons attended the hospital for investigation as suspected anthrax infection, but in none of these was the presence of anthrax confirmed. The conditions from which they were suffering were variously—pimples, boils, carbuncles and the like. One man came with a cut on his hand, and in this case, as on many previous occasions, serum was given prophylactically.

Cases of Anthrax treated at Liverpool City Hospital, Fazakerley, during 1939.

Age.	Sex.	Occupation.	Days ill on admission	Site of Infection.	Clinical Notes.	Serum injected daily. Each dose expressed in c.c.s.	Result
59	M.	Dock labourer	3	Below left ear.	Rapid response to treatment. Heavy serum rash.	300 c.c. 300 c.c. 300 c.c.	Recovered
47	M.	Dock labourer	7	Back of left forearm.	Severe allergic reactions, with serum rash and rigors.	90 c.c. 150 c.c.	Recovered
62	M.	Wool warehouseman	2	Right side of neck.	Marked oedema ; swelling from ear to below nipple, with dysphagia, dysphonia and dyspnoea. Heavy serum rash.	300 c.c. 300 c.c. 200 c.c. 200 c.c. 150 c.c. 150 c.c.	Recovered
52	M.	Marine boiler maker	7	Back of neck.	Superficial infection. Heavy serum rash.	200 c.c.	Recovered
39	M.	Dock labourer	4	Back of neck.	Extensive superficial infection ; copious serum rash.	300 c.c. 250 c.c.	Recovered
59	M.	Dock labourer	5	Back of neck.	Mild type ; heavy serum rash.	250 c.c. 100 c.c.	Recovered
23	F.	Housewife	2	Right temple.	Small lesion, well-marked swelling, serum rash.	150 c.c. 150 c.c.	Recovered
45	M.	Dock labourer	4	Back of neck.	Extensive swelling and induration. Swelling from occiput to below scapular angle. Copious serum rash.	280 c.c. 150 c.c. 200 c.c. 150 c.c. 150 c.c.	Recovered

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 14 cases of typhoid fever and 24 cases of paratyphoid fever.

TABLE III.
TYPHOID AND PARATYPHOID FEVER.

Type.	Cases.		Deaths.	
	Male	Female	Male	Female
Typhoid Fever	6	8	2	1
Paratyphoid—A	1	—	—	—
Paratyphoid—B	10	13	—	—
Paratyphoid—C	—	—	—	—
Unclassified	—	—	—	—

The 14 typhoid cases (of which 11 were indigenous) represent a case-rate of 0.02 per 1,000 of the population. The 24 paratyphoid cases (21 of which were indigenous) represent a case-rate of 0.03 per 1,000 of the population.

TABLE IV.
TYPHOID AND PARATYPHOID FEVER.—AGE AND SEX DISTRIBUTION.

Age	Typhoid		Paratyphoid	
	Male	Female	Male	Female
Under 1 Year	—	—	—	—
1 +	—	—	1	—
2 +	—	—	3	3
5 +	—	2	1	2
10 +	1	—	2	1
15 +	2	3	3	5
20 +	—	1	—	2
30 +	2	1	—	—
40 +	1	—	—	—
50 +	—	1	1	—
70 +	—	—	—	—
TOTAL	6	8	11	13

Of these case 3 proved fatal, equal to a mortality rate of 0.4 per 100,000 of the population.

Port Cases of Typhoid Fever.

During the year four cases of typhoid fever were imported from overseas. None of these cases is included in Tables III and IV.

Undulant Fever.

Two cases of undulant fever were reported during the year. The source of infection was not traced.

Diphtheria.

During 1939, 1,503 cases of diphtheria were reported, a case-rate of 1·8 per 1,000 of the population. Of these cases, 94 proved fatal, making a fatality rate of 6·2 per 100 cases and a mortality rate of 11·7 per 100,000 of the population.

TABLE V.
DEATHS FROM DIPHTHERIA.

DISTRICTS.	QUARTERS.								YEAR 1939.		
	March.		June.		Sept.		Dec.				Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Exchange .....	...	2	1	...	...	...	2	...	3	2	5
Abercromby	1	1	...	1	...	...	...	...	1	2	3
St. Peter's .....	...	...	2	1	1	2	2	2	5	5	10
Toxteth Park	2	1	1	...	...	...	2	1	5	2	7
Edge Hill and Sefton Park	2	2	2	1	1	...	...	2	5	5	10
Wavertree .....	...	1	...	1	...	1	2	...	2	3	5
Fazakerley	2	1	1	1	3	...	1	4	7	6	13
Walton and Walton Park.....	1	1	1	1	1	1	2	1	5	4	9
Kirkdale .....	...	2	1	2	1	...	...	2	2	6	8
Netherfield .....	...	1	1	3	1	2	3	1	5	7	12
Everton	1	...	...	...	1	...	1	1	3	1	4
West Derby	2	1	...	1	2	1	...	1	4	4	8
City	11	13	10	12	11	7	15	15	47	47	94

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
6	5	7	18	9	37	7	2	...	1	1	...	1	94

AGES OF NOTIFIED CASES.

22	61	97	154	142	585	231	116	55	30	8	1	1	1503
71%						29%							

PERCENTAGE FATALITY AT EACH AGE.

27·3	8·2	7·2	11·7	6·3	6·3	3·0	2·6	...	3·3	12·5	...	100·0	7·0
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N.B.—Death in public institutions are transferred to the districts from which the patients came.

Scarlet Fever.

During 1939, 2,403 cases of scarlet fever were reported, a case-rate of 2.9 per 1,000 of the population. Of these cases, 4 proved fatal, making a fatality-rate of 0.2 per 100 cases, and a mortality-rate of 0.5 per 100,000 of the population.

TABLE VI.
DEATHS FROM SCARLET FEVER.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.		1939.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange
Abercromby
St. Peter's
Toxteth Park
Edge Hill & Sefton Park
Wavertree
Fazakerley	1	...	...	...	1	1
Walton & Walton Park	1	1	...	...	...	...	...	1	1	2
Kirkdale	1	...	1	1
Netherfield
Everton
West Derby
City	1	1	...	...	1	...	1	1	3	4

AGES AT DEATH.

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

AGES OF NOTIFIED CASES.

17	77	134	180	244	968	428	183	107	47	13	4	1	2,403
27.1%				40.3%			17.8%	14.8%					

PERCENTAGE FATALITY AT EACH AGE.

...	...	7.5	0.1	...	0.5	0.9	0.2
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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

TABLE IX.

DIPHTHERIA—COMPARATIVE CASE-RATES DURING 1933/39 AMONG INOCULATED AND NON-INOCULATED PERSONS IN LIVERPOOL.

INOCULATED.																	
Age.	NOT INOCULATED.				INOCULATED.												
	Non-inoculated population at risk during 7 years 1933/39	Cases of diphtheria in non-inoculated persons during 1933/39	Case-rate per 1,000 p.a.		T.A.F.			M.T. Toxoid.			F.T.			A.P.T.			
					Inoculated population at risk during 7 years 1932/38	Cases of diphtheria during 1933/39	Case-rate per 1,000 p.a.	Inoculated population at risk during 7 years 1932/38	Cases of diphtheria during 1933/39	Case-rate per 1,000 p.a.	Inoculated population at risk during 6 years 1933/38	Cases of diphtheria during 1934/39	Case-rate per 1,000 p.a.	Inoculated population at risk during 4 years 1935/38	Cases of diphtheria during 1936/39	Case-rate per 1,000 p.a.	
Under 1	120,166	184	1.5		44	0	Nil	3	0	Nil	5	0	Nil	7	0	Nil	
1+	114,166	588	5.1		629	0	Nil	106	0	Nil	329	0	Nil	1,321	0	Nil	
2+	110,771	1,133	10.2		1,206	0	Nil	305	0	Nil	615	0	Nil	1,784	1	0.6	
3+	109,217	1,433	13.1		1,760	1	0.6	437	2	4.6	890	0	Nil	1,730	4	2.3	
4+	106,196	1,554	14.6		2,694	2	0.7	579	2	3.4	1,379	1	0.7	2,244	7	3.1	
5+	96,974	1,988	20.5		6,497	6	0.9	818	3	3.7	2,734	4	1.5	6,372	10	1.6	
6+	87,578	1,706	19.5		12,145	13	1.1	1,047	2	1.9	2,635	5	1.9	10,315	31	3.0	
7+	86,769	1,225	14.1		16,009	37	2.3	1,266	3	2.4	2,349	5	2.1	9,588	39	4.1	
8+	93,017	940	10.1		17,157	39	2.3	1,407	2	1.4	1,824	5	2.7	5,537	22	4.0	
9+	102,742	846	8.2		17,346	26	1.6	1,448	1	0.7	419	0	Nil	2,080	11	5.3	
Total under 10	1,027,868	11,597	11.3		75,487	124	1.6	7,416	15	2.0	13,179	20	1.5	40,978	125	3.0	
10+	4,770,855	5,136	1.1		59,384	84	1.4	14,431	11	0.7	2	0	Nil	452	3	6.6	

Inoculation against Scarlet Fever.

TABLE X.

NUMBER OF COMPLETED SCARLET FEVER INOCULATIONS.

Where or by whom inoculated.	1927- 29	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
INOCULATION CLINICS:											
Carnegie	—	60	352	508	303	366	332	294	148	104	—
Townsend Avenue	—	—	—	395	323	313	315	244	127	85	—
MUNICIPAL HOSPITALS:											
Fazakerley	—	—	165	197	121	120	99	121	79	92	1
Fever Hospitals—North, South and East	—	—	15	57	7	10	16	26	52	40	—
Alder Hey	—	—	36	111	132	143	98	108	131	123	1
Olive Mount	—	—	—	11	34	61	33	25	38	55	—
Other Hospitals	—	—	—	—	—	—	29	86	71	76	—
RESIDENTIAL SCHOOLS	107	31	26	218	465	478	202	294	108	143	—
MISCELLANEOUS	260	9	178	191	74	45	—	—	—	—	—
MEDICAL PRACTITIONERS	—	15	75	129	105	94	93	57	40	33	—
TOTALS	367	115	847	1817	1564	1630	1217	1255	794	751	5
GRAND TOTAL 10,913											

In addition, 241 Schick tests were carried out, of which 50 were positive and 404 Dick tests, of which 121 were positive.

Measles.

During 1939, 230 cases of measles were reported, 137 by notification from medical practitioners and 93 from schools, etc. The total number which was the lowest recorded for the City of Liverpool represents a case-rate of 0.3 per 1,000 of the population. The number of deaths (the lowest recorded) was 3, making a fatality-rate of 1.3 per 100 cases and a mortality-rate of 0.4 per 100,000 of the population.

TABLE XI.

DEATHS FROM MEASLES.

DISTRICTS.	QUARTERS.								YEAR 1939.			Death Rates per 100,000 Population.	
	March		June.		Sept.		Dec.						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.		
Exchange .....	...	...	...	...	...	...	...	...	...	...	...	...
Abercromby .....	...	...	...	...	...	...	...	...	...	...	...	...
St. Peter's .....	...	1	...	...	...	...	...	...	...	1	1	0·1
Toxteth Park .....	...	...	...	...	...	...	...	...	...	...	...	...
Edge Hill and Sefton Pk. ....	...	...	...	...	...	...	...	...	...	...	...	...
Wavertree .....	...	...	...	...	...	...	...	...	...	...	...	...
Fazakerley .....	...	...	...	...	...	...	1	...	1	...	1	0·1
Walton and Walton Park .....	...	...	...	...	...	...	...	...	...	...	...	...
Kirkdale	1	...	...	...	...	...	...	...	1	...	1	0·1
Netherfield .....	...	...	...	...	...	...	...	...	...	...	...	...
Everton .....	...	...	...	...	...	...	...	...	...	...	...	...
West Derby .....	...	...	...	...	...	...	...	...	...	...	...	...
City	1	1	...	...	...	...	1	...	2	1	3	0·4
AGES AT DEATH.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
2	1	3
AGES OF CASES.													
46	53	22	22	28	35	15	9					230	
PERCENTAGE FATALITY AT EACH AGE.													
4·4	...	...	...	...	2·9	...	...					1·3

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

New cases of Measles visited by the nurses
of the Health Visitors' Staff during the year... 185

Cases nursed „ „ „ ... 16

Re-visits to cases „ „ „ ... 281

Whooping Cough.

During 1939, 613 cases of whooping cough came to the notice of the Health Department, a figure representing a case-rate of 0·7 per 1,000 of the population. Of these cases 36 proved fatal, corresponding to a death-rate of 4·5 per 100,000 of the population.

Number of Deaths from Whooping Cough at various Age Periods during 1939.							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+
21	9	2	3	—	1	—	36	58	25	6	8	—	3	—

Cerebro-spinal Fever.

TABLE XII.

CEREBRO-SPINAL FEVER—CASES AND DEATHS DURING 1939 AND
NINE PREVIOUS YEARS.

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Cases	21	57	76	64	69	69	94	94	76	70
Deaths	17	47	47	45	37	33	55	47	37	28
Fatality-rate per 100 cases	81·0	82·4	61·8	70·3	53·6	48·1	58·5	50·0	48·7	40·0

Encephalitis Lethargica.

TABLE XIII.

ENCEPHALITIS LETHARGICA—CASES AND DEATHS DURING 1939 AND
NINE PREVIOUS YEARS.

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
CASES :										
Acute ...	27	35	4	4	7	2	1	0	0	0
Chronic ...			17	26	23	23	22	16	18	6
DEATHS in										
Acute cases ...	18	26	2	1	4	0	0	0	0	0
Chronic cases ...			13	20	9	22	14	5	7	3
Fatality-rate per 100 acute cases ...	—	—	50·0	25·0	57·1	—	—	—	—	—

Acute Anterior Poliomyelitis (Infantile Paralysis).

TABLE XIV.

ACUTE POLIOMYELITIS—CASES AND DEATHS DURING 1939 AND
NINE PREVIOUS YEARS.

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Cases ...	14	7	25	10	9	3	15	6	10	10
Deaths ...	6	4	11	3	3	0	1	0	3	1
Percentage of deaths to notified cases ...	42·8	57·1	44·0	30·0	33·3	—	6·7	—	30·0	10·0

Influenza and other Respiratory Diseases.

TABLE XV.

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
1938... ..	1,235	11·6	1·4	24·6
1939... ..	1,181	11·2	1·4	24·6

The following is a report kindly submitted by the Medical Research Council on investigations in connection with the Liverpool Influenza Epidemic at the beginning of the year:—

On January 5th specimens were obtained from three nurses and one hospital patient in Liverpool, who were ill with symptoms suggesting influenza. Only two of the nurses were febrile at the time of the collection of the garglings, and the garglings from these, and also of the other patient, were tested on ferrets and also in mice. Of the first three ferrets inoculated, one only developed fever, but this animal showed, when killed, a cervical abscess of the type occasionally encountered spontaneously in these animals. Passage from one of the other ferrets failed to induce any illness in another ferret, and a further two ferrets inoculated with the nurses' garglings also remained well. The inoculated mice all remained well.

On January 8th, two further garglings were obtained from patients in the Mill Road Infirmary, and these also failed to induce any illness in ferrets and mice.

From the point of view of aetiology of the Liverpool epidemic, it is not felt that the number of garglings tested warrant any dogmatic statement. However, four further epidemics in various parts of the country have since been seen, and from none of the specimens from these which have been examined has it been possible to isolate the ferret-pathogenic virus or any other pathogenic organism. In some of the epidemics, clinical data have been collected which confirm the existence of a clinical syndrome indistinguishable from that believed to be characteristic of epidemic influenza. Many of the patients, however, have shown a picture characterised by an intense catarrhal pharyngo-laryngo-tracheitis, which was encountered by us before in 1936, and which did not appear during the ferret virus epidemic of 1937. Both the "catarrhal" type of patient and the "influenzal" type have been tested in sufficient numbers during the prevailing epidemics to make it evident that the ferret virus is not recoverable from the nasopharynx. Serological investigations are at present in progress, but it seems unlikely that a rise in antibodies to the ferret virus will be demonstrated in the blood of patients convalescent from the present disease. It is obvious that, failing the isolation of a pathogenic organism from the patients, it is impossible to state that all the epidemics seen during January, 1939, have been the same disease aetiologicaly. There have, however, been broad clinical similarities between the various epidemics.

Pneumonia has not been encountered in any of the epidemics apart from that in Liverpool, but the populations involved in these other epidemics have been chiefly young and healthy.

Dysentery.

During 1939, 18 cases of bacillary dysentery were reported in the city, of which 11 cases were due to Flexner's bacillus and 7 cases to Sonne's bacillus. In addition, one case of bacillary dysentery and one case of amœbic dysentery were brought into the Port of Liverpool from overseas.

Diarrhoea and Enteritis.

TABLE XVI.

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

	Registered births 1938-39	Number of deaths in 1939	Death-rate per 1,000 births registered during 1938 and 1939
Exchange	2,312	11	4.7
Abercromby	784	5	6.4
St. Peter's	2,266	4	1.8
Toxteth Park	3,778	10	2.6
Edge Hill and Sefton Park ...	3,413	10	2.9
Wavertree	3,568	11	3.1
Fazakerley	2,530	6	2.4
Walton and Walton Park ...	2,629	5	1.9
Kirkdale	2,463	9	3.7
Netherfield	2,984	11	3.7
Everton	1,159	7	6.0
West Derby	3,903	12	3.1
	31,789	101	3.2

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

TABLE XVII.

DIARRHOEA AND ENTERITIS.—MORTALITY RATES DURING 1939 AND
NINE PREVIOUS YEARS.

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Mortality rate per 1,000 births in year of record and preceding year ...	10.3	7.2	7.2	9.2	4.4	5.8	3.7	5.1	3.7	3.2

Infectious Diseases in Schools.

There was a marked decrease in the number of cases of infectious disease reported amongst children of school age during the year; 3,964 cases, a decrease of 2,268, being reported as against 6,232 in 1938, and 8,329 in 1937. This was a real and not an apparent decrease owing to the closure of the schools, as for the first eight months of the year there was a decrease of 1,276 cases as compared with the corresponding period of 1938.

During the period the schools were open measles showed the greatest reduction, namely, that of 1,460 cases, and diphtheria a reduction of 309 cases.

It was not necessary to close any school or department on account of infectious disease. The arrangements for the inoculation of children attending the infants' departments of the public elementary schools were carried out as in previous years. For this purpose visits were paid to 45 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 total number of school children inoculated at the schools was 2,978. In addition, a considerable number of children of school age were inoculated at the two immunisation clinics, held at the Carnegie Welfare Centre and the Norris Green Clinic.

TABLE XIX.

SCHOOL CASES OF INFECTIOUS DISEASE DURING 1939.
MONTHLY DISTRIBUTION.

DISEASE.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
Diphtheria ...	125	140	121	98	90	101	80	101	49	49	54	54	1,011
Scarlet Fever ...	165	165	147	83	148	145	136	94	64	44	80	44	1,158
Measles ...	2	3	5	—	1	9	4	—	3	1	17	12	54
Whooping Cough	54	68	38	29	57	37	2	6	—	2	5	4	265
Chickenpox ...	95	89	62	76	138	280	20	9	—	—	1	1	832
Mumps ...	16	34	47	74	151	122	6	4	—	1	2	—	547
TOTALS ...	457	499	420	360	585	694	248	214	116	97	159	115	3,964

MATERNITY and CHILD WELFARE.

Live births	12,814	Live birth rate	19.0
Still-births	631	Still-birth rate	0.8
Total births	13,445		
Infant Mortality rate	11		
Neo-natal Mortality rate	1.88		
Maternal Mortality rate			

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 officials 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.

MATERNITY AND CHILD WELFARE.

In this are included:

- i. The quarterly routine visiting of midwives in their own homes.
- ii. The investigation of all matters connected with the supervision of midwives under the Midwives Acts and the Rules of the Central Midwives Board.
- iii. The visiting of lying-in homes maintained under the Liverpool Corporation Act 1921, and Midwives and Maternity Homes Act 1930, also visiting of Nursing Homes under Nursing Homes Registration Act 1927, and the Public Health Act 1936.

During the year, 254 midwives gave the required notice under section 10 of the Midwives Act, 1902, of their intention to practice midwifery in this city.

The Midwives Act, 1936.

The Midwives Act, 1936, provides for the retirement of midwives (i) on July 1, 1937, either voluntarily or compulsorily on the grounds of age; (ii) on compensation may take place during a period of three years from the passing of the Act and is a somewhat

MATERNITY and CHILD WELFARE.

Summary of Vital Statistics for 1939:—

Live births	...	15,614	Live birth rate	...	19.0
Still-births	...	631	Still-birth rate	...	0.8
		Total births	...	16,245	
Infant Mortality rate	...	...	...	...	71
Neo-natal Mortality rate	...	...	...	...	31
Maternal Mortality rate	...	...	...	...	1.86

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.
- ii. The investigation of all matters connected with the supervision of midwives under the Midwives Acts and the Rules of the Central Midwives Board.
- 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.

During the year, 254 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, provides for the retirement of midwives till 30th July, 1939, either voluntarily or compulsorily on the grounds of unfitness. 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. Of the 254 midwives who gave the required notice, under Section 10 of the Midwives Act, 1902, of their intention to practise, during 1939 the following retirements on compensation took place:—

i. Owing to ill-health	...	...	7
ii. Voluntary retirement	...	...	31

The number of municipal midwives at the end of 1939 was 54 and 3 temporary midwives.

During the year 1939 the municipal midwives attended:—

Midwifery cases	...	...	...	4,657
Maternity cases	...	...	...	279

Notification of Live and Still-Births.

A total of 7,580 births (7,403 live births and 177 still-births) were attended by midwives during the year, which represented 45 per cent. of the total (live and still) births notified in the City. The total number of births which took place in institutions during the year was 8,187 (7,729 live births=94·4 %, 458 still-births=5·6 %).

Statement of Notifications of Live and Still Births received during the Year 1939.

	1939.			Still Births per cent of total.
	Live Births.	Still Births.	Total.	
Midwives (Municipal)	4,598	103	4,701	2·2
Do. (Independent)	1,312	46	1,358	3·4
Medical Attendants	1,032	37	1,069	3·5
Liverpool Maternity Hospital.....	1,694	132	1,826	7·2
"Rest Home," Chatham Street ...	204	3	207	1·5
Transferred Institutions	5,304	287	5,591	5·1
Other Institutions	527	36	563	6·4
District Homes	1,493	28	1,521	1·8
	16,164	672	16,836	4·0

The number of still-births notified during the year was 672*, of which number 177 were notified by midwives. Enquiries were made into the circumstances of all still-births, and the number of visits paid was 546.

Routine Visits to Midwives.

During the year, 2,724 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 2,966.

Mother—

Obstructed labour, uterine inertia or requiring instrumental assistance	...	...	...	...	...	...	...	438
Ruptured perinæum	...	...	...	...	...	...	...	739
Ante-partum hæmorrhage	...	...	...	...	...	...	...	220
Pyrexia	...	...	...	...	...	...	...	109
Ante-natal treatment	...	...	...	...	...	...	...	89
Abortion or miscarriage	...	...	...	...	...	...	...	88
Post-partum hæmorrhage	...	...	...	...	...	...	...	117
Retained placenta or membranes	...	...	...	...	...	...	...	48
Varicose veins—inflamed legs, etc. (not A.N.)	...	...	...	...	...	...	...	35
Abnormal presentation:								
Various	...	...	...	...	...	...	...	389

Child—

Feebleness and prematurity	...	...	...	...	...	...	...	138
Ophthalmia	...	...	...	...	...	...	...	279
Other conditions in child	...	...	...	...	...	...	...	277

694

Total 2,966

Claims for Fees from Medical Practitioners in Emergency Cases.

During the year, 3,226 visits and re-visits were paid in regard to these accounts.

* The total number of registered still-births during the year 1939 was 631 (see page 4).

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 13.

Claims from Midwives who were suspended from Practice.

No claims were received from the six municipal midwives who were suspended from practice in order to prevent the spread of infection.

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

The number of cases of puerperal pyrexia notified during the year was 387. Of these cases 340 were admitted to or occurred in hospitals, and 47 occurred in the practice of midwives, and in 20 cases nurses were provided.

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 1930 to 1939.

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.
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
1938	16,175	639	16,814	11	0·65	22	1·31	33	1·96
1939	15,614	631	16,245	5	0·32	24	1·54	29	1·86

The maternal mortality rate for 1939, viz., 1·86 per 1,000 births was the lowest recorded for the city.

Special Investigation of Maternal Deaths.

Towards the end of 1928, a form of inquiry was issued by the Ministry of Health Maternal Mortality Committee, on 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 1939, 56 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.								1939.
1.	Puerperal Sepsis.	...	...	...	...	...	...	3
2.	Toxaemia (not eclampsia)	...	...	...	...	...	...	6
3.	Eclampsia	...	...	...	...	...	...	1
4.	Haemorrhage	...	...	...	...	...	...	5
5.	Shock	...	...	...	...	...	...	6
6.	Embolism	...	...	...	...	...	...	3
7.	Ectopic gestation	...	...	...	...	...	...	3
8.	Dystocia	...	...	...	...	...	...	6
								33
CLASS II:—DEATHS NOT PRIMARILY DUE TO PREGNANCY.								
1.	Pneumonia	...	...	...	...	...	...	5
2.	Cardiac disease	...	...	...	...	...	...	6
3.	Chronic renal disease	...	...	...	...	...	...	2
4.	Pulmonary Tuberculosis	...	...	...	...	...	...	6
5.	Unclassified	...	...	...	...	...	...	4
								23

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 717, which consisted of:—

Mild cases	649
Severe cases	68
Total	717

These cases were dealt with as follows:—

Number treated in the homes by special nurse	237
„ attended at hospital as out-patients and treated by special nurse	144
„ admitted to hospital	14
„ treated by medical attendants and special nurse	122
„ treated by medical attendants alone	157
„ treated and cured in hospital	37
„ removed from district	6
„ of cases brought forward from previous year...	35
Total	752

Number of cases cured	698
„ died under treatment	7
„ under treatment at 31/12/39	40
„ removed from district	6
„ sight lost	1
	752

In addition to the above, 36 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.
717	80	16	20.0	2.2

The total number of visits and re-visits paid in respect of the above cases was 4,950.

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 14 babies were admitted with their mothers. One was suffering from congenital blindness in the right eye.

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 two 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; three were cancelled because the keeper retired on compensation under the Midwives Act, 1936, two did not wish to continue, one removed, and one was cancelled owing to the death of the keeper. No further exemptions other than those already granted were applied for.

The Nursing Homes on the register at the end of the year numbered 30, the approximate number of beds being 231.

Babies born in Nursing Homes during the year numbered 574, 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 1939 numbered 220.

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) Attendance at Maternity and Child Welfare Centres.
- (2) Home visiting under the Public Health Act, 1936.
- (3) Special visits to cases of—
 - (a) Measles, whooping cough and pneumonia.
 - (b) Infantile diarrhoea.
- (4) Other special visits in connection with matters relating to health and welfare.

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 25 centres at which 59 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 27 by the Maternity and Child Welfare Sub-Committee. At the ante-natal clinics, specialised examination is provided, for the most part, by consultant obstetricians.

Demonstrations and talks to mothers are held at the ante-natal clinics in rotation.

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:—

Number of voluntary attendances	...	...	...	4,927
„ sent by midwives	...	...	...	3,466
„ recommended by friends	...	...	...	1,442
„ of return cases	...	...	...	3,998
„ sent by medical practitioners	...	...	...	1,358
„ „ by health visitors	...	...	...	156
„ „ by hospitals	...	...	...	469
„ „ by relieving officers	...	...	...	8

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

Total new cases	...	...	...	...	15,824
Total attendances	...	...	...	...	90,888

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.

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.

Post-natal examination of recently confined mothers.—Mothers are encouraged to attend a clinic after the birth of the infant has taken place, for the purpose of examination to ascertain the existence of any morbid condition which might have occurred owing to the confinement.

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

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—

Under 1 year of age	...	...	...	...	9,877
Aged 1-5 years	...	...	...	...	1,085
					<hr/> 10,962

Total attendances—

Under 1 year of age	...	...	...	...	111,577
Aged 1-5 years	...	...	...	...	49,321
					<hr/> 160,898

There are 24 centres at which 58 sessions are held per week.

The attendances amounted to 62 % of the births notified.

The Health Visitors' Work carried out in the Homes.

Visiting in the homes is carried out under the Public Health Act, 1936.

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.

All notified cases of measles, whooping cough and pneumonia nursed at home are 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.

During 1939, 515 children under five years of age were referred for special treatment to the school medical department as follows:

Defective vision	225
Otorrhœa	147
Orthopædic defects	143

Statistics Relating to Home Visits.

Visits to expectant mothers by health visitors 19,259

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

Number of births visited during the year	14,694
Re-visits to births during the year	64,516
Re-visits to infants of 1 year to 5 years of age	71,689

Visits paid to homes of nurse children under the Public Health Act, 1936, and Children and Young Persons Act, 1932 1,409

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

Visits to 466 cases from Alder Hey Hospital	1,411
„ „ 148 cases from Olive Mount Hospital	400

Visits to cases of infectious disease, etc.—

Visits to cases of measles (first visits, 185)	466
„ „ „ „ whooping cough (first visits, 47)	368
„ „ „ „ pneumonia	607
„ „ „ „ infantile diarrhœa	201

Child Life Protection.

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

(a) Number of persons receiving children for reward on the Register at the end of the year 1939 67

(b) Number of children on the Register.

(1) at the end of the year	88
(2) who died during the year (in homes)	5
(3) in hospitals	nil
(4) on whom inquests were held during the year	1

(c) Proceedings taken during the year nil

Neo-natal Mortality.

During the year the number of deaths of children of Liverpool residents under 28 days old (Neo-natal Deaths) amounted to 481, equal to a rate of 31 per 1,000 live births registered.

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

Deaths from Diarrhoea and Enteritis.

Results of Enquiry.

Enquiries were made into the 101 deaths of children under 2 years of age recorded during the year 1939. In a few instances, the parents could not be traced. In 13 cases, there was a prominent history of wasting or marasmus; in 11 there were respiratory complications; congenital abnormality accounted for one death, in 7 cases the infant was known to have been premature and in 31 other cases there was associated disease. In one instance where death was ascribed to enteritis there was no diarrhoea.

Three 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	...	...	...	...	...	nil
14 days and under 21 days	...	...	...	...	...	2
21 days and under 28 days	...	...	...	...	...	1

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

Social Conditions.—Ten of the children who died were illegitimate. In 44 cases the home conditions and storage of food were unsuitable; in 27 cases the father was unemployed.

Methods of feeding.—Classified according to feeding, the cases were:

Entirely breast-fed	...	...	...	...	...	5
Breast and artificial feeds at time of death	...	...	...	...	...	6
*Previously breast-fed, but artificially fed at time of death	...	...	...	...	...	73
Artificially fed entirely	...	...	...	...	...	7
No history obtainable or inadequate information	...	...	...	...	...	10

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

See also pages 34 and 35 for further details relating to diarrhoea and enteritis.

Carnegie Welfare Centre.

The Carnegie Welfare Centre wards were closed temporarily on August 28th, 1939.

Child welfare clinics are held on four afternoons per week, and two ante-natal clinics are held each week.

Observation Wards.—The number of infants admitted during 1939 was 86, and the reasons for admission were:—

1. Failure to make normal progress	...	...	...	...	23
2. Infantile Dyspepsia and Prematurity	...	...	...	...	9
3. Rickets	...	...	...	...	44
4. Observation Cases	...	...	...	...	10
Total...	...	...	...	...	86

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

Ultra-violet irradiation clinic.—Three sessions were held each week until the 28th August when the clinic was closed temporarily.

New cases during 1939	...	...	...	...	...	335
Attendances	...	...	...	...	...	4,084
Cases of rickets	...	...	...	...	...	147
Cases which failed to make normal progress	...	...	...	...	...	116
Cases of anaemia and debility	...	...	...	...	...	64

Dental Clinics.

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

Attendances at all clinics—

New cases	...	...	...	...	...	1,292
Ante-natal and post-natal mothers	...	...	...	...	...	1,162
Children	...	...	...	...	...	130
Number of extractions	...	...	...	...	...	8,714
Total attendances	...	...	...	...	...	2,380

Voluntary Day Nurseries.

The total accommodation in the Voluntary Nurseries was 161 up to the outbreak of war, when they were closed.

MILK DEPOTS.

There were 6,565 persons on the books at the beginning of the year, 14,969 were admitted during the year, and 6,791 who had milk previously and had been re-admitted, making a total of 28,325. 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 ...	686	382	255	26	576	1,925
Earle Road ...	325	386	421	70	344	1,546
Park Road ...	531	356	359	47	375	1,668
Boaler Street ...	436	337	331	34	306	1,444
Holly Street ...	695	358	191	62	354	1,660
Rathbone Road ...	134	392	291	41	128	986
Mill Street ...	100	146	127	18	110	501
Scarisbrick Road ...	177	337	175	19	433	1,141
Westminster Road	496	250	273	51	227	1,297
Agents ...	86	1	261	207	2,246	2,801
	3,666	2,945	2,684	575	5,099	14,969

The total quantity of milk supplied during the year was 79,986 gallons, and 279,728 bottles were filled. The amount of dried milk supplied was 311,267 lbs.

Total cases on books, January 1st, 1939	...	...	6,565
„ „ admitted during the year	...	...	14,969
„ „ re-admitted during the year	...	...	6,791
Total supplied during 1939	...	...	28,325
Remaining on the books at the end of the year	...	...	4,825
Quarterly Average—January, February, March	...	...	6,826
„ „ April, May, June	...	...	6,491
„ „ July, August, September	...	...	5,557
„ „ October, November, December...	...	...	5,005

The highest number supplied with milk at one time was 7,088 during the week ended March 17th.

Since the initiation of the scheme in 1901 down to the end of the year 1939 the number of persons supplied with milk has reached a total of 272,476.

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 who attended these interviews was 42,958. 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 5,682. From time to time information concerning cases is received from the district health visitors and from clinics.

Air raid precaution evacuation, accounts to a great extent for the lower average in the number of persons supplied.

Civic Defence made it advisable to extend the interval between interviews, and was applied only in cases where there was not likely to be much change—men with the forces, seamen, railwaymen, etc.

TUBERCULOSIS

TUBERCULOSIS

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 (2,752) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment and this number before reaching the "cured" stage. As mentioned in the text, the figures for the notification and dispensary registers 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, 1939,
TO 31ST DECEMBER, 1939:—

TABLE I.

Age-periods.	Notifications on Schedule A.											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-		Total Primary Notifica- tions.
Pulmonary—													
Males	4	13	17	17	72	77	152	84	99	64	18	617	766
Females	1	6	16	22	110	106	170	72	56	29	8	596	732
Non Pulmonary—													
Males	4	30	40	15	19	15	19	11	3	5	3	164	195
Females	6	24	13	10	35	21	23	8	3	7	3	153	181

Out of a total of 1,213 primary notifications of pulmonary tuberculosis 895 were received from private and 318 from hospital practitioners, whilst in the case of non-pulmonary tuberculosis these figures are 89 and 228 respectively, forming a total of 317.

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 (2,758) 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 ...	2,536	2,463	1,045	922	6,966
Number of established cases on the Dispensary Register	1,664	1,505	591	448	4,208
Difference	872	958	454	474	2,758

In Table III is given an analysis of the 2,758 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	17	179	676	31	170	757	14	171	269	21	179	274	2,758

Tuberculosis Clinics and Dispensary System.

During 1939 the Tuberculosis Officers have conducted 2,644 consultations either at the Tuberculosis Clinics, or in the patients' homes, in addition to which 2,664 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 ...	398	353	37	24	64	79	76	39	462	432	113	63	1,070	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	21	20	3	1	45	
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	285	342	184	147	958	
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous ...	3	4	5	10	—	—	—	—	3	4	5	10	22	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	—	—	—	—	
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	46	121	247	255	669	
C.—CASES written off the Dispensary Register as :—														
(a) Recovered ...	47	32	10	10	15	22	21	19	62	54	31	29	176	
(b) Non-tuberculous (including any such cases previously diagnosed and entered on the Dispensary Register as tuberculous) ...	—	—	—	—	—	—	—	—	331	463	431	402	1,627	
D.—NUMBER OF CASES ON Dispensary Register on Dec. 31st														
(a) Definitely tuberculous ...	1,448	1,218	240	176	216	287	351	272	1,664	1,505	591	448	4,208	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	21	20	3	1	45	
<hr/>														
1. Number of cases on Dispensary Register on January 1st ...				4,500	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...								28	
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ...				798	4. Cases written off during the year as Dead (all causes) ...								69	
5. Number of attendances at the Dispensary (including Contacts) ...				12,979	6. Number of Insured Persons under Domiciliary Treatment on the 31st December								1,08	
7. Number of consultations with medical practitioners :— (a) Personal ... (b) Other ...				17 2,627*	8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...								93	
9. Number of visits by Nurses or Health Visitors to homes of patients ...				22,589	10. Number of :— (a) Specimens of sputum, etc., examined (b) X-ray examinations made in connection with Dispensary work. ...								2,63 1,02	
11. Number of "Recovered" cases restored to Dispensary Register, and included in A (a) and A (b) above...				8	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...								1,59	

* In addition to 2,644 consultations, 2,664 reports concerning patients were sent to medical practitioners

General Remarks.

The city death rates for the year 1939 for pulmonary and non-pulmonary tuberculosis are 0·81 and 0·12 per 1,000 respectively, making a total of 0·93 per 1,000 for all forms of the disease. An analysis of unnotified cases of tuberculosis is given in table IX.

Immediately upon the outbreak of hostilities, and in accordance with the prearranged scheme, the sanatoria at Fazakerley and Broadgreen were evacuated and approximately a third of their patients were transferred to the Cleaver Sanatorium, Heswall, the children from this institution being, for the most part, accommodated at Rhyl, firstly at the South Yorkshire Miners' Convalescent Home, and later at the Williams and John Jones Convalescent Home in that town.

Accommodation for approximately 140 male tuberculosis cases was later re-established at the Fazakerley Sanatorium.

At Alder Hey Children's Hospital the accommodation for cases of tuberculosis was reduced to a minimum owing to provision having to be made for war casualties.

Walton Hospital continued to receive tuberculosis cases and to a somewhat greater extent than previously.

It was not found necessary during the year to take any action under the Public Health (Prevention of Tuberculosis Regulations) 1925 or Public Health Act 1936, Section 172.

RADIOLOGY. During the year 1,021 cases have been the subject of radiological examination at Fazakerley Sanatorium and Walton Hospital in connection with diagnostic work at the Tuberculosis Clinics. Investigation or treatment at the sanatoria has also entailed 4,775 radiographs and 4,412 screenings.

LIGHT THERAPY. In accordance with existing arrangements 5,814 treatments by Ultra Violet Rays were carried out at Belmont Road Hospital in addition to a total of 2,164 such treatments at the Sanatoria. The conditions treated included Lupus Vulgaris, Lupus Verrucosa, Bazin's Disease, Tubercular Joint Disease, and Tubercular Cervical and Mesenteric Glands.

CONTACTS. During the year the tuberculosis officers examined 691 persons who were known to have been in contact with infectious cases

of pulmonary tuberculosis and found evidence of disease in 22, or 3.18 per cent.

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

TABLE V.

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	3	5	8	146
	Female Adults	43	15	58	
	Male Children*	21	23	44	
	Female Children*	10	26	36	
TOTALS ...	... ..	82	70	152	

* Under 15 years of age.

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

TABLE VI.

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

		Pulmonary.	Non-pulmonary.	Totals.	
INSURED PERSONS	Males	291	91	382	647
	Females	182	83	265	
NON-INSURED PERSONS	Male Adults	87	52	139	1184
	Female Adults	243	83	326	
	Male Children*	166	255	421	
	Female Children*	115	183	298	
TOTALS ...	... ..	1084	747	1831	

* 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, 98 pulmonary and 81 non-pulmonary cases were nursed in their homes, and to these cases 6,558 visits were paid. The Garston and Grassendale Nursing Association has dealt with cases outside the area supplied by the District Nursing Association.

Domiciliary Treatment.

At the end of the year, 1,634 patients remained under domiciliary treatment of whom 1,087 were persons insured under the National Health Insurance Act, and in receipt of treatment from their panel doctors and 547 were not insured and were under the treatment of District Medical Officers or doctors of their own choice. The domiciliary reports received relating to insured persons numbered 3,038. Table VII shows the position at the end of the year.

TABLE VII.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.
INSURED PERSONS	Males	685	32	717
	Females	326	44	370
NON-INSURED PERSONS	Male Adults ...	195	13	208
	Female Adults ...	271	30	301
	Male Children*	10	15	25
	Female Children*	9	4	13
TOTALS ...	... ..	1496	138	1634

* Under 15 years of age.

Co-operation and Co-ordination.

During the year, 1,866 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 orthopædic clinics.

Silicosis and Asbestosis Scheme (1931).

During the year 17 workmen were examined, and reports were rendered to the Chief Medical Officer (Silicosis and Asbestosis Scheme).

Twelve 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.

Dental Treatment.

A very considerable amount of dental work is carried out at the Sanatoria, the following operations having been performed during 1939:—

Extractions under anæsthesia	...	...	...	730
Fillings and scalings	...	...	...	266
Miscellaneous	...	...	...	370

Special Treatment.

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

Artificial Pneumothorax (New inductions)	...	79
Artificial Pneumothorax Refills	...	5,846
Cases treated by Gold Injections	...	209
Thoracic Operations, including Phrenicectomy, Thoracoscopy, Bronchography, Thoraco- plasty, etc.	...	16
Laryngological Operations	...	17
Other Operations	...	87

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 Tuberculosis Visitors attached to the Tuberculosis Clinics.

- (3) Visits paid to patients in their homes by the nurses of the Queen Victoria District Nursing Association and certain voluntary organisations.
- (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 Visitors attached to the clinics and Sanitary Inspectors made 15,778 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 6,558, have already been referred to.

Non-Pulmonary Tuberculosis.

Table VIII gives an analysis of the 98 cases in which death was due to non-pulmonary tuberculosis.

TABLE VIII
NON-PULMONARY TUBERCULOSIS DEATHS.

1939.	Tuberculous Meningitis.	Bones and Joints.	Abdominal.	Peripheral glands.	Other Organs.	Totals.
Males.....	2	8	5	1	5	21
Females	3	7	6	1	8	25
Children	41	5	4	—	2	52
Totals.....	46	18	15	2	15	98

Notification and Deaths.

During the year 58 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 IX.

TABLE IX.

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 ...	588	30 5.1%	12 2%	2 0.3%	4 0.6%	7 1.1%	5 0.8%	28	6	622
Non-Pulmonary Tuberculosis	93	28 30.1%	12 12.9%	8 8.6%	3 3.2%	1 1%	4 4.3%	2	2	97

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

Deaths from Tuberculosis.

The number of deaths from pulmonary tuberculosis and from non-pulmonary tuberculosis in Liverpool from 1931 to 1939, together with the number of new cases notified and the death rates which prevailed in England and Wales are given in Tables X and XI where case rates for Liverpool are also shown.

The death rates for Liverpool 1932-1938 have been calculated upon the corrected populations as ascertained by the Census Returns of 1931 and the Registrar General's mid-residential estimate of population for 1939. The death rate for 1939 is calculated upon the Registrar General's estimated average population for that year.

TABLE X.

DEATHS FROM PULMONARY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1931.....	2,358	2.75	989	1.15	0.74
1932.....	2,005	2.33	969	1.14	0.69
1933.....	2,279	2.63	1,009	1.19	0.69
1934.....	1,903	2.20	867	1.03	0.63
1935.....	1,697	1.96	812	0.97	0.60
1936.....	1,645	1.90	713	0.85	0.58
1937.....	1,555	1.79	684	0.82	0.58
1938.....	1,378	1.59	666	0.81	0.53
1939.....	1,213	1.47	647	0.81	0.54

TABLE XI.

DEATHS FROM NON-PULMONARY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1931.....	719	0·84	164	0·19	0·15
1932.....	672	0·77	170	0·20	0·15
1933.....	654	0·75	148	0·17	0·13
1934.....	585	0·67	129	0·15	0·13
1935.....	502	0·58	123	0·15	0·11
1936.....	445	0·51	126	0·15	0·11
1937.....	388	0·45	112	0·13	0·11
1938.....	386	0·45	103	0·12	0·10
1839.....	317	0·38	99	0·12	0·09

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

TABLE XII.

AGE PERIODS OF DEATH FROM TUBERCULOSIS DURING 1939.

Age Periods	PULMONARY.		NON-PULMONARY.	
	Males.	Females.	Males.	Females.
0—	—	2	6	5
1—	3	—	8	10
5—	2	—	9	4
10—	2	7	5	4
15—	25	38	3	4
20—	33	47	3	2
25—	60	70	4	4
35—	79	44	2	5
45—	79	31	5	3
55—	65	23	4	7
65—	26	11	2	—
TOTALS ...	374	273	51	48

VENEREAL DISEASES.

The Clinics operated by the Corporation during 1939 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 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 and Edge Lane Hospital treatment for females is provided each day at hours convenient to the greatest number of patients.

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 following table summarises the work of the Clinics for the year 1939:—

	Seamen's Dis- pensary. 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	2,072	716	200	609	436	93	4,126
Old and new patients							
Total attendances	30,325	20,455	6,449	9,439	13,487	—	80,155
In-patient days ...	—	—	—	6,868	7,111	6,321	20,300

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

There was a decrease in the number of new patients (4,126 in 1939 compared with 4,429 in 1938), and a reduction in in-patient days of treatment (20,300 and 24,691 respectively), and in the number of attendances (80,155 and 104,987 in 1939 and 1938).

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 0.75 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 a Wassermann test. All such cases have shown a negative Wassermann at this stage. A further course of six weeks' duration exactly the same as above is given, and a six months' rest from treatment is enjoined. A Wassermann test is taken and the course repeated. Wassermann tests of blood and spinal fluid are continued over a period of five years, and no case has relapsed either clinically or serologically in a period of fifteen years.

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

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

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, 3,525 cases have been advised and treated, of whom 2,072 reported for the first time. Of these, 898 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:—

	1934	1935	1936	1937	1938	1939
Syphilis	354	380	293	344	337	224
Soft chancre	128	131	115	135	160	105
Gonorrhœa	1,019	968	987	1,112	1,020	845
Non-Venereal Cases	698	780	840	986	1,088	898
	2,199	2,259	2,235	2,577	2,605	2,072

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

Syphilis	11%
Soft chancre	10%
Gonorrhœa	79%

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.	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
1938	8	6	44	58	...	...	13	13	...	1	15	16	8	7	72	87
1939	3	5	55	63	...	...	8	8	...	...	19	19	3	5	82	90

The increase in the deaths under the heading Syphilis is probably due to improved diagnosis in cardio-vascular cases.

INFECTIOUS HOSPITALS and SANATORIA.

187 beds

101 "

174 "

262 "

118 "

160 "

209 "

252 "

200 "

1921

HOSPITAL AND HEALTH SERVICES.

Diseases	Admitted	Discharged	Deaths	Total	Admitted	Discharged	Deaths	Total	Admitted	Discharged	Deaths	Total
Bacterial Fever	45	418	47	510	45	418	47	510	45	418	47	510
Diphtheria	88	415	30	513	88	415	30	513	88	415	30	513
Measles	—	—	—	—	—	—	—	—	—	—	—	—
Totals	133	833	77	1043	133	833	77	1043	133	833	77	1043

INFECTIOUS HOSPITALS and SANATORIA.

During 1939 the hospital accommodation for infectious cases up to the outbreak of the war in September was as follows:—

City Hospital North	...	...	...	...	187 beds
„ South	...	...	...	...	101 „
„ East	...	...	...	...	174 „
„ *Fazakerley	...	...	...	...	352 „
„ Fazakerley Annexe	...	...	...	...	118 „
„ °Sparrow Hall	...	...	...	...	160 „
†Fazakerley Sanatorium	...	...	...	...	309 „
†Broadgreen Sanatorium	...	...	...	...	353 „
Cleaver Sanatorium	...	...	...	...	200 „
					1954

* Loaned to Royal Southern Hospital from Sept. 1st as Emergency Hospital.

† Classified as Emergency Hospitals from Sept. 1st.

° Opened for the reception of infectious cases from Sept. 2nd.

Upon the outbreak of war all cases of infectious disease were evacuated from the Bootle Infectious Disease Hospital to Liverpool Hospitals, and during the remainder of the year all infectious cases from Bootle, including Litherland and Formby, were accommodated in Liverpool Hospitals.

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 1939:—

DISEASES			Remaining Dec. 31st, 1938.	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	...	...	48	418	5	471	—	7	432	29	1	
Diphtheria	...	...	68	415	35	518	—	6	423	67	9	2
Measles	...	...	—	3	—	3	—	—	3	—	—	—
Totals	...	...	116	836	40	992	—	13	858	96	10	2

DISEASES.	Remaining Dec. 31st, 1938.	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 ...	20	153	1	174	—	5	169	—	—	—
Diphtheria ...	67	137	8	212	—	20	183	—	4	9
Cases ...	—	8	—	8	—	—	8	—	—	—
Observation cases ...	8	114	10	132	—	6	118	6	2	2
Totals ...	95	412	19	526	—	31	478	6	6	11
City Hospital East, Mill Lane, Old Swan.										
Scarlet Fever ...	18	369	—	387	—	—	355	32	—	—
Diphtheria ...	106	571	—	677	—	2	540	100	14	35
Observation Cases ...	14	329	—	343	—	—	326	16	—	1
Totals ...	138	1,269	—	1,407	—	2	1,221	148	14	36
City Hospitals, Fazakerley.										
Scarlet fever ...	55	532	43	630	—	32	573	23	—	2
Bacterial fever group ...	10	34	3	47	—	—	38	4	—	5
Diphtheria ...	185	599	89	873	—	51	674	114	6	34
Cases ...	—	31	15	46	—	8	34	3	—	1
Whooping Cough ...	—	20	1	21	—	2	18	—	—	1
Other diseases ...	126	822	37	985	—	51	836	72	8	26
Totals ...	376	2,038*	188	2,602	—	144	2,173	216	14	69

* These admissions include Fazakerley Isolation Hospital—1,597 cases, Fazakerley Annexe—18 cases and Sparrow Hall Hospital—107 cases.

DISEASES.												
	Remaining Dec. 31st, 1938.	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.		

Fazakerley Sanatorium.

Tuberculosis	277	160	37	474	—	93	319	17	1	45
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Broadgreen Sanatorium.

Tuberculosis	353	174	47	574	—	4	497	—	—	73
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Cleaver Sanatorium.

Tuberculosis	156	89	286	531	—	218	106	179	—	28
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Infectious Disease Hospitals and Sanatoria.
Statement of Admissions, Discharges, Deaths, and Transfers.

Hospital or Sanatorium.	Remaining Dec. 31st, 1938.	Admitted	Trans- ferred to	Dis- charged	Trans- ferred from	Died.	Remaining Dec. 31st, 1939.
City Hospitals, Fazakerley	376	2,038	188	2,173	144	69	216
City Hospital North	116	836	40	858	13	25	96
City Hospital East	138	1,269	—	1,221	2	36	148
City Hospital South	95	412	19	478	31	11	6
Fazakerley Sanatorium	277	160	37	319	93	45	17
Broadgreen Sanatorium	353	174	47	497	4	73	—
Cleaver Sanatorium	156	89	286	106	218	28	179
TOTAL	1,511	4,978	617	5,652	505	287	662

General and Children's Hospitals and other Institutions.

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

Hospital or Establishment.	Remaining Dec. 30th, 1938.	Admitted.	Trans- ferred to	Born.	Dis- charged.	Trans- ferred from	Died.	Remaining Dec. 30th, 1939.
Administered under the Poor Law Acts :—								
Belmont Road Institution ...	1,142	5,597	1,151	—	4,924	588	1,008	1,370
Kirkdale Homes ...	1,210	213	580	—	300	154	239	1,310
Olive Mount Children's Hospital ...	250	1,175	1,041	—	1,830	379	52	205
Cottage Homes, Fazakerley ...	395	54	238	—	217	88	—	382
Shaw Street Boys' Home ...	35	55	13	—	71	—	—	32
Seafield House (Greaves Hall) ...	230	12	4	—	15	8	—	223
Administered under the Public Health Acts :—								
Walton Hospital ...	1,277	14,149	151	2,334	14,801	538	1,776	796
Smithdown Road Hospital ...	844	8,191	153	1,504	8,308	758	1,031	595
Mill Road Infirmary ...	503	9,155	146	1,409	9,638	473	746	356
Alder Hey Hospital ...	728	7,855	149	—	6,976	1,000	515	241
TOTAL ...	6,614	46,456	3,626	5,247	47,080	3,986	5,367	5,510
South Yorkshire Miners' Convalescent Home, Rhyl ...	—	—	125	—	20	—	—	—
Royal Liverpool Ch. Hosp., Heswall	—	—	76	—	16	—	2	—
West Kirby Convalescent Home ...	—	—	30	—	25	—	—	—
CASUAL WARDS—	—	—	3,857	—	47,141	—	5,370	—

MUNICIPAL HOSPITALS and INSTITUTIONS.

The Hospitals and Institutions under the Management of the Hospitals and Port Health Committee number 17, 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	...	...	8
(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	...	...	4
Total	...	...	17

General Review.

During 1939 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, 1940.
Mill Road Infirmary.	11,000	Plans in preparation.
Maternity Units.		
Smithdown Road Hospital.		Plans prepared.
Continuation Departments.		
Walton Hospital.	20,000	Plans approved. Substitution buildings completed.
Smithdown Road (Extension)		Plans in preparation.
Laundry Extensions.		
Belmont Road Institution.	70,000	Plans prepared.
Boiler House Extensions, etc.		
Belmont Road Institution.		Scheme submitted to Ministry of Health. Now deferred.
Fazakerley Hospital.		
Disinfector Unit and alterations to Laundry.		Work begun.
Alder Hey Children's Hospital.		
New Laboratory and extension of X-Ray Department.	3,350	Plans for X-Ray Extension approved.

All work not essential for the treatment of casualties has been postponed for the present.

Report of the Medical Officer of Health on the War-time working of the Department.

On the declaration of War against Germany, the re-organisation of the Hospital and Public Health Services became immediately necessary to conform to the schemes previously laid down by the Ministry of Health.

EVACUATION OF HOSPITALS.—The scheme laid down by the Ministry of Health for the evacuation of the Municipal and Voluntary Hospitals was completed on the 10th September. This evacuation was carried out in two stages (*a*) the transference from Grade "A" Hospitals (those fully equipped for the reception of casualties) to Grade "B" Hospitals (those not fully equipped for the reception of casualties). The Grade "A" Hospitals under the Ministry's scheme comprised Walton, Mill Road, Smithdown Road, Alder Hey, Fazakerley, Broadgreen, Royal Infirmary, Northern Hospital (in new premises at St. Katharine's College, Childwall), Belmont Road Institution, Royal Liverpool Children's Hospital, Ministry of Pensions Hospital, Radium Institute and six other small Special Hospitals; (*b*) all patients in those Hospitals fit to go home were conveyed by ambulance or by private cars provided by the Hospitals Night Volunteer Motor Service, to whom much credit is due for the great service they rendered. At the same time adult patients suffering from tuberculosis were transferred from Fazakerley and Broadgreen to the Cleaver Sanatorium, Heswall, the children from the Cleaver Sanatorium having been previously evacuated to the South Yorkshire Miners' Convalescent Home, Rhyl. Subsequently a further move was made to the William and John Jones Convalescent Home, Rhyl.

The Ministry's Scheme involved the upgrading of the Fazakerley Isolation Hospital and Sanatorium, Broadgreen Sanatorium and Alder Hey Children's Hospital to equip them for the reception of adult casualties. For this purpose considerable numbers of adult beds, bedding and surgical and other equipment have been provided by the Ministry of Health. In addition, such other items of equipment as were available locally have been purchased. The buildings at these Hospitals required little or no structural alterations to fit them for their purpose, with the exception of the Fazakerley Hospital, where a new disinfection block, for which provision was made in the estimates was put in hand in 1940.

The Voluntary Hospitals, viz., Royal Infirmary, David Lewis Northern Hospital, Royal Southern Hospital and Stanley Hospital were largely evacuated, adult patients who were not fit to be sent home being transferred to Belmont Road. Suitable patients were also transferred to Belmont Road Institution from Smithdown Road and Walton Hospitals and Mill Road Infirmary. Altogether over 400 patients were so transferred, many of whom later returned home. Children from these General Hospitals were transferred to the West Kirby Convalescent Home, whilst children from Alder Hey Hospital were transferred to West Kirby Convalescent Home, Olive Mount Children's Hospital and the Heswall Branch of the Royal Liverpool Children's Hospital.

The equipment and personnel of the Northern Hospital were transferred to St. Katharine's College, Childwall (where certain structural alterations have been carried out by the Ministry) and to Woolton Convalescent Home. Similarly the personnel and most of the equipment of the Southern Hospital have been transferred to Fazakerley Isolation Hospital where the portion of the accommodation has been allocated. The basis of this occupation has formed the subject of negotiation with the Ministry.

The Fazakerley Isolation Hospital and a small part of the Fazakerley Sanatorium are thus available as Casualty Hospitals. The Sanatorium Medical Staff and 22 of the nurses were transferred to the Cleaver Sanatorium, where it has been necessary to take over an adjacent private house known as Oldfield Grange for use as a Night Nurses' Home. The teaching staff from Cleaver Sanatorium accompanied the children to Rhyl. The average number of patients in Cleaver Sanatorium is 200 and in order to cope with this more acute type of work, it has been necessary to further augment the staff and to provide additional equipment either by transfer or purchase. Subsequently the major part of the Fazakerley Sanatorium was re-occupied for male tuberculosis patients, female patients being accommodated in Cleaver Sanatorium.

With regard to the accommodation of infectious cases, when the A.R.P. equipment which had been stored at Sparrow Hall Hospital, had been cleared out, the wards were prepared for the reception of patients. This

enabled Grafton Street Hospital and Linacre Lane Hospital (Bootle) to be evacuated. The new ward at Fazakerley Annexe is now open, so that with Fazakerley Annexe, Sparrow Hall, and the Cubicle Wards at Fazakerley Isolation Hospital, together with City Hospitals North and East, there is adequate accommodation for infectious cases. With the closing of Linacre Lane Hospital arrangements were made for cases of Infectious Disease from Bootle to be admitted to the Liverpool Infectious Hospitals.

One other item of evacuation concerned the patients at Seafeld House. This Institution, in such close proximity to the docks, was considered to be in a very dangerous situation and accordingly the patients and staff were transferred under the Government's Scheme of civil evacuation, to Greaves Hall, Banks, near Southport, which was formerly used as a preparatory school. The staff at Seafeld House was mainly non-resident but on their transfer to Greaves Hall it became necessary to accommodate them on the premises. Considerable alterations have had to be made to fit this Institution for the work required, such as the installation of gas and electrical cooking apparatus, electrical wiring, provision of washing facilities, sanitary conveniences, etc. There is a private sewage disposal plant which the City Engineer reported was inadequate and some extensions to this plant were necessary. During the spring of 1940 most of the female patients were transferred to the care of the Lancashire Mental Deficiency Acts Committee or to the Out-Counties.

MATERNITY AND CHILD WELFARE.—Under the Ministry's scheme arrangements were made with the Local Authorities at Blackpool, Southport and North Wales to provide accommodation for Liverpool patients by adapting private hostels and boarding houses as Nursing Homes, and expectant mothers have been, and will continue to be, evacuated to those areas. To deal with this work qualified staffs from the Municipal Maternity Departments and District Midwives were sent to staff the Nursing Homes. The Blackpool Scheme was organised in conjunction with Manchester and Salford, and the financial aspect of the scheme is a matter for settlement between the Ministry of Health and the Local Authorities concerned. The staff sent with these patients

are commensurate with the numbers of patients in the reception areas and will vary as necessary from time to time.

TUBERCULOSIS DISPENSARIES.—Owing to the closure of the two Sanatoria for the reception of tuberculosis, it became necessary for the treatment of a number of cases by means of artificial pneumothorax and other methods to be taken on at the Dispensaries. For this purpose control of X-rays is necessary. The Chest Hospital, Mount Pleasant, is the site of the Central Clinic and the X-ray apparatus there is available for this purpose. There is no X-ray apparatus at the North or South Tuberculosis Dispensaries and the staff and equipment were accordingly transferred to the Central Clinic; this procedure was also adopted in the last war.

AIR RAID PRECAUTIONS.—Various Auxiliary Fire Squads, First Aid Parties and Auxiliary Ambulance Sections have been attached to different hospitals for service in the event of air raids.

HOSPITAL SERVICES.

The work of the hospitals was radically affected by the outbreak of war. The table on page 82 shows that at the general hospitals and Alder Hey Hospital there was a diminution in most of the comparable figures. This was due to several causes such as evacuation to hospitals of a lower grade, the necessity of maintaining an adequate reserve of beds in case of air raids, the absence of medical personnel on war-time service, etc. The numbers of admissions and discharges were reduced in the four hospitals and there was a corresponding diminution of the work done. On the other hand Smithdown Road Hospital and Mill Road Infirmary show a compensatory increase in the number of out-patient attendances; at Mill Road the increase was doubtless due largely to the opening of the new out-patient department which is proving a very valuable addition to the hospital and fully justifies the care that was exercised in the preparation of the plans. Owing to evacuation the number of births in the Maternity Departments at the three General Hospitals was reduced to 5,247, as compared with 6,121 during the year 1938.

The number of patients in Belmont Road Institution (now Emergency Hospital) was increased by 400 at the outbreak of war and has continued to be high. The Children's Skin Hospital was converted into a male and female medical and surgical block. A visiting physician, Dr. J. Murray Bligh, and a visiting surgeon, Mr. J. T. Morrison, and a Resident Assistant Medical Officer were attached to the hospital, and a theatre for minor surgical operations was improvised. Two "house" blocks were adapted as hospital blocks, namely C & T, thus providing an additional 111 hospital beds; the process of conversion of "house" blocks has been continued during 1940.

At the Cleaver Sanatorium considerable adaptations were required for the needs of adult patients. Sanitary Annexes had to be increased at the school and rest-room and suitably equipped, a new linen-room, provided for in the estimates, was built, additions to store-rooms and kitchen equipment were made and a minor operating unit equipped. A waiting room was converted for use as a mortuary.

EMERGENCY THEATRES.—Emergency Theatres were established in 5 hospitals namely, Walton, Mill Road, Smithdown Road, Alder Hey and Broadgreen; in 3 cases these are underground. Plans for the conversion of the Women's Recreation Room at Fazakerley into an Emergency Theatre and X-Ray Department were prepared. In addition minor operating units were made at Belmont Road and at Cleaver Sanatorium as previously stated.

SHELTERS.—Provision was made in all the hospitals, including Cleaver Sanatorium, for underground shelters for ambulant patients and personnel. This work was carried out as a part of the scheme of Civil Defence.

FIRE-FIGHTING.—Fire-fighting units and equipment have been established in the great majority of the hospitals, in several instances involving the erection of temporary buildings to house them. From each hospital key personnel have been trained in fire-fighting by the Fire Brigades, whose great assistance is gratefully acknowledged; these key personnel have, in turn, trained large numbers of the staff, both male and female, in methods of elementary fire-fighting and the use of

the special equipment which was provided during the year. This equipment is placed at numerous points throughout the buildings. Many practices have been held.

The programme of white-washing of cocklofts, which has been carried out recently, was accelerated, and all important units have now been so treated. Greatly improved access to cocklofts has been made and other precautionary measures put in hand.

The renewal of water-mains and hydrants in Belmont Road was completed early in 1940. Special fire alarm systems were instituted in several hospitals and in others the staff-locator system was adapted for this purpose.

DECONTAMINATION UNITS.—Prior to the onset of war a large number of hospital personnel, both medical, nursing and lay, had received training in anti-gas measures and the decontamination of persons affected by persistent gases whether wounded or uninjured. Centres for the decontamination of wounded persons were established at Walton, Mill Road, Smithdown Road, Alder Hey and Belmont Road Hospitals either during 1939 or early in 1940.

NURSING SERVICES.—The training of nurses, an essential part of the hospital service, was continued during the year, some modifications being required to fit the altered conditions described above. In addition to their normal work a great addition was made to the work of the teaching staff, medical and nursing, by the training of nursing auxiliaries, and the very valuable services so rendered by all concerned, especially the Sister Tutors, are gratefully acknowledged. At the end of 1939 the numbers of nursing auxiliaries, trained or in training, in voluntary and municipal hospitals were as follows:—

NURSING AUXILIARIES.

Trained	...	...	...	426
In training	...	...	...	625
				<hr/>
				1,051

The training involved lectures in first-aid and elementary nursing and a period of 50 hours in hospital.

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	65	—	43	—	—
Mill Road Infirmary	24	—	21	—	—
Smithdown Road Hospital ...	39	—	38	—	3
Alder Hey Children's Hospital	—	20	—	—	—
Group I	—	—	—	57	—
Group II	—	—	—	10	—

INFECTIOUS DISEASES.—Measles recurs normally at two-year intervals; an epidemic which was anticipated during the Winter of 1939-40 did not occur and the numbers, both of cases and of deaths, were by far the lowest that have ever been recorded in the city. In the spring of 1940 there was evidence that the epidemic had only been deferred.

On the other hand German Measles and Cerebro-spinal Fever both assumed epidemic proportions. Considerable numbers of cases of German Measles, namely, 346, were admitted to Hospital, many being adults. The duration of infectiousness in this disease is short and the average length of stay in hospital was correspondingly reduced. Many of these patients were admitted into Sparrow Hall and Grafton Street Hospitals.

The number of cases of Cerebro-spinal Fever reached unprecedented figures during 1940. Undoubtedly the number of deaths would have been correspondingly high had it not been for the extremely successful result of the use of drugs of the sulphonamide group, especially Sulphapyridine. The following figures relating to several hospitals give the cases, deaths and fatality rates:—

	Cases.	Deaths.	Fatality Rate per cent.
Smithdown Road Hospital	3	3	100
Walton Hospital	14	3	21
Fazakerley Hospitals	14	4	29
Mill Road Hospital	7	4	57
Alder Hey Hospital	31	10	32
	69	24	35

SANITATION

SANITARY ADMINISTRATION.

During the year the district sanitary inspectors made 138,410 inspections and visits for the investigation and abatement of nuisances.

Complaints in many cases were made to 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 inspectors' time is occupied by these special investigations.

During the year 17,823 complaints of nuisances were received as compared with 21,192 the previous year.

The total number of nuisances reported was 45,369, and out of this number 1,646 nuisances were outstanding at the end of the year. The number of notices served for the abatement of nuisances was 21,581 informal, and 10,736 statutory, 190 of these being served for the abolition of ashpits, and 4,197 for the provision of dustbins.

In 92 cases legal proceedings were instituted at the City Court for failure to comply with notices served by this department under the Public Health Act, 1936, and other enactments.

Departmental References.

The co-operation which the Public Health Department receives from other departments of the Corporation is fully appreciated, whereby many sanitary defects are brought to the notice of the department and dealt with immediately. The number of references received from other departments was 12,558.

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

The number of references to other departments was 3,887.

Infected Houses.

The sanitary inspectors made 9,638 investigations relating to cases of infectious disease, resulting in 10,346 visits to infected houses, and 881 visits to phthisis cases. There were also 8 inquiries made in respect to suspected smallpox contacts.

Closet Accommodation.

There still remain 110 privies and 79 pails on farms and outlying houses in the city where sewers are not reasonably available.

Drain Testing.

Various methods have been employed to test drainage systems when suspected of being defective, and also to ascertain the cause of percolation of water into basements, etc.

During the year 971 drainage systems were tested, 160 by colour test, of which 66 were positive and 94 negative; 523 by smoke rocket test, of which 200 were positive and 323 negative; 288 by smoke machine test, of which 132 were positive and 156 negative. Where defects have been revealed by these tests, repairs have been carried out. In the case of tests of important buildings and offices, as well as dwelling-houses of higher rateable value, the assistance of the City Engineer's Department has been utilised.

Factories and Workplaces Inspection.

Factories Act, 1937.

Public Health Act, 1936.

Factories and Workplaces.—All factories and workplaces are visited by six 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.

Register of Factories, Section 8 (3).

The total number of factories (including bakehouses) on the register at the end of the year was 5,892.

With mechanical power	2,836
Without mechanical power...	3,056

During the year, 7,356 visits were made to factories, 1,368 in consequence of special complaints to the department, 5,543 in the course of ordinary routine inspection. During these visits 1,084 defects were found, in respect of which 819 informal notices were issued on owners or occupiers, the defects not remedied at the end of the year being 57.

Register of Workplaces (including Offices).

The number of workplaces on the register at the end of the year was 3,103.

During the year, 3,412 visits were made to workplaces, 1,359 in respect of offices. There were 199 defects, 126 of which were unsuitable or defective sanitary conveniences, 34 inadequate ventilation, 2 overcrowding, and the remainder want of cleanliness. All defects were remedied during the year.

Outworkers. Sections 110 and 111.

In accordance with the provisions of the Act, outworkers' returns are received twice yearly, and the premises referred to in the returns are visited to ascertain whether work is carried on in any place which is, in the opinion of the District Council, injurious or dangerous to the health of the persons employed therein.

During the year 138 visits were made to premises by factory inspectors and no instances of employment in unwholesome premises were found.

Rag Flock Acts, 1911 and 1928.

Five visits to two factories in which rag flock is manufactured and 62 visits to premises where rag flock was used, were made, 67 samples of rag flock being taken, all of which were in accordance with the standard of cleanliness required by the rag flock regulations.

Bakehouses.

The number of bakehouses in use at the end of the year was 401, of which 122 were without mechanical power, 17 of these being underground, and 279 with mechanical power, of which 37 were underground bakehouses.

During the year, 1,821 visits were made to bakehouses.

204 informal and 21 statutory notices were issued in respect of want of cleanliness, unsuitable or defective sanitary conveniences, all of which were complied with during the year.

Enquiries were made at the 401 bakehouses in the city as to the amount of bread wrapped and sliced before leaving the bakehouse, and it was found that of the 243,225 approximate number of loaves baked per day, 50.2 per cent. of the total bread baked in the city was wrapped, and 72.09 per cent. of the wrapped bread was also sliced.

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 kitchens.

There were 368 in use at the end of the year.

During the year, 1,230 visits were made to restaurants and café kitchens, 64 informal and 13 statutory notices being issued in respect of want of cleanliness, unsuitable or defective sanitary conveniences, accumulation or deposit of refuse in rooms, all of which were complied with.

Licensed Premises.

During the year, 1,267 visits were made to 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.

During these visits 534 defects were found, 72 informal and 289 statutory notices were issued in respect of unsuitable urinals or want of flushing to urinals, insufficient, unsuitable or want of sanitary conveniences for the use of the persons frequenting the premises, also inadequate provision for the cleansing of glasses. 170 defects were not remedied at the end of the year, of which number 139 required structural alterations, the carrying out of which has been retarded with the outbreak of hostilities.

Offensive Trades.

There were on the register of offensive trades at the end of the year 130 businesses, which is the same number as at the end of the preceding year. The nature of the businesses are enumerated in the Annual Report for 1938.

During the year 3,056 visits were made to these premises. 201 informal and 77 statutory notices were issued chiefly in connection with cleansing of walls, floors, sanitary conveniences, etc., all of which were complied with.

Fish Friers' Premises.

At the end of the year there were 662 fish friers' premises within the city, and 1,325 visits were made to see that the requirements of the byelaws were carried out. 369 informal notices were issued chiefly in connection with cleansing of floors, walls and ceilings, apparatus, and sanitary conveniences, all of which were complied with.

Furniture Removers.

148 visits were made to the premises of furniture removers and 316 vans were inspected, all of which were found to be in a clean condition.

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 40 licensed employment agencies on the register.

Shops Acts, 1912-1938.

By a systematic visitation of shops, effective administration of the Shops Acts is secured throughout the city and the necessary information obtained for the purpose of keeping up to date a register, the total number of shops at the end of the year being 19,200. The majority of the shops are closed for the weekly half-holiday at 1.0 p.m. on Wednesday, except in the Central Area where the day chosen for most shops is Saturday.

The general closing hours fixed by Sub-section 1 of Section 1 of the Shops (Hours of Closing) Act, 1928, have been amended by the Defence Regulation 1939, No. 60A, and an Order made thereunder on November 9th by the City Council of Liverpool, substitutes 8.0 p.m. on the late day, and 7.0 p.m. on any other day of the week.

In accordance with the requirements of the Public Health Act, 1936, Section 205, a female inspector, in addition to her other duties, has made inquiries with reference to the "prohibition of the employment

of women after child-birth", and in this connection 125 visits have been made to factories and workshops within the city, and every precaution is taken to see that these requirements are carried out.

Shops Act, 1934.

Section 10 of this Act, which deals with the comfort and health of shop workers, is being administered in a satisfactory manner by shopkeepers and owners of premises generally. The number of applications for exemption under this section which have been dealt with since the Act came into operation is 332, 27 having been considered during the year 1939. Of this number 24 were approved and 3 refused. In all cases careful inquiry is made to ensure that the alternative arrangements are satisfactory in every way.

Shops (Sunday Trading Restrictions) Act, 1936.

The administration of the above Act is effectually carried out by systematic visitation each Sunday, the inspection being so arranged that shops may be visited during the whole of the day. As a result of these visits it has been found that shopkeepers generally are desirous of carrying out the requirements of this enactment.

Particulars of Visits and Inspections.

The total number of visits to shops during the year was 242,861, and 568 special complaints were investigated under the Acts. 3,343 shops were registered during the year, the number of assistants employed being 2,748 young persons, and 4,485 adults.

110,057 visits were made in connection with the weekly half-holiday closing, 99,735 respecting evening closing, and 27,391 Sunday visits.

5,028 revisits were made following contraventions, and in 351 cases letters of caution were sent for minor offences.

Calls incidental to the Shops Acts were 2,171, and 164 nuisances were dealt with under the Public Health Acts.

Informations were laid in 309 cases involving fines amounting to £97 11s. 0d., with costs totalling £22 11s. 6d.

Young Persons (Employment) Act, 1938.

This enactment came into operation on 1st January, 1939, and regulates the hours of employment of young persons under 18 years of age in certain occupations not previously governed by legislation, and also amends the Shops Act, 1934, in respect of young persons under 16 years of age.

The total number of working hours in any week in the case of a young person who has attained the age of 16 years shall not exceed 48, and in the case of a young person who has not attained 16 years shall not exceed 44 from January, 1940.

Provision is made in the Act for overtime to be worked by young persons over 16 years of age on occasions of seasonal or other special pressure, or in cases of emergency, but this overtime is restricted to six hours in any week or fifty in the year, and shall not be worked in more than 12 weeks in any year.

In conjunction with the Shops Acts systematic visits have been made with the object of advising employers as to their obligations under this Act, and inspections made of the prescribed records and notices. No complaints have been received by the department nor has any contravention of this Act been detected.

Picturedromes.

At the request of the Licensing Justices, officers of the Public Health Department systematically visit all picturedromes and theatres 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. During the year there were 509 night visits, a day inspection being also made so that closer attention may be given to the examination of the sanitary conveniences. In 49 cases minor defects were observed and these were remedied on the attention of the managers being called thereto.

Premises, etc., controlled by Byelaws and Regulations.

Common Lodging Houses.

At the commencement of the year 1939, there were on the register 53 lodging houses providing accommodation for 3,067 lodgers. During the

year 5 houses were removed from the register of which 4 were voluntary, and one owing to the death of the keeper.

During the year 51 applications were received from persons for the renewal of registration as keepers, of which number 43 were granted for a further period of twelve months, and no action was taken in 8 cases owing to the houses being situated in clearance or re-development areas, or likely to be included.

In 30 cases informal action was taken for infringements of the byelaws relating to defects in sanitary fittings and pavings, windows requiring cleansing or reglazing, verminous bedding, choked wastepipes, gullies and water closet basins, floors not swept or washed, and slops not emptied. In all cases the requirements were complied with.

No informations were laid against keepers during the year.

At the end of the year there were on the register 41 houses accommodating 2,398 males, and 7 accommodating 353 females. The number of day visits to these houses were 1,265, and nocturnal visits 87.

Inspection of Houses Let-in-lodgings.—On the 1st January, 1939, there were 14,663 houses on the register. During the year 397 houses were removed owing to demolition.

The number of visits made during the year was 4,585, in 96 instances the floors and staircases were found dirty, and on revisiting were found to have been cleansed.

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 1,506, and the condition of the boats and their occupants as regards matters dealt with in the Act and Regulations is indicated as follows:—

The number of boats on the register on January 1st, 1939, was 403, 7 new boats were registered during the year, and 22 removed from the

register, leaving at the end of the year a total of 388 boats. 48 contraventions were observed, 43 boats being involved, of which 9 were registered with other authorities, 46 of the contraventions were remedied. No informations were laid during the year against owners or masters for infringements of the Act 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 764 inspections during the year, and 42 contraventions were discovered, which were subsequently dealt with.

190 boats plying on the canal were inspected which were registered as follows:—124 at Liverpool, 21 Runcorn, 11 Manchester, 1 Wigan, 6 Chester, and 1 Blackburn. 26 boats were not registered (not used as dwellings).

All were "wide" boats, 80 being steam towed, 63 motor propelled, 27 motor towed, and 20 horse drawn. The number of inspections of these boats was 742 and the population comprised 330 men and 3 women.

No children of school age were found on canal boats during the year, and no families were found on a canal boat who had not also a home ashore.

The Hydrogen Cyanide (Fumigation) Act, 1937.

Official notice has been received in respect of 8 fumigations under the Hydrogen Cyanide (Fumigation) Act, 1937. The number of dwellinghouses fumigated was 21, and each fumigation was supervised by the department and satisfactorily carried out.

Co-operation of Civil, Navy, Army, and Air Force Authorities in Sanitary Matters.

In consequence of the Ministry of Health Circular W.2, 836 inspections have been made of Military and Air Force camps and billets, and nuisances have been dealt with by the department. Officers commanding have been advised of all matters appertaining to the health and comfort of their personnel.

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.

Inspection of Stables and Removal of Manure.

Stables within the city are systematically visited by the district sanitary inspectors, constant attention being paid to the frequent removal of manure and to general sanitation.

The total number of visits to stables during the year was 9,088, the number occupied was 681, and the number disused 873. 54 visits were made to the manure depots which are situated in close proximity to the North Corporation destructor, to see that the manure received from the stables in the centre of the city is frequently removed so as to avoid the possibility of fly infestation therefrom.

Special Visits.

Marine Stores.—There are 47 marine stores which are used for the collection and storage of rags, bones, and other materials. Fortnightly visits are paid by the district sanitary inspectors to ascertain that accumulations of offensive rags or bones are not stored for longer periods than is necessary, and that no nuisance is allowed to emanate from their storage.

During the year 835 visits were paid and in 10 cases nuisances were found and the necessary steps taken for their abatement.

Parks.—Fortnightly visits are paid by the district sanitary inspectors to all public sanitary conveniences within parks and gardens throughout the city to ascertain if they are kept in a clean condition and in good repair. During the year 1,941 visits were paid and in 5 instances they were found to be incorrect. The necessary action was taken to remedy the defects.

Poultry Stores.—There are 25 poultry stores used for the fattening and killing of poultry, and these are visited fortnightly by the district

sanitary inspectors to ascertain that the premises are kept in a clean state, and that no accumulations of manure are allowed to remain upon the premises. 494 visits have been paid, and in 4 instances nuisances were found and steps taken to have them abated.

Railway Carriages.—During the year 60 visits were made by district sanitary inspectors to the main line railway stations within the city to ascertain if the railway carriages were in a clean condition. 2 railway carriages were found dirty and steps were at once taken to have them cleansed by the Company responsible.

Elementary Schools.—All elementary schools throughout the city are visited once fortnightly by the district sanitary inspector to ascertain if the sanitary conveniences are kept in a clean condition, all drains clear and in good repair. During the year 3,553 visits were made and in 40 instances defects were found. The necessary steps were immediately taken to have the defects remedied.

Movable Dwellings.

Under Sections 268 and 269 of the Public Health Act, 1936, provision is made for the licensing by the local authority of sites for the erection or stationing of movable dwellings, or alternatively for the licensing of such dwellings themselves, subject to specified conditions, and under certain conditions, it is illegal to occupy any such dwelling without either the dwelling or site being licensed as aforesaid. During the year 23 caravans were found to be illegally occupied, and appropriate action was taken to secure compliance with these provisions.

Court and Alley Inspections.

Inspection of courts and alleys within the city is rapidly decreasing owing to the demolition of insanitary property. At present only 11 of the 35 wards contain courts and alleys in which water closets are used in common by different families residing within the court. Weekly visits are paid by the district sanitary inspector to ascertain whether these common water closets are kept in a clean condition, each tenant in turn being held responsible for keeping the water closet in a clean condition during the week.

5,250 inspections were made of courts and alleys, and 10,317 inspections of water closets. 1,840 water closets were found in a dirty condition and on re-inspection were found cleansed.

Prohibition of Sale of Verminous Furniture, Etc.

Under Section 83 of the Liverpool Corporation Act, 1936, it is provided that 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 infested.

2,426 visits have been paid to premises by the district sanitary inspectors, and no infringements were observed.

Public Health Act, 1936, Section 154.

Restrictions on Sale, Etc., by Persons Collecting or Dealing in

Rags, Old Clothes, or Similar Articles.

Observations were kept by the district sanitary inspectors on persons who collect or deal in rags, old clothes, or similar articles. Infringements were observed in six cases, and informations laid, six dealers being summoned for selling or delivering articles to children under 14 years of age. Fines amounting to 17s. 6d. in respect of three dealers were imposed, in two cases the dealers were discharged and cautioned, and the remaining case was withdrawn.

Merchandise Marks Act, 1926.

Under Section 2 of the Merchandise Marks Act, 1926, Orders in Council may be made prohibiting the sale or exposure for sale in the United Kingdom any imported goods of any class or description unless they bear the indication of origin. Under this section Orders have been made relating to the marking of the following imported products:—

Bacon and ham, butter, currants, dead poultry, dried eggs, eggs in shell, fresh apples, frozen or chilled salmon or sea trout, honey, malt products, oat products (namely—groats, oat-flour, oatmeal, and rolled oats), raisins, raw tomatoes, sultanas.

12,564 visits were made by the district sanitary inspectors to retail shops and hawkers to ascertain that the provisions of the Act were being observed. In 110 instances the marking was found to be incorrect and the offenders were cautioned.

Removal of Remains.

Under the terms of licenses issued from the Home Office the district sanitary inspectors supervised the exhumation and re-interment of 151 bodies during the year.

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.

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 cafes, fried fish shops, grocery shops, food stores, bread shops, and other places where rats are likely to be found.

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 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.

During the year the district sanitary inspectors paid 91,452 visits to ascertain if premises were infested by rats. 257 premises were found rat infested owing to defective drains, or accumulation of rubbish or lumber. 42 notices were served upon the persons responsible for the abatement of the nuisance, and these have since been complied with.

Rat catchers have paid 31,429 visits to premises for the purpose of ascertaining whether they were infested with rats, and in 2,043 instances evidence of rats was found. 11,400 rats were caught, of this number 10,788 were brown, and 612 were black. The City Bacteriologist examined 2,363 rats to ascertain if they were free from plague or other diseases, and the remainder were burnt.

The Licensing of Places for Keeping Cattle.

(Liverpool Corporation Act, 1921.)

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 1939.
Number of licensed piggeries	88
Number of pigs specified on the licences	3,753
Approximate average number of pigs kept	2,016

During the year, one new licence to keep pigs was applied for involving the keeping of fifty pigs. This application was granted. Two licences were transferred.

During the year, 237 visits of inspection to piggeries were made. Five 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.

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 1939, 424 store cattle were kept on registered premises.

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) the supervision of the mortuaries.

AMBULANCE SERVICES.

The number of cases of infectious disease removed to hospital was 5,084.

DISINFECTION OF PREMISES AND ARTICLES.

The number of houses disinfected after infectious disease was 1,264. The number of articles of bedding, clothing, etc., disinfected by steam after exposure to infectious disease was 113,092.

DISINFESTATION OF PREMISES AND HOUSEHOLD EFFECTS.

Premises.—During the year, 3,351 Corporation houses and 738 Corporation tenements were inspected for vermin. It was found that 534 houses and 466 tenements were infested with bugs. In the table below is described the action taken in these cases.

TREATMENT OF INFESTED PREMISES.

	Corporation Houses.		Non-Corporation Houses.
	Houses.	Tenements.	
Number treated by method "A"	239	231	0
Number treated by method "B"	293	271	0
Total treated	532	502	0
Number of failures (method "A")... ..	0	0	0
Number of failures (method "B")... ..	0	0	0
Awaiting treatment at the end of the year ...	48	53	0

Method "A" consists of the use of washed heavy naphtha, of which a description was given in the 1935 report. 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.).

Of the 1,034 Corporation houses and tenements disinfested, 470 were vacant at the time of treatment and 564 were occupied. The naphtha treatment was carried out on vacant premises only.

Household Effects.—The disinfestation 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 2,439 families was disinfested with hydrogen cyanide gas, and the bedding belonging to 2,586 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 Disinfestation 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 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.—Reference was made in the 1937 report to the supervision or education of tenants of Corporation houses in methods to be used by them for the care of their houses. Inspections are continually being made by Inspectors attached to the Housing Department.

Mortuaries.

The new Central Mortuary was opened for use on 13th February, 1939. Concurrently with the opening of the new mortuary, the Princes Dock Mortuary was closed.

During the year the number of bodies removed to the mortuaries was:—

			To the old mortuary.		To the new mortuary.
From the river	...	...	—	...	7
From the city	...	...	45	...	226

The Eaton Street Mortuary is used for the reception of stillbirths. The number received during the year was 159.

Cremation.

The number of cremations which took place at the Liverpool Crematorium during 1939 was 359.

Smoke Abatement.

The control of smoke emission from industrial chimneys has been well maintained during 1939. Observations show that the factory chimneys are free from smoke for 54.9 minutes per hour, black smoke

issues for 1.3 minutes per hour and smoke of any density or colour for 5.1 minutes per hour. The alterations and improvements carried out during the year are as follows:—

New steam boilers installed to give increased power	...	...	...	27
Central heating boilers installed	...	...	...	52
Mechanical stokers installed	...	...	...	49
Chimneys erected or extended to improve draught	...	...	...	24
Other improvements	...	...	...	61

Over 150 plants in the city have now been supplied with mechanical underfeed stokers.

Complaints.—During the year 42 complaints were received regarding smoke, grit and fumes from industrial chimneys and a remedy was found in every sustained case. In 11 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 9 cases with satisfactory results, and in 5 other cases an entire new plant was installed. In the remaining 17 cases, an abatement of the nuisance was obtained by systematic observations and advice as to firing methods. These complaints necessitated 395 visits and observations.

Smoke Nuisance from Steamers.—During the year there were 22 reports of excessive smoke emission from steamers in dock and on the river, 14 of which related to foreign-going steamers. In every case the owners were communicated with in respect of the nuisance. In the remaining cases four informations were laid and convictions obtained.

Railway Smoke.—A series of measurements of atmospheric pollution have been carried out, by means of an automatic air filter, in the vicinity of railway tunnels and cuttings; it was found that the average air pollution near the railway cuttings was $2\frac{1}{2}$ times as great as that which was found some little distance away.

During February and March the L.M. & S. Railway Company carried out a series of experiments by using smokeless fuel for alternate weeks, on a percentage of their railway locomotives, mainly those used on local services and from which the majority of pollution arises. It was found that the quantity of pollution dropped from 1.84 lbs. per million cubic yards when ordinary coal was used, to 1.28 lbs. per million cubic yards when smokeless fuel was used, an improvement of 30 per

The Executive Committee met as required during the year and acted in an advisory capacity on problems connected with smoke abatement. Visits were made to industrial plants in the area where good combustion conditions obtain, and modern practice in smoke abatement was demonstrated to the constituent representatives.

Atmospheric Pollution.

Measurements of the suspended matter in the atmosphere have been recorded during the year by means of an *Owen's Automatic Air Filter*. This machine is designed to measure suspended impurities in the air by filtering two litres of air at regular intervals through a disk of white filter paper. Throughout the year the air filter has been used to record the amount of pollution in the vicinity of railway cuttings and other places and the following table shows the results obtained.

AUTOMATIC AIR FILTER (AVERAGE WEEKLY READINGS).

Week	Railway Cutting.								Belmont Road Hospital.		
	Jan.	Feb.	March	April	May	June	July	Aug.	Oct.	Nov.	Dec.
1	3.15	3.79	2.97	3.18	3.39	3.20	2.64	2.99	0.95	2.71	1.79
2	3.52	*1.90	*2.32	3.41	3.52	2.83	2.79	2.82	2.10	1.55	2.95
3	3.20	3.28	2.93	2.82	3.54	2.54	3.25	2.82	1.55	2.13	3.42
4	4.08	*2.53	3.71	3.67	3.51	3.75	3.61	3.15	2.42	3.22	2.91
5	—	—	3.52	—	—	—	3.27	—	1.98	—	—

* Smokeless fuel used on railway engines.

1 unit = 0.54 lb. per million cu. yards.

0.32 milligrammes per cu. metre.

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 Welfare 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	78.08	196.51	152.97	389.31
Dissolved matter	70.43	90.44	112.10	145.69
Total solids	148.51	286.95	265.07	535.00
Acidity as H_2SO_4	8.69	9.49	15.94	4.18
Chlorine as Cl.	20.63	23.63	35.23	23.00
Ammonia as NH_3	0.29	0.44	0.49	3.74
Sulphate as SO_3	16.12	21.61	23.13	43.25
Lime as CaO	7.00	10.51	11.25	18.54
Rainfall in inches	33.84	33.04	27.91	26.65

During 1939 the rainfall at Aigburth Vale and at the Carnegie Welfare Centre was practically the same as in 1938, while at St. George's Hall it was 8 per cent. less.

All the collections during the year from each of these gauges were acid in character, but all showed a marked improvement in the matters deposited; thus the total matters deposited at Aigburth Vale were approximately 34 tons, at the Carnegie Welfare Centre 82 tons and at St. Georges Hall 102 tons per square mile less than in 1938.

Owing to breakage of containers the collection for June at Netherfield Road was lost in transit to the laboratories. No comparison with the results for other years can therefore be made.

Cleansing and Scavenging.

The City Engineer and Surveyor has kindly supplied the following information, which indicates the operations carried out by the cleansing staff under his control.

During 1939 the quantity of domestic and trade refuse collected by the department was 293,785 tons, and the total quantity disposed of was 319,877 tons. The quantity dealt with per working day was 1,045 tons.

The whole of the 713 miles of streets with their passages, with the exception of a few on the outskirts of the city, are swept weekly, the principal streets, and streets in congested areas, receiving constant daily attention. In addition, certain streets and passages are washed by hose pipe.

During 1939, 22,222 tons of street sweepings were collected and disposed of as manure and top-dressing.

Five mechanical gully emptiers are now in use, which perform the work in a very satisfactory and sanitary manner.

In connection with street watering, 1,178,922 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, 1939, was 328.

There are 31 underground urinals with 283 stalls and 125 overground urinals with 616 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 1939, the number of bins in use of this type was 90,521, the number of ashpits being reduced from 65,000 to 775. In addition, more than 114,000 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 605, which are emptied daily. Ashbins and ashpits belonging to domestic premises are emptied approximately once weekly. The bell-cart service provides for the daily removal of domestic and trade refuse from shops and business premises, also from 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.

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 the recommendations of the Minister of Health, to comply with which 50,523 tons of soil, etc., were used for covering the refuse disposed of at tips during the year.

During the year, 96,946 tons were burned at the destructors, 49,740 tons of refuse and 9,192 tons of heavy covering material were deposited at sea by hopper barge, 4,454 tons were sold to farmers, etc., and 167,620 tons were otherwise disposed of at tips and for agricultural purposes, etc. In addition, approximately 15,200 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.

Water Supply.

The following particulars of the main extensions of the water undertaking of the city which were completed during the year, have been kindly supplied by the Water Engineer.

A new reinforced concrete Balancing Reservoir of three million gallons capacity has been built at Speke Road, Woolton, which balances the supply to the Garston and Speke areas, and provides storage in case of breakdown on the feeder main.

A new electrically driven Booster Pump has been installed at Woolton as an alternative to an existing Booster at Dudlow Lane for the supply of the high level district of Woolton Hill.

In addition to the above, many miles of service mains, for the improvement of the supply and development of the area, have also been made.

Liverpool Corporation Swimming Baths.

The following information concerning the Liverpool Corporation swimming baths has been kindly supplied by the Baths Manager:—

Name of Bath.	No. of Plunges.	Capacity in Gallons.	Nature of Water Supply.	Frequency of Renewal.	Filtration.	Chlorination.	Frequency of Chemical Check.
Covered Baths.							
Harold Davies ...	3	175,000	City water mains	Continuous filtration	Filtration with coagulant	Continuous Chlorination	Four times a day
Lister Drive ...	2	122,800					
Lodge Lane ...	2	121,300					
Margaret Street ...	2	129,100					
Picton Road ...	2	110,200					
Queens Drive ...	2	128,400					
Speke Road ...	2	122,300					
Stebble Street ...	2	110,100					
William Roberts ...	3	175,000					
Woolton ...	1	43,875					
Burroughs Gardens	2	55,119						River water
Cornwallis Street	3	127,500					
Westminster Road	2	146,706	City water mains				
Burlington Street ...	1	94,500					
Gore Street ...	1	70,333					
Green Lane ...	1	73,456					
Mansfield Street ...	1	45,706					
Queens Drive ...	1	45,706					
Stanley Park ...	2	188,131					
* Open-air Baths.							

* The open-air baths were closed at the outbreak of war.

All swimming baths are equipped with modern filtration plants, and samples of bath water are frequently submitted to the City Bacteriologist for examination. These samples are 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, diseases of cattle, and adulteration of food and drugs.

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INSPECTION OF FOOD.

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 factor-ies.	Pickle factor-ies.	Ice Cream premises	Food factories	Knackers' yards.	Total visits paid.
421	17,246	21,653	19,209	3,638	50	59	2,919	933	30	66,158

Private Slaughter-houses.

There are seven private slaughter-houses in the city at which, during the year, 1,218 animals were slaughtered.

The Public Slaughter-house or Abattoir.

During 1939, 623,284 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	...	...	2,535	39,645	28,291	3,822	23,551	469,561	54,661	—
Private Slaughter-houses	...	...	—	—	—	—	1	18	1,113	86
TOTALS	...	...	2,535	39,645	28,291	3,822	23,552	469,579	55,774	86

Many carcasses of home-killed animals are brought into Liverpool from other districts. A summary is given in Table III.

TABLE III.

CARCASES OF ANIMALS (HOME-KILLED) BROUGHT INTO LIVERPOOL FROM OTHER DISTRICTS.

Brought into the—	Beef.	Veal.	Mutton.	Lamb.	Pork.
Meat Market	4,905	516	584	7,202	6,358
Factories, Shops, etc. ...	24	3	—	470	432
TOTALS	4,929	519	584	7,672	6,790

In addition to the above, 13,454 boxes or packages of home-killed offal were dealt with in the meat market, and 6,076 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 1939 are given in Table IV.

TABLE IV.

CARCASES OF IMPORTED (FROZEN AND CHILLED) MEAT PASSING THROUGH THE MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.
56,227	250	115,616	632,043	8,380

In addition to the above, 17,603 cuts of beef and 141,904 boxes and packages of imported meat and offal were dealt with in the meat market.

7,689 lbs. imported beef and 2,128 lbs. imported offal were destroyed for unsoundness, chiefly mould and brine damage.

Diseased Conditions.

The carcasses of 54,764 animals showed abnormal conditions, and a detailed examination was made in each case.

During the year, 3,354 carcasses were rejected as being unfit for human food. Of these, 2,362 were destroyed at the abattoir and 992 were destroyed at knackers' yards.

A description of the diseased conditions found during 1939 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 (total)	8	Malignant Neoplasm	6
" (partial)	69	Melanosis (total)	1
Anthrax	1	" (partial)	2
Arthritis, Septic (total)	39	Moribund	21
" Simple (partial)	274	Nephritis Septic	10
Asphyxia	331	Pyæmia	8
Caseous Lymphadenitis	1	Peritonitis Septic	21
Contamination (partial)	4	Pneumonia	50
Decomposition (total)	39	Pleurisy	14
" (partial)	30	Pleurisy (partial)	1
Distomatosis	203	Presternal Calcification (partial)	1
Dropsy	210	Sarcosporida	1
Emaciation	143	Septicæmia	8
Enteritis	322	Septic Mastitis	4
Gangrene	1	" Metritis	8
Immaturity	8	" Pericarditis	2
Injury (total)	21	Swine Fever	226
" (partial)	418	Swine Erysipelas	6
Jaundice	23	Tuberculosis (total)	613
Johnes Disease	4	" (partial)	796
Joint Ill	9	Urticaria (partial)	30

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 :—		HEARTS :—	
Abscess	175	Abscess	64
Actinomycosis	109	Decomposition	232
Contamination	2	Melanosis	1
Decomposition	401	Pericarditis	203
Injury	19	Tuberculosis	4,718
Melanosis	2		
Tuberculosis	6,392	SPLEENS :—	
		Abscess	8
		Decomposition	72
		Peritonitis	56
		Tuberculosis	2,246
LUNGS :—		STOMACHS :—	
Abscess	288	Abscess	9
Congestion	9,647	Peritonitis	57
Contamination	1	Tuberculosis	2,272
Decomposition	697		
Emphysema	86	KIDNEYS :—	
Melanosis	9	Abscess... ..	11
Pneumonia	1,747	Cysts	37
Pleurisy	1,046	Cirrhosis	28
Tuberculosis	6,393	Decomposition	1
Unclassified Cystic Conditions...	1,974	Nephritis	23
		Tuberculosis	2,335
LIVERS :—		UDDERS :—	
Abscess	414	Abscess	114
Cavernous Angioma	785	Actinomycosis	51
Cirrhosis	2,067	Decomposition	27
Distomatosis	16,970	Mammitis	2,239
Decomposition	363	Tuberculosis	205
Fatty Infiltration	14		
Melanosis	6	INTESTINES :—	
Necrosis	101	Abscess	9
Parasitic	247	Johnes Disease	8
Peritonitis	498	Peritonitis	56
Tuberculosis	5,056	Tuberculosis	4,743
Unclassified Cystic Conditions...	5,081		

Calves with Tuberculosis.

The following table summarises the number of carcasses inspected and condemned during the year.

TABLE VII.

CARCASSES INSPECTED AND CONDEMNED.

	Cattle, excluding Cows.	Cows.	Calves.	Sheep and Lambs.	Pigs.
Number killed	46,002	28,291	23,552	469,579	55,774
Number inspected	46,002	28,291	23,552	469,579	55,774
ALL DISEASES EXCEPT TUBERCULOSIS.					
1. Whole carcasses condemned ...	11	55	74	1,203	406
2. Carcasses of which some part or organ was condemned ...	9,393	15,528	11	4,525	13,612
3. Percentage of number inspected affected with disease other than tuberculosis	20.44%	55.08%	0.36%	1.22%	25.13%
TUBERCULOSIS ONLY.					
1. Whole carcasses condemned ...	49	414	20	—	130
2. Carcasses of which some part or organ was condemned ...	838	4,158	14	—	3,823
3. Percentage of number inspected affected with tuberculosis	1.93%	16.16%	0.14%	—	7.08%

Quantities of Food Materials Condemned.

The quantities of food materials condemned as being unfit for human food are given in Table VIII.

TABLE VIII.

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.	Sundries	Canned Food- stuffs.
		Wet.	Dry.										
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
517,614	1,142,000	190258	19803	5,609	4	7,884	208	13,434	292,391	318,556	7,300	270	16,693

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.

Under Part III of the Regulations the authority of the Minister of Health was obtained for the marking of meat slaughtered in the City with the words "City of Liverpool Inspected and Passed".

The design of the mark was approved by the Minister and eight of the Food Inspectors were specially authorised by the Minister to use the mark.

The mark has been used on a number of carcasses and cuts of meat, thereby showing that such meat was obtained from animals which were free from disease and was sound, wholesome and fit for the food of man.

The Tuberculosis Order, 1938.

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 1939, 34 cows were slaughtered under this Order at the City Abattoir.

Slaughter of Animals Act, 1933.

During the year, the following applications for licences as slaughtermen were received, namely: 17 for new licences, 233 for renewal of existing licences and 354 temporary licences for the slaughter of animals for the food of Mohammedans. In each case the licence was granted.

Liverpool Corporation Act, 1936.

During the year, 202 registrations were issued for ice cream and 138 for preserved meat, and 96 ice cream registrations were withdrawn.

THE SUPERVISION OF DAIRIES, COWSHEDS AND MILKSHOPS.

Registration of Dairies.

TABLE IX.

(*Milk and Dairies Order, 1926.*)

Number of registered dairies at the end of 1938.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1939.
690	22	—	43	669

During the year, 26 dairies were transferred from one owner to another.

Inspection of Dairies.

During the year, 3,162 visits of inspection were paid to dairies. In 10 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 1938 were 4,260.

Registration of Dairymen.

TABLE X.

REGISTERED DAIRYMEN.

Number of registered dairymen on Jan. 1st, 1939.	Applications for registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1939.
748	36	—	78	706

Of the 706 dairymen on the register at the end of the year, 37 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 4 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.

In Table XI is a summary of the register of licences in respect of milch cows.

TABLE XI.

REGISTRATION OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1938.	End of 1939.
Number of licensed cowsheds... ..	205	199
Number of cows specified on the licences	3,892	3,817
Approximate average number of cows kept	2,784	2,671

During the year three licences were transferred from one person to another.

1,247 visits of inspection were paid to cowsheds. Twelve 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 101.

The Daily Supply of Milk to Liverpool.

The quantity of milk consumed in Liverpool daily is as follows:—

TABLE XII.

DAILY CONSUMPTION OF MILK DURING 1939.

Grade of Milk.								Quantity in Gallons.
Tuberculin-tested (Certified)	...	...	...	...	...	...	...	98
Tuberculin-tested	...	...	...	...	...	...	...	987
Tuberculin-tested (Pasteurised)	...	...	...	...	...	...	...	379
Accredited	...	...	...	...	...	...	...	11,663
Raw ungraded	...	...	...	...	...	...	...	9,030
Pasteurised under licence	...	...	...	...	...	...	...	11,391
Heat-treated to pasteurisation standard	...	...	...	...	...	...	...	5,041
Sterilized	...	...	...	...	...	...	...	5,280
Total								43,869

The relative quantities of milk produced within the city or brought into the city by road or by rail are as follows:—

TABLE XIII.

DAILY SOURCE OF MILK DURING 1939.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
8,013 gallons	31,275 gallons	4,581 gallons

Total, 43,869 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 XII.

TABLE XIV.

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	24	0
Producer and retail vendor ...	1	1	1	48	6
Retail vendor only ...	6	8	15	20	3

During the year the following changes in licence-holders took place, namely: 4 new licences were issued to producers only of "Accredited" milk; 2 new licences were issued to producer-retailers of "Accredited" milk; and the licences of 3 vendors were surrendered. One new licence to pasteurise milk was issued.

The Provision of Milk for School Children.

Pasteurised milk only is supplied to school children under the Milk Marketing Board's scheme. On March 31st, 90,626 children were each supplied with a third of a pint. This number is 71 per cent. of the school attendance on that day. During the year 182 samples were examined bacteriologically and chemically, and the results as a whole were highly satisfactory. None of the samples was found to be tuberculous.

THE CLEANLINESS OF MILK.

TABLE XV.

EXAMINATION OF 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 ml.	Present in 1 ml.	Present in $\frac{1}{10}$ ml.	Present in $\frac{1}{100}$ ml.
A	36	Hospitals and Institutions.	34	2	25	7	2	2
A	24	Child Welfare Centres.	23	1	16	1	2	5
B	8	Do.	7	1	6	0	1	1
C	18	Do.	16	2	12	0	1	5
D	12	Hospitals and Institutions	12	0	10	1	1	0
E	12	Do.	11	1	4	1	4	3
F	5	Wholesale depot	5	0	4	1	0	0
G	5	Do.	3	2	1	0	2	2
H	9	Do.	8	1	1	3	2	3
I	1	Do.	1	0	1	0	0	0
J	5	Do.	4	1	3	0	1	1
K	12	Do.	10	2	7	1	2	2
L	12	Do.	12	0	11	1	0	0
M	12	Do.	12	0	8	2	1	1
N	2	Milkshop in city	2	0	2	0	0	0
*O	6	Do.	6	0	4	1	1	0
*P	1	Do.	1	0	1	0	0	0
*Q	1	Do.	1	0	1	0	0	0
*R	10	Farm in city ...	9	1	6	2	1	1
TOTALS	191		177	14	123	21	21	26

* Tuberculin Tested Milk (Certified) bottled on the farm.

TABLE XVI.

THE EXAMINATION OF ACCREDITED MILKS PRODUCED IN LIVERPOOL.

Total Number of Samples.	METHYLENE BLUE TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.				
	Satisfactory.	Unsatisfactory.	Absent in	Present in			
			1 ml.	1 ml.	$\frac{1}{10}$ ml.	$\frac{1}{100}$ ml.	$\frac{1}{1000}$ ml.
194	146	48	77	33	31	22	31
	75.3%	24.7%	39.7%	17%	16%	11.3%	16%

THE EXAMINATION OF ACCREDITED MILKS PRODUCED OUTSIDE LIVERPOOL.

Total Number of Samples.	METHYLENE BLUE TEST.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.				
	Satisfactory.	Unsatisfactory.	Absent in	Present in			
			1 ml.	1 ml.	$\frac{1}{10}$ ml.	$\frac{1}{100}$ ml.	$\frac{1}{1000}$ ml.
151	114	37	72	24	12	19	2
	75.5%	24.5%	47.7%	15.9%	7.9%	12.6%	15.9%

TABLE XVII.

EXAMINATION OF 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 ml.	Present in			
					1 ml.	$\frac{1}{10}$ ml.	$\frac{1}{100}$ ml.	$\frac{1}{1000}$ ml.
January ...	13	13	0	7	4	0	1	1
February ...	21	21	0	9	6	5	1	0
March ...	10	8	2	3	4	2	0	1
April ...	9	1	8	2	4	0	0	3
May ...	13	8	5	1	5	4	2	1
June ...	14	3	11	0	4	3	3	4
July ...	5	0	5	0	0	0	1	4
August ...	15	3	12	0	0	2	4	9
September	15	1	14	0	2	4	4	5
October ...	15	5	10	1	2	1	4	7
November...	14	10	4	7	1	3	3	0
December...	17	15	2	7	3	1	6	0
TOTAL ...	161	88	73	37	35	25	29	35
		54.7%	45.3%	22.9%	21.7%	15.6%	18.1%	21.7%

Ice Cream.

During the year, 2,919 visits of inspection were paid to the premises of ice cream vendors and makers. Seventy-three samples were examined and found satisfactory. In 46·5 per cent. the total count was under 10,000 organisms per c.c., and in 50 per cent. coliform bacilli were absent in 1 c.c.

TUBERCULOUS MILK.

The Examination for Tuberculosis, of Milk produced within the City.

TABLE XVIII.

THE EXAMINATION FOR TUBERCULOSIS, OF MILK PRODUCED WITHIN THE CITY.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk ...	202	10	4·9%
Ungraded raw milk ...	164	15	9·1%

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

TABLE XIX.

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 ...	347	10	2·9%
Ungraded raw milk ...	259	41	15·8%

TABLE XX.

THE SITUATION OF AREAS WITHOUT THE CITY FROM WHICH MILK SAMPLED
FOR TUBERCULOSIS WAS DERIVED.

County.	Description of Milk.		Number of Tuberculous samples.		Tubercle bacilli present.	Percentage tuberculous.
	Ungraded.	Graded.	Ungraded.	Graded.	Totals.	
Lancashire ...	80	111	10	4	14	7.3%
Cheshire ...	128	173	24	5	29	9.6%
Denbighshire ...	39	22	3	1	4	6.5%
Flintshire ...	12	—	4	—	4	33.3%
Shropshire ...	—	24	—	—	—	—
Westmorland ...	—	13	—	—	—	—
Aberdeen ...	—	2	—	—	—	—
Montgomeryshire	—	2	—	—	—	—
	259	347	41	10	51	8.4%

THE ADULTERATION OF FOOD AND DRUGS.

During the year, 8,419 samples of food and drugs were purchased or taken and submitted for examination. Of these samples 4,475 were formal samples and 3,944 were informal samples. The results are summarised in Table XXI.

TABLE XXI.

FOOD AND DRUGS (ADULTERATION) ACT, 1928.
FOOD AND DRUGS ACT, 1938.

Number and description of samples submitted for analysis during theyear 1939 :—

ARTICLE.	NUMBER EXAMINED.			NUMBER ADULTERATED OR OTHERWISE GIVING RISE TO IRREGULARITY.			Number of vendors cautioned.	Informations laid.
	Formal.	Informal.	Total.	Formal.	Informal.	Total.		
Arrowroot	26	1	27	—	—	—	—	—
Baking Powder	8	8	16	—	2	2	1	—
Barley	146	8	154	3	—	3	2	—
Beer	—	47	47	—	—	—	—	—
Bread	—	19	19	—	—	—	—	—
Beef Suet and Flours	—	24	24	—	—	—	—	—
Beans, Lentils, Peas, etc.	42	6	48	—	—	—	—	—
Butter	2	278	280	1	—	1	—	1
Cake and Flour Mixtures	2	20	22	—	—	—	—	—
Cake and Biscuits	—	6	6	—	—	—	—	—
Cheese and Wrapped Cheese	—	24	24	—	—	—	—	—
Cocoa, Chocolate and Mixtures	72	14	86	—	—	—	—	—

ARTICLE.	NUMBER EXAMINED.			NUMBER ADULTERATED OR OTHERWISE GIVING RISE TO IRREGULARITY.			Number of vendors cautioned.	Informations laid.
	Formal.	Informal.	Total.	Formal.	Informal.	Total.		
Coffee and Mixtures and Extracts ...	91	23	114	—	1	1	—	—
Condensed Milk ...	—	53	53	—	3	3	1	—
Confectionery and Sweets ...	1	127	128	—	—	—	—	—
Condiments and Spices ...	133	92	225	4	4	8	4	—
Cornflour ...	24	25	49	—	—	—	—	—
Cream of Tartar ...	10	12	22	1	—	1	1	—
Cream and Tinned Cream ...	—	48	48	—	—	—	—	—
Custard Powder... ..	9	48	57	—	—	—	—	—
Dripping and Compounds ...	—	21	21	—	—	—	—	—
Dried Fruits ...	77	12	89	2	—	2	1	—
Dried Milk ...	—	1	1	—	1	1	1	—
Drugs ...	5	93	98	—	1	1	—	—
Egg Substitute Powder ...	—	7	7	—	—	—	—	—
Flour ...	44	—	44	—	—	—	—	—
Fruit Pectin ...	—	2	2	—	—	—	—	—
Gravy Salts, etc. ...	—	21	21	—	—	—	—	—

ARTICLE.	NUMBER EXAMINED.			NUMBER ADULTERATED OR OTHERWISE GIVING RISE TO IRRREGULARITY.			Number of vendors cautioned.	Informations laid.
	Formal.	Informal.	Total.	Formal.	Informal.	Total.		
Tea	218	43	261	—	—	—	—	—
Tinned Beans, etc.	—	22	22	—	2	2	1	—
Tinned Fruits	—	52	52	—	8	8	1	—
Tinned Vegetables	—	50	50	—	4	4	—	—
Tinned and Potted Meats	—	16	16	—	3	3	2	—
Tinned and Potted Fish	—	72	72	—	9	9	—	—
Vinegar	—	11	11	—	—	—	—	—
Wines and Spirits	16	11	27	1	—	1	—	1
Cordials, Lemonade, etc.	9	34	43	—	—	—	—	—
Miscellaneous	3	7	10	—	—	—	—	—
TOTALS	4,475	3,944	8,419	191	141	332	169	66

TABLE XXII.

OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, MILK AND DAIRIES AMENDMENT ACT, 1922,
THE PHARMACY AND POISONS ACT, 1933, AND THE FOOD AND DRUGS ACT, 1938.

No. of informa- tions laid.	Nature of Sample.	Nature of Offence.	RESULT OF LEGAL PROCEEDINGS.				
			No. of convic- tions.	Withdrawn	Dismissed	Fines.	Costs.
						£ s. d.	£ s. d.
30	Milk ...	Contained added water ...	29	1	...	39 0 0	34 0 0
21	Milk ...	Deprived of milk fat ...	8	2	11	7 0 0	8 12 0
1	Milk ...	Coloured with annatto ...	1	...	...	2 0 0	4 4 0
7	Beef and Pork Sausages.	Deficient in meat ...	7	...	...	9 0 0	8 8 0
5	Beef and Pork Sausages	Contained preservative ...	5	...	...	5 0 0	5 5 0
1	Whisky ...	Contained 7.4% excess water ...	1	...	...	2 0 0	1 1 0
1	Butter ...	Consisted of margarine ...	1	...	...	2 0 0	1 1 0
1	Carbolic Cream	Contained 10% phenols ...	1	...	...	2 0 0	2 2 0
67			53	3	11	68 0 0	64 13 0
						£132 13 0	

Fertilizers and Feeding Stuffs.

During 1939, 118 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 482. Legal proceedings were taken against one unregistered vendor (see Table XXII).

REPORT OF THE CITY BACTERIOLOGIST.

General.—In 1939 the number of specimens examined (96,234) shows a slight decrease (from 105,236 in 1938 and 100,732 in 1937) This is almost entirely accounted for by the decrease in the incidence of diphtheria. The effect of the outbreak of war has not yet become clear but it seems likely that the demands of the armed forces and of neighbouring authorities may well be increased in the near future.

Since September, 1939, the Laboratory has maintained and staffed a subsidiary branch at Conway at the expense of the Ministry of Health to deal with emergency requirements in North Wales. Several members of the technical and office staff have joined the armed forces and their departure has thrown much extra work on those who remain, a burden which all have most willingly accepted.

Milk.—Attention has been repeatedly drawn in these reports to the frequent occurrence of tubercle bacilli in the milk examined. This year again the incidence is high as will be seen on reference to Tables XVIII and XIX.

None of the 182 samples of pasteurised school milk was found to contain tubercle bacilli. By way of contrast, 275 samples of school milk, mostly unheated, from outside authorities, yielded 27 which contained tubercle bacilli. It is clear that the raw milk of this city continues to provide a serious risk to health which could be removed in large part by adequate pasteurisation. The figures for the various categories of milk examined during the years 1935-1939 are as follows:—

Nature of Samples.	Incidence of tubercle bacilli in milk samples		
	No.	Tubercle bacilli present	Per- centage positive.
General samples	5,556	491	8·8
Liverpool school milk (heat treated) ...	1,024	2	0·19
Unheated school milk (from other authorities) ...	1,409	109	7·7

The heat treatment has gone a long way towards abolishing the risk to school children. One of the positive samples occurred two years ago in milk from a plant which had been noted to be defective and was subsequently replaced. The other sample was obtained, as reported in 1938, from a plant which has since been modified. The other occurred early in 1939. Both plants concerned have continued to supply satisfactory samples since. As there is a chemical test which can readily be applied in a short time to determine if milk has been adequately pasteurised the error of processing which may occasionally occur can be quickly detected and even this small risk abolished. There is therefore no real reason why in the stress of the war all the raw milk of the city should not be made safe for human consumption, safe not only from risk of tubercle but of other infections which may be transmitted by means of milk.

Water.—As arranged in 1938, weekly samples have been examined from the pipe lines entering and leaving the Prescott reservoirs and from wells which are in use, in addition to the daily samples from the laboratory taps and special samples from time to time to clear up problems arising. In all, some 625 routine and 279 special samples were examined. The general results are reported by the Water Engineer in his annual report. With the system of examinations now adopted it should be possible to detect quickly any pollution that may occur and locate with very little delay the source of such pollution.

Diphtheria.—With the assistance of the Medical Research Council, the investigation into cross-infection in diphtheria wards has been continued and extended. The war has interfered to a certain extent but it

is hoped that a modified scheme of work will be possible. The epidemiological studies have also been continued.

Plague.—None of the 5,201 rats examined were found infected with plague.

Enteric diseases.—929 specimens of faeces and 467 of urine have been examined yielding 73 strains of *B. typhosus*, 130 of *B. paratyphosus B*, 28 of dysentery bacilli, 49 of *B. aertrycke* and 31 of other *Salmonella* types.

Anthrax.—The Government disinfecting station submitted 379 specimens of hair and wool for examination. Of these 190 were untreated and 40 contained anthrax bacilli; 189 were treated and of those none were infected with anthrax. The results of the examination of untreated samples from various sources were as follows:—

Source.	Positive.	Negative.
Tunis	3	3
Persia	3	3
Russia	1	9
Algeria	1	9
China	1	16
Egypt	1	14
East India	17	18
Morocco	2	13
Other sources	11	65
	40	150

Examinations made in the Bacteriological Department for the City of Liverpool during the year 1939.

Milk (fresh-liquid)—Coli estimation, methylene blue test and examination for tubercle bacilli	...	...	679
" " —Coli estimation, bacterial count and examination for tubercle bacilli	...	...	235
" " —Coli estimation and methylene blue test	...	...	16
" " —Coli estimation and examination for tubercle bacilli	...	...	3
" " —Coli estimation, bacterial count, methylene blue test and examination for tubercle bacilli	...	...	14
" " —Coli estimation and count	...	...	3
" " —Inoculation only	...	...	248
" " —Methylene blue test only	...	...	1
			1,199
Carried forward	...	...	1,199

	Brought forward	...	...	1,199
Foodstuffs :—				
Tinned milk	...	...	...	15
Shell-fish for bacterial contamination	...	...	...	4
Ice cream for bacterial content and coli estimation	...	...	...	73
Tinned and potted meats	...	...	...	1
Miscellaneous foodstuffs	...	...	...	4
				<hr/> 97
Water —bacterial counts and coli estimation :				
Daily samples from City supply	...	...	...	306
Routine samples	...	...	...	319
Baths water	...	...	...	180
Miscellaneous samples	...	...	...	277
				<hr/> 1,082
Rats for plague bacilli	...	...	...	2,321
Swabs for organisms of Vincent's Angina	...	...	...	182
Swabs for diphtheria bacilli	...	...	...	46,674
Diphtheria cultures—virulence tests	...	...	...	742
„ „ —type determination	...	...	...	5,342
Agglutination tests	...	...	...	275
Blood cultures	...	...	...	14
Faeces for organisms of the enteric group	...	...	...	927
Urine for organisms of the enteric group	...	...	...	467
Cerebrospinal fluid, etc., for pathogenic organisms	...	...	...	72
Sputum, etc., for tubercle bacilli	...	...	...	1,752
Exudates for anthrax bacilli	...	...	...	83
Miscellaneous examinations of tissues, secretions, etc.	...	...	...	2,016
				<hr/> 63,245
Venereal Diseases :				
Wassermann tests	...	...	...	14,083
Meinicke tests	...	...	...	4,252
Films for gonococci	...	...	...	1,190
Cultures for gonococci	...	...	...	128
Gonococcus complement fixation tests	...	...	...	1,177
Exudates for spirochaetes	...	...	...	7
Tissues for spirochaetes	...	...	...	13
				<hr/> 20,850
Port Health Authority :				
Wool and Hair for anthrax bacilli and spore-bearing organisms	...	...	...	379
Rats for plague bacilli	...	...	...	2,880
Faeces for organisms of enteric group	...	...	...	2
Miscellaneous	...	...	...	3
				<hr/> 3,264

SUMMARY.

Specimens of Water, Milk, Foodstuffs and Infectious material	63,245
Venereal Diseases	20,850
Port Health Authority	3,264
	<hr/>
	87,359
	<hr/>

Work for Authorities outside the Liverpool area.—In addition to the work done for the Corporation, the laboratory has examined 8,875 specimens for outside authorities.

HOUSING

Owing to the state of emergency caused by the War, and the terms of the Ministry of Health Circular No. 1, 1941, dated September 28th, 1939, normal progress in regard to sign clearance has ceased.

It was pointed out in the Circular that Local Authorities have powers and duties under the Housing (Emergency Powers) Act, 1938, and the Essential Buildings and Plant (Repairs of War Damage) Act, 1939, which may involve a considerable amount of work. For the time being, at any rate, the Minister has decided that it is necessary to defer the holding of inquiries into shun clearance orders, and that Local Authorities should take no further steps in connection with Orders which have not reached the Minister's Office. The Minister proposes to postpone his decision on the issue of his Order, unless he is asked on representation by the Local Authorities to do so. In special circumstances which make it desirable that they should proceed.

HOUSING

Where an Order has been made, the Minister is of opinion that, in exceptional circumstances, the steps taken should stop short of actual demolition. In view of the probable destruction of housing accommodation by air attack, it is desirable that the existing supply of accommodation should not be diminished. Similar action should be taken in regard to individual demolition orders and re-development.

The postponement of the demolition of night property in the manner suggested will allow the provision of replacement accommodation to be deferred. In view of the probable heavy demand on the supply of building labour and material, it may also be necessary for Local Authorities to restrict building for overcrowding and general needs. Financially speaking, the Minister would only approve the erection of further houses when exceptional circumstances render the work of national importance, e.g. houses necessary for the employees of new factories, etc.

HOUSING.

Owing to the state of emergency caused by the War, and the terms of the Ministry of Health Circular No. 1,866, dated September 8th, 1939, normal progress in regard to slum clearance has ceased.

It was pointed out in the Circular that Local Authorities have powers and duties under the Housing (Emergency Powers) Act, 1939, and the Essential Buildings and Plant (Repairs of War Damage) Act, 1939, which may involve a considerable amount of work. For the time being, at any rate, the Minister has decided that it is necessary to defer the holding of Inquiries into slum clearance orders, and that Local Authorities should take no further steps in connection with Orders which have not reached the stage of Local Inquiry. As regards any Orders on which the Inquiry has been held, the Minister proposes to postpone his decision or the issue of his Order, unless he is satisfied on representation by the Local Authority that special circumstances exist which make it desirable that a particular Order should proceed.

Where an Order has been confirmed, the Minister is of opinion that, save in exceptional circumstances, the steps taken should stop short of actual demolition. In view of the probable destruction of housing accommodation by air attacks, it is desirable that the existing supply of accommodation should not be diminished. Similar action should be taken in regard to individual demolition orders and re-development schemes.

The postponement of the demolition of unfit property in the manner suggested will allow the provision of replacement accommodation to be deferred. In view of the probable heavy demand on the supply of building labour and material, it may also be necessary for Local Authorities to curtail building for overcrowding and general needs. Generally speaking, the Minister would only approve the erection of further houses when exceptional circumstances render the work of national importance, e.g., houses necessary for the employees of new factories, etc.

As regards houses which are in the course of erection, the Minister would be glad if Local Authorities would arrange for the completion of those houses in an advanced stage of construction, and not to start work on new foundations or continue work on houses in an early stage of construction.

Clearance Areas.

During the year, 814 houses were represented as being unfit for human habitation within the meaning of Section 25 of the Housing Act, 1936. There are still 11 clearance areas in abeyance which were referred to last year.

During the year, 1,076 houses were demolished and 7,323 persons re-housed.

Public Inquiries.

One public inquiry was held in connection with 12 clearance areas which included 551 houses. Two public inquiries were held in connection with Athol Street and Brownlow Hill Re-development Areas, and the plans in connection with these have not yet been confirmed.

Confirmation Orders.

36 confirmation orders were received in respect of 1,063 houses, and these orders confirmed the inclusion of 99·3 per cent. of houses in the areas.

Individual Unfit Houses.

Since operations were commenced under the Housing Acts, 1930-1936, the Medical Officer of Health has submitted representations in connection with 895 individual houses which in his opinion were unfit for human habitation.

During the year, 93 individual houses were represented under Section 11 of the Housing Act, 1936. Demolition orders were made in respect of 24 houses, of which 10 were demolished, 36 undertakings were given, and the remaining representations have still to be considered. Undertakings have been cancelled in respect of 5 houses which have been rendered fit.

Closing Orders in respect of Parts of Buildings.

31 representations of parts of buildings within the meaning of Section 12 of the Housing Act, 1936, were made which, together with the adjourned cases for last year were dealt with by 24 closing orders and 14 undertakings, the remaining representations having still to be considered.

Re-conditioning by Owners.

Works were completed in respect of 20 houses, but certificates under Section 51 of the Housing Act, 1936, have not yet been issued. At the end of the year works were proceeding on four properties with a view to obtaining certificates.

Increase of Rent and Mortgage Interest (Restrictions) Acts, 1920/1939.

Certificates have been issued under the above Acts in respect of 20 dwelling-houses which were not in all respects reasonably fit for human habitation. In one instance an application was received for the certificate to be cancelled.

Housing of the Working Classes.

Re-housing Schemes.

During 1939, the following flats, erected on sites in the central areas of the city, were completed:—

CORLETT STREET.—64 flats, consisting of 4 one bedroom, 12 two bedroom and 48 three bedroom types; also 7 shops; completing a scheme of 138 flats and 7 shops.

GERARD STREET.—A further 30 flats, comprising 6 one bedroom, 13 two bedroom, 8 three bedroom and 3 four bedroom types. This scheme now contains a total of 312 flats, and is in the Central Redevelopment Area, where it is intended to erect more than 2,000 flats.

WESTMORELAND PLACE.—74 flats, of which 12 are one bedroom, 5 are two bedroom, 51 are three bedroom and 6 are four bedroom types.

MASON STREET.—Comprising 60 two bedroom and 40 three bedroom flats.

PORTLAND STREET.—Half a scheme of 110 flats completed, consisting of 4 one bedroom, 19 two bedroom, and 32 three bedroom flats.

ST. OSWALD STREET.—4 three bedroom houses of the non-parlour type were erected.

In addition to the 323 flats erected in the central areas of the city, referred to above, the following houses and flats were erected on the outskirts of the city in connection with the slum clearance programme:—

KNOWSLEY (WOOLFALL HEATH) ESTATE.—In this portion of the Knowsley Estate, which is situated outside the city boundary, 933 houses and flats were completed during the year. These consisted of 12 one bedroom, 6 two bedroom and 6 three bedroom type flats, 81 two bedroom, 582 three bedroom and 4 four bedroom houses of the non-parlour type, and 230 three bedroom and 12 four bedroom houses of the parlour type.

WOOLTON GROVE ESTATE.—96 cottages for aged persons, 8 three bedroom non-parlour type houses, and 16 three bedroom parlour type houses were erected. This estate is being developed in connection with slum clearance operations in the Woolton district.

At the end of 1939 the following houses and flats were in course of erection for the accommodation of persons displaced as a result of slum clearance activities:—

CENTRAL AREAS.

PORTLAND STREET.—55 flats comprising four one bedroom, 19 two bedroom, and 32 three bedroom flats.

ST. OSWALD STREET.—60 flats, comprising 8 one bedroom, 16 two bedroom, 30 three bedroom, and 6 four bedroom flats.

ST. DOMINGO ROAD.—154 flats, comprising 96 two bedroom, 46 three bedroom, and 12 four bedroom flats.

DATE STREET.—110 flats, comprising 25 two bedrooms, 76 three bedroom, 5 four bedroom and 4 five bedroom flats.

BLUCHER STREET.—70 flats, comprising 30 one bedroom, 20 two bedroom, and 20 three bedroom flats.

OUTSKIRTS.

KNOWSLEY (WOOLFALL HEATH AND LONGVIEW FARM) ESTATE.—At the end of 1939, operations were in progress for the erection of 120 houses, and 2 shops and flats, comprising 22 three bedroom parlour type, 14 four bedroom non-parlour type, and 84 three bedroom non-parlour type houses.

WOOLTON GROVE ESTATE.—45 three bedroom, 4 four bedroom, and 2 five bedroom non-parlour type houses, and 23 three bedroom parlour type houses are in course of erection.

Housing Schemes.

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 27,056 houses and 415 flats on suburban estates up to the end of 1938.

At Speke, development is proceeding in close proximity to an area in which considerable industrial development is taking 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. During 1939, 683 houses and flats, comprising 6 two bedroom and 2 three bedroom flats, 54 two bedroom, 372 three bedroom and 36 four bedroom houses of the non-parlour type, 209 three bedroom, and 4 four bedroom houses of the parlour type, were erected without State assistance, and at the close of the year 217 houses out of a contract of 1,000 houses, were in course of erection.

The following tables give details relating to the suburban districts where houses have been erected, and to situations of dwellings provided in the central areas of the city.

Houses Erected on Suburban Estates at 31st December, 1939.

(Including houses erected on the outskirts for slum clearance purposes.)

Estates.	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)	90	120	210
Norris Green Estate	4,730	2,965	7,695
Pinehurst Road Estate	287	395	682
Ronald Street	78	—	78
Sparrow Hall Estate	511	63	574
" " " (Flats)	36	—	36
Speke (Banks Lane) Estate	286	—	286
Speke	728	515	1,243
" (Flats)	—	8	8
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	416	73	489
Partly-developed Estates	—	554	554
Total within the area of the City	15,291	11,784	27,075
Huyton Farm Estate	937	79	1,016
Knowsley Estate	3,631	710	4,341
" " (Flats)	108	—	108
Total outside the City boundary	4,676	789	5,465
GRAND TOTAL	19,967	12,573	32,540

In addition to the above, there are 122 flats erected over shops on various suburban estates.

During the period (1919-1939) 27,513 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.

During the same period, 5,221 dwellings (including houses with shops attached) have been erected in the central areas of the city.

Housing Statistics.

The total number of houses inspected during the year for housing defects under Public Health or Housing Acts was 24,924, and the number of inspections made for the purpose was 33,539.

1,397 dwelling-houses were inspected and recorded under the Housing Consolidated Regulations, 1925 and 1932.

208 notices were served under Section 9 of the Housing Act, 1936, 50 of which were complied with, the remainder being in progress.

Notices were served requiring defects to be remedied under the Public Health Act in respect of 21,900 houses. The number of dwelling-houses in which defects were remedied after service of formal notices was 10,807, and 10,694 defective dwelling-houses were rendered fit in consequence of informal action.

Housing Act, 1936. Part IV. Overcrowding.

During the year 62,362 visits were made to houses in connection with the overcrowding provisions of the Housing Act, the name and address of the Medical Officer of Health was not inscribed in 405 rent books, whilst the necessary summary of Sections 58, 59 and 61 of the Housing Act, and the number of persons permitted to occupy the house, was not inserted in 618 rent books. Of these contraventions 369 were remedied with respect to the former, whilst 521 were remedied with respect to the latter.

Since the appointed day (1st January, 1937) 435 families were found to have overcrowded premises, including 180 new cases during the year, thereby committing an offence against this Act. In each of these cases, notices under Sections 59 and 66 were served upon the occupiers and landlords respectively, and in the 363 cases the notices were complied with. In addition there were 1,368 new cases of overcrowding found by reason of natural increase in family.

In order to keep a check on the movement of overcrowded families, and to ascertain the extent of the mobility of the overcrowded population, 5,549 families known to be overcrowded were revisited towards the end of the year, and only 3,148 families (or 2 per cent. of the 157,433 houses surveyed) were found to be overcrowded. It was not possible to trace 1,101 families. In 58 cases the houses had been demolished, 102

houses were vacant, 176 houses derelict, and in 108 cases the families had left the city. In 657 cases the families had removed to unknown addresses.

In 507 cases overcrowding had become temporarily abated, 248 by reason of evacuation of children, and 259 by reason of service in H.M. Forces.

The remaining 793 families had become decrowded, 285 by reason of an increase in the existing accommodation, 16 by removing to premises having greater accommodation, and 492 by reason of a decrease in the number of persons in the family.

The number of families known to be overcrowded at the end of the year was 3,418, 21,755 persons being concerned in these cases, and 1,894 cases were relieved during the year affecting 11,199 persons.

Houses Owned by the Local Authority.

Total number of houses and flats owned by the Local Authority at 31st December, 1939 (excluding 20 houses built under the powers of the Housing Acts and subsequently sold)... 40,623

Number of houses built in the last two years under—

1.	Housing Act, 1936, Part III ...	...	...	4,172
2.	„ „ „ Part V ...	...	...	1,395

The following table shows the accommodation which has been provided in the Corporation's housing and rehousing schemes up to 31st December, 1939 :—

No. of rooms per dwelling (exclusive of bathroom, sculleries, etc.)	Number of Houses and Flats erected.					TOTALS.
	On Suburban Estates.			In Central Areas.		
	Houses.	Aged persons cottages.	Flats.	Houses.	Flats.	
1	—	130	18	—	223	371
2	—	220	96	—	1,687	2,003
3	1,422	—	251	18	2,802	4,493
4	17,349	—	207	158	2,971	20,685
5	12,677	—	151	18	212	13,058
6	18	—	—	—	14	32
7	1	—	—	—	—	1
TOTALS ...	31,467	350	723	194	7,909	40,643

In addition to the above, 98 shops have been erected in various schemes in the central areas of the city, and 192 shops, with 122 flats above, on suburban estates.

Rentals.

The weekly rentals of flats (including rates), range from 2/9½ for a bed living room flat to 11/- for a five bedroom flat. The inclusive weekly rentals of houses vary between 8/3 for the non-parlour type, and 19/5 for the parlour type.

Erection of New Houses.

The following information has been kindly supplied by the City Building Surveyor:—

Return of Houses erected 1939.

Number of Rooms, (exclusive of bathrooms, sculleries, etc.)				1939
4 Rooms or less	...	...	...	629
5 or 6 Rooms	...	...	...	581
7 or 8 Rooms	...	...	...	65
9 or 10 Rooms	...	...	...	5
More than 10 Rooms	...	...	...	—
TOTAL				1,280

Number of houses erected and taken down during the year 1939.

Sub-Registration Districts.								Number Erected.	Number Taken Down.
Exchange	...	...	...	...	...	...	...	130	183
Abercromby	...	...	...	...	...	...	...	3	41
St. Peters	...	...	...	...	...	...	...	101	296
Toxteth Park	...	...	...	...	...	...	...	26	185
Edge Hill and Sefton Park	...	...	...	...	...	...	...	150	91
Wavertree	...	...	...	...	...	...	...	623	89
Fazakerley	...	...	...	...	...	...	...	38	—
Walton and Walton Park	...	...	...	...	...	...	...	—	—
Kirkdale	...	...	...	...	...	...	...	3	—
Netherfield	...	...	...	...	...	...	...	8	155
Everton	...	...	...	...	...	...	...	14	49
West Derby	...	...	...	...	...	...	...	184	49
Total within the area of the city								1,280	1,138
*Speke	...	...	...	...	...	...	...	683	—
*Woolfall Heath	...	...	...	...	...	...	...	933	—
Total outside the city boundary								1,616	—
								2,896	1,138

* Outside the City Boundary.

Of the 2,896 dwelling-houses erected during 1939, 2,063 were built under the direction of the Housing Committee, including 355 flats, and of these, 1,708 houses and flats were erected on estates outside the city boundary.

RESIDENTIAL FLATS.—During the year 1939, 21 houses were converted into 89 residential flats, giving a net increase of 68 "new" dwelling-houses.

Vital Statistics of Slum Areas and Corporation Housing Estates.

The following table is a record of vital statistics for the year 1938 of the total number of insanitary houses in Slum Clearance Areas in the City of Liverpool represented during 1938 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 1938 ...	2,583	11,923	4.6	1.4	317	149	28	10	26.6	12.5	89	0.8
Corporation Housing Estates on the out- skirts of the City ...	26,272	109,660	4.2	12.7	1,564	886	82	79	14.3	8.1	52	0.7
City of Liverpool ...	198,089	864,000	4.4	100	16,175	10,638	1,189	666	18.7	12.3	73	0.8

General Statistics.

Area of City	27,321 acres.
Estimated Population	822,400
Number of inhabited houses at 31st December, 1939	197,450
Number of structurally separate dwellings occupied (1931 Census)...	173,938
Rateable value	£6,789,263
Sum represented by a Penny Rate	£25,350
Number of New Houses erected during the year :—	
(i) By the Local Authority (of which 683 were built without subsidy)	2,063
(ii) By other bodies or persons	833

WELFARE OF THE BLIND.

During 1939, 182 applicants for benefits due to the blind under the Blind Persons Act, 1920, were examined by ophthalmic surgeons. Of these, 123 were found to be blind within the meaning of the Act and 59 were not blind. The corresponding figures for 1938 were 254 applicants, of whom 161 were blind.

In Table I is given the number of registered blind persons in Liverpool.

TABLE I.

PERSONS REGISTERED AS BLIND.

Age.	Males.	Females.	Total.
0+	4	2	6
5+	16	14	30
16+	23	11	34
21+	123	105	228
40+	105	90	195
50+	235	262	497
65+	114	130	244
70+	198	363	561
	<u>818</u>	<u>977</u>	<u>1,795</u>

In Table II, 1,758 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	125	49	174
Trained but not employed	14	—	14
Under training	10	7	17
Trainable but not under training	14	2	16
Unemployable	635	903	1,538
	798	961	1,759

In Table III, 171 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	37	13	50
Physically defective	32	37	69
Deaf	9	24	33
Combinations of above disabilities	9	10	19
	87	84	171

APPENDIX A

CITY OF LIVERPOOL.

Vital Statistics of the Whole District during 1939 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.			
		Uncor-rected Number.	Net.		Number.	Rate.	of Non-residents registered in the District.	of Resi-dents not registered in the District.	Under 1 year of age		At all ages.	
			Number.	Rate.					Number.	Rate per 1000 Net Births.	Number.	Rate.
1934.....	843538	18244	17593	20·9	12016	14·2	1062	365	1418	81	11319	13·4
1935.....	839267	17998	17347	20·7	12288	14·6	1170	329	1445	83	11447	13·6
1936.....	835018	18398	17403	20·9	12118	14·5	1290	355	1311	75	11183	13·4
1937.....	830790	18051	16728	20·1	12388	14·9	1298	362	1371	82	11452	13·8
1938.....	826584	17536	16175	19·6	11591	13·9	1287	334	1189	73	10638	13·9
1939.....	822400	16544	15614	19·0	11085	*13·5	1288	417	1098	71	10668	*13·3

* Calculated on a mid-year average population.

APPENDIX B.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1939.

England and Wales, London, 126 County Boroughs and Great Towns, and 148 Smaller Towns. (Provisional Figures)

England and Wales, London, 126 County Boroughs and Great Towns, and 148 Smaller Towns.																	
	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.	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 ...	15.0	0.59	12.1	0.00	...	0.01	0.01	0.03	0.05	0.21	4.6	50	} Not available.				
126 County Boroughs and Great Towns, including London ...	14.8	0.59	12.0	0.00	...	0.01	0.00	0.03	0.05	0.19	6.3	53					
148 Smaller Towns (Resident Populations 25,000 to 50,000 at Census 1931)	15.6	0.57	11.2	0.00	...	0.01	0.00	0.02	0.04	0.20	3.0	40					
London	12.3	0.44	11.9	0.00	...	0.00	0.00	0.03	0.02	0.18	8.2	48					
Liverpool	19.0	0.77	13.3	0.00	...	0.00	0.00	0.04	0.12	0.19	6.5	71	92.4	4.7	2.5	0.4	

he maternal mortality rates (provisional) for England and Wales are as follows : per 1,000 Total Births ...

Puerperal Sepsis,	Others	Total
0.74	2.08	2.82

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1939.

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	10631	1093	177	69	237	368	1005	2944	4738	11956
	37	5	—	1	—	1	1	7	22	—
1. Typhoid and Paratyphoid Fevers	3	—	—	—	—	2	1	—	—	5
2. Measles	3	2	—	—	1	—	—	—	—	4
3. Scarlet Fever	4	—	1	—	1	1	1	—	—	6
4. Whooping Cough	36	21	11	3	1	—	—	—	—	40
5. Diphtheria	94	6	12	27	44	2	1	1	1	118
6. Influenza	157	7	4	1	2	5	20	44	74	168
7. Encephalitis Lethargica	11	—	—	—	—	1	4	4	2	12
8. Cerebro-spinal Fever	28	11	3	—	3	5	4	1	1	32
9. Tuberculosis of Respiratory System ...	647	2	3	—	11	143	253	198	37	715
10. Other Tuberculous Diseases	99	11	13	5	22	12	15	19	2	117
11. Syphilis	63	3	—	—	2	1	7	39	11	66
12. General Paralysis of the Insane	19	—	—	—	—	—	7	12	—	20
13. Cancer	1289	1	2	1	4	5	106	581	589	1507
14. Diabetes	136	—	—	—	1	4	4	46	81	143
15. Cerebral Haemorrhage	590	—	—	—	1	—	24	176	389	686
16. Heart Disease	2782	2	1	—	26	46	158	762	1787	2979
17. Aneurysm	15	—	—	—	—	—	1	8	6	17
18. Other Circulatory Diseases	770	1	—	—	—	2	12	181	574	812
19. Bronchitis	261	27	6	1	—	3	15	57	152	287
20. Pneumonia (all forms)	678	193	62	7	15	16	61	150	174	746
21. Other Respiratory Diseases	85	2	4	2	2	6	10	25	34	97
22. Peptic Ulcer	89	—	—	—	—	4	12	55	18	129
23. Diarrhoea, etc.	127	91	11	—	2	2	6	9	6	147
24. Appendicitis	48	—	2	1	5	4	11	16	9	53
25. Cirrhosis of Liver	9	—	—	—	—	—	3	5	1	14
26. Other Diseases of Liver	50	2	—	—	—	—	6	15	27	65
27. Other Digestive Diseases	157	16	8	3	8	1	13	50	58	201
28. Acute and Chronic Nephritis	278	1	—	2	5	11	25	117	117	312
29. Puerperal Sepsis	5	—	—	—	—	1	4	—	—	5
30. Other Puerperal Causes	24	—	—	—	—	6	18	—	—	30
31. Congenital Debility, Premature Birth, Malformations, etc.	520	515	3	—	1	—	1	—	—	614
32. Senility	200	—	—	—	—	—	—	3	197	217
33. Suicide	102	—	—	—	1	6	31	46	18	108
34. Other Violence	350	20	11	7	38	25	65	78	106	388
35. Other Defined Causes	934	164	20	10	41	55	107	250	287	1090
36. Causes Ill-defined or unknown.....	5	—	—	—	—	—	—	3	2	6
TOTALS	10668	1098	177	70	237	369	1006	2951	4760	11956

CITY OF LIVERPOOL.

Causes of and ages at Death during the year 1901.

Causes of Death	All ages	Under 15 years				At Ages—Years				Total
		Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	
Smallpox	1000	1000	175	175	175	175	175	175	175	1000
Scarlatina	37	37	—	—	—	—	—	—	—	37
Diphtheria	3	3	—	—	—	—	—	—	—	3
Croup	2	2	—	—	—	—	—	—	—	2
Whooping Cough	4	4	—	—	—	—	—	—	—	4
Measles	30	30	—	—	—	—	—	—	—	30
German Measles	84	84	—	—	—	—	—	—	—	84
Polio	157	157	—	—	—	—	—	—	—	157
Infantile Paralysis	11	11	—	—	—	—	—	—	—	11
Convulsions	29	29	—	—	—	—	—	—	—	29
Stomachic Disorders	647	647	—	—	—	—	—	—	—	647
Diarrhoea	30	30	—	—	—	—	—	—	—	30
Enteritis	43	43	—	—	—	—	—	—	—	43
Typhoid	10	10	—	—	—	—	—	—	—	10
Other	1280	1280	—	—	—	—	—	—	—	1280
Unnatural Causes	190	190	—	—	—	—	—	—	—	190
Violent Deaths	800	800	—	—	—	—	—	—	—	800
Unnatural Causes	2782	2782	—	—	—	—	—	—	—	2782
Unnatural Causes	12	12	—	—	—	—	—	—	—	12
Unnatural Causes	770	770	—	—	—	—	—	—	—	770
Unnatural Causes	207	207	—	—	—	—	—	—	—	207
Unnatural Causes	678	678	—	—	—	—	—	—	—	678
Unnatural Causes	87	87	—	—	—	—	—	—	—	87
Unnatural Causes	89	89	—	—	—	—	—	—	—	89
Unnatural Causes	127	127	—	—	—	—	—	—	—	127
Unnatural Causes	44	44	—	—	—	—	—	—	—	44
Unnatural Causes	0	0	—	—	—	—	—	—	—	0

CITY OF LIVERPOOL.

Infant Mortality during the year 1939.

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	...	...	...	...	...	375	56	35	37	503	200	181	137	72	1093
	Uncertified	...	...	...	...	...	4	—	—	—	4	1	—	—	—	5
Typhoid Fever							—	—	—	—	—	—	—	—	—	—
Chicken-pox							—	—	—	—	—	—	—	—	—	—
Measles							—	—	—	—	—	1	2	—	—	3
Scarlet Fever							—	—	—	—	—	—	—	—	—	—
Whooping Cough							—	—	—	—	—	1	6	10	4	21
Diphtheria							—	—	—	—	—	1	—	2	3	6
Cerebro Spinal Fever							—	—	—	—	—	—	3	5	4	12
Influenza							—	—	—	—	—	3	1	2	1	7
Dysentery							—	—	—	—	—	—	—	—	—	—
Erysipelas							—	—	—	—	—	—	1	—	—	1
Pulmonary Tuberculosis							—	—	—	—	—	—	1	—	1	2
Tuberculous Meningitis							—	—	—	—	—	—	1	5	5	11
Other Tuberculous Diseases							—	—	—	—	—	—	—	—	—	—
Meningitis (not Tuberculous)							—	2	—	—	2	3	3	2	2	12
Convulsions							4	1	—	—	5	—	3	4	—	12
Bronchitis							—	—	—	2	2	8	10	6	1	27
Pneumonia (all forms)							6	6	6	5	23	56	52	44	23	198
Diarrhoea							—	—	—	—	—	—	3	3	1	7
Enteritis							—	—	2	2	4	31	29	13	13	90
Other Diseases of Stomach							—	—	1	—	1	2	—	—	—	3
Syphilis							—	—	—	—	—	2	1	—	—	3
Rickets							—	—	—	—	—	—	—	—	—	—
Suffocation							1	—	—	1	2	2	3	—	1	8
Injury at Birth							40	—	—	—	40	—	—	—	—	40
Atelectasis							34	5	1	—	40	1	1	—	—	42
Malformations							40	11	2	1	54	21	9	3	—	87
Premature Birth							227	20	17	17	281	25	3	—	—	309
Atrophy, Debility and Marasmus...							3	3	2	2	10	11	10	—	—	31
Other Causes							24	8	4	7	43	33	39	38	13	166
							379	56	35	37	507	201	181	137	72	1098

Net Births in the year { Legitimate ... 14,891
 { Illegitimate ... 723

Net Deaths in the year of { Legitimate Infants 1,028
 { Illegitimate Infants 70

APPENDIX E.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1939.

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	2403	17	77	134	180	244	968	428	183	135	26	10	1	1066	4
Diphtheria	1503	22	61	97	154	142	585	231	116	74	16	4	1	1470	98
Enteric Fever (including Para- typhoid)	38	—	1	1	3	2	5	4	13	5	1	3	—	35	3
Puerperal Fever	12	—	—	—	—	—	—	—	1	10	1	—	—	3	5
Puerperal Pyrexia	375	—	—	—	—	—	—	—	27	297	51	—	—	344	—
Pneumonia	1443	113	84	82	42	35	69	42	140	225	202	281	128	557	246
Cerebro-spinal Fever	70	18	13	2	2	2	7	1	3	11	6	3	2	67	28
Poliomyelitis and Polioencephalitis ..	10	1	2	1	—	1	2	1	1	1	—	—	—	9	1
Encephalitis Lethargica	6	—	—	—	—	—	—	—	—	2	—	4	—	5	11
Dysentery	18	—	2	2	4	1	2	—	—	2	2	2	1	12	2
Ophthalmia Neonatorum	717	717	—	—	—	—	—	—	—	—	—	—	—	138	—
Erysipelas	467	11	1	7	2	1	9	16	26	87	84	169	54	206	10
Malaria	89	—	—	—	—	—	—	—	11	40	15	23	—	40	3
Anthrax	5	—	—	—	—	—	—	—	—	—	—	5	—	5	—
*Measles	230	46	53	22	22	28	35	15	4	3	1	—	1	56	3
*Whooping Cough	613	71	70	62	63	67	263	15	2	—	—	—	—	215	36
*Chickenpox	933	3	4	11	10	46	788	59	7	3	2	—	—	144	—
TOTALS	8932	1019	368	410	482	570	2733	812	534	905	407	504	188	4372	450

*Measles and Whooping Cough were made compulsorily notifiable on 23rd Oct., 1939, by virtue of the Measles and Whooping Cough Regulations 1939. Chickenpox was voluntarily notifiable from October 31st, 1920, until May 9th, 1937, when it was removed from the list of notifiable diseases.

A. KIDNEY

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during

Disease	Number of Cases Notified						
	All Ages	Under 1	1-2	2-3	3-4	4-5	5-6
Scarlet Fever	2403	17	73	134	190	134	608
Diphtheria	1005	32	64	97	104	112	281
Whooping Cough	23	—	1	1	2	2	4
Measles	12	—	—	—	—	—	—
Small Pox	274	—	—	—	—	—	—
German Measles	1413	113	84	62	55	85	129
Spinal Fever	70	18	13	2	2	2	7
Myelitis and Encephalitis	10	—	2	—	—	—	—
Cholera Infantum	9	—	—	—	—	—	—
Sty	18	—	2	2	4	1	2
Acute Nephritis	717	717	—	—	—	—	—
Polio	107	11	10	5	2	1	10
—	28	—	—	—	—	—	—
—	2	—	—	—	—	—	—
—	230	10	63	32	22	1	23
—	615	11	70	62	100	67	202
—	603	3	4	11	110	40	280
TOTAL	6072	1010	345	410	452	670	1783

and Whooping Cough were not separately notifiable on 22nd Dec. 1920. Cholera was voluntarily notifiable from October 21st, 1920, until March 24th, 1921.

